

Handbook of Research on Ethics, Entrepreneurship, and Governance in Higher Education

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A volume in the Advances in Higher Education
and Professional Development (AHEPD) Book
Series



Published in the United States of America by

IGI Global
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA, USA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

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Library of Congress Cataloging-in-Publication Data

Names: Nair, Suja R., 1964- editor. | Saiz Alvarez, Jose Manuel, editor.

Title: Handbook of research on ethics, entrepreneurship, and governance in higher education / Suja R. Nair and Jose Manuel Saiz-Alvarez, editors.

Description: Hershey, PA : Information Science Reference, [2019] | Includes bibliographical references.

Identifiers: LCCN 2017058883 | ISBN 9781522558378 (h/c) | ISBN 9781522558385 (eISBN)

Subjects: LCSH: Education, Higher--Economic aspects. | Education, Higher--Moral and ethical aspects. | Academic-industrial collaboration | Business and education.

Classification: LCC LC67.6 .H36 2019 | DDC 174/.9378--dc23 LC record available at <https://lcn.loc.gov/2017058883>

This book is published in the IGI Global book series Advances in Higher Education and Professional Development (AHEPD) (ISSN: 2327-6983; eISSN: 2327-6991)

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

For electronic access to this publication, please contact: eresources@igi-global.com.



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ISSN:2327-6983
EISSN:2327-6991

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List of Contributors

Achuthan, Sarla / <i>GLS University, India</i>	26
Alfirevic, Niksa / <i>University of Split, Croatia</i>	156
Arzubiaga, Unai / <i>University of the Basque Country, Spain</i>	352
Balbino, Ausenda de Cáceres / <i>Universidade de Évora, Portugal</i>	214
Baños-Monroy, Verónica I. / <i>Tecnológico de Monterrey, Mexico</i>	263
Calado, José Godinho / <i>Universidade de Évora, Portugal</i>	214
Costa, Rosalina Pisco / <i>Universidade de Évora, Portugal</i>	214
Franco-Rodriguez, Cynthia / <i>Tecnologico de Monterrey, Mexico</i>	398
Freitas, Ana Costa / <i>Universidade de Évora, Portugal</i>	214
Garg, Renuka / <i>Veer Narmad South Gujarat University, India</i>	283
Guerra, Alicia Guerra / <i>University of Extremadura, Spain</i>	181
Herrero-Crespo, Angel / <i>Universidad de Cantabria, Spain</i>	498
Karani, Anushree Manohar / <i>Shri Jairambhai Patel Institute of Business Management and Computer Application, India</i>	26
Kijanka, Emilia / <i>School of Economics, Law, and Medical Sciences in Kielce, Poland</i>	96,137
Kruja, Alba Demneri / <i>Epoka University, Albania</i>	371
Kumar, R. Satish / <i>IFIM Business School, India</i>	519
Lipska, Katarzyna / <i>School of Economics, Law, and Medical Sciences in Kielce, Poland</i>	96,137
Martin, Jose Ramón Gutierrez / <i>ESDEN Business School, Spain</i>	433
Martínez, Alicia Coduras / <i>Global Entrepreneurship Research Association, UK</i>	414
Martínez-Villanueva, Claudia / <i>University of Chile, Chile</i>	332
Mendoza-Macías, Marlene M. / <i>Universidad Católica de Santiago de Guayaquil, Ecuador</i>	54
Mojarro-Durán, Barbara / <i>Tecnológico de Monterrey, Mexico</i>	455
Montoneri, Bernard / <i>National Chengchi University, Taiwan</i>	1
Muñiz-Ávila, Edgar / <i>Tecnologico de Monterrey, Mexico</i>	455
Nedelko, Zlatko / <i>University of Maribor, Slovenia</i>	156
Olszewska, Anna / <i>Kozminski University, Poland</i>	79
Palma-Ruiz, Jesús Manuel / <i>Autonomous University of Chihuahua, Mexico</i>	352
Pérez-Ruiz, Andrea / <i>Universidad de Cantabria, Spain</i>	498
Perez-Uribe, Rafael Ignacio / <i>EAN University, Colombia</i>	238
Platis, Magdalena / <i>University of Bucharest, Romania</i>	118
Potocan, Vojko / <i>University of Maribor, Slovenia</i>	156
Quaresma, Paulo / <i>Universidade de Évora, Portugal</i>	214
Ramirez-Salazar, Maria Del Pilar / <i>EAN University, Colombia</i>	238
Ramírez-Solís, Edgar / <i>Tecnológico de Monterrey, Mexico</i>	263

Rato, Luís / <i>Universidade de Évora, Portugal</i>	214
Rivera, Cinthya Flores / <i>Tecnológico de Monterrey, Mexico</i>	398
Rodríguez-Aceves, Lucia / <i>Tecnologico de Monterrey, Mexico</i>	455
Ruivo, Inês Secca / <i>Universidade de Évora, Portugal</i>	214
Saiz-Alvarez, Jose Manuel / <i>EGADE Business School, Tecnológico de Monterrey, Mexico</i>	414
Salazar-Sepúlveda, Guido / <i>The Catholic University of the Most Holy Conception of the Virgin Mary, Chile</i>	332
Salcedo-Perez, Carlos / <i>EAN University, Colombia</i>	238
Sánchez de Gómez, Lyda / <i>University of Extremadura, Spain</i>	181
Sedkaoui, Soraya / <i>Universite Djilali Bounaama Khemis Miliana, Algeria & University of Montpellier, France</i>	476
Silveyra, Geraldina / <i>Tecnológico de Monterrey, Mexico</i>	498
Szymanski, Mike / <i>EGADE Business School, Tecnológico de Monterrey, Mexico</i>	79
Vallejo-Fiallos, M. del Rocío / <i>Blue Hill College, Ecuador</i>	305
Vega-Muñoz, Alejandro / <i>Autonomous University of Chile, Chile</i>	332
Yadav, Subhash / <i>Narmada College of Management, India</i>	283

Table of Contents

Preface	xxii

Acknowledgment	xxviii

Section 1 Ethics and Governance in HEIs

Chapter 1

Plagiarism and Ethical Issues: A Literature Review on Academic Misconduct.....	1
<i>Bernard Montoneri, National Chengchi University, Taiwan</i>	

Chapter 2

Classroom Behavior Among Management Students in the Higher Education of India: An Exploratory Study	26
<i>Anushree Manohar Karani, Shri Jairambhai Patel Institute of Business Management and Computer Application, India</i>	
<i>Sarla Achuthan, GLS University, India</i>	

Chapter 3

Higher Education, Social Welfare, and Corruption: Some Challenges for Universities in Guayaquil, Ecuador.....	54
<i>Marlene M. Mendoza-Macías, Universidad Católica de Santiago de Guayaquil, Ecuador</i>	

Chapter 4

To Teach Leadership Ethically or to Teach Ethical Leadership? Leadership Education in the Polish Executive Education Context.....	79
<i>Mike Szymanski, EGADE Business School, Tecnológico de Monterrey, Mexico</i>	
<i>Anna Olszewska, Kozminski University, Poland</i>	

Chapter 5

Competences of the Future: Educational Processes vs. Challenges and Barriers of Contemporary Labor Markets	96
<i>Emilia Kijanka, School of Economics, Law, and Medical Sciences in Kielce, Poland</i>	
<i>Katarzyna Lipska, School of Economics, Law, and Medical Sciences in Kielce, Poland</i>	

Chapter 6

Building a Culture of Trust in Higher Education Institutions: Challenges for a New Type of Quality Management..... 118

Magdalena Platis, University of Bucharest, Romania

Chapter 7

To Take or Not to Take? The Importance of Business Ethics 137

Katarzyna Lipska, School of Economics, Law, and Medical Sciences in Kielce, Poland

Emilia Kijanka, School of Economics, Law, and Medical Sciences in Kielce, Poland

Chapter 8

Personal Values and Proclaimed Values of the Education System: Results of Empirical Research in the Case of Croatia..... 156

Niksa Alfircic, University of Split, Croatia

Zlatko Nedelko, University of Maribor, Slovenia

Vojko Potocan, University of Maribor, Slovenia

Chapter 9

Fourth Industrial Revolution: Towards University Teaching Based on Values 181

Alicia Guerra Guerra, University of Extremadura, Spain

Lyda Sánchez de Gómez, University of Extremadura, Spain

Chapter 10

Ethical Governance for Sustainable Development in Higher Education Institutions: Lessons From a Small-Scale University..... 214

Ana Costa Freitas, Universidade de Évora, Portugal

Paulo Quaresma, Universidade de Évora, Portugal

Ausenda de Cáceres Balbino, Universidade de Évora, Portugal

Rosalina Pisco Costa, Universidade de Évora, Portugal

Inês Secca Ruivo, Universidade de Évora, Portugal

Luís Rato, Universidade de Évora, Portugal

José Godinho Calado, Universidade de Évora, Portugal

Chapter 11

A Triple Helix Model Based on Open Collaborative Innovation in Colombia: A Proposal for Higher Education Institutions 238

Maria Del Pilar Ramirez-Salazar, EAN University, Colombia

Rafael Ignacio Perez-Urbe, EAN University, Colombia

Carlos Salcedo-Perez, EAN University, Colombia

Section 2**Entrepreneurship****Chapter 12**

Dangerous Liaisons? Ethical Challenges on Entrepreneurship in Family Business..... 263

Edgar Ramírez-Solís, Tecnológico de Monterrey, Mexico

Verónica I. Baños-Monroy, Tecnológico de Monterrey, Mexico

Chapter 13

Ethics and Social Entrepreneurship: An Exploration 283

*Renuka Garg, Veer Narmad South Gujarat University, India**Subhash Yadav, Narmada College of Management, India***Chapter 14**

Corporate Social Entrepreneurship: An Effective Dual Strategy? 305

*M. del Rocío Vallejo-Fiallos, Blue Hill College, Ecuador***Chapter 15**University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and
Growth: Small and Medium Enterprises in Chile..... 332*Alejandro Vega-Muñoz, Autonomous University of Chile, Chile**Claudia Martínez-Villanueva, University of Chile, Chile**Guido Salazar-Sepúlveda, The Catholic University of the Most Holy Conception of the Virgin
Mary, Chile***Chapter 16**The Role and Contribution of Higher Education in Family Entrepreneurship: Evidence From the
USA and Spain..... 352*Jesús Manuel Palma-Ruiz, Autonomous University of Chihuahua, Mexico**Unai Arzubiaga, University of the Basque Country, Spain***Chapter 17**Synergic Individual Entrepreneurial Orientation of University Students: A New Measurement
Model 371*Alba Demneri Kruja, Epoka University, Albania***Chapter 18**

Entrepreneurial Spirit in Family Business Successors: The Case of Mexico 398

*Cynthia Franco-Rodriguez, Tecnológico de Monterrey, Mexico**Cinthy Flores Rivera, Tecnológico de Monterrey, Mexico***Chapter 19**

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation 414

*Jose Manuel Saiz-Alvarez, EGADE Business School, Tecnológico de Monterrey, Mexico**Alicia Coduras Martínez, Global Entrepreneurship Research Association, UK***Chapter 20**Impact of Cultural Factors on Entrepreneurship: Evidence From GEM Model and the Singularity
of Japan 433*Jose Ramón Gutierrez Martin, ESDEN Business School, Spain*

Chapter 21

University-Based Entrepreneurial Ecosystems: Evidence From Technology Transfer Policies and Infrastructure 455

Lucia Rodríguez-Aceves, Tecnológico de Monterrey, Mexico

Barbara Mojarro-Durán, Tecnológico de Monterrey, Mexico

Edgar Muñíz-Ávila, Tecnológico de Monterrey, Mexico

Chapter 22

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem: Entrepreneurship Ecosystem in Algeria 476

Soraya Sedkaoui, Université Djilali Bounaama Khemis Miliana, Algeria & University of Montpellier, France

Chapter 23

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC): Literature Review and Theoretical Foundations 498

Geraldina Silveyra, Tecnológico de Monterrey, Mexico

Angel Herrero-Crespo, Universidad de Cantabria, Spain

Andrea Pérez-Ruiz, Universidad de Cantabria, Spain

Chapter 24

Industry-Academia Collaboration in Business Schools 519

R. Satish Kumar, IFIM Business School, India

Compilation of References 538

About the Contributors 613

Index 623

Detailed Table of Contents

Preface	xxii
Acknowledgment	xxviii

Section 1 Ethics and Governance in HEIs

Chapter 1

Plagiarism and Ethical Issues: A Literature Review on Academic Misconduct.....	1
<i>Bernard Montoneri, National Chengchi University, Taiwan</i>	

This chapter discusses the literature on plagiarism and aims at helping readers better understand what plagiarism is, what is at stake, and how to fight intellectual dishonesty. First, it is essential to define plagiarism and to present the historical background related to academic malpractice. Since the advent of the internet, the number of cases of plagiarism has increased exponentially. Many websites overtly encourage acts of cheating and plagiarism, offer or sell programs designed to copy, generate, and even buy assignments and academic papers. The growing number of retracted documents, not only in open access journals but also in journals owned by major publishers, is disturbing. This chapter will notably discuss the rise and thrive of “predatory” publishers, the growth of fake papers, the abuse of fake positive peer review, and the disturbing success of contract cheating. Finally, it should be noted that even though academic malpractice is damaging the reputation of the scientific community, many solutions have been proposed and implemented.

Chapter 2

Classroom Behavior Among Management Students in the Higher Education of India: An Exploratory Study	26
<i>Anushree Manohar Karani, Shri Jairambhai Patel Institute of Business Management and Computer Application, India</i>	
<i>Sarla Achuthan, GLS University, India</i>	

The classroom is an experimental lab for students as they spend a significant part of their formative years in school and colleges for learning goals. It is essential that the environment of schools and colleges should be able to inculcate positive behavioral traits among students to enable them to develop the required skills and attitude. The current study tried to understand classroom behavior among management students in Gujarat. The classroom behavior has the potential to be influenced by ethical values and entrepreneurial attitude of students. The student engagement practices can be a tool to improve the classroom behavior. The

outcomes suggest that the teachers experience disruptive behavior, less ethical standards, and increased entrepreneurial attitude among students. Students’ self-perception of behavior is positive, with proper ethical standards and have an entrepreneurial mindset. The study found conflicts in the perceptions of teachers and students for classroom behavior and ethical standards. Positive teacher attitude and practical learning were preferred engagement avenues.

Chapter 3

Higher Education, Social Welfare, and Corruption: Some Challenges for Universities in
Guayaquil, Ecuador..... 54

Marlene M. Mendoza-Macías, Universidad Católica de Santiago de Guayaquil, Ecuador

The world is facing multiple changes and challenges; the environment shows inequalities, poverty, and corruption. Ecuador is not the exception. The man is declared the primary focus of the Ecuadorian Constitution to meet such changes. The objective of decreasing poverty, improving wealth distribution, and contributing to sustainable human development is unavoidable. In that context, the university has the pivotal role in generating interaction with society and its reality, to train professionals social and humanly responsible towards such facts, to promote the social management of knowledge from different action fields. The goal of this chapter is to specify the role of higher education institutions (HEIs) in a society where they take part, to draw up social responsibility of universities in Guayaquil and the challenges they face, as well as actions that contribute to the eradication of corruption and greater wellbeing of the society.

Chapter 4

To Teach Leadership Ethically or to Teach Ethical Leadership? Leadership Education in the
Polish Executive Education Context..... 79

Mike Szymanski, EGADE Business School, Tecnológico de Monterrey, Mexico
Anna Olszewska, Kozminski University, Poland

Ethical leadership is a cornerstone of a socially responsible organization. However, organizations operating in transition economies experience a confusing mix of old and new institutional pressures. Hence, ethical leaders face a moral dilemma: whether to follow all laws, rules, values, and beliefs or to purposefully disobey some of these. If they make a wrong choice, their company will suffer a competitive disadvantage. Leaders who enroll in executive education programs receive mixed advice. In this chapter, the authors analyze the challenges of ethical leadership education in the context of the Polish economy.

Chapter 5

Competences of the Future: Educational Processes vs. Challenges and Barriers of Contemporary
Labor Markets 96

Emilia Kijanka, School of Economics, Law, and Medical Sciences in Kielce, Poland
Katarzyna Lipska, School of Economics, Law, and Medical Sciences in Kielce, Poland

We live in a world of constant changes. Progress, modern technologies, and globalization processes make the reality that surrounds us and gives us new opportunities, but at the same time we face new demands. People’s wisdom depends on economic and social success, because an educated citizen, able to adapt to the ever-changing world, has a significant influence on the shape of modern civilization. Nowadays the theoretical knowledge gained in the education process becomes insufficient, and it becomes more important to use it in practice to solve problems, communication skills, cooperation, group work, or flexible working in the labor market. A man in the modern labor market must adapt to flexible responses

to change and to finding new solutions, continuing learning and problem solving, perceiving causal and functional dependencies, the complexity of phenomena, the design of actions, and acceptance of responsibility for results. The chapter aims to analyze trends in the contemporary labor market and to assess the extent to which employers meet expectations and opportunities.

Chapter 6

Building a Culture of Trust in Higher Education Institutions: Challenges for a New Type of

Quality Management..... 118

Magdalena Platis, University of Bucharest, Romania

Higher education institutions worldwide are evolving in a so-called quality assurance era in which quality standards are defined and implemented. Quality assurance has, in fact, two sides: one declarative, or formal, reflected into documents, proofs, and even statistics well prepared, and one practical, or informal, that behind all legal issues, the quality of processes is real. The contradiction between the two sides of the quality assurance contributes a false perception of quality and unethical institutional behavior. Higher education institutions can become ethical or more ethical through their people—management, academics, students, alumni, researchers. In other words, the culture of quality needs to be rebuilt towards trust. The objective of this chapter is to provide a clear insight to the contemporary state of higher education institutions' behavior and context to contribute to the building up of new quality management based on a trust in the area of education, research, and social development.

Chapter 7

To Take or Not to Take? The Importance of Business Ethics 137

Katarzyna Lipska, School of Economics, Law, and Medical Sciences in Kielce, Poland

Emilia Kijanka, School of Economics, Law, and Medical Sciences in Kielce, Poland

Business ethics are not only an effective method of competitive struggle but also measurable economic benefits. The sense of responsibility allows to limit arbitrariness and develop a concept of freedom that will take into account the needs of others. In the face of a crisis of values, the ethical attitudes and moral issues are of particular importance, both in the professions of public trust and in the economic sphere. The analysis confronts two separate groups, those who enter the market and establish their business and those who already are in the market and have to manage. The attitude of the people involved in the market depends on the atmosphere on it. Due to this, the authors analyze the beliefs of the students to ethical issues and their views on the rules which control the economy because they will be responsible for the local market.

Chapter 8

Personal Values and Proclaimed Values of the Education System: Results of Empirical Research

in the Case of Croatia..... 156

Niksa Alfirevic, University of Split, Croatia

Zlatko Nedelko, University of Maribor, Slovenia

Vojko Potocan, University of Maribor, Slovenia

The primary purpose of this chapter is to empirically analyze the relationships between the personal values of current students and the officially proclaimed values of education systems, based on the case of Croatia. To assess whether the declared values, which are intended to guide higher education, are accepted by students, a preliminary sample, consisting primarily of students from business schools in

Croatia, is analyzed. The empirical findings show a high level of linear correlation among the variables, describing the students' values and the proclaimed values of the education system. Linear regression models, using gender, level of study, and scholarship status, show a causal relationship among the four dimensions of the proclaimed values and selected aspects of students' values. These findings can be used to rethink the potential contribution of students to the development of the Croatian education system, as well as to show possible directions of action for school leaders and policymakers.

Chapter 9

Fourth Industrial Revolution: Towards University Teaching Based on Values 181

Alicia Guerra Guerra, University of Extremadura, Spain

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We are at the beginning of the fourth industrial revolution. The authors understand that university education should embrace the keys to this scenario and do so immediately. Considering this fact, new university teaching should be supported by technological immersion, but also by a culture of proactivity and training in values. The third of these pillars achieves an unimaginable relevance in regards to this emerging industrial revolution, which aims to become the revolution of values. Within this context, the university must move into the practice of ethical values and offer training based on soft skills. Moreover, there is a path that links ethics with soft skills based on the synergy between the two. From this idea, the central objectives of this work are to propose a university model for educational innovation based on values that also includes the tools for its implementation. The chapter ends with a practical case for implementing the model at the fablab that the University of Extremadura has available for its students majoring in Information Technology Engineering.

Chapter 10

Ethical Governance for Sustainable Development in Higher Education Institutions: Lessons From a Small-Scale University 214

Ana Costa Freitas, Universidade de Évora, Portugal

Paulo Quaresma, Universidade de Évora, Portugal

Ausenda de Cáceres Balbino, Universidade de Évora, Portugal

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In contemporary societies, higher education institutions face the impact of globalization, which is mainly demanding in imposing and shaping ethical practices. While higher education systems and dynamics cannot be understood apart from this broader context, its primary focus seems to remain as equal as ever: the creation of knowledge-based societies and economies, education and the creation of socially responsible citizens. Against this background, this chapter aims to present and critically discuss the strategies implemented in a higher education institution towards building a culture of integrity. The empirical focus is a small-scale university located in southern Europe, peripheral to prominent universities and major countries.

Chapter 11

A Triple Helix Model Based on Open Collaborative Innovation in Colombia: A Proposal for
Higher Education Institutions 238

Maria Del Pilar Ramirez-Salazar, EAN University, Colombia

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The open collaborative innovation model based on a triple helix proposes a way by which collaborative processes and innovation networks create value. It contains seven components: (1) innovation challenges, (2) internal-external knowledge, (3) paradigm change, (4) leadership, (5) interinstitutional and transdisciplinary teams, (6) communication, and (7) creative solutions; and six principles: (1) identity, (2) agreements, (3) flexibility, (4) commitment, (5) recognition, and (6) trust. This research emphasizes on the importance of Component 5 for programs of open collaborative innovation, since the joint work among the academy, the government, and the industry to create a triple helix consolidates systems of regional innovation that are necessary to improve national competitiveness and productivity.

Section 2**Entrepreneurship****Chapter 12**

Dangerous Liaisons? Ethical Challenges on Entrepreneurship in Family Business..... 263

Edgar Ramírez-Solís, Tecnológico de Monterrey, Mexico

Verónica I. Baños-Monroy, Tecnológico de Monterrey, Mexico

Entrepreneurship is an essential engine for economic growth and innovation. During the last two decades, there has been a lot of academic interest in this kind of activity but only recently has research attention been devoted to the ethical problems encountered by entrepreneurs and intrapreneurs. In this chapter, the authors highlight the ethical issues inherent to family firms. Intrapreneurs in a family business face uniquely moral problems related to fundamental fairness, succession process, copyright and brand use, and other challenges. For example, younger generations in family firms face a tricky balancing act between their loyalty to their families and finding new ventures or spin-offs based on the current business. This theoretical work aims to present some contemporary research in entrepreneurial ethics, examines the kinds of ethical dilemmas entrepreneurs and intrapreneurs face, identifies significant research topics and methodological approaches, and discusses possible directions for future research.

Chapter 13

Ethics and Social Entrepreneurship: An Exploration 283

Renuka Garg, Veer Narmad South Gujarat University, India

Subhash Yadav, Narmada College of Management, India

The authors highlight that it was the personal spiritual experience of the founders which slowly evolved into an ethical-spiritual social organization. The researchers suggest that ethical social entrepreneurship is the result of an intense yearning on the part of the social entrepreneur to serve and advance the wellbeing of people and the environment around them. These personal values of the social entrepreneurs impel a process of help and resource contribution from like-minded people and institutions which result in the formation of a social organization based on ethical intentions. The study proposes a new subdomain of social entrepreneurship which focuses on the subjective, individual, personal values of the social

entrepreneur which result in the formation of the social enterprise. The present study is an attempt to highlight the role of own values in the creation and evolution of a social enterprise. It is an attempt to explore the relationship between ethics and social entrepreneurship with the help of three case studies of social enterprises in South Gujarat, India.

Chapter 14

Corporate Social Entrepreneurship: An Effective Dual Strategy?.....	305
<i>M. del Rocío Vallejo-Fiallos, Blue Hill College, Ecuador</i>	

Entrepreneurship is a strategic opportunity for human development, on which MNCs play a vital role in the spillover effect. This chapter aims (1) to illustrate corporate social entrepreneurship (CSE) practices to generate social value and (2) to explore their ethical constraint alleviation. Using an internet-mediated research, a sustainability analysis of seventy companies from different countries and sizes evidenced that CSE is a tool for economic growth and good governance. This study brings new insights to the field of CSR and its role in sustainability by incorporating the entrepreneurship discipline. A corporate social innovation business model is proposed as a core business strategy. Also, Ecuadorian CSE practices and their different perspectives can serve as references for future studies.

Chapter 15

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth: Small and Medium Enterprises in Chile.....	332
<i>Alejandro Vega-Muñoz, Autonomous University of Chile, Chile</i>	
<i>Claudia Martínez-Villanueva, University of Chile, Chile</i>	
<i>Guido Salazar-Sepúlveda, The Catholic University of the Most Holy Conception of the Virgin Mary, Chile</i>	

From a descriptive-functional paradigm, this study explores how universities contribute to the promotion of entrepreneurship and the growth of small and medium enterprises in Chile. This fact constitutes the first approximation to the phenomenon of installing a national network of business development centers driven by the Technical Cooperation Service (SERCOTEC, for its acronym in Spanish), a private law corporation and a body dependent on the Ministry of Economy, Development, and Tourism of Chile. The study uses a qualitative methodology of phenomenological order, and it concludes as of diverse experiences about the achievements evidenced by a group of sixteen business owners advised by these centers from different locations of Chile.

Chapter 16

The Role and Contribution of Higher Education in Family Entrepreneurship: Evidence From the USA and Spain.....	352
<i>Jesús Manuel Palma-Ruiz, Autonomous University of Chihuahua, Mexico</i>	
<i>Unai Arzubiaiga, University of the Basque Country, Spain</i>	

Driven by increasing awareness of the importance of family firms in most countries, the interest in family business studies is growing at a rapid pace. The entrepreneurial potential of family-owned businesses has been gaining even more attention among scholars and institutions since the 1980s and 90s. This fact joined to the fact that family firms are the most extended type of businesses all around the world has pushed a growing number of higher education institutions to introduce family business education programs in their curricula. Family business education at prominent universities provides high-level support for family

SMEs due to such complexities of a family and their needs to the dynamics of a competitive business which can be quite challenging. It is therefore attractive to investigate and compare what characterizes the family business education programs in USA and Spain, including an overview of the most recent offerings among the most prominent higher education institutions.

Chapter 17

Synergic Individual Entrepreneurial Orientation of University Students: A New Measurement

Model 371

Alba Demneri Kruja, Epoka University, Albania

While innovation is the sharp implement of entrepreneurs, knowledge is the critical element of the innovation system. The collaboration and synergy between the participants of these innovation systems are vital as they become a “laboratory for knowledge based economic development.” On the other side, entrepreneurship has been widely recognized as the engine of job creation and economic prosperity. Albania as a developing country facing high unemployment rates promotes among young adults the continuous development of entrepreneurial activities, which can partially provide a solution to the increasing unemployment. The purpose of this research is to assess a new measurement model of specific entrepreneurial orientation which would contribute to increasing the university students` intention of becoming entrepreneurs. The study demonstrated that increasing the collaboration of students with industry and governmental institutions in supporting their innovative ideas will increase their intention towards entrepreneurship.

Chapter 18

Entrepreneurial Spirit in Family Business Successors: The Case of Mexico 398

Cynthia Franco-Rodriguez, Tecnológico de Monterrey, Mexico

Cinthya Flores Rivera, Tecnológico de Monterrey, Mexico

The objective of the work is to provide a panoramic view of the latest advances in the line of research that analyzes entrepreneurship spirit and succession in the family business. For this purpose, a systemic review of the literature contained in the Web of Science database has been carried out between 2011 and 2016. Getting an initial sample of eight for entrepreneurial spirit and 13 for succession in the family business, a review of this type is necessary to evaluate and contribute to the most recent contributions, the gaps existing in the literature for future research lines.

Chapter 19

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation 414

Jose Manuel Saiz-Alvarez, EGADE Business School, Tecnológico de Monterrey, Mexico

Alicia Coduras Martínez, Global Entrepreneurship Research Association, UK

Most of the nations forming the Eurozone are hoping to boost entrepreneurship as one of the leading elements for job creation, innovation, and wealth to overcome the economic crisis. However, the quality of the entrepreneurial activity changes when qualified initiatives tend to impact on the economic development, while non-vocational-driven entrepreneurship has a null or little impact on the economy. This research analyzes the average quality of the Eurozone entrepreneurial activity driven by innovation before and after an economic crisis. The primary results of this chapter are (1) the quality of the entrepreneurial activity increases when there is a public-private collaboration to foster entrepreneurship, and (2) long-term unemployment generates necessity entrepreneurship and diminishes entrepreneurial quality.

Chapter 20

Impact of Cultural Factors on Entrepreneurship: Evidence From GEM Model and the Singularity of Japan 433

Jose Ramón Gutierrez Martin, ESDEN Business School, Spain

Since the 1990s there has been extensive literature about the main factors impacting on entrepreneurship activity, and therefore on the genesis and development of entrepreneurship ecosystems. Among these factors, cultural ones are of the most interest because they are specific to every community and may become essential to boost or break the entrepreneurship activity. A lot has been written about these cultural factors, especially at reaching conclusions from specific cases. However, any kind of cross-country analysis of these cultural factors has been much less widely published, with some rare exceptions. Indeed, this chapter aims to fill this gap, enhancing knowledge about entrepreneurship with a cross-country analysis on the impact of cultural factors, using models and data from Global Entrepreneurship Monitor (GEM). Moreover, particular focus has been done on Japan because of its nature as an hapax legomenon country that lets us better appreciate the impact of these factors.

Chapter 21

University-Based Entrepreneurial Ecosystems: Evidence From Technology Transfer Policies and Infrastructure 455

Lucia Rodríguez-Aceves, Tecnológico de Monterrey, Mexico

Barbara Mojarro-Durán, Tecnológico de Monterrey, Mexico

Edgar Muñíz-Ávila, Tecnológico de Monterrey, Mexico

Embedding entrepreneurship into the university mission and culture in developing countries is key to national economic growth and social development. Therefore, having a better understanding of university-based entrepreneurial ecosystems considered as benchmark cases is a good start to introduce to the topic. For such reason, the objective of this chapter is to describe the situation of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara, Mexico, its leading actors and roles, and how they have been relevant to promote entrepreneurial initiatives among higher education students, alumni, and faculty members. Along with the case description and based on a previous study, the authors present a comparison of Tecnológico de Monterrey case with four universities' entrepreneurial ecosystems. Findings suggest that the strategy followed to promote university-based entrepreneurship depends on the internal capabilities of each institution and the capacity of the region to support it.

Chapter 22

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem: Entrepreneurship Ecosystem in Algeria 476

Soraya Sedkaoui, Universite Djilali Bounaama Khemis Miliana, Algeria & University of Montpellier, France

This study is going to focus on the Algerian entrepreneurship ecosystem by adopting an investigation approach to explore the efficiency of the entrepreneurship process and actions. A proper survey has been conducted among several Algerian entrepreneurs to understand the national entrepreneurial ecosystem: environment, financial capacity, collaboration with the external environment, innovation capacity, etc. This chapter reports the findings of entrepreneurship ecosystem concerning the six entrepreneurship-related domains described by Isenberg to identify and develop. Results show that Algerian efforts still need a

lot of enrichment due to the importance of the issue and the need for environmental and technological changes in the country. These changes should be substantially generated depending on the nature of entrepreneurship and should require the necessity of keeping up with these changes especially when shaping strategies and policies to address these challenges.

Chapter 23

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC):
Literature Review and Theoretical Foundations 498
 Geraldina Silveyra, Tecnológico de Monterrey, Mexico
 Angel Herrero-Crespo, Universidad de Cantabria, Spain
 Andrea Pérez-Ruiz, Universidad de Cantabria, Spain

This chapter presents a literature review of the term competency given the importance of the term in a wide variety of domains, specifically in the education and training. More specifically, the concept is analyzed within the entrepreneurship domain since it has used it as a framework to study entrepreneurs and their performance with new venture creation and later its growth. The chapter also presents a review of entrepreneurship competency models which have been proposed by previous research under the iceberg model. In the end, a model of entrepreneurship competencies is introduced, paying close attention to the behavioral level competencies which can be developed throughout education basing on past research and in the iceberg model.

Chapter 24

Industry-Academia Collaboration in Business Schools 519
 R. Satish Kumar, IFIM Business School, India

In today’s competitive business environment, companies need to recruit right personnel for the right job at the right time. The competencies required for the managers to succeed in the corporate world are knowledge, skills, and attitude. In this context, the chapter explains the need for the industry-academia collaboration in higher education in general and business schools in particular. This collaboration should be at input, process, and output levels of the business school activities. Here the author with the case study of IFIM Business School, located in India, attempts to provide the insights into the best practices followed in industry-academia collaboration. The chapter explains the opportunities and the challenges in fostering effective industry-academia collaboration and offers suggestions to design a strategic win-win business policy for the partners.

Compilation of References 538
About the Contributors 613
Index..... 623

Preface

Educating the mind without educating the heart is no education at all. — Aristotle

The contemporary fast-paced knowledge-oriented economies require individuals to pursue the path of higher educational attainment that equips them with enhanced skills and increased productivity. On their part, institutions imparting higher education will need to adopt policies and practices that aid in the creation of knowledge-based societies and economies to improve social and economic wealth. In fact, the growth and development of the current knowledge-oriented cultures across the world can be attributed to the higher education institutions (HEIs) which have provided the necessary academic and professional skills to those pursuing their chosen career. Nevertheless, HEIs face tremendous challenges in the course of their development in the existing globalized competitive environment, which is dynamic and yet culturally diverse. Global HEIs are not isolated as they collaborate using the ICT (Information and Communication Technologies). The strategic objective of these institutions is to further develop and create knowledge-based economies at the international level.

For sustainable development, HEIs will need to focus on preserving academic values and ethical considerations and imparting quality education mainly defined by being applicable, practical, and updated. These institutions should be the moral force and the ideal place to prepare students to shoulder responsibility at work and home, in order to make fair decisions in the future, as citizens, entrepreneurs, and leaders. The progressive growth of an economy dramatically depends upon such a moral force that directly influence entrepreneurs, societies, and firms. In this age of globalization, and especially in emerging countries, entrepreneurs are increasingly seeking opportunities with a multidimensional approach to entrepreneurship development. However, in spite of the general awareness of the need for ethical practices in entrepreneurship, there could occur dilemmas and challenges in its implementation, which entrepreneurs need taking into account. For, as Azim Premji, Chairman, Wipro Ltd, India states “The real threat to business is from within, from poor ethical standards and lack of integrity that can do incalculable harm. History has repeatedly proven that business ethics, shared value, and corporate governance determine the longevity of an enterprise” (Mishra, 2018). Thus, sustainable entrepreneurship calls for putting in place business ethics that convey corporate values, codes, and policies that guide business behavior. What are the various ethical issues, how these can be addressed, and what the different facets of the entrepreneurship ecosystem are in the current knowledge-based global economy; form the core coverage of this book? The subject area is a combination of topics related to ethics and values, entrepreneurship, higher education and few case studies in related fields.

Preface

The book is divided into two main sections. The first section deals with the topic “Ethics and Governance in HEIs” and is formed by 11 chapters. Chapter 1 entitled “Plagiarism and Ethical Issues: A Literature Review on Academic Misconduct,” written by prof. Bernard Montoneri, Ph.D., of the National Chengchi University (Taiwan), discusses the literature on plagiarism and proposes some ideas to fight intellectual dishonesty, ‘predatory’ publishers, fake papers, the abuse of counterfeit positive peer-review, and contract cheating. This academic problem is complemented in Chapter 2 with the work “Classroom Behavior Among Management Students in the Higher Education of India: An Exploratory Study” where prof. Anushree Manohar Karani, Ph.D., from Shri Jairambhai Patel Institute of Business Management and Computer Application (India), and prof. Sarla Achuthan, Ph.D., GLS University (India), analyze the classroom behavior in Management students in the Indian city of Gujarat to inculcate positive behavioral traits among students to develop ethical values in them. The third challenge to fight is corruption. A topic that is further studied in Chapter 3 entitled “Higher Education, Social Welfare, and Corruption: Some Challenges for Universities in Guayaquil, Ecuador,” written by prof. Marlene M. Mendoza-Macías, Ph.D., from the Catholic University of Santiago de Guayaquil (Ecuador). In this chapter, the author specifies the role of higher education institutions (HEIs) in society to draw up social responsibility of universities (SRU) with the final objective of helping to eradicate corruption.

The rest of the chapters included in this first section of the book propose ideas to solve these three challenges: plagiarism, lousy classroom behavior, and corruption. As a result, in Chapter 4, prof. Mike Szymanski, Ph.D., from EGADE Business School-Tecnologico de Monterrey (Mexico) and prof. Anna Olszewska, Ph.D., from Kozminski University (Poland), ask if it is preferable to teach leadership ethically or to teach ethical leadership applied to the Executive Education in Poland. Training that is based on competences, as studied in Chapter 5 by prof. Emilia Kijanka, Ph.D.(c), and prof. Katarzyna Lipska, Ph.D.(c), of the School of Economics, Law and Medical Sciences in Kielce (Poland), that analyze competencies needed with their study titled “Competencies of the Future: Educational Processes vs. Challenges and Barriers of Contemporary Labor Markets.” Further, this book chapter aims to analyze trends in the contemporary labor market and to assess the extent to which employers meet expectations and opportunities. Chapter complemented with Chapter 7, written by the same authors, where they enlarge their ideas on business ethics by linking competencies, ethics, and behavior.

The combination of ethics and competences generate a culture of trust in HEIs; topic studied in Chapter 6 by prof. Magdalena Platis, Ph.D., of the University of Bucharest (Romania) with her work titled “Building a Culture of Trust in Higher Education Institutions: Challenges for a New Type of Quality Management”. The objective of these pages is to provide a clear insight to the contemporary state of HEIs’ behavior and context to contribute to the building up of new quality management based on a trust in the area of education, research and social development.

In addition, values play a crucial role in HEIs, as shown in Chapter 8 entitled “Personal Values and Proclaimed Values of the Education System: Results of Empirical Research in the Case of Croatia.” In these pages, written by prof. Niksa Alfircic, Ph.D., of the University of Split (Croatia); prof. Zlatko Nedelko, Ph.D., and prof. Vojko Potocan, Ph.D., both from the University of Maribor (Slovenia), it is empirically shown the relationships between the personal values of current students and the officially proclaimed values of HEIs. They find a high level of linear correlation among the students’ own values and the declared values of the education system using gender, level of study, and scholarship status.

The relation between ethics and skills continue in Chapter 9 with the ideas of prof. Alicia Guerra Guerra, Ph.D., and prof. Lyda Sánchez de Gómez, Ph.D., both from University of Extremadura (Spain). These pages deal with how universities can apply teaching immersion based on technology, proactivity,

Preface

and training in values to propose a model based on educational innovation to implement in the Fourth Industrial Revolution. Within this context, the university must move into the practice of ethical values and offer training based on soft skills. For these authors, a path links ethics with soft skills based on synergy.

A numerous group of Ph.D. professors from the University of Evora (Portugal), prof. Ana Costa Freitas, Ph.D., prof. Paulo Quaresma, Ph.D., prof. Ausenda de Cáceres Balbino, Ph.D., prof. Rosalina Pisco Costa, Ph.D., prof. Inês Secca Ruivo, Ph.D., prof. Luis Rato, Ph.D., and prof. José Godinho Calado, Ph.D., argues in Chapter 10 entitled “Ethical Governance for Sustainable Development in Higher Education Institutions: Lessons From a Small-Scale University” that HEIs face the impact of globalization, which is mainly demanding in imposing and shaping ethical practices towards the creation of socially responsible citizens. Against this background, this chapter aims to present and critically discuss the strategies actually implemented at the University of Evora (Portugal) to build a culture of integrity for the XXI century.

This integrity is complemented in Chapter 11 with the work of prof. María del Pilar Ramírez-Salazar, Ph.D., prof. Rafael Ignacio Pérez-Urbe, Ph.D., and prof. Carlos Salcedo-Pérez, Ph.D., from EAN University (Colombia), who propose an Open Collaborative Innovation Model as a way to reinforce the triple helix formed by universities, industries, and governments. As a result, regional innovation systems are consolidated, and national competitiveness and productivity are both improved.

Ethics and entrepreneurship have a fundamental role in family business, a topic that is studied in Chapter 12 titled “Dangerous Liaisons? Ethical Challenges on Entrepreneurship in Family Business” written by prof. Edgar Ramírez-Solís, Ph.D., and prof. Verónica I. Baños-Monroy, Ph.D., from Tecnológico de Monterrey, Mexico. They affirm that the combination of entrepreneurship and intrapreneurship is an essential engine for economic growth and innovation. In this chapter, the authors highlight the ethical issues inherent to family firms. Intrapreneurs in a family business, face uniquely moral problems related to fundamental fairness, succession process, copyright and brand use. All these subjects are pertaining to entrepreneurial ethics that the authors examine and discuss, including possible directions for future research.

The relationship between ethics and social entrepreneurship are studied in Chapter 13 titled “Ethics and Social Entrepreneurship: An Exploration” and written by prof. Renuka Garg, Ph.D., from Veer Narmad South Gujarat University (India) and prof. Subhash Yadav, Ph.D., Narmada College of Management (India). These authors suggest that having ethics in mind, social entrepreneurs instigate a process of helping people and institutions, which result in the formation of a social organization based on noble intentions. The present study is an attempt to highlight the role of personal values in the structure and evolution of a social enterprise with the help of three case studies of social enterprises located in South Gujarat, India. These ideas are complemented in Chapter 14 with the work titled “Corporate Social Entrepreneurship: An Effective Dual Strategy,” written by prof. M. del Rocío Vallejo-Fiallos, Ph.D., Blue Hill College (Ecuador) where the author affirms that entrepreneurship is a strategic opportunity for human development, on which MNCs play a vital role in the spillover effect. This chapter aims to illustrate CSE (Corporate Social Entrepreneurship) practices to generate social value and to explore their ethical constraint alleviation. Using an Internet-Mediated Research, a sustainability analysis of seventy companies from different countries and sizes evidenced that CSE is a tool for economic growth and good governance. This study brings new insights to the field of CSR and its role in sustainability by incorporating the entrepreneurship discipline. Finally, a CSE Innovation Business Model is proposed as a core business strategy.

Preface

Social entrepreneurship is also crucial in HEIs, as shown in Chapter 15, written by prof. Alejandro Vega-Muñoz, Ph.D., from PIIE/Autonomous University of Chile, prof. Claudia Martínez-Villanueva, Ph.D., from the University of Chile, prof. Guido Salazar-Sepulveda, Ph.D., from the Catholic University of the Most Holy Conception of Virgin Mary (Chile) and titled “USR and its Effects on the Promotion of Entrepreneurship and Growth: SMEs in Chile.” Using a descriptive-functional paradigm, these pages and titled, these authors analyze how universities contribute to the promotion of entrepreneurship to benefit SMEs.

When social entrepreneurship inserted into HEIs is applied in family entrepreneurship, positive effects derived from this interaction rapidly increase. This relation is studied in Chapter 16 titled “The Role and Contribution of Higher Education in Family Entrepreneurship: Evidence From USA and Spain,” developed by prof. Jesús Manuel Palma-Ruiz, Ph.D., Autonomous University of Chihuahua (Mexico), and prof. Unai Arzubiaga, Ph.D., University of the Basque Country (Spain). These authors, driven by increasing awareness of the importance of family firms in most countries as the most extended type of businesses all around the world, has pushed a growing number of HEIs to introduce family business education programs in their curricula. In this respect, the authors include an overview of the most recent offerings among the most prominent HEIs worldwide.

The relationship between entrepreneurship and HEIs continues in Chapter 17 titled “Synergic Individual Entrepreneurial Orientation of University Students: A New Measurement Model” written by Alba Demneri Kruja, Ph.D., from Epoka University (Albania), who writes about how innovation is the distinct implement of entrepreneurs. Moreover, knowledge is the key element of the innovation system, so the collaboration and synergy between the participants of these innovation systems are vital, as they become a “laboratory for knowledge based economic development”. Albania is a developing country located in Europe and defined by suffering high unemployment rates. As a result, this nation is continuously promoting entrepreneurship among young adults to provide a solution to reduce the increasing unemployment. The purpose of this research is to assess a new measurement model of proper entrepreneurial orientation, which would contribute to increasing the university students` intention of becoming entrepreneurs.

A second crucial aspect of entrepreneurship is how it relates to family businesses’ successors, a relationship that is studied in Chapter 18 titled “Entrepreneurial Spirit in Family Business Successors: The Case of Mexico” and written by Prof. Cynthia Franco-Rodriguez, Ph.D., Tecnologico de Monterrey (Mexico), and Prof. Cinthya Flores Rivera, Ph.D., Tecnologico de Monterrey (Mexico). The objective of their work is to provide a panoramic view of the latest advances in the line of research that analyzes entrepreneurship spirit and succession in the family business. For this purpose, 21 Mexican SMEs were analyzed, eight Mexican for entrepreneurial spirit, and 13 for inheritance in the family business, to find the gaps existing in the literature to suggest future lines of research.

Quality in entrepreneurship plays a crucial role, mainly when it is driven by innovation, as happens in the nations that are using the euro in Europe as a common currency. This topic is described and analyzed in Chapter 19 titled “Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation,” and written by prof. Jose Manuel Saiz-Alvarez, Ph.D., from EGADE Business School, Tecnologico de Monterrey, (Mexico), and prof. Alicia Coduras Martínez, Ph.D., from GEM/GERA (Global Entrepreneurship Research Association), United Kingdom. In fact, most of the nations forming the Eurozone are hoping on boosting entrepreneurship as one of the leading elements for job creation, innovation, and wealth to overcome the economic crisis. However, the quality of the entrepre-

Preface

neurial activity changes when qualified initiatives tend to impact on the economic development, while non-vocational driven entrepreneurship has a null or little impact on the economy. This research analyzes the average quality of the Eurozone entrepreneurial activity driven by innovation before and after an economic crisis. The primary results of this book chapter are (1) the quality of the entrepreneurial activity increases when there is a public-private collaboration to foster entrepreneurship, and (2) long-term unemployment generates necessity entrepreneurship and diminishes entrepreneurial quality.

In order to have a more holistic perspective on entrepreneurship, in Chapter 20 titled “Impact of Cultural Factors on Entrepreneurship: Evidence from GEM Model and the Singularity of Japan,” prof. Jose Ramón Gutierrez Martin, Ph.D., from ESDEN Business School (Spain) studies how culture affects on entrepreneurial ecosystems. Study that he applied for a cross-country analysis with particular focus on Japan using models and data from the Global Entrepreneurship Monitor (GEM).

This holistic perspective is especially visible when entrepreneurs are inserted into entrepreneurial ecosystems where universities (Chapter 21) or industries (Chapter 22) have a crucial role to play. Regarding Chapter 21, titled “University-Based Entrepreneurial Ecosystems: Evidence From Technology Transfer Policies and Infrastructure” and written by prof. Lucia Rodríguez-Aceves, Ph.D., Tecnológico de Monterrey (Mexico), prof. Barbara Mojarro-Durán, Ph.D., Tecnológico de Monterrey (Mexico), and prof. Edgar Muñoz-Ávila, Ph.D., Tecnológico de Monterrey (Mexico) deals with embedding entrepreneurship into the university mission and culture in developing countries to accelerate economic growth and social development. For such reason, the objective of this chapter is to describe the case of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara (Mexico), its leading actors and roles and how they have been relevant to promote entrepreneurial initiatives among higher education students, alumni, and faculty members. Along the case description and based on a previous study, the authors present a comparison of Tecnológico de Monterrey case with four universities entrepreneurial ecosystems. Findings suggest that the strategy to follow in order to promote university-based entrepreneurship depends on the internal capabilities of each institution and the capacity of the region to support it.

A second analysis related to entrepreneurial ecosystems is made in Chapter 22 with the work entitled “An Empirical Analysis of the Algerian Entrepreneurship Ecosystem: Entrepreneurship Ecosystem in Algeria” written by prof. Soraya Sedkaoui, Ph.D., from K-M University (Algeria) and TRIS Laboratory Montpellier University (France) / SRY Consulting. This study focuses on the Algerian entrepreneurship ecosystem by adopting an investigation approach to explore the efficiency of the entrepreneurship process and actions, they still, need a lot of enrichment in Algeria due to the importance of the issue and environmental and technological changes required for implementing effective entrepreneurial policies in this country.

The book ends with the proposal of a model focused on entrepreneurial competencies (Chapter 23) and the need for strengthening the relationship between universities and industries (Chapter 24). Respecting Chapter 23, entitled “Proposal of a Comprehensive Model of Entrepreneurship Competencies (MEC): Literature Review and Theoretical Foundations” written by prof. Geraldina Silveyra, Ph.D., Tecnológico de Monterrey (Mexico), prof. Angel Herrero-Crespo, Ph.D., University of Cantabria (Spain), and prof. Andrea Pérez-Ruiz, Ph.D., University of Cantabria (Spain), presents a literature review of the term competency in the educational and training domains, as well as a study of entrepreneurship competency models to propose an Entrepreneurial Competencies Model. Finally, a further university-industry interface is needed in today’s competitive business environment where companies recruit right personnel for the right job at the right time, as shown in Chapter 24 entitled “Industry-Academia Collaboration

Preface

in Business Schools” written by prof. R. Satish Kumar, Ph.D., from IFIM Business School (India). As shown in these pages, the competencies required for the managers to succeed in the corporate world are knowledge, skills, and attitude to excel in their respective roles.

OBJECTIVE OF THE BOOK

The book highlights and focuses on the importance of ethics and value system in higher education and business, as well as in the various developments of the entrepreneurship ecosystem. The ethical system as a moral force holds a privileged place in the contemporary knowledge-based society as it educates and prepares one and all, to be honest, and responsible citizens and, good entrepreneurs and businessmen. This book proposes to examine the need to practice ethical behavior and values especially with respect to entrepreneurship and for the progressive future of knowledge-based economies in the global environment. This book publication explores the importance of ethics and ethical challenges in business, towards building a culture of trust and values, development of university social responsibility, corporate social entrepreneurship, entrepreneurial quality, entrepreneurship ecosystem, and on the role, contribution and impact of higher education with ethical behavior on entrepreneurship.

TARGET AUDIENCE

With the variety of topics covered in this publication the intended audience of this book will be stakeholders associated with higher education-Practitioners (management body and governing council members), Academicians (Faculty), Entrepreneurs (current and future), Student community (undergraduate/graduate students, research scholars), as well as the various Government bodies (education ministry and accreditation agencies) associated with the field of higher education and business development.

The *Handbook of Research on Ethics, Entrepreneurship, and Governance in Higher Education* intends to have a global impact, as it has been prepared with the participation of numerous groups of professors affiliated to HEIs located in four continents (Africa, America, Asia, and Europe) and countries (Albania, Algeria, Chile, Colombia, Croatia, Ecuador, France, India, Mexico, Poland, Portugal, Romania, Slovenia, Spain, Taiwan, and United Kingdom) to have a comprehensive vision and perspectives on different topics related to ethics, good governance and entrepreneurship. In fact, this global vision constitutes one of the leading strengths of our collective and shared work on these issues.

Sincerely, we hope that the following pages will be useful for your life, and we wish you all the best during your reading and assimilation of the new ideas, theories, and knowledge included in the different chapters of this Handbook of Research.

The Editors

REFERENCES

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Acknowledgment

To begin with, we would like to express our heartfelt thanks to all the authors for their invaluable chapter contributions. We would want to assert our sincere gratitude to all Editorial Board Members and reviewers for participating in the reviewing process and providing their valuable and constructive comments.

We would also like to thank IGI Global for providing this excellent opportunity to create this Handbook of Research. We would like to acknowledge the professional and supportive role of the editorial staff at IGI Global throughout this book journey, and especially to Ms. Jordan Tepper, Assistant Development Editor, for her priceless help.

Lastly, we would like to direct our appreciation to all our family members for their constant support and encouragement in this research journey and for contributing to make this project a success.

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Section 1

Ethics and Governance in HEIs

Chapter 1

Plagiarism and Ethical Issues: A Literature Review on Academic Misconduct

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ABSTRACT

This chapter discusses the literature on plagiarism and aims at helping readers better understand what plagiarism is, what is at stake, and how to fight intellectual dishonesty. First, it is essential to define plagiarism and to present the historical background related to academic malpractice. Since the advent of the internet, the number of cases of plagiarism has increased exponentially. Many websites overtly encourage acts of cheating and plagiarism, offer or sell programs designed to copy, generate, and even buy assignments and academic papers. The growing number of retracted documents, not only in open access journals but also in journals owned by major publishers, is disturbing. This chapter will notably discuss the rise and thrive of “predatory” publishers, the growth of fake papers, the abuse of fake positive peer review, and the disturbing success of contract cheating. Finally, it should be noted that even though academic malpractice is damaging the reputation of the scientific community, many solutions have been proposed and implemented.

INTRODUCTION

There are many of types of academic dishonesty, such as cheating (the cheater copies or asks someone else to write any form of work or publication), contract cheating (the cheater pays someone else to do it), bribery (money, goods, or services in exchange for a favor, such as a good grade or a positive review), misrepresentation (to deceive someone for academic advantage), conspiracy (to create or alter experimental data; to cite references which are not actually used; to plan to do something unlawful), disruptive behavior (online and in the classroom), etc. This chapter cannot be an exhaustive presentation of all types of academic misconduct; it chooses to focus on plagiarism (in academia) and on the rise of contract cheating (among university students). This might concern and interest university professors,

DOI: 10.4018/978-1-5225-5837-8.ch001

Plagiarism and Ethical Issues

educational institutions, administrators, ministries of education and research, students in the case of contract cheating, as well as graduate students and young scholars around the world.

According to Jinha (2010), from the first modern journal published in France in 1665 to 2009, 50 million papers have been published in the world. Ware & Mabe (2015) state that around 2.5 million papers are published every year. By the end of 2014, there were roughly 28,100 active scholarly peer-reviewed English-language journals and 6450 non-English-language journals. Most articles are published in the US (23%), China (17%), the UK (7%), Germany (6%), Japan (6%), and France (4%). The United States still leads for the number of citations (36%).

Paradoxically, some scholars complain that the explosion of the number of publications, which is set to double every nine years (Bornmann & Mutz, 2015), results in the “narrowing of science and scholarship”, that is, articles referenced tend to be more recent, fewer journals and articles are cited, and a larger number of their references cite fewer journals and articles (Evans, 2008). Journals generally encourage scholars to cite the most recent literature in the field and the older literature is often neglected. Moreover, some argue that a large number of papers are read only by their authors, reviewers and editors or never cited by other authors (Hamilton, 1990; Schwartz, 1997; Collins, 2004; Meho, 2008). The debate is not new and many researchers argue about these results, which seem to be overestimated (Pendlebury, 1991; Garfield, 1998; Van Dalen & Henkens, 2004; Lariviere et al., 2008). One might also contest these results because these studies are relatively old and do not take into account the recent growth of platforms such as Academia.edu, which has 57 million registered users (Academia, 2017) and ResearchGate, which has 11 million users and 2.5 million research items shared on the site every month (Satariano, 2016), where scholars can share their research and publications for free with a worldwide audience; however, following threats of legal action by a coalition of publishers including Elsevier, ResearchGate is forced as to November 2017 to remove around 1.7 million copyrighted papers from the German platform (Oford, 2017).

Some might argue that the pressure by academic institutions to “publish or perish” emphasizes quantity (pressure to publish a lot) as well as quality (pressure to publish in reputable journals indexed in renowned databases), and that the increased competition amongst scholars has numerous side effects (Colquhoun, 2011; Osterath, 2014; Jacob, Rzhetsky, & Evans, 2015; Chen, 2015). The career of a scholar depends more and more on his/her ability to publish. University faculty is increasingly pressured to attend conferences, write books, and publish articles in international journals with a high impact factor. The fact that “universities and governments would use the ranking of the journal (based on stated or revealed preference) as a proxy for the quality and impact of an academic’s articles” is disturbing. Many studies have demonstrated that highly-cited papers can be published in lower-ranked journals and that a large number of articles published in journals with impact factor are unable to gather citations (Harzing, 2011).

...both administrators and the management discipline will be well served by efforts to evaluate each article on its own merits rather than abdicate this responsibility by using journal ranking as a proxy for quality (Singh, Haddad & Chow, 2007, p.319).

Moreover, journal ranks and citations should be taken with caution, not only because they are “subject to many forms of error” (Harzing, 2011), but also because cases of plagiarism are increasing rapidly and scandals do not spare major publishers, such as Elsevier, Springer, Taylor & Francis, SAGE, Wiley, and Informa (Cohen et al., 2016; McCook, 2016).

Plagiarism and Ethical Issues

Oransky (2015) makes a list of the most cited among known retracted journal papers. Number one on the list is Fukuhara et al. (2005), which is, according to the number of citations from journals indexed by Thomson Scientific, cited by 243 before retraction (2007) and 915 after. Oransky (2015) shows that all the most cited papers are in the fields of medicine and biology (notably in renowned journals such as *Science* and *The Lancet*). It is worrisome as results may have a huge impact on the public's health. It also shows that, even though retracted, these papers gain more and more popularity and their results are widely shared. According to McCook (2015), retracted papers continue to accrue citations: for example, "half of anesthesiologist Scott Reuben's papers have been cited five years after being retracted, and only one-fourth of citations correctly note the retraction." Massachusetts anesthesiologist Reuben spent six months in prison after many of his papers were proven to contain fabricated data.

It is difficult to find data on plagiarism by country and by field. However, Fast Company (2014) reports that Science mined data from the online repository arXiv (pronounced "archive"—open access to more than 1,3 million e-prints in science, including Physics, Mathematics, Computer Science, Engineering and Economics) and published the results. An automated program compared new articles submitted (in the field of science) to all the other papers in arXiv's database, ruling out self-citations and text properly quoted. On 767,000 papers published between from 1991 to 2012, one in 16 authors had copied from their previous papers or from other authors' articles. The authors of this study (Citron and Ginsparg, 2014) notably state: "We discovered significantly higher rates of text reuse specifically in computer science articles published in predatory open-access journals (articles largely received after the mid-2012 timeframe of the dataset analyzed here)." According to the study, 1,236 out of 26,052 authors were flagged in the U.S., 297 out of 9,201 in Germany, 164 out of 1054 in Iran, and 688 out of 6,372 authors in China (Fast Company, 2014).

Plagamme (2018) provides statistics on plagiarism by country in the USA and in Europe. Austria has the lowest plagiarism score at 8.4 and Russia the highest at 38.2. By comparison, Great Britain has a score of 10.8 and France of 14.3. According to the plagiarism checker company, scores are updated daily. In the US, plagiarism statistics vary considerably in all of the states from 6.4% in Vermont and 6.7% in Wisconsin to 21.8% in Texas and 24.2% in Louisiana (as to February 11, 2018).

Important scientific questions and controversial topics are discussed in published articles and the fact that an increasing number of studies are retracted (at least 700 per year) because of academic malpractice is alarming. According to Citron & Ginsparg (2015), 15% of submissions contain "duplicated material" in some countries. Trust in the scientific literature is at stake. Honesty, accountability, professional courtesy and fairness are the principles of scientific research (Resnik & Shamoo, 2011). Even though academic malpractice is not new (Charles Babbage was already complaining about hoaxes, forgeries, data trimming, and "cooking" in the 19th century; Babbage, 1830), the increase in the number of "scholars" who try to exploit the system must be dealt with more efficiently.

This chapter presents various definitions of plagiarism and types of plagiarism, followed by a short historical background and information on the origins of copyright. Then, it discusses various problems and issues related to plagiarism, such as the effectiveness of detection software, the growing number of predatory publishers and journals, the use of fake positive peer-review, and the disturbing trend to pay someone to write an essay or a paper (contract cheating).

Below is a thought provoking quote by famous British essayist, publisher, playwright, and literary critic Thomas Stearns Eliot:

Plagiarism and Ethical Issues

One of the surest of tests is the way in which a poet borrows. Immature poets imitate; mature poets steal; bad poets deface what they take, and good poets make it into something better, or at least something different. (Eliot, 1920, 114)

DEFINITION OF PLAGIARISM

According to the Merriam-Webster Online Dictionary (2017), to plagiarize means “to steal and pass off (the ideas or words of another) as one’s own: use (another’s production) without crediting the source.” According to Stanford University (2012), plagiarism is the ‘use, without giving reasonable and appropriate credit to or acknowledging the author or source, of another person’s original work, whether such work is made up of code, formulas, ideas, language, research, strategies, writing or other form.’ Generally, plagiarism involves stealing and deception. However, Meuschke & Gipp (2013) consider that plagiarism is not necessarily theft as it is not always intentional. Plagiarism is often the result of the lack of proper citation. Fishman (2009, p.5) proposes an interesting definition of plagiarism based on the following concepts summarized and cited below:

1. The *actus reus* (conduct which is a constituent element of a crime) includes three elements:
 - a. “Uses words, ideas, or work products”
 - b. “Attributable to another identifiable person or source”
 - c. “Without attributing the work to the source from which it was obtained”
2. Distinction between plagiarism and speech-writing or legitimate re-purposing of words and information:
 - d. “In a situation in which there is a legitimate expectation of original authorship”
3. The *mens rea* (intention of wrongdoing that constitutes part of a crime):
 - e. “In order to obtain some benefit, credit, or gain which need not be monetary.”

There are various types of plagiarism:

- The most basic and therefore the easiest to detect would be the “copy & paste” type (literal plagiarism), that is when a student or a scholar copies word for word an author’s text and takes credit for it without proper citation (Weber-Wulff, 2011).
- Disguised plagiarism means that the plagiarist made some effort to hide the fact that the text was copied by making some alterations (Lancaster, 2003).
- Shake & Paste means collecting paragraph from various sources. Weber-Wulff (2010) called it “mosaic plagiarism”.
- Paraphrasing is the intentional rewriting of someone else’s ideas, thoughts or research methods without acknowledging the source (Lancaster, 2003). It is close to idea plagiarism (Maurer et al., 2006).
- Plagiarism by Translation means that the plagiarist translates a writer’s work in another language and takes credit for it (Weber-Wulff, 2010).
- Technical disguise when someone exploits weaknesses of detection softwares to make content difficult or impossible to detect (Heather, 2010).

Plagiarism and Ethical Issues

- Self-plagiarism means that the author of a work reuses his own published findings to produce a “new” publication (Bretag & Mahmud, 2009). One may re-publish a work on the condition that it is justified and acknowledged and as long as the objective is not to artificially increase one’s citation count (Collberg & Kobourov, 2005).
- Cryptomnesia, or unconscious plagiarism (Marsh, Landau, & Hicks, 1997; Marsh, Ward, & Landau, 1999). For example, Brown & Murphy (1989) showed that cryptomnesia occurred in 3 to 9% of cases, that is, participants unconsciously plagiarized responses.

The Committee on Publication Ethics (COPE) was founded in 1997 as a voluntary body; it provides advice as well as guidelines for scientific editors (COPE, 1999). In some cases, it is the choice of an academic journal to decide what constitute self-plagiarism: for example, when an author participates to a conference (oral presentation), he/she then may submit a conference article (proceedings). On the condition that the proceedings are not peer-reviewed and that the author has the accord of the conference organizers, the same article might be submitted to an academic peer-reviewed journal. Many organizations hold conferences and have academic journal related to these conferences. Authors should acknowledge in their paper that the conference article has been published in the proceedings first, then submitted and peer-reviewed. If the organizers are aware of it and agree, there should not be any problem. Obviously, some corrections and changes are made to improve the quality of the article. Nowadays, many journals require the author to make substantial changes (for example, the article and the journal paper could be 30% different). But it is left at their discretion. Here is what the Code for the Responsible Conduct of Research at James Cook University (Australia) states about multiple submissions and republishing:

It is not acceptable to include substantially the same research findings in several publications, except in particular and clearly explained circumstances, such as review articles, anthologies, collections, or translations into another language. An author who submits substantially similar work to more than one publisher, or who submits work similar to work already published, must disclose this at the time of submission. Researchers must take all reasonable steps to obtain permission from the original publisher before republishing research findings. (James Cook University, 2017)

The Institute of Electrical and Electronics Engineers (IEEE) states that “Conference papers cannot simply be republished without significant differences. The meaning of “significant” is left at the discretion of the Editor. There is no quantitative threshold in determining whether the differences are significant.” (IEEE Transactions in Wireless Communications, 2017).

However, to maintain academic integrity, if an article has already been published in a journal, then it should not be presented at a conference and surely not submitted to the proceedings. Of course, papers should not be presented at two or more conferences or submitted to two or more journals. It should be also noted that academics prefer to resubmit their work to a peer-reviewed journal, especially with an impact factor because almost all institutions require this type of publication when applying for tenure and promotion. In the end, one must contact the publisher and the editor and obtain their authorization first. As long as they know and agree, there is no problem. Plagiarism is about misleading and deceiving people (Bretag & Mahmud, 2009).

HISTORICAL BACKGROUND AND ORIGINS OF COPYRIGHT

The English term plagiarism comes from Latin *plagiarius*. It was introduced during the early 17th century, notably by British playwright and literary critic Ben Jonson (1572-1637) in 1601 to describe someone guilty of literary theft (Valpy, 2005). The etymology of the Latin word is interesting and worth mentioning: *plagiarius* originally meant 'kidnapper', and *plagium*, 'kidnapping'. The term comes from Indo-European root *-plak* ("to weave").

The first known act of plagiarism is mentioned by Roman poet from Hispania (modern Spain) Marcus Valerius Martialis (circa 41-104 AD). Martial was one of the greatest epigrammatists and in one of his epigrams, he complained quite clearly and overtly about a certain Fidentinus who, according to him, was reciting his work without acknowledging the authorship:

"Fame has it that you, Fidentinus, recite my books to the crowd as if none other than your own. If you're willing that they be called mine, I'll send you the poems for free. If you want them to be called yours, buy this one, so that they won't be mine" (Martial *Epigrammata* 1.29 cited by Anderson, 2006, p.119).

Jean Baptiste Timothée Baumes (1756-1828), teacher and clinician, famous for his work on pediatric neurology, accused a certain François Bidault of plagiarism. Baumes wrote in the second edition of his book that Bidault's 1804 thesis submitted for the MD degree at the University of Paris plagiarized his work (Bidault, 1804; Hansen, 2000).

Plagiarism and copyright infringement are two different issues, even though they are often overlapping since modern times. Plagiarism constitutes a false claim of authorship while copyright infringement is the "unauthorized use of copyrighted material, such as text, photos, videos, music, software, and other original content." (The Tech Terms Computer Dictionary, 2017). A major difference between the two is that a copyright "[...] infringer is not relieved of liability by crediting the source or the creator of the infringed work" (TheFreeDictionary by Farlex, 2017). The British Statute of Anne 1710 is considered to be the first copyright statute. It was passed by the Parliament of Great Britain in 1710 during the reign of Anne (Queen of Great Britain and Ireland from 1707 onwards) and concerned almost exclusively the government and courts.

Interestingly, the word 'plagiary' became an entry in a dictionary for the first time only in 1755. English writer Samuel Johnson (1709-1784) created one of the most authoritative and influential dictionaries of the English language: *A Dictionary of the English Language*, in which he defines a 'plagiary' as "a thief in literature; one who steals the thoughts or writings of another" (Johnson, 1755, p.1510).

The collective administration of rights in creative works has its origins in the 18th century. French playwright Pierre Augustin Caron de Beaumarchais (1732-1799) wrote a response to the under-remunerated use of his work by the Comédie Française (the oldest still-active theatre in the world, founded in 1680) in 1777. Twenty-two French other authors joined Beaumarchais. Actors were all-powerful and authors' complaints had so far always been ignored, but Beaumarchais had connections, such as the Minister of the Royal Household, Antoine Jean Amelot de Chaillou (1732-1795), the Duke de Duras, one of the First Gentlemen who governed the Comédie Française (who wanted to end the never-ending author-theater conflicts), and the Count de Maurepas, first minister to Louis XVI. Beaumarchais complained about the poor remuneration he received for the performance of his comedy "The Barber of Seville" (1775), which was a commercial success. According to Brown (2006), the Comédie Française had a monopoly because it was the only royal theater authorized to perform plays in Paris and Versailles, but it "offered no juridical, institutional or financial framework to support young playwrights in their efforts." However, Beaumarchais and his colleagues' action led to revolutionary changes: in 1791, Louis XVI ratified the

Plagiarism and Ethical Issues

first law on authors' rights. This is the first time the notion of authors' rights was recognized anywhere in the world.

Finally, it should be noted that all works written and published before the 20th century are now in the public domain; therefore, they are not copyrighted anymore. In most countries, for literature, the length is between 50 and 70 years after the death of the author. But still, these works must be cited properly to avoid plagiarism.

PLAGIARISM DETECTING SOFTWARES

A large number of detection software has been commercialized (many are free though) to fight plagiarism and other forms of academic misconduct. Plagiarism detection systems such as Ephorus Suite, written by Ephorus; MyDropBox/SafeAssign, developed by Blackboard; Turnitin, created by iParadigms, LLC; and Urkund, by PrioInfo AB, search websites as well as previously received submissions (Scaife, 2007; Heather, 2010).

This part of the study discusses the literature on the efficiency of Turnitin, the most popular commercial anti plagiarism software. It employs more than 300 people globally; the software is used by about 26 million students and instructors in 15,000 institutions and has processed more than 500 million submissions (Turnitin, 2017).

Turnitin may detect plagiarism better than manual methods (Jocoy & DiBiase, 2006); generally, faculty and students alike agree that the detection software is useful, that it saves time and that it helps fight plagiarism (Sheridan, Alany, & Brake, 2005; Heikes, 2006; Williams, 2007; Dahl, 2007). Turnitin can be considered a deterrent as it lowers the number of cases of plagiarism when people are informed that the software will be used to check their work (Cheah & Bretag, 2008; Davis & Carroll, 2009; Batane, 2010). However, Jones (2008) considers that it is only a text-matching system and that human intervention is necessary, that is, teacher or peers should verify whether an assignment or a paper is really a case of plagiarism.

While the word "plagiarism" is quickly associated with cheating, the issue is clouded not only by whether or not a student intended to steal the words of another, but also by the limits of anti-plagiarism technology and how it is used. (Stapleton, 2012)

Stapleton (2012) indeed expresses the feeling that the data generated by Turnitin are only a starting point and that they need interpretation by a peer or by an instructor. Howard (2007) and Purdy (2009) have concerns on the design of Turnitin's digital archives and Walker (2010) notes that rates of plagiarism are still high despite the use of detection software. Moreover, these systems of detection contain loopholes that need to be fixed (Heather, 2010).

'PREDATORY' PUBLISHERS AND JOURNALS

Jeffrey Beall, a research librarian and an associate professor at the University of Colorado, Denver, is suspicious and critic of the open access publishing movement (Beall, 2012a). He coined the expression 'predatory open access publishing' in 2010 (Butler, 2013). He compiled a blacklist on his blog entitled

Plagiarism and Ethical Issues

Scholarly Open Access(<https://scholarlyoa.com>) of what he considered to be predatory journals, which grew to list 1,155 publishers in 2014 (Bloomberg, 2017). He also proposed criteria for determining predatory open-access publishers (Beall, 2012b). For example, “The journal falsely claims to have an impact factor, or uses some made up measure”, “The publisher provides insufficient information or hides information about author fees”, and “No single individual is identified as the journal’s editor.” (Beall, 2012b, pp.1-2) Predatory journals can therefore be defined as publications released by companies, which seem to be rather opaque about their ownership and fees (authors are often surprised to learn before publication that they must pay a fee), and which provide little to no peer-review for articles submitted. The term ‘pseudo-journals’ has also been proposed (McGlynn, 2013). One of the many issues is that these companies are profit-making while authors, editors and reviewers are unpaid. The other main issue is that their deception undermines the trust in academic publishing. The number of predatory conferences is growing fast as it seems to be a very profitable business. The open-access predator market generates \$74 million. By comparison, reputable open-access journals generate \$244 million and traditional journals \$10.5 billion (Shen & Björk, 2015). The number of publication volumes released by predatory journals has grown from 53,000 in 2010 to 420,000 articles in 2014, published by around 8,000 active journals (Shen & Björk, 2015).

In 2016, the Federal Trade Commission (an independent agency of the United States government) filed a lawsuit against the OMICS Group, iMedPub, ConferenceSeries, and Srinubabu Gedela, stating that they were “deceiving academics and researchers about the nature of its publications and hiding publication fees ranging from hundreds to thousands of dollars.” (Federal Trade Commission, 2016) Jeffrey Beall has been criticizing OMICS Group for years (Bloomberg, 2017). While some scholars applaud Beall’s efforts to reveal opaque publishing practices, others, such as Phil Davies (Davies, 2013) and Wayne Bivens-Tatum (Bivens-Tatum, 2014) also criticize Beall’s approach, which is often based on generalizations with sometimes no supporting evidence. Butler (2013) notes that many publishing companies on Beall’s list, such as The Canadian Center of Science and Education, are threatening to sue him for alleged defamation and libel.

Cited by Butler (2013), Jan Velterop, a former science publisher at Nature Publishing Group, highlights one of the many consequences of blacklisting journals: it could damage their reputation if “a damning verdict is given to otherwise honest, though perhaps amateurish, attempts to enter the publishing market.” New journals need time to grow and learn the rules of academic publishing. It would be unfair as well as damaging to blacklist a team of scholars who try to create a new journal and to compare it with ancient and well-established journals. That is, one has to be careful not to “discriminate [against] publishers and journals from other parts of the world... [which] may have yet to polish their websites, editorial boards and peer-review procedures.” (Butler, 2013)

Some scholars might feel deceived by these predatory journals for many reasons: one could complain about the flood of bad surprises that might follow the submission of a paper, such as receiving some kind of ultimatum (pay or your paper won’t get published: “To my horror, I opened the file to find an invoice for \$2,700!”; Butler, 2013), and often much worse, such as learning that the journal is blacklisted by academic institutions, which can potentially ruin a scholar’s reputation and chances for tenure and promotion. Moreover, there are reports of predatory publishers refusing to let authors withdraw their papers, that is, if a scholar realizes that a journal is blacklisted and feels deceived, he/she cannot retract and submit to another journal (McCook, 2016; Molteni, 2016).

However, it should be noted that many authors know that these publishers are predatory and play the game, that is, submit a low-quality article with little to no academic contribution for a fee and expect it to

Plagiarism and Ethical Issues

be accepted in a matter of days or weeks: in that case, “the relationship is more a new and ugly symbiosis than a case of scholars being exploited by predators.” (The New York Times, 2017)

Shen & Björk (2015) already acknowledged that scholars are not always tricked; they are often taking a calculated risk, hoping that nobody will notice, because, most of the time they cannot handle the ‘publish or perish’ culture of their institution:

The universities or funding agencies in a number of countries that strongly emphasize publishing in ‘international’ journals for evaluating researchers, but without monitoring the quality of the journals in question, are partly responsible for the rise of this type of publishing. (Shen & Björk, 2015)

There are of course many ways to fight these predatory publishing companies: warnings are issued in academic journals, in editorials of scholarly journals (Clark & Smith, 2015) and universities edit a blacklist of predatory journals. However, many propose to create a ‘white list’, instead of a negative ‘blacklist’, that is encouraging journals to implement rigorous ethical publication standards to win a place on the list. Since 2014, the Directory of Open Access Journals (DOAJ) has imposed much stricter criteria for inclusion (Van Noorden, 2014). Gasparyan et al. (2017) propose various solutions, such as “inviting experts in publication ethics, statistics, language, and design to serve as in-house journal quality evaluators.”

Recently, on January 15, 2017, Beall took down his blog and his faculty page at the Auraria Library. The site scholarlyoa.com is still online, but empty (Oransky, 2017). Straumsheim (2017) notes that “Lacey E. Earle, vice president of business development for Cabell’s International, said on Twitter Tuesday [January 17, 2017] that Beall “was forced to shut down [the] blog due to threats and politics.” A spokesperson for the company said the information came from Beall, but that it was all he told them.

A spokesperson for the University of Colorado, Denver, issued the following statement:

Jeffrey Beall, associate professor and librarian at the University of Colorado Denver, has decided to no longer maintain or publish his research or blog on open-access journals and ‘predatory publishers,’” the spokesperson said. “CU Denver supports and recognizes the important work Professor Beall has contributed to the field and to scholars worldwide. CU Denver also understands and respects his decision to take down his website scholarlyoa.com at this time. Professor Beall remains on the faculty at the university and will be pursuing new areas of research. (Straumsheim, 2017)

However, in his paper published in *Biochemia Medica*, Beall explains why he decided to close his blog: “facing intense pressure from my employer, the University of Colorado Denver, and fearing for my job, I shut down the blog and removed all its content from the blog platform.” (Beall, 2017b). Then, Shea Swauger (Beall’s direct supervisor and head of researcher support services at the University of Colorado-Denver’s Auraria Library) published an answer to Beall (2017b), insisting that “At no time did I pressure Beall to discontinue his work, or threaten his employment because of his work. In fact, I did everything I could to support his ability to research and publish, and would continue to support him should he decide to publish his blog and website again” (Swauger, 2017). Swauger has a point when she says: “Just because something was published in a predatory journal doesn’t mean that it’s false or poor research. Just because something was published in a prestigious closed-access journal doesn’t mean that it’s true or excellent” (Swauger, 2017). The present chapter may remind readers that renowned closed-access journals have had their fair share of scandals, notably related to plagiarism issues, fake data, fake

Plagiarism and Ethical Issues

papers, fake positive peer-review, and so on. Beall lost allies, not only because of his generalizations (Davies, 2013; Bivens-Tatum, 2014), but also “by casting researchers and their universities as victims of rapacious publishers” (Basken, 2017).

Beall not only lost allies over the years, but made powerful enemies. According to Basken (2017), the immediate reason why the librarian closed his blog is linked to Frontiers Media: in October 2015, Beall added Frontiers to his list of predatory publishers. Frontiers Media SA is a publisher of peer-reviewed open access journals based in the Lausanne campus, Switzerland; it is notably active in science, technology, and medicine. Of course, several cases show that Frontiers Media has sometimes badly handled the retraction of various highly controversial papers (Basken, 2017). However, again, Beall fell to generalizations and blacklisted the entire group, which is a member of COPE, The Open Access Scholarly Publishers Association (OASPA), and the Directory of Open Access Journals (DOAJ). Frontiers received the Gold Award for Innovation in Publishing in 2014. Frontiers’ executive editor in charge of open-access journals, Frederick Fenter, personally went to the University of Colorado in 2015 and demanded an investigation of Beall (Basken, 2017). The university opened a research misconduct case against him in 2016. After several months, the investigation ended with no findings, but left Beall unwilling to maintain his blacklist online.

Of course many regret the closure of Beall’s blog, including Basken (2017), who reminds readers that the problem is left unresolved: “Universities still have a long way to go to create systems for researchers to share and collaborate with one another, evaluate one another’s work, and get credit for what really matters in research.” As to Beall, he did not stop being an advocate for publication ethics; he was a keynote speaker at a conference organized by Mendel University in Brno in May 2017. He presented the current state of predatory journals and publishers and new methods of defeating plagiarism detection, even though he acknowledges that “higher education institutions continue to grant credit for work published in predatory journals, including plagiarized work” (Beall, 2017a, p.7). Moreover, various webpages have been created online to continue Beall’s legacy. An iteration of Beall’s blog has been archived at this address: <https://beallslst.weebly.com>. The author states: “I am not Jeffrey Beall. I prefer my identity to be anonymous, largely for the reasons that Beall mentioned in his recent article (see here). However, I can tell you that I am a postdoctoral researcher in one of the European universities and have a hands-on experience with predatory journals.” Will scholars and institutions rely on an anonymous page to decide whether a journal is predatory or not? It seems improbable, because the anonymous researcher acknowledges he/she will have little time to update the list (<https://beallslst.weebly.com/contact.html>). Another website was launched the same year (<https://predatoryjournals.com/journals>); it also archives Beall’s list but offers more updates. Anyone can email or contribute (create an issue or pull a request).

A new blacklist has been launched on June 17, 2017, by Cabell’s International, using 65 criteria to evaluate journals. Cabells visibly learned from Beall’s mistakes. Aside from calling journal ‘deceptive’, instead of the inflammatory and emotionally charged ‘predatory’, the company wisely makes the difference between deceptive journals and merely low-quality journals (which are not included on the blacklist). Another smart move is to include individual deceptive journals, not publishers. Journals may appeal and demonstrate their good faith. The company has four people who check journals’ claims. So far, the only problem is that the blacklist is accessible only by subscription: “Our initial plan was to offer it for free,” Ms. Berryman explained, “but as time and resources grew, we realized that wasn’t sustainable.” However, she said the company hopes that the list will be freely available one day.” (Gillis, 2017)

*Plagiarism and Ethical Issues***BEYOND PLAGIARISM: FAKE PAPERS AND PEER-REVIEWS**

Another example of academic misconduct is the submission (and publication) of fake papers and fake positive peer-review (Labbé & Labbé, 2013; Enago Academy, 2017). A particularly damaging new trend is the growth of computer-generated fake papers. According to The Guardian (Sample, 2014), three MIT graduate students (Jeremy Stribling, Dan Aguayo, and Maxwell Krohn) wrote a simple (sic) computer program to generate a paper (SCIgen, since 2005), which they submitted at a conference and got accepted (2005 World Multiconference on Systemics, Cybernetics and Informatics, WMSCI). The problem of course is that the program is available for free online (<https://pdos.csail.mit.edu/archive/scigen>). Davis (2009) used SCIgen and submitted a paper in January 2009 to The Open Information Science Journal (TOISCIJ). Davis writes that he received the following answer: “This is to inform you that your submitted article has been accepted for publication after peer-reviewing process in TOISCIJ. I would be highly grateful to you if you please fill and sign the attached fee form...” (US\$800, according to Davis). One might argue that is a practical joke (obviously, when reading the author affiliation: The Center for Research in Applied Phrenology based in Ithaca, New York) and that it only concerns predatory journals ready to publish anything for a fee. However, there are more and more scandals involving fake papers being published by renowned journals: in 2014, publishers Springer (Germany) and IEEE (USA) retracted around 120 conference proceedings after Cyril Labbé, a French computer scientist, discovered that the articles, generated with SCIgen were nonsense (Van Noorden, 2014). In 2015, Springer retracted 64 papers from 10 journals, 107 in 2017 (McCook, 2017). Bioethicist Arthur Caplan considers that fabricated data and academic plagiarism are highly detrimental to the medical profession, it devalues legitimate science: “Publication pollution is corroding the reliability of science and medicine.” (Caplan, 2015) According to FastCompany (2015), Mark Shrimme, a medical researcher pursuing a PhD in health policy at Harvard, made up a paper authored by Pinkerton A. LeBrain and Orson Welles and entitled “Cuckoo for Cocoa Puffs?”, using www.randomtextgenerator.com. 17 journals were ready to publish it, as long as the corresponding author accepted to pay a processing fee of \$500. The so-called Journal of Food and Nutrition Sciences even edited the ‘paper’, which is available to read online (see Fast Company, 2015); of course, Shrimme did not pay the fee...

Some scholars also take advantage of the fact that various publishers let authors propose the name of reviewers for their work. Sites such as retractionwatch.com are keeping track of cases of academic misconduct. Many papers have been published on this topic (Kowalczyk et al., 2015); they show that when authors are allowed to suggest reviewers, the chances of peer review fraud grow (Schroter, 2006; Bornmann & Daniel, 2010; Barbash, 2015). The first big scandal occurred in 2012 when Hyung-In Moon, a South-Korean “researcher”, was forced to admit he fabricated positive peer reviews for his study (he also acknowledged falsifying data...). Hyung-In Moon provided the editor of an academic journal with fake names and e-mail addresses created by him, so he or his friends would be able to review his own articles (COPE, 2016). As a result, Emilio Jirillo, the editor of Immunopharmacology and Immunotoxicology resigned and 20 of papers got retracted (Oransky, 2012). Since then, hundreds of articles have been retracted for the same reason. In 2013, the publisher Sage got suspicious and found out that Peter Chen, a Taiwanese engineer (then at the National Pingtung University of Education) was part of a peer review ring and that he had created various aliases on SAGE Track. As a result, SAGE Publishers decided to retract 60 articles from the Journal of Vibration and Control. The scandal had a tremendous impact on Taiwan political life as Taiwan’s Education Minister Chiang Wei-ling and Peter Chen co-authored many papers; Minister Chiang was then forced to resign in July 2014 (Oransky, 2014). In 2017, Springer

Plagiarism and Ethical Issues

retracted 107 articles previously accepted with what happened to be fake peer reviews (McCook, 2017). Other types of malpractice have been reported since, such as using a fictitious account and having a review submitted under the name of a famous scholar without their knowledge.

THE RISE OF CONTRACT CHEATING

Contract cheating is a term coined in a study by Thomas Lancaster and Robert Clarke at the University of Central England in Birmingham (2006): “when a student gets a third party to do an assignment for them and then hands it in as their own work” (cited in Lancaster and Clarke, 2012).

Lancaster and Clarke acknowledge in a 2016 keynote presentation that the problem is far from being new. They demonstrate that contract cheating was observed on campus in the US in the 1950s; they also cite a paper written in the 1970s (Stavisky, 1973), as well as articles and advertising in university and national newspapers in the US, including one in the New York Times from July 1971 entitled “Market in Term Papers Is Booming” (Lancaster and Clarke, 2016).

The growth of contract cheating and hired ‘ghost-writers’ is alarming as more and more students pay other people to write their essays. Cheating has become an international and online profitable business (The Chronicle of Higher Education, 2016). This network of ‘consultancy’ services is a major threat to the scientific community. Obviously, the increasing number of online courses is followed by a bigger number of students cheating online and a growing number of cheating providers. Most students who are looking for an essay to buy online do it through a web search, by typing “essay,” “essay help,” “paper mill,” “ghost writing,” “student plagiarism,” or “write my essay”. According to The Chronicle of Higher Education (2016), “as many as half of the visits to some sites used for cheating come through search engines.”

Essay mills and contract cheating websites are growing fast (Wallace & Newton, 2014; Awdry, 2016). These providers “offer the services of a pool of experienced academic tutors to take classes and complete course work for our clients” (Newton, 2015). That is, for a fee, a company may provide a skilled and experienced tutor who will assume a student’s identity and take one or many online classes in their place, guaranteeing he/she will pass, with a good score, without the need of learning and without attending online classes. These providers have very professional-looking websites, such as <https://www.noneed-tostudy.com>. The founder, Oliver A. Warburg, holds a PhD and is proud to write in his short bio that he “has been tagged as of the most important disrupters of the education field.” The motto of the company seems to be a phrase written in big in the middle of their page: “Paying Someone To Take Your Online Courses For You Has Never Been easier!” (NoNeedToStudy.Com, 2017).

There are nowadays millions of students taking at least one online class. Many studies have been already published on this issue, such as Austin & Brown (1999), Lathrop & Foss (2000), and Walker & Townley (2012). Lancaster (2003) and Clarke & Lancaster (2006) define contract cheating as the successor of pure plagiarism and try to offer solutions on how to detect and prevent it. Clarke & Lancaster (2006) show that cheating is becoming a habit: “over half of the 236 cheaters have previously requested between two and seven pieces of work.” They also demonstrate that RentACoder, a US job outsourcing and freelance IT worker marketplace, can be used by students to do contract cheating. According to a research by Hosny & Fatimer (2014), 22% of the people interviewed admit that they have purchased assessments. Many students see the purchase of papers as a ‘business deal’ or ‘outsourcing’ (Lancaster & Clarke, 2016). According to Trushell et al. (2012, p.142), males ‘cheat’ more than females.

Plagiarism and Ethical Issues

Newton (2015) points out that this trend is badly hurting online education credibility: “At least with a traditional degree, the assumption is the recipient actually went to class personally.” This is beyond cheating; this is about not even attending class and not passing exams anymore. There is another issue: companies might hire graduate students who are not competent and who did not actually acquire the skills they need to do their job, which could be disastrous and dangerous in some fields, such as healthcare (Oransky, 2011; New South Wales Government, 2013; The Telegraph, 2016). Finally, if students lack some basic virtues and values before they graduate, what might happen when they begin to do research? They won’t probably even try to plagiarize other researchers’ publications anymore. They will surely find it easier to pay someone to write papers on their behalf. It really puts Martial’s words into perspective: “If you want them to be called yours, buy this one, so that they won’t be mine” (see complete citation in the ‘historical background’ section of this chapter). According to Lancaster & Clarke (2016) and Newton & Lang (2016), text-matching softwares, such as Turnitin, are not reliable and cannot really detect contract cheating. One simple way to lower the risk of identity theft is to increase the number of face-to-face engagements online. More and more online college programs also require students to take tests in front of a web camera. Rigby et al. (2015) note that “purchase likelihoods and essay valuations decline as the probability of detection and associated penalty increase.” The main problem is that human labor to detect this type of cheating is limited and that anti-plagiarism services struggle to detect it. Ironically, most people writing essays for students are college graduates, Ph.D. students and independent writers; they are most of the time original authors and don’t plagiarize (Clarke & Lancaster, 2006; The Chronicle of Higher Education, 2016). As a matter of fact, most purchased assignments are of good or high quality (Lines, 2016). Some institutions try to block access to sites which help students cheat, but it is virtually impossible nowadays to prevent anyone from going online. If students cannot access sites at school, they will just do it somewhere else, using a smartphone or a laptop (The Chronicle of Higher Education, 2016). Tricia Bertram Gallant is a former president of the International Center for Academic Integrity (ICAI) at Clemson University. She believes that the key to fighting the problem is “faculty engagement” (The Chronicle of Higher Education, 2016).

According to recent figures, student cheating is disturbingly high in the UK: “close to 50,000 students have been caught cheating in the last three years in 129 UK universities.” (The Guardian, 2016). The newspaper also cites Geoffrey Alderman of the University of Buckingham: “What I’d call type-1 plagiarism, copying and pasting, is on the wane because it’s so easy to detect. But my impression is that type-2 cheating, using a bespoke essay-writing service, is increasing.” The Telegraph reported in July 2016 that “1,700 nursing students have been disciplined by their university over the last three academic years” for various reasons, such as “submitting essays commissioned from bespoke plagiarism websites, colluding with other students and even impersonating each other in exams” (The Telegraph, 2016). According to the newspaper, nursing students are notably targeted by a company in Pakistan called Nexus.

Very recently, Stern (2018) reported the extreme case of *Vibroengineering*, an engineering journal that retracted three papers published in 2016 because it was believed that these articles had been cited too many times. It raised suspicion because most of the citations came from papers presented at the 12th International Conference on Damage Assessment of Structures (July 2017, Kitakyushu, Japan) on which one of the authors, Magd Abdel Wahab, Professor and Chair of Applied Mechanics at Ghent University in Belgium, was the Chairman. It was considered too harsh because alleged citation manipulation (no formal proof so far in this case) is not a typical cause for retraction. Moreover, the editors acknowledged the academic contribution of the three papers, which were properly checked for plagiarism with iThenticate, peer-reviewed, and revised before publication. As a result, the publisher (JVE International) decided to republish the retracted papers in the *Journal of Vibroengineering*, in the February 2018 issue.

FUTURE RESEARCH DIRECTIONS

Academic misconduct is a vast topic, which encompasses a growing number of acts, essentially because of the advances in technologies and because of the design of new cheating computer programs. More damaging than the traditional and simple “copy-paste” plagiarism, certain practices can cause havoc, such as the manipulation of data, the use of invented or fraudulent data, the creation of software to generate papers, the online market of hired “professionals” and ghost-writers, etc. There is still little literature on these new phenomena.

The latest trend in academic misconduct is computer programs generating fake peer-review. Bartoli et al. (2016) propose a method for the automatic generation of scientific reviews and find that in around 30% of cases a generated review is considered genuine by the human subjects. Finally, as we saw, computer programs, such as SCiGen or others like Postmodernism Generator (which produces imitations of postmodernist writing), snarXiv (a parody of arXiv, which generates article titles and abstracts in physics), Mathgen (which randomly generates mathematics research papers), can produce papers which appear to be scholarly and might fool some reviewers and editors (Sample, 2014).

CONCLUSION

Although there were plenty of cases of plagiarism before the end of the 20th century, with the advent and extraordinary growth of the Internet, the number of cases and issues related to academic misconduct has increased rapidly (Meuschke & Gipp, 2013). Information technology has certainly made plagiarism much easier (Scanlon & Neumann, 2002; Howard, 2007; Heather, 2010). According to The Tech Terms Computer Dictionary (2017), modern technology “...makes it possible for one person to copy and republish content in a few minutes that may have taken another person several years to create.” However, some scholars demonstrate that students from traditional institutions don’t necessarily plagiarize significantly more than those from online institutions (Ison, 2014).

The conclusions drawn below can serve as pertinent and practical advice to editors:

The Senior Editor and the Executive Editor missed the totally inadequate quality of the reviews (box 2), the style of English, which was fairly unusual for two highly ranked professors of medicine in Ivy League US universities, and the suspiciously rapid response. Also the fact that they did not have an institutional e-mail address should have raised suspicion. (Cohen et al., 2016)

Editors are advised not to let authors propose the names of potential reviewers. After reception of a paper, the first step should be to “Google” the author(s)’s name(s) and to check if they don’t have any record of malpractice. The second step should be to use plagiarism detection software (several if possible, while keeping in mind that these softwares are not unfillable and need human interpretation of the results). Moreover, all the members of the editorial team and all the reviewers should be briefed before joining the team on the potential risks of academic malpractice.

Many institutions blacklist or think about blacklisting plagiarists. Of course most institutions punish severely cheating and plagiarism. Perhaps, more positive solutions could be found to encourage students and scholars. They certainly need guidance and training. Students need to be educated very early about ethics and about the proper ways to write an assignment or an academic paper. They should be aware

Plagiarism and Ethical Issues

of the consequences of cheating (which has been proven to be very effective), but also learn about the importance of virtues and values in a world where technology has become so easy to use and so convenient. If students are resigned to cheating and lying to earn a diploma, what will happen if they join the scientific community? Companies and academic institutions might hire graduate students who are not competent because they did not actually acquire the skills they need to do their job, which could be disastrous and dangerous in some fields, such as healthcare.

Finally, on a more positive note, according to Lesk (2015): “The good news is that the tools used to detect plagiarism work effectively and efficiently, the copied papers are concentrated by author and by country, and the copied papers are less cited.” In fact, the growing number of retracted papers in various journals around the world is, in a sense, a good sign that plagiarists are being detected and punished.

The author hopes this literature review of more than one hundred and twenty publications will help the readers better understand plagiarism and some of the acts and issues related to intellectual dishonesty.

ACKNOWLEDGMENT

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. I would like to thank the three anonymous reviewers as well as Ms. Jillian Marchant for her encouragements and feedback.

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KEY TERMS AND DEFINITIONS

Contract Cheating: The act of hiring a third party to write an essay, an assignment or an academic paper and then to hand it or publish it as one's own work.

Copyright Infringement: The unauthorized use of any creation protected by copyrights laws, which grant rights to reproduce, distribute, display or perform a work to the copyright holder. All the works published before the twentieth century are now in the public domain.

Fake Positive Peer Review: The act to corrupt the anonymous peer-review process which protects publications from biased and subjective reviews. An author might for example create a fake identity or ask friends to positively review his/her own paper.

Plagiarism: The act of copying, voluntarily or not, other people's work without proper citation. It is a form of intellectual dishonesty that involves the misleading of people on the origin and source of a work, idea or discovery published by someone else.

Plagiarism and Ethical Issues

Predatory Journals: Journals with very low standards which accept to publish almost anything for a fee, more often than not with no peer review process.

Self-Plagiarism: A form of plagiarism that involves the improper and misleading recycling of an author's work in order to increase artificially his/her number of publications. A published work must receive the authorization to be submitted to other outlets.

Software-Generated Papers: Nonsensical academic papers which are generated by a computer program and which might be accepted for publication if the review process is not seriously done.

Chapter 2

Classroom Behavior Among Management Students in the Higher Education of India: An Exploratory Study

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ABSTRACT

The classroom is an experimental lab for students as they spend a significant part of their formative years in school and colleges for learning goals. It is essential that the environment of schools and colleges should be able to inculcate positive behavioral traits among students to enable them to develop the required skills and attitude. The current study tried to understand classroom behavior among management students in Gujarat. The classroom behavior has the potential to be influenced by ethical values and entrepreneurial attitude of students. The student engagement practices can be a tool to improve the classroom behavior. The outcomes suggest that the teachers experience disruptive behavior, less ethical standards, and increased entrepreneurial attitude among students. Students' self-perception of behavior is positive, with proper ethical standards and have an entrepreneurial mindset. The study found conflicts in the perceptions of teachers and students for classroom behavior and ethical standards. Positive teacher attitude and practical learning were preferred engagement avenues.

INTRODUCTION

Education is the basis for empowerment and development for every nation. It plays a crucial role in transforming one's culture, beliefs, and values. Higher Education has a special value in today's emerging knowledge society. It contributes, directly, and indirectly, to the wealth of the nation. Higher Education also provides quality human resource which is an asset for any country. India, with more than a billion

DOI: 10.4018/978-1-5225-5837-8.ch002

Classroom Behavior Among Management Students in the Higher Education of India

residents, has the second largest education system in the world after China. Currently, there are 799 Universities, 39,071 Colleges and 11,923 Stand-alone Institutions in India (Government of India, All India Survey on Higher Education (AISHE), 2016). The quantitative growth of Higher Education Institutions (HEIs) is very impressive, however, quality of education needs more attention.

There are several institutions of excellence imparting quality education in India. However it is noticed that the average quality of many institutes has been falling steadily, behind the world average. This is evident from the global ranking data. The global ranking of world class educational institutions began in 2003 and has become very popular ever since. The criteria for ranking includes research and teaching quality, graduate employability, etc. In 2015-16, only two Indian HEIs featured in the world's top 200 institutions according to QS World University Ranking. Education in India needs substantial improvement in quality to match global quality standards. One of the many reasons for this may be that India's Higher Education and Research sector is over regulated and underfunded. Successful education models all over the world show that the regulations in higher education should be kept to a bare minimum. Autonomy and freedom are necessary ingredient for quality education.

The endeavor of the Central Government and University Grants Commission (UGC) is to improve the quality of Higher Education in India. They have launched several initiatives. Some noted ones are:

1. National Institutional Ranking Framework (NIRF)
2. Impacting Research Innovation and Technology (IMPRINT)
3. Uchchatar Avishkar Yojana (UAY)
4. Global Initiative of Academic Network (GIAN)
5. Granting Autonomy to Deserving Colleges
6. Establishing Institutions of Eminence

UGC has also provided a Choice Based Credit System (CBCS) across Under Graduate and Post Graduate Programmes for all faculties. Recent reforms in curriculum design and framework is a very positive beginning but they remain isolated and fragile. If the academic reforms have to yield positive results then teachers and administrators of Higher Education have to constantly revamp and reinvent teaching learning methodologies to keep the interest of the students alive and sustained in every faculty so that, students and teachers can add value to the learning process.

Today absenteeism is a significant problem at many institutions of Higher Learning in India. It has been observed many students approach high officials/pull strings for waiving their attendance issues before the university examinations. Mere enforcement of stipulated attendance may not improve the quality of education. Time spent in classroom may not be the best measure of the performance of students. However, in a country where there is a growing lag between demand and supply for quality education, is it right not to attend the classes? Thus there are arguments for and against the attendance stipulation. A recent protest by students in Jawaharlal Nehru University (JNU) is an example of the same. (Indian Express February 13, 2018). One of the reforms suggested is to have weightage on continuous evaluation/assessment as a part of student evaluation. In order to make the classes interesting, the continuous assessment can be made more engaging with a basket of several activities to keep the students engaged. This may reduce absenteeism. The key characteristic of continuous assessment is providing proper feedback to students. Large class sizes for feedback, documenting and reporting of continuous assessment, vacant faculty positions in several HEIs, reliance on visiting faculty, etc, questions the effective implementation of continuous assessment. However, experience from the western countries and well-run

Classroom Behavior Among Management Students in the Higher Education of India

HEIs from India shows that continuous engagement and assessment is probably a better alternative to keep students interested in learning. Therefore, teachers should have the ability to engage and entertain the students throughout the teaching- learning process.

MANAGEMENT EDUCATION

In Higher Education, Management Education has gained lot of popularity in the recent years. Management Education in India – which started some 50 years ago – has made rapid leaps over the past two decades. The growth of business schools in India was slow till 1990. A jump in growth happened from 1991, the year of liberalization in India. The Private Sector entered the domain of Management Education after liberalization of the economy in 1991. Despite a stringent regulatory framework, there was a spurt of private B-schools in the country offering Post Graduate Diploma in Management/MBA and several variants of Management Programs. A number of industrial/corporate houses floated their trusts or educational societies to launch B-Schools (Jha and Kumar, 2011). Thus the growth of Management Education in India, in recent times, has been incredible. The following table shows the growth of Management institutes and intake of students in India.

A Management degree is a highly sought after qualification in the job market. The challenge for a Management institute is how best to teach students leading to the attributes like increase in efficiency, effectiveness, ethics and traits of entrepreneurship. This is to enable students to be best suited in a dynamic organization. Management Education teaching has become very challenging considering the changing global scenario in management education. More effort is needed in the classrooms from teachers as well as from students. If students have not learnt the inputs offered, the entire process of teaching results in waste of resources. Educators/teachers should consider how to engage students in classrooms. Student engagement is primarily about increasing achievement, positive behaviors and a sense of belonging in the classroom. Management Education per se requires more student engagement to maximize their learning. Inclusive teaching pedagogy like role plays, case study, simulations and extra-curricular activities which involve analytical exercise of the mind are helpful for student engagement. In Management Education,

Table 1. Growth of number of management institutes in India and the intake of students

Year	No. of B-schools	Intake in B-schools
2006-07	1132	94704
2007-08	1149	121867
2008-09	1523	149555
2009-10	1940	179561
2010-11	2262	277811
2011-12	2385	352571
2012-13	2450	385008
2013-14	3364	364816
2014-15	3217	365352

Source: All India Council for Technical Education Approval Process Handbook (2015-2016)

Classroom Behavior Among Management Students in the Higher Education of India

it is important that there should be a co-relationship in the time, efforts and other relevant resources invested by all stakeholders to optimize the students' experience, enhance the learning outcomes, promote student development, and enhance the reputation of institutions. So, students' engagement and their positive behavior are considered as strategic tools for effective learning in institutions imparting Management Education. Failing to use such strategic tools may lead to poor learning and value addition.

RATIONALE FOR THE STUDY AND OBJECTIVES

The concepts of classroom engagement, student engagement, students behavior, etc. are gaining wide spread acceptance in the West and in other countries. There have been a number of research papers in different disciplines across the globe. An attempt has been made to understand the impact of student engagement and their behavior vis-a-vis academic outcome and personal development of students.

The quality of education imparted by educators gets impacted by problematic behavior of students. One branch of problematic behavior is labeled as unethical behavior. The findings revealed that those students who engage in cheating behavior (Jensen *et al.* 2002 and Bernardi *et al.* (2004), violating school or university regulation (Cuffman *et al.* 2000) are engaged in unethical behavior. Here, the role of the educator is very crucial and with the growing number of students, whether it is possible to inculcate morals, values, and ethics is not confirmed in past studies.

It is very important to understand how classroom setting and behavior help educationists to provide insights about ethical and moral values to the students. Many universities offer ethics as a subject at post-graduate level to inculcate ethical standards among students before they are ready for employment. An effort is being made in schools by teaching the subject of "moral education" for building character. Only teaching subjects related to moral values cannot inculcate ethics and values; the family background and upbringing also have an impact. Here, the authors are interested in understanding as to what extent the classroom environment can help understand ethical issues and dilemmas faced to develop skills for moral and ethical reasoning and behavior.

One of the major areas of Management Education is entrepreneurship. Entrepreneurship as a domain of business education has an eclectic nature where the content is derived from diverse disciplines including those of strategy, finance, or marketing (Albornoz-Pardo, 2013). Given its cross-functional and cross-sectorial orientation (Venkatachalam and Waqif, 2005), the structure and content of the course is often faculty driven and is primarily aimed at the twin objectives of increasing the awareness of entrepreneurship as a career option and developing the understanding of the process of creating new business (Albornoz-Pardo, 2013). This leans on a rather narrow definition of entrepreneurship viewed as starting a business. Others feel that it is not all about starting new organizations, but that it is also about making students more creative, opportunity oriented, proactive and innovative, adhering to a wide definition of entrepreneurship relevant to all walks of life.

Entrepreneurship is an attitude and here researchers are interested in understanding how to infuse entrepreneurship into education for all students through the classroom environment. Here, much less discussed, but interesting would be the impact that entrepreneurship can have on education, the high levels of student motivation and engagement it can trigger and also the resultant deep learning. To what extent is the syllabus able to create a drive for innovation and entrepreneurship among students of Higher Education? Whether the classroom behavior is affected by entrepreneurial attitude of students or not and

Classroom Behavior Among Management Students in the Higher Education of India

whether ethical standards can develop entrepreneurial attitude among the students or not has not been discussed much or debated upon by past researchers.

The past studies on student behavior have been carried out majorly in developed nations but in developing economies such research was not given due attention. This may be due to the fact that the students' behavioral problems were not very demanding. However, at present students coming to Higher Education in India are a part of millennial generation having grown up in a culture of technology-woven society. Today, the students in classrooms have changed over the last two decades as a result of technology, wealthy parental backgrounds, and there appears to be a different set of needs, goals and learning preferences in them compared to students of the past.

The ethical standards in Higher Education are important and whether these standards can be inculcated as a behavioral trait or not is a provocative question. Whether the student of Management Education has an entrepreneurial attitude or not and whether this attitude can be developed through classroom teaching is also not researched in past studies. The study also focuses on the role of ethical standards in facilitating entrepreneurial attitude among students. Hence, the primary objective of the study is to understand the classroom behavior in Management students. The secondary objective is to understand how ethical behavior and entrepreneurial attitude is affected by classroom behavior. Following are the research questions in Management Education.

1. What are the different types of behaviors that educators come across in their teaching careers?
2. Can negative behavior in students be converted into positive behavior? If yes, how?
3. Can classroom behavior inculcate ethical standards and innovation among students?
4. Can classroom behavior inculcate entrepreneurial attitude among students?
5. Can ethical standards encourage entrepreneurial attitude among students?

STUDENT BEHAVIOR IN CLASSROOMS: A GLIMPSE OF PAST STUDIES

Students' behavior in the classroom is one of the trickiest issues that teachers are facing today because classrooms are much more complicated today than in the former years. In an era of technology, online classes and tutorials have diminished the importance of the physical classroom. The Indian education system has witnessed a revolutionary shift from the Gurukul system to online classes. In the Gurukul system, students used to study and live in the Gurukuls (residential institutes of old times). Due to an emphasis on classroom teaching, there was a close connect between the student and the teacher. Nowadays, because of technology, social media, e-learning, online classes and tutorials, it is very difficult to understand student behavior. On the whole, student behavior can be categorized into two aspects: positive and negative. A majority of past research focused on negative student behavior. Alternatively, the authors had used the term, disruptive (Bru, 2009; McCarthy, Lambert, O'Donnell, and Melendres, 2009; and Finn, Pannozzo, and Voelkl, 1995), challenging or problematic behaviors (Ho, 2004; Wheldall and Merrett, 1988 and Houghton *et al.*, 1988) and incivility (Berger, 2000; Clark 2009) for negative behavior.

A particular behavior, viewed as problematic may not necessarily be rule breaking, but may be inappropriate or disturbing in the classroom setting. Past research has also reported the outcome of such negative behavior (Bru, 2009). These behaviors referred to an activity that causes distress for teachers or interrupts the learning process which in turn leads teachers to make continual comments towards students (Arbuckle and Little, 2004 and McCarthy *et. al.*, 2009). The students who were engaged in

Classroom Behavior Among Management Students in the Higher Education of India

disruptive or problematic behavior tend to score lower marks and they also affect the other students in the classroom. Studies revealed that as a student progress to higher standards, it is observed that learning habits and behavior in the classroom may be hard to change once a pattern has been established in academics (Finn et al., 1995). Hence, it is very important to study student behavior in classrooms of Higher Education, more so in management.

Ethical Standards

A study conducted by Desplaces, Beauvais, Melchar, and Bosco (2007) investigated the impact of business education and the academic environment on the individuals' ability to make ethical decisions. From this research, the authors found that codes of ethics and how students perceived these codes can affect how they perceive the overall ethical culture of the institution. Academic cheating and dishonesty has become a major ethical issue in today's world, specially due to the increasing acts of cheating in the form of "plagiarism" in the recent years as a result of internet and other technological developments (Boisvert and Irwin 2006; Davis *et al.* 1992; Graham *et al.* 1994; McCabe *et al.* 2001).

Entrepreneurial Attitude Among Students

Timmons and Spinelli (2009) opined that attitudes play a vital role in the life of a successful entrepreneur. As they build their new ventures, they are bound to overcome obstacles, solve problems, and complete the job. They are disciplined, determined, and persistent, they are able to commit and recommit quickly and are not intimidated by challenges. Kourilsky and Walstad (1998) suggested that stimulating entrepreneurial attitudes through education at the pre-collegiate level could encourage entrepreneurship as a career choice.

Student Engagement

Student engagement has been defined as "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (Kuh et al., 2007), and as "the extent to which students are engaging in activities that Higher Education research has shown to be linked with high-quality learning outcomes" (Krause and Coates, 2008). Similarly, Hu and Kuh (2001) define engagement as "the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes". By way of contrast, others have defined engagement as "the process whereby institutions and sector bodies make deliberate attempts to involve and empower students in the process of shaping the learning experience" (HEFCE, 2008). Student engagement and classroom engagement have been interchangeably used in past studies.

The Ministry of Human Resource Development, Government of India, has given certain features for classroom transaction leading to student engagement. These features include sustained and active engagement, hands-on activity based learning, problem solving, self-learning, modeling, experimentation and demonstration, peer to peer collaborative learning, online resource and culture beyond text books and inquiry based learning (MHRD, 2015).

Singh and Srivastava (2014) suggested that student engagement in management education can take place through a sense of belonging, individual engagement, collaborative engagement and management skill. The students, who are actively involved in learning individually and collaboratively, are more likely

Classroom Behavior Among Management Students in the Higher Education of India*Table 2. Summary of the different types of negative behavior and its causes*

Sr. No	Authors and Year	Past Studies	Main Focus
1.	Winter (1995)	Those behaviors that involve rule breaking, violating the implicit norms or expectations, being inappropriate in the classroom settings and upsetting teaching and learning.	Definitions of Negative Behavior
2.	Kyriacou (1997)	Any behavior that undermines the teachers' ability to establish and maintain effective learning experience in the classroom.	
3.	Dreikurs, Grunwald, and Pepper (1971)	Classified as Active or Passive . Talking out-of-turn, shouting, etc. are active misbehavior which are easily recognizable actions. Passive behaviors may not be easily identified as destructive but still interfere with teaching and learning. It includes refusing to do homework, truancy, etc.	Classification of Negative Behavior
4.	Stewart <i>et al.</i> (1998)	Behavior like tardiness, vandalism, fighting, stealing, and drinking on campus are regarded as Misbehavior, Misconduct or Discipline problems .	
5.	Ho (2004)	Behaviors like daydreaming in class, not completing homework, talking in class, bullying, and rudeness to the teacher are named as Problem Behaviors .	
6.	Beaman <i>et al.</i> (2007)	Classified as off-task behavior like doing irrelevant things in classroom, day dreaming, sleeping is also regarded as negative behavior. Disruptive behavior includes lack of respect for classmates and teachers by showing verbal and physical aggressiveness, talking out of turn and out of seat, not submitting homework on time, etc.	
7.	Clark (2008)	Behavior which includes disregard and insolence for others, causing an atmosphere of disrespect, conflict, and stress termed as Uncivil behavior .	
8.	Appleby (1990)	Students tend to show disrespect towards faculty when they consider the professor as a bad communicator.	Causes of Negative Behavior
9.	Boice (1996)	Knowledge deficit in faculty, fast pace of teaching, unengaged lectures appear to be main triggers for student negative behavior.	
10.	Kuhlenschmidt and Layne (1999)	Emotional challenges that many students experience include feelings of isolation and loss, immaturity, misdirected aggression, and struggles associated with identity development.	
11.	Nilson (2003)	Teacher may lack the resources and/or interest to invest time and effort in teaching and classroom management techniques.	
12.	Nilson and Jackson (2004)	Growing class size, culture, personal characteristics of instructor like age, gender, and ethnicity also foster incivility.	

to grow academically, in turn, more likely to stay with an institution. Saha (2014) had studied student engagement among management students and suggested some strategies. These strategies include: cultivate one-to-one relationship, learn new skills and habits, take responsibility for engagement, promote institute wide cultural engagement and inculcate professional development. Singh A., Srivastava and Singh

Classroom Behavior Among Management Students in the Higher Education of India*Table 3. Summary of past studies based on ethical standards among students*

Sr. No	Authors and Year	Past Studies	Main Focus
1.	Maslach (2004)	Classified cheating as ‘ plagiarism ’, copying someone’s homework, lab report, copying in an exam, stealing someone else’s exam paper, book or homework.	Cheating and Plagiarism
2.	Rabi <i>et al.</i> (2006)	Classified as use of chits in exam, alter grades in record book, steal exam paper from teaching assistant, copy directly from internet without citing.	
3.	McCabe <i>et al.</i> (2001 and 2006)	Classified cheating as serious test cheating and serious cheating on written work, working together on an individual assignment, claiming other people’s work as their own work, fabrication of bibliography and providing unauthorized help to someone else.	
4.	Ferrari and Beck (1998)	Fraudulent excuses used by students to gain extra time to complete a given assignment after the due date has elapsed.	Fraudulent Excuse
5.	Roig and Caso (2005)	It refers to an act of delaying the beginning or completion of academic tasks.	
6.	Carmichael and Krueger (2015)	Family emergency is the most common reason reported by the students for not completing a given assignment. The respondents express higher confidence that the instructor is likely to accept or believe their reason if it is related to family matters.	
7	Davis <i>et al.</i> , 1992; McCabe and Trevino (1993)	Grade-related achievement, lack of student efficacy, or academic stressors such as time constraints have triggered unethical behavior among students.	Reasons for Unethical Behavior
8.	McCabe and Trevino (1996)	Students cannot reach their academic goals through acceptable forms of achievement which make them indulge in unethical behavior.	
9	Flynn (2003)	Cultural setting is a strong predictor for academic cheating and dishonesty.	
10.	Roig and Caso (2005) and Kauffman and Young (2015)	Advancement in Information Technology has triggered the unethical behavior like copying from internet, plagiarized assignments and projects.	

D. (2015) had studied the student engagement among management students in Gujarat and Rajasthan. The findings revealed that collaborative learning is one of the strong predictor in student engagement. Sense of belonging is one of the strong predictor in retaining students. It was suggested that educational administrators need to focus upon the absolute extent and magnitude of learning.

Windham (2005) recommends that to engage learners in learning, new educational curriculum and activity must include “Interaction, Exploration, Relevancy, Multimedia and Instruction”. Many academicians now view engagement as a multidimensional construct, although many studies investigate only one dimension. Fredericks *et al.*, (2004) classify 44 engagement studies into behavioral, emotional, and cognitive categories. Dunleavy (2008) defines three combined types of student engagement most commonly reported in her research: Behavioral, Academic-Cognitive and Social-Psychological. Meyer and Turner (2006) explored the concept of engagement and also added emotional engagement to the equation when they suggest engaging students in learning requires positive emotional experiences, which contribute to a classroom climate that forms the foundation for teacher-student relationships and

Classroom Behavior Among Management Students in the Higher Education of India*Table 4. Summary of past studies on entrepreneurial attitude among students*

Sr. No	Authors and Year	Past Studies	Main Focus
1	Scott and Twomey (1988); Matthews and Moser (1996) and Brenner <i>et al.</i> (1991)	Family business background and self-employed parents prefer self-employment. Influence of parents was the strong predictor of entrepreneurial attitude among students.	Factors triggering Entrepreneurial Attitude
2	Van Wyk and Boshoff (2004)	Entrepreneurial attitude results from the subjective association of an individual towards certain attributes. There are four important entrepreneurial attitudes that were identified, and which can be used as a potential method to evaluate entrepreneurial orientation of individuals, namely achievement, self-esteem, personal control, and innovation.	
3.	Terfa (2007)	Family background has an influence on the student's future career, that is, whether they have to start their own business or pursue other jobs. This was clearly stated from the responses of students whose families have been engaged in business. They tend to start their own business more than those whose families have different backgrounds.	
4.	Nybakk and Hansen (2008)	Ability to recognize opportunities and the ability to take calculated risks are two factors which develop entrepreneurial attitude among students. This implies that risk-takers are more likely to initiate a new activity and risk attitude affects the selection of individuals into entrepreneurial positions.	
5.	Shani (2011)	Parent's occupation, business interests, career plan, entrepreneurial awareness, place of living of the students, influenced the entrepreneurial attitude of students whereas gender of the student, family size, and parent's income did not influence their entrepreneurial attitude.	

interactions necessary for motivation to learn. Fredricks et al., (2004) identified emotional engagement as a category and describes it in much the same way as Meyer and Turner. Students reporting an intense form of engagement are highly involved with their university study. They tend to see teaching staff as approachable, and see their learning environment as responsive, supportive and challenging (Coates, 2007). Lizzio and Wilson (2009) identified four clusters of motivations given by students for undertaking student representative roles, predicated along two intersecting axis: motivation (intrinsic or extrinsic) and focus (personal or systems). According to Bensimon (2009) productive engagement is an important means by which students develop feelings about their peers, professors, and institutions that give them a sense of connectedness, affiliation, and belonging, while simultaneously offering rich opportunities for learning and development.

Hence, the past studies on above aspects are mainly done in the context of developed nations. With the phenomenal growth of Higher Education in India, especially Management Education, these aspects are crucial to study in the Indian context as well.

Classroom Behavior Among Management Students in the Higher Education of India**METHODOLOGY**

This study did a comprehensive review and critical analysis of research and literature, as stated above, associated with classroom behavior, and development of ethical and entrepreneurship skills through experiences in the classroom. Exploratory research methodology was used in the study.

In the current research, qualitative and quantitative research methods have been used. In the qualitative research part, 10 in-depth interviews of academicians were carried out to understand student behavior and based on that a thematic analysis has been done. The academicians were from leading management institutes in Gujarat state and serving in the capacity of directors, deputy directors, professors and associate professors.

In the quantitative research part, based on the in-depth interviews, two separate questionnaires were designed. A single cross sectional research design has been used. As the role of teachers is very crucial in management education, one questionnaire was designed to elicit faculty perception regarding students' behavior, ethical behavior, and entrepreneurial attitude. The questionnaire was distributed to 300 faculty members across several management institutes in Gujarat. Hundred management faculty responded to the questionnaire and reliability was 0.891. In this study, students are key stake-holders and it is important to understand their perception about their behavior, ethics, and entrepreneurial attitude. The questionnaire was distributed among 500 management students of Gujarat from which 200 management students responded to the questionnaire and reliability was 0.80. The convenience sampling method was used for selecting the institution for the study. The questionnaire was distributed to faculties and students by providing a link of google doc through e-mail. The response was 33 per cent in faculty and 40 per cent in students.

STUDENT BEHAVIOR WITHIN THE CLASSROOM: TEACHERS' PERCEPTION**Behavioral Pattern and Its Motives**

Management students demonstrate different behavior patterns in the classroom, based on their backgrounds. According to academicians, behavior pattern among the management students has been categorized as negative and positive.

Majorly, academicians were experiencing more negative behavior in the classroom. It was also observed that the nature of faculty also plays a crucial role in dealing with behavior of students. If students

Table 5. The Demographic details about the academicians (In-depth Interviews)

Gender	Male	7
	Female	3
Experience	More than 10 years	10
Academic Position	Director	2
	Deputy Director	1
	Professor	4
	Associate Professor	3

Classroom Behavior Among Management Students in the Higher Education of India*Table 6. Faculty demographic profile (Survey data)*

Demographic Characteristics		Frequency
Gender	Male	62
	Female	38
Teaching Experience	3-5 years	7
	5-10 years	25
	11-15 years	15
	16-20 years	8
	21 and above years	45
Industry Experience	0-5 years	90
	6-10 years	5
	11-15 years	1
	16-20 years	1
	21-25 years	3
Average Number of Sessions taken Per Week	1-5	38
	6-10	16
	11-15	23
	16-20	20
	21-25	3
Average Number of Students Taught in a Year	0-120	42
	121-240	23
	240 and above	35
Type of Institution	Private	65
	Government	15
	Autonomous	20

feel that faculty is strict, then they tend to display positive behavior in classrooms. Academicians have also observed that a teacher is always responsible for the behavior of students. Management education specially needs a more practical approach. A teacher's teaching style, syllabus, environment of the institution and philosophy of the management are the major contributors of student behavior in the classrooms. Another important finding is that the behavior of the student is also dependent on the student's family background and place of stay. According to one academician, the students who are from rural or semi-rural areas tend to show more positive behavior as their eagerness and thirst for learning is more as compared to those from urban backgrounds. According to one academician, virtue of parents and circumstances of the family also have a huge impact on students' behavior within the classroom. One academician pointed out that students of the 21st century are very smart as they are living in the era of technology. Students are more 'aggressive', 'open' and 'critical'. They are always checking whether the reading material is relevant and knowledge imparted by professors is up to the mark or not. Nowadays, students are blunt and tend to correct the professors if they are incorrect in any context. According to one view, one prime reason for the change in the student behavior within the classroom is the tremendous

Classroom Behavior Among Management Students in the Higher Education of India*Table 7. Student's demographic Profile (Survey data)*

Demographic Characteristics			Frequency	
Gender	Male		114	
	Female		86	
Age	20-22 years		131	
	23-25 years		49	
	26-28 years		14	
	29-31 years		2	
	31 and above years		4	
Graduation	B.A.	8	BBA	62
	B.Com.	64	BCA	12
	B.E.	18	Others	27
	B.Sc.	8		
Annual Income (in Rs.)	Less than 100000		33	
	100000 – 300000		78	
	300000 – 600000		51	
	600000 and above		38	
Father's Occupation	Businessman		72	
	Government job		41	
	Private job		46	
	Retired		15	
	Others		26	
Mother's Occupation	Housewife		157	
	Businessman		8	
	Government job		7	
	Private job		17	
	Retired		11	

Table 8. Classification of classroom behavior

Positive Behavior -Punctual in time -Regular attendance -Concentration in classroom -Assignment submission on time -Follow the disciplinary rules -Participation in class activity -Asking questions	Negative Behavior -Intentionally coming late to the class -Chit-chatting with classmates -Intentionally interrupting teachers during sessions -Using mobile phones -Sleeping in classroom -Irregular attendance -Unable to submit assignment on time -Non-participation in class activity -Not coming with pre-reads -Not bringing the relevant material for class discussion

Source: Authors have prepared this from the in-depth interviews of academicians.

Classroom Behavior Among Management Students in the Higher Education of India

influence of social media and constant usage of mobile phones. Social media has ruined the classroom behavior and is a major “Distracting Factor” as students are constantly checking messages and notifications, which dilutes their level of concentration in studies. It was pointed out, that a change in behavior has been observed in the classroom as an outcome of proximity between boys and girls. Ten years back the boys and girls were sitting separately in the classroom and they were much more reserved and shy but, the scenario has changed now. Nowadays, boys and girls sit in close proximity in the classroom. They work together on projects and assignments. Being together seems more of priority for them than addressing the task at hand.

Hence to sum it up, the student behavior is heavily dependent on professor’s knowledge, strictness, teaching pattern, exposure to social media, and their family backgrounds.

The response of 100 management faculty has also supported the above findings. The figure given below shows the changes in student behavior in the past three years.

It was observed that in all the areas a major decline is seen in positive behavior, except participation in extra-curricular activities. Overall, student behavior in the areas like asking questions, proactively seeking help from teachers, attention in the classroom and discipline has declined.

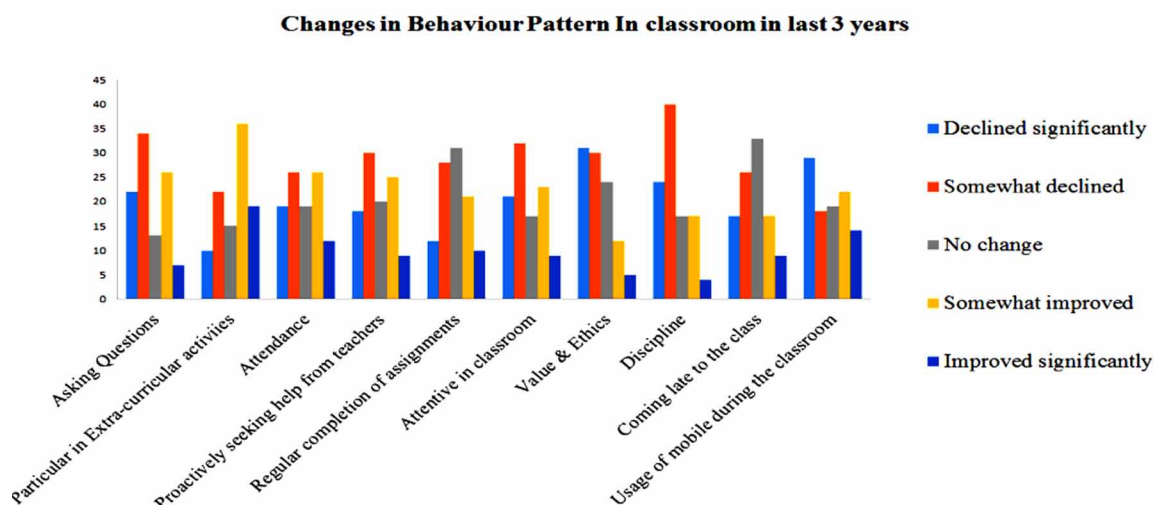
The following figure explains the motives for classroom behavior among students.

The majority of faculty members were of the opinion that excessive usage of gadgets during the classroom, lack of interest in subject/career and influence of friends were the prime motives for student behavior within classrooms.

Ethical Standard Among Students

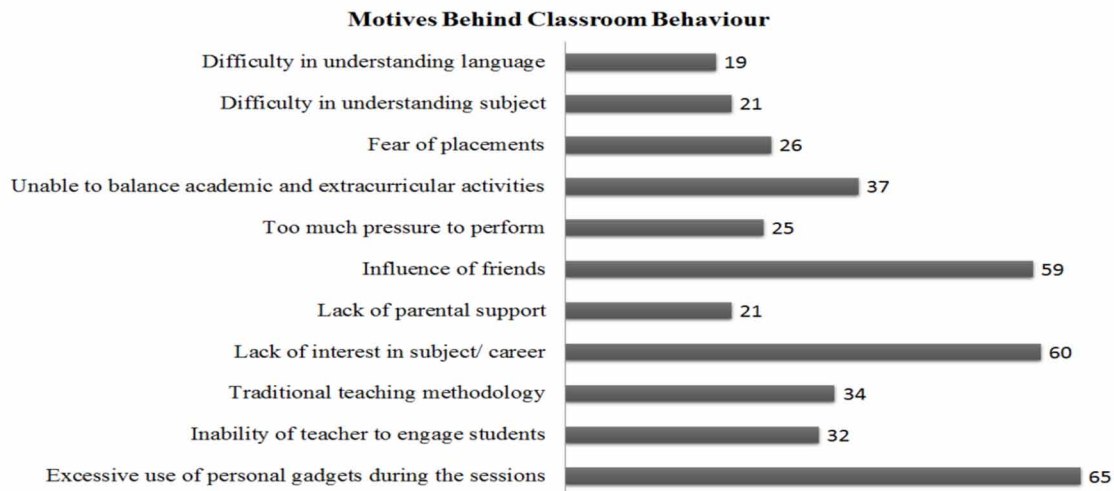
It was found that there was no consensus among academicians regarding ethical standards among the students of various institutes.

Figure 1. Changes in student behavior pattern in classroom in last three years.



Classroom Behavior Among Management Students in the Higher Education of India

Figure 2. Motives behind classroom behavior



Improved Ethical Standards

A few academicians are of the opinion that the ethical standards among the students have improved. According to them, nowadays management students have become more ethical and demonstrate positive ethical behavior.

No Change/Neutral perspective

Another view on ethical standards is that ethical standards among students depends on the type, nature and reputation of an institution, which implies that ethical standards are institutionally value- driven and vary from university to university and institute to institute. Those who are from economically weaker backgrounds tend to show high moral values and ethics and their interpersonal relationships are also strong. Whereas, another view suggests that there is no great change in ethical standards among students.

Interviewees felt that the response pertaining to the ethical standard among the students was that it was dependent on the institute from where the students came. Thus the reputation of the institutions also played an important role in determining the ethical values in the student community. Majority of the in-depth interviewees felt that teachers attitude towards ethical standard is very vital. A teacher should be able to make the students understand what is right and what is wrong. A teacher's attitude matters a lot in shaping the ethical standards of the students.

Declined Ethical Standards

Another view suggests that nowadays students are not bothered about ethics. Students are aware about what is right and what is wrong but they do not want to practice ethics. Ethics is heavily dependent on the culture and background of a person. It was also opined that ethical values among the management students have deteriorated drastically and students' motto is to anyhow pass the examination and get the degree.

Classroom Behavior Among Management Students in the Higher Education of India

Another view also suggests that students show unethical behavior in examinations and assignment submissions. Apart from that, irregular attendance, 70 per cent interviewees opined that showing disrespect towards the faculty has become the norm.

The response of 100 management faculty has also supported the above findings in ethical behavior.

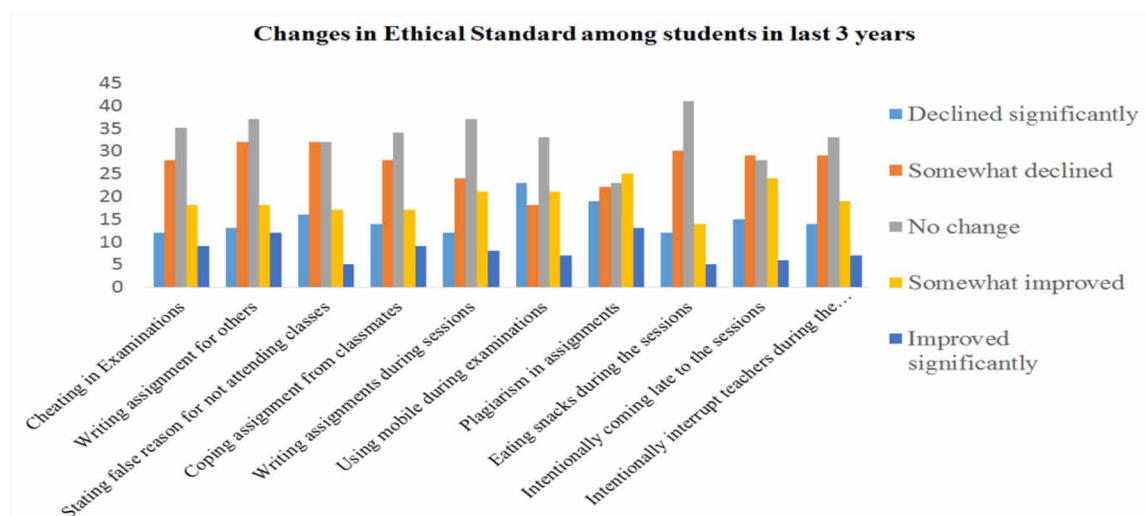
The ethical standards among students was measured through cheating in examination, writing assignment for others, stating false reasons for not attending lectures, copying assignments, writing assignments during lectures, using mobiles in examinations, plagiarism, eating snacks during lectures, intentionally coming late to the class and intentionally interrupting teachers. The above graph clearly supported that majorly, there was no change in ethical standards among management students within the last three years.

Entrepreneurial Attitude Among Students

To become an entrepreneur, a positive attitude towards entrepreneurship is a must. The view regarding entrepreneurial attitude among the management students is unanimous. It was opined that students have a positive attitude towards entrepreneurship. Every year students have come up with innovative ideas and they discuss such ideas with the faculty. Students are also actively seeking help from the faculty to guide them in becoming successful entrepreneurs. One view also suggests that financial background is one of the major factors which contributes to the entrepreneurial attitude among students. Students from a financially strong background have high risk taking ability. Such of students have a higher entrepreneurial attitude because they know that if they fail then the financial loss can be borne by the family. On the other hand, those who are from economically weaker sections are actively searching for venture capitalists.

One view suggested that less employment opportunities in the market and placement fears are the prime reasons that develop an entrepreneurial attitude among students. Overall, it can be concluded that entrepreneurial attitude among students is very positive.

Figure 3. Changes in Ethical Standard among students in last three years



Classroom Behavior Among Management Students in the Higher Education of India

Based on the above view of academicians, the survey was conducted to understand the view of management professors regarding entrepreneurial attitude among students. The figure given below explains the results

The above figure clearly shows that entrepreneurial attitude among students in the last three years has improved. The faculty were of the opinion that students are coming up with innovative ideas. Students are also enthusiastic when they are given any project and they also give their 100 per cent when assignments on entrepreneurship are given. Nowadays, many management students would not like to go in for campus placements. Rather, they would like to start their own venture. Therefore, management students opt for start-ups. One contradicting view was that there is no change in risk taking ability.

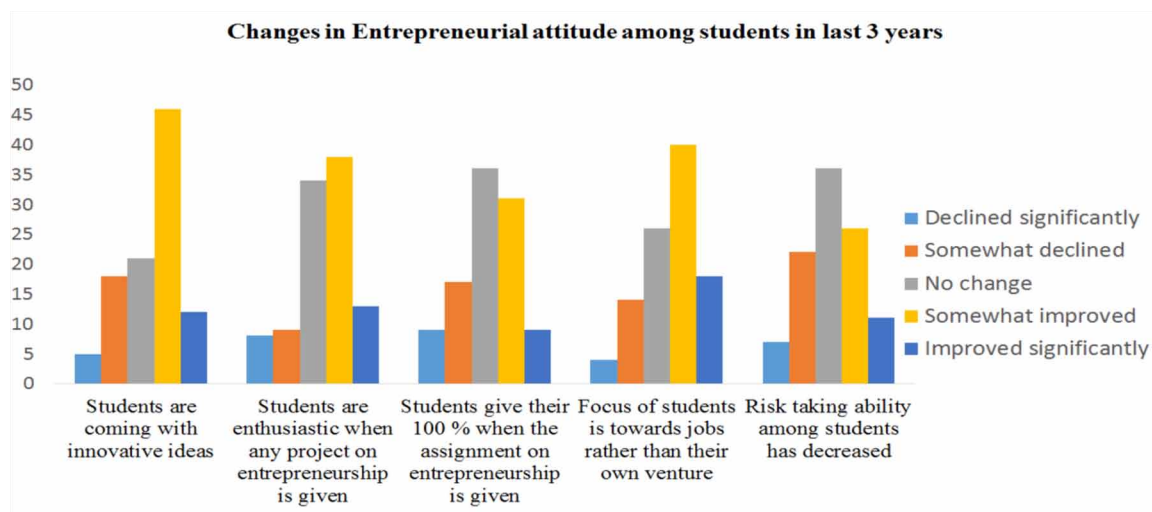
Overall, the survey data supported the views of academicians regarding entrepreneurial attitude among the students.

Ways to Inculcate Entrepreneurial Attitude Among Students

It was suggested that each institute should have an Entrepreneurial Cell to develop entrepreneurial attitude among the students. The institutions should arrange competitions to develop entrepreneurial attitude among students. Each discipline should have one module on entrepreneurship building attitude. Entrepreneurship as a subject is very necessary for management students and it should be made a compulsory subject. One view also suggested that to nurture entrepreneurial attitude, a proper education eco system is required and this is the biggest lacuna in the current scenario.

Another view suggested that entrepreneurship can be inculcated only when students are interested. If the students take entrepreneurship subject only for the sake of marks, then efforts of teachers are in vain. Entrepreneurial attitude and education is mutually exclusive. It is solely dependent on a person's skill and inner ability. No syllabus, lectures, or workshop can make someone an entrepreneur.

Figure 4. Changes in entrepreneurial attitude among students



Classroom Behavior Among Management Students in the Higher Education of India

Based on the views of academicians, a survey was conducted among management faculty to get to know their opinion regarding the ways to inculcate entrepreneurial attitude among the students. The figure given below explains the survey results.

The above figure explains that there are multiple ways to inculcate entrepreneurial attitude. On the whole, the management faculty agreed that some of the ways are: introducing Entrepreneurship as a subject, developing an Entrepreneurship Cell in the institute, arranging guest lecturers for entrepreneurship, arranging workshops for entrepreneurship, sending students to conferences and seminars, assigning roles to the faculty to encourage and guide students for innovative ideas, and giving assignments and projects to develop entrepreneurial attitudes. Inter-college competition is one strong way to inculcate an entrepreneurial attitude. Overall, the survey results are in line with the academicians' views.

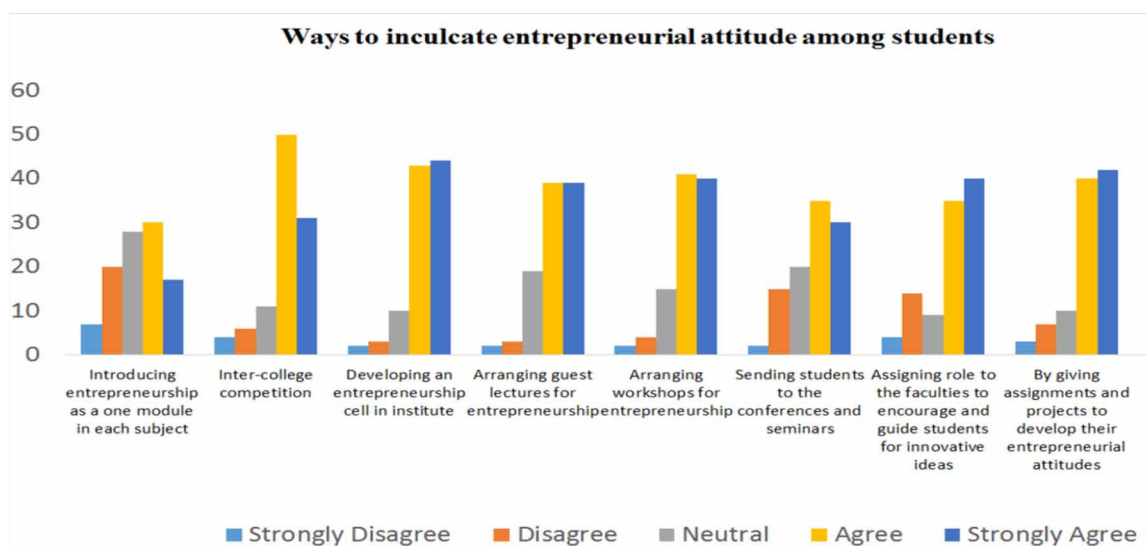
Relationship Between Ethics and Entrepreneurial Attitude

There is no consensus in opinion among academicians regarding relationship of ethics and entrepreneurial attitude. One view suggested that, there is a high correlation between ethics and entrepreneurial attitude. To become a successful entrepreneur, one should have strong ethical values. In the short run, an entrepreneur may get success, but to sustain it in the long run, ethical standards are required. Ethical standards act as guidelines for the entrepreneur in dealing with daily activities.

Another view suggested that, ethics is important in shaping entrepreneurial attitude but it is not necessary that an ethical person will be a successful entrepreneur. There are other factors, which impact the shaping of the entrepreneurial career of the student.

There are some academicians who were of the opinion that there are many entrepreneurs who are unethical but still quite successful so ethics and entrepreneurship may not be correlated. They both are separate concepts and cannot be linked with one another. According to them, definition of ethics always varies from person to person. Hence, they do not find any kind of relationship between ethics and entrepreneurship.

Figure 5. Ways to inculcate entrepreneurial attitude among students



Classroom Behavior Among Management Students in the Higher Education of India

STUDENT/CLASSROOM ENGAGEMENT

Classroom engagement is one of the major issues, which currently attracts lot of discussion. To engage students fruitfully in the classroom is one of the major challenges for educators. The views of educators regarding classroom engagement are classified below.

Understanding Needs of Students

In the opinion of academicians, teachers should be able to connect with the students. 'A teacher should be friendly but not a friend'. There should not be fear of the teacher in the minds of students and at the same time students should have respect for teachers. Teachers should be able to understand the needs of students.

Practical Learning

Another view suggested that practical learning is one of the important ways to engage students within the classroom. This would also help in converting negative behavior into positive behavior. Management students would not like to know theories but they are eager to know how these theories are being applied in the real world. Hence, classroom exercises, role-plays, case studies, group activities are the ways to engage students in the classroom. Storytelling, sharing real life examples and using audio-visuals are also helpful in engaging students in classrooms. It is very important for management students to get exposure to the real world. So, internships and industrial visits are a source of major practical training for students.

Positive Attitude of Teacher

It was also suggested that to engage students in the classroom, the attitude of the teacher should be positive. A teacher should be able to create positivity in the classroom. If the teacher has a positive attitude then students would take interest in the subject and automatically their concentration and engagement would increase in classroom activities.

Punishment (When Necessary)

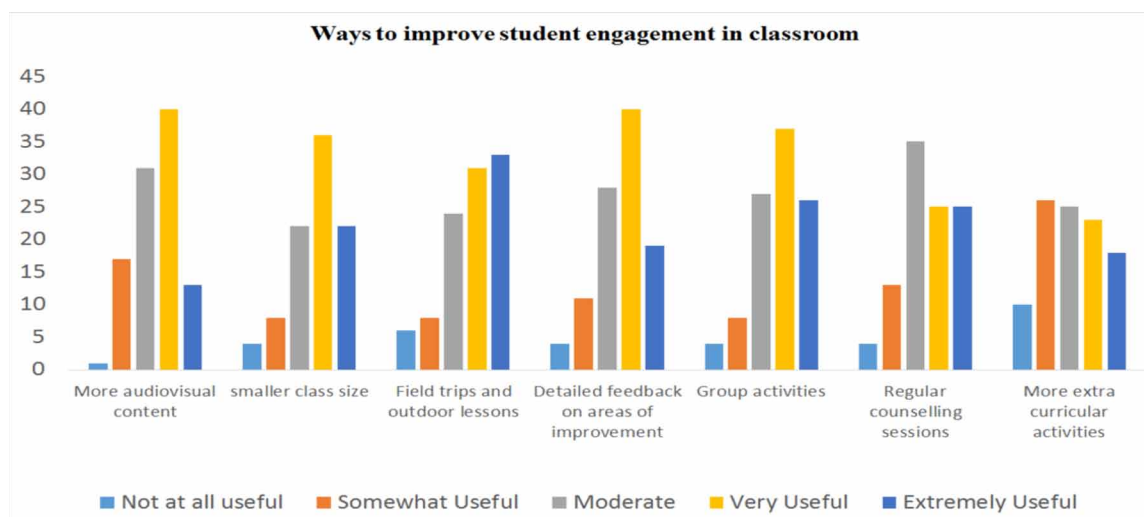
Some of the academicians were of the opinion that sometimes punishment acts as a tool to engage the students in the classroom. Punishment generally creates fear among the students and fear would automatically make them engage in classroom activities. The teacher should be friendly but at the same time, students should not take undue advantage of the teacher's friendliness. A teacher should clearly explain the punishment criteria to the students. Sometimes it may also happen that punishment to one would convey the message to the entire class and the message would be driven home.

Based on the views of academicians, a survey was conducted among the management faculty to get to know ways to improve student engagement in the classroom. The following bar chart explains the survey results.

It was found from the above data that audio-visual content, smaller class size, detailed feedback on areas of improvement and group activities improve student engagement in the classroom. Field trips and

Classroom Behavior Among Management Students in the Higher Education of India

Figure 6. Ways to improve student engagement in classroom



outdoor lessons are extremely useful ways to engage students. There are mixed views regarding extra-curricular activities to engage students. Overall, the results are in tune with the views of academicians.

After understanding academicians' view on above areas, it is also important to understand students' perception regarding classroom behavior, ethics and entrepreneurial attitude.

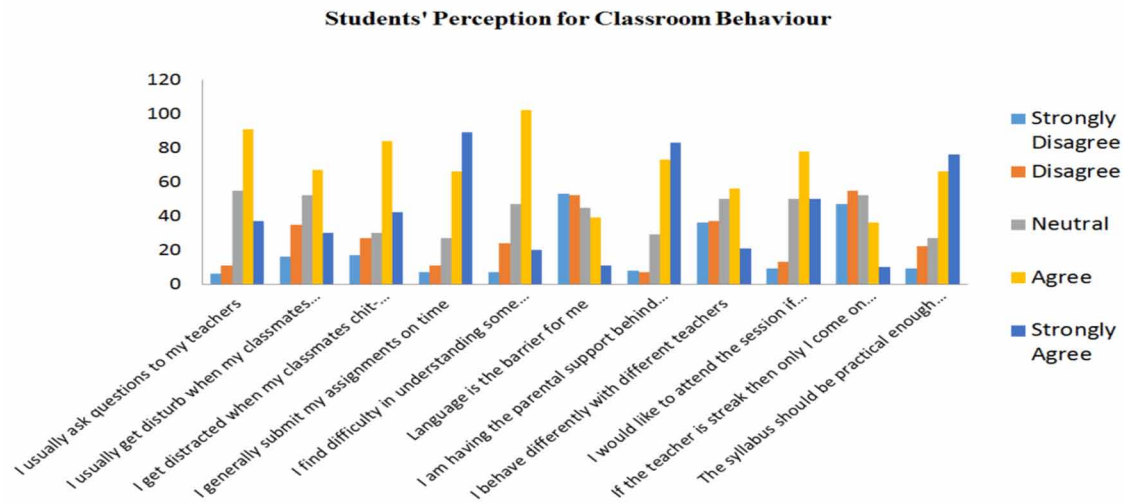
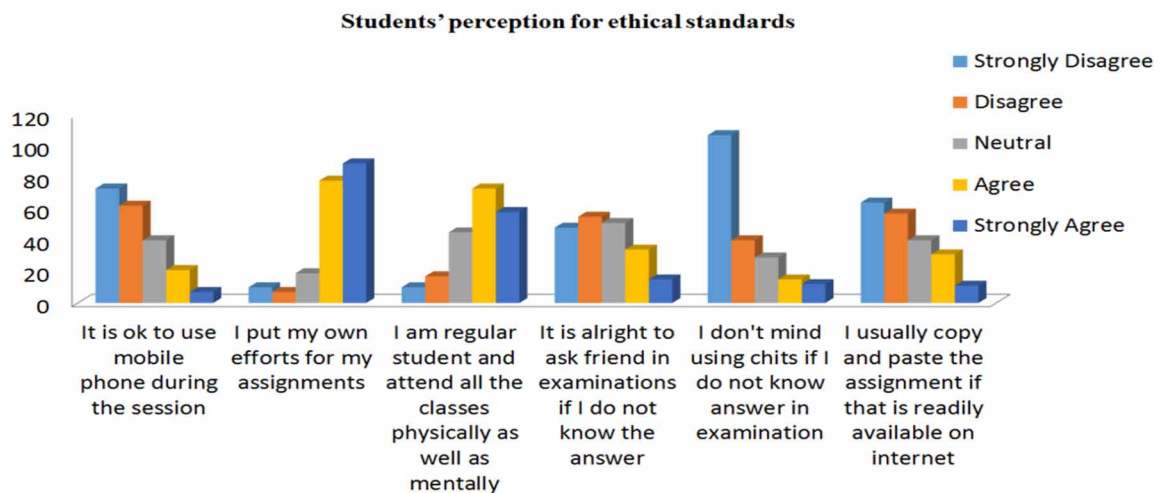
The next section deals with the students' perception regarding classroom behavior, ethics, and entrepreneurial attitude.

STUDENT BEHAVIOR WITHIN CLASSROOM: STUDENTS' PERCEPTION

A survey of 200 management students within the Gujarat state was conducted to understand their perception regarding three aspects of education: behavior, ethical standards and entrepreneurial attitude.

The above figure explains the students' view on classroom behavior. It was observed that 46 per cent have agreed that they ask questions in class. In their view, 34 per cent have agreed that they get disturbed when their classmates come intentionally late to the sessions and 42 per cent felt that they get distracted when their classmates chat during the sessions. 45 per cent of the students strongly agreed that they have submitted assignments on time. 51 per cent of the students have agreed that they had some difficulty in understanding certain subjects. Only 6 per cent students had problems in understanding subjects. 42 per cent students have parental support in education. 28 per cent have agreed that they behave differently with different teachers. 39 per cent students would like to attend classes if different pedagogy is used by teacher. Only 5 per cent have agreed that if the teacher is strict then only they come on time. 38 per cent were of the opinion that syllabus should be practical enough and provide industry exposure.

It was observed from the above graph that; in students' opinion they are ethical in the classroom. 36 per cent strongly disagree that they used mobile phones during the lecture. 45 per cent of the students strongly agree that they put their own efforts in assignments. 36 per cent of the students agreed that they attend all the classes physically as well as mentally. Only 8 per cent of the students have agreed that it

Classroom Behavior Among Management Students in the Higher Education of India*Figure 7. Students' Perception for classroom behavior**Figure 8. Students' perception for ethical standards*

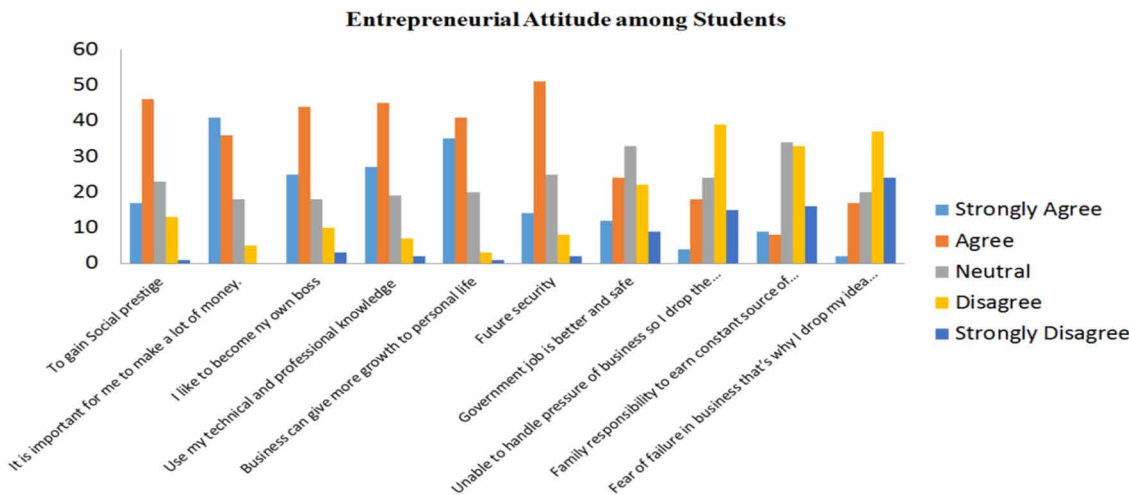
is alright to ask a friend to prompt answers in examinations, if they do not know the answer. 53 per cent of the students strongly disagree regarding cheating in examinations. Only 6 per cent have agreed that they usually copy and paste the assignment if that is readily available on the internet.

Overall, it was observed that students displayed good ethical standards.

It was observed that, 77 per cent of the students want to go into business so that they can earn more money. Further 63 per cent opined that they want to gain social prestige and for that they want to start their business. 69 per cent students would like to become their own boss and also they like to be self-employed. 72 per cent of the students would like to use their technological and professional skill in their own venture. This shows that a good number of students are motivated by the need of independence and so think of starting up a business as one important alternative to a job.

Classroom Behavior Among Management Students in the Higher Education of India

Figure 9. Entrepreneurial attitude among students



Student Perception for Engagement

It was observed that students would like to engage in classroom activities if they find them relevant. Students prefer new methodology for learning. Majority of the students prefer learning through case studies, role plays and storytelling. Positive attitude of teacher, teaching style and knowledge of teacher are important elements for student engagement. Students are very keen to involve in extra-curricular activity at the cost of their attendance as they find it more relevant for their overall development.

SUMMARY

See Table 9.

LIMITATIONS AND IMPLICATIONS

The number of academicians for in-depth interview were ten, which is small compared to the large management teaching fraternity in Gujarat. Furthermore, the research is limited to Gujarat state. The research is directed towards management students. The number of students as respondents were two hundred as it was difficult to get response from more students. Therefore, this research has a limitation of generalizing it. However, substantial research information was gathered which can help to suggest improvements in student engagement, shaping entrepreneurial attitude and ethical behavior among management students of Gujarat state.

The study has practical implications and the beneficiaries of the study are students, teachers/professors, institutions and universities. The study has revealed the students’ perception behavior with classmate, for their classmate behavior, ethical standards, engagement activities, and entrepreneurial attitude. This

Classroom Behavior Among Management Students in the Higher Education of India*Table 9. Summary of findings which are based on the literature review and in-depth interview, teachers' and students' survey*

Sources	Literature Review	Academicians' Perception (Based on in-depth interview)	Teachers' Perception (Based on survey)	Students' Perception (Based on survey)
Sub-themes				
Classroom Behavior	Negative Behavior/ Disruptive Behavior/ Problematic Behavior: - Talking out-of-turn - Refusing to do homework, truancy - Day dreaming, sleeping - Lacking respect to classmate - Teachers by showing verbal and physical aggressiveness, - Talking out of turn and out of seat, submitting homework on time - Fighting, stealing, and drinking - Bullying	- Intentionally coming late to the class - Chit-chatting with classmates - Intentionally interrupting teachers during sessions - Using mobile phones - Sleeping in classroom - Irregular Attendance - Unable to submit assignment on time - Non-participation in class activity - Not coming with pre-reads - Not bringing the relevant material for class discussion - Showing disrespect to professors	- Irregular attendance - No classroom participation - No attention in classroom - Coming late to the class - Excessive usage of mobile in the classroom - Unable to submit assignment on time - Significantly declined values - Disciplinary issues	- Asking the more questions - Would like to come on time if teacher is streak - Disturbed by peer's chit-chatting - Disturbed when peer's coming late to the class - Only would like to attend session if teacher would use different pedagogy - Behave differently with different teachers
Motives Behind Negative Classroom Behavior	- Communication issues - Unengaged lectures - Fast pace in explanation - Lack to resources - Unable to create interest in subject - Growing class size - Institution Culture - Personal characteristics of instructor	- Student background and location - Technology Adaptation - Influence of social media - Teacher's behavior - Teachers' teaching style - Teacher's class control - Culture of institution - Philosophy of management	- Unable to balance academic and extracurricular activities - Influence of friends - Lack of interest in career and subject - Traditional teaching methodology - Unengaged classroom - Excessive usage of personal gadget during the classroom	- Teacher's nature - Teacher's teaching style - Subject of study - Language barrier - Difficulty in understanding subject - Lack of parental support - Lack of practical learning - Content of syllabus
Ethical Standards	Past studies showcase the low ethical standards among students - Working together on individual assignment - Claiming other people's work as their work - Fabrication of bibliography - Coping someone's work - Coping in exam - Stealing someone's exam paper - Fraudulent excuse like family emergency and medical certificates for not completing and submitting assignment and projects on time	Views of academicians divided into three categories - Improved ethical standards - No change in ethical standards (ethical standards are institution driven) - Declined ethical standards (Students just wanted to pass the examination)	Faculty survey revealed that there is no change in ethical standards among students The ethical standards among the students were not improved and they practice the same unethical activities like cheating in exam, plagiarism, proxy, fraudulent excuse for not attending lectures in the classroom.	Student survey revealed that there are high ethical standards among students: - Not using mobile phones - Putting efforts for assignment - No cheating in examination - Regular attendance
Factors affecting Entrepreneurial Attitude	Past studies have revealed several factors which suggest entrepreneurial attitude among students - Family background - Parents' occupation - Business interests - Ability to recognize opportunity - Ability to take calculated risk - Innovation, achievement, self-esteem - Influence of parents	The in-depth interviews also confirmed the factors that influence entrepreneurial attitude among students.	Faculty survey also confirmed the factors that influence entrepreneurial attitude among students.	Student survey also confirmed the factors that influence entrepreneurial attitude among students. Apart from that the following factors also affect entrepreneurial attitude – - Social prestige - Future security - Use of technical knowledge
Student Engagement Strategies	Various studies have suggested different engagement strategies like - Sense of belonging - Individual engagement - Collaborative engagement - Management skills - One to one relationship - Provide environment for learning - Provide environment for professional development - Open door policy - Management games and practical learning	- Understanding the needs of student - Offer more practical learning - Positive attitude of a teacher - Punishment (when necessary)	- Usage of audio-visual content - Smaller class size - Field trips and outdoor lessons - Detailed feedback on areas of improvement - Group activities - Regular counselling sessions - Engage them extra-curricular activities for professional development	- Positive attitude of a teacher - Teachers' knowledge of subject - Practical learning - Learning through case study, role plays and story-telling - Engage in extra-curricular activities

Classroom Behavior Among Management Students in the Higher Education of India

would help teachers/professors to understand the student mind-set which would help them in improving their teaching pedagogy. This would help the institutions and universities to understand the needs of the management students. The study highlighted teachers/professors perception towards student behavior, student ethical standards, student engagement activities, and entrepreneurial attitude. This would help different institutions to build their syllabus and understand the overall scenario in management education. The combination of students' and teachers'/professors' perception would help universities in terms of curriculum design, student engagement, disciplinary actions, and developing students with the help of skill building and innovative classroom techniques. This study was conducted in the discipline of management where there is already some presence of concerns relating to classroom engagement, ethical issues, and building entrepreneurial attitude. However, still more needs to be done, on these fronts, in Management Education. In other disciplines of higher education, where these interventions are absent, lot more needs to be done to make the classroom environment responsive to these concerns. Problems solving skills, developing entrepreneurship and ethical attitude, will have to be embedded in the pedagogy and curriculum of the programme offered by HEI.

CONCLUSION

Today, classrooms have diverse populations of students who come from different cultural backgrounds and have a variety of social and emotional pressures acting on them. The study highlighted that the teachers were experiencing negative behavior, less ethical standards but high entrepreneurial attitude among students. Classroom engagement can be increased through methods like group activity, audio-visual content, story-telling, detailed feedback and friendly attitude of teachers. In case of students' perception regarding behavior, it was found that students showcase positive classroom behavior, high ethical standards and positive entrepreneurial attitude. There was a conflict in teachers' perception towards classroom behavior and ethics and students' perception towards classroom behavior and ethics. The findings of the study will be useful to the educators at the micro level and to universities at the macro level. This would help the universities to frame meaningful syllabi and understand the behavioral patterns of students at higher education level and help educators to develop suitable classroom engagement exercises to develop skills for ethics and entrepreneurship.

FUTURE SCOPE OF RESEARCH

The study has carried out a comprehensive review and critical analysis of research and literature associated with classroom behavior, and development of ethical and entrepreneurship attitude and perception through experiences in the classroom. The study has covered only management students in Gujarat state. This study is an exploratory research which throws up the need for a more detailed, in depth research on the issue. Higher education is getting very complex, therefore, more research is needed to establish reasons and activities for class engagement and to impart ethical and entrepreneurial attitude in the classroom. In future, this research can be extended to other disciplines as well as to other geographical areas.

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Classroom Behavior Among Management Students in the Higher Education of India

KEY TERMS AND DEFINITIONS

Classroom Behavior: Classroom behavior is stimulus-driven responses that occur specifically within the classroom or how students are acting in the classroom in response to what is going on or present around them.

Entrepreneurial Attitude: Entrepreneurial attitude refers to consistent behavior and thinking, which are in line with creating and running a business.

Ethical Standards: Ethical standards refer to the principles that promote trust, good behavior, fairness and governing the conduct of a person.

Higher Education: Higher education refers to education beyond school specifically that is provided by colleges, graduate schools and professional schools.

Management Education: Management education is one discipline of Higher education by which students are taught to be business leaders, managers and administrators. It focuses on process of imparting or acquiring knowledge to develop the members of the executive or administration of an organization or business, managers or employers collectively, or train in the techniques, practice, or science of managing, controlling or dealing, in the skillful or resourceful use of materials and time.

Student Engagement: Student engagement refers to the degree of attention, curiosity, interest, optimism, and passion that students show when they are learning or being taught.

Chapter 3

Higher Education, Social Welfare, and Corruption: Some Challenges for Universities in Guayaquil, Ecuador

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ABSTRACT

The world is facing multiple changes and challenges; the environment shows inequalities, poverty, and corruption. Ecuador is not the exception. The man is declared the primary focus of the Ecuadorian Constitution to meet such changes. The objective of decreasing poverty, improving wealth distribution, and contributing to sustainable human development is unavoidable. In that context, the university has the pivotal role in generating interaction with society and its reality, to train professionals social and humanly responsible towards such facts, to promote the social management of knowledge from different action fields. The goal of this chapter is to specify the role of higher education institutions (HEIs) in a society where they take part, to draw up social responsibility of universities in Guayaquil and the challenges they face, as well as actions that contribute to the eradication of corruption and greater wellbeing of the society.

INTRODUCTION

The current changing process towards a better educational quality in Ecuador is an environment that can and must be exploited to lead universities towards management and development of their work with primary social responsibility. When providing high-quality education based on ethics and human values, the existence of higher education institutions must be the essence of the contribution to the better well-being of the society.

Everybody wishes a long-lasting development and well-being of the population to eradicate poverty and inequalities, and that the world population has a dignified life. What can be done to generate the

DOI: 10.4018/978-1-5225-5837-8.ch003

Higher Education, Social Welfare, and Corruption

changes society needs? Who promotes the changes required? Is education presented as the most suitable means to ensure such transformations?

However, if education has an extensive existence history, why is there so much hardship and poverty in the world? In the Human Development Index (HDI 2011) it is stated that “*Latin America is still the most uneven region in the distribution of incomes, but not in health or education*” (p. 4). That is ratified in the HDI (2016), where excluded are referred, inequity is an underlying problem. The problem is also manifested in CEPAL (2011) as “*it is a widespread fact that inequity in the distribution of incomes of Latin American countries is amongst the highest in the world*” (p. 14). Despite the time, that difficulty remains “the average rates of poverty and destitution were not altered significantly in the group of the region between 2012 and 2014, which, in the light of the current economic context, raises concerns in terms of progress possibilities in these areas within the next years” (CEPAL, 2015, p. 16). In Panorama Social (2017), it is stated again that poverty and inequity exist in Latin American countries. The problems are always the same.

No doubt, they are problems that impinge the well-being of the population. “The persistent vulnerabilities constitute a threat to human development, and unless they are addressed systematically through specific policies and different social rules, human development will be neither equitable nor sustainable” (HDI, 2014).

Why does society face the same socioeconomic problems? The immediate answer is the wrong, unfair and selfish action of the man. Why is the environment deteriorating? Again, the crazy work of the man is the responsible one. Why are decisions not well made? The answer is not that premature since the education young people receive seems to be the primary source of knowledge, which becomes the basis for future decision-making.

In such manner, what currently happens might be the result of professionals that universities present to the market, who have in their hand’s crucial decisions at all professional levels and in different institutions.

For instance, if the houses collapse because they are not well built, that can be because of two things: First, professionals with suitable qualifications were not trained in the construction field, and as a result, there are mainly not well-built houses. Second, that may also mean that builders are excellent professionals in their area but lack of ethics and values, since even knowing how to make, for specific reasons or interests, they allow the inadequate building to happen.

That situation may happen with each of the professions, for example with a Physician who did not cure his patient because he could not afford his professional fees. Alternatively, it may happen with an engineer who did not lay enough foundations for the building of a bridge; maybe with a politician who does not act in favor of the society who elected him but on his own interests. This may also be compared with the sportsperson who expects extra financial incentives to demonstrate all his abilities, or this may be compared with an accountant who disguises balances, or with an administrator who does not manages his human resources fairly. In brief, in every activity, there are professionals’ backstage making decisions all the time.

While it is true that not all professionals misbehave, it can be ensured that most of them usually put aside ethics and values when deciding in their professional field. The evidence is the many problems the world is facing, without having concrete answers to solve them. For example, it is known that environmental pollution needs to be decreased, but the question is how much has been cleaned up so far. The evidence around the world show greater pollutions every time.

Then, the need for social responsibility in every decision professionals make in their field is noted. However, how can that be achieved? Here is when the fundamental role of universities comes into play.

Higher Education, Social Welfare, and Corruption

Due to the above points, exploring the social responsibility of universities is important, because it is a topic linked to the management strategies used in organizations, the ethical development of professionals in their labor field in a globalized and competitiveness context, the environment they affect, the sustainable growth, and countries' development. Thus, it is a topic related to the people's quality of life and the total interest of society.

In this chapter, the role of higher education in society is addressed; the university social responsibility (USR) as a management form that seeks to guarantee the training of professionals committed to the community and with the search for solutions to its problems, trying, from their professional development, to contribute to the well-being. Later, the social responsibility in universities of Guayaquil is analyzed. Finally, actions, in relation to USR, are proposed to cope with the challenges of the present time.

The objectives of this chapter are:

1. To present an overall picture of the role of universities in the society and the theoretical development of USR.
2. To analyze the reality of Universities in Guayaquil and the challenges they face regarding USR.
3. To draw up actions of social responsibility that should be implemented in universities so that to cope problems, and in this way, contribute to the eradication of corruption and to the greater well-being of the society.

BACKGROUND

There are plenty of researchers in the area of social responsibility and its relation to entrepreneurial activity, nevertheless, in the university area, there has not been similar attention or resources.

The analysis and research of social responsibility within universities, as its scope of application, is infinitely lower than the ones for enterprises, [...] this is because academic researchers focus their analysis on what they teach rather than on the study of proper and ethical behavior that universities must reach regarding social responsibility (Gaete, 2011, p.3).

According to Vallaeys (2014), the USR is defined in terms of the impacts generated under university endeavor, and identify four main effects of universities in the environment: organizational, educational, social, cognitive and epistemological. These consequences need to be attended, for it is essential they be entirely determined to be able to act with social responsibility.

It is then highlighted the need for generating conscience, in all the actors in the crucial role that the university must fulfill in society. Additionally, how important it is to manage the caused impacts with social responsibility.

The implementation of USR requires the collaboration of not only local and regional communities but also the university personnel and students. In this respect, the university executives must be trained to understand the needs higher education institutions have to be a lead agency in the construction of a sustainable society, taking into consideration a great variety of stakeholders (Cortese, 2003, in Larrán, and Andrades, 2015, p. 96).

Higher Education, Social Welfare, and Corruption

Nowadays, when modern society prevails, their knowledge is undetermined. Nobody has the absolute truth. However, everything depends on how everyone sees the reality. Today people live in a world of conceptual indetermination. It is an inclusive speech.

In that modernity and indeterminism complexity, the university has a critical role that it is not only traditional teaching, transfer knowledge and make students demonstrate the mastery of experience in their professional area. Nevertheless, it also has the work of creating learning conditions, so students build and train as human beings in the different professional fields. People must not be qualified with the teachers' values, but students are prepared as people with their own values, virtues, abilities, and beliefs. It is building them. In this matter, the university must create conditions for such constructions.

This also involves the learning of instruments, techniques and professional tools of the sciences generate links with art, sports, and volunteerism. Additionally, with the environment and above all linkage with the human being and his problems. This is to develop progress regarding life because there is no other model to create people. However, professionals can be trained in human sensitivity. Professionals that are concerned, from the development of knowledge, about meeting the most urgent demands that affect society. Such attention dines with freedom and decision. Professionals that are worried about others and not about themselves. Egocentricity leads to focus on the generation of wealth for one's welfare, even at the expense or diminishing of others. That is what must be avoided.

THE ROLE OF THE UNIVERSITY IN SOCIETY

University has then a key role in society, which is to train professionals with human quality, in charge of future decisions concerning the well-being of society.

The university faced unique challenges to be socially useful from new coordinates and focused on content, attitudes, and values that seek in a balanced way for specialized excellence and high-value humanist education. That educates professional citizens, fostering and developing training based on ethical principles and social values and solidarity, where excellence parameters, debate, research and critical judgment are applied to community commitment with the similar rigor expected from other fields of university activity that it can spot the needs of the society and give solutions to its problems. That it contributes to the common welfare, the social construction, and human development. That it educates active citizens and that they take part in relevant civic activities in communities where they work and at international level (De la Cuesta, De la Cruz, and Martínez, 2010, p. xxii).

If the university fails in his role, well-being cannot be generated. University and the education it proposes is a fundamental base for the social and economic development. Knowledge is a critical element of such event. In an educated society, the economy is stimulated and, with human professionals, the profits of a more excellent economy will be equally distributed for the wellbeing of everybody.

According to the report of USR from UNED:

The university has played an essential role as the channel of transferring knowledge and as a link between society and enterprise throughout history. The current socioeconomic model, the fundamental base of power and the ability to create wealth is in knowledge. The role of the university must be to

Higher Education, Social Welfare, and Corruption

place knowledge at the service of the human being, of his ethical development, of personal fulfillment, professional development, and solidarity link with general interests. (2008, p. 3).

It is relevant to note that university is a public good, it is a good for the whole society, as such, it must have autonomy, and the government must support its finance.

In the relation between university and society, in 1998, under the framework of the World Conference on Higher Education, there was an agreement (“The World Declaration on Higher Education in the XXI Century: Vision and Action”) wherein the preamble was registered the capacity of the higher education for achieving sustainable development and the improvement of society.

[...] b) create an open space for higher education that enables the permanent learning, providing an optimal range of choices and the possibility of getting in and out of the system efficiently, as well as opportunities for individual fulfillment and social mobility with the objective of educating citizens that actively participate in a society opened to the world, and to promote the strengthening of endogenous capacities and the reinforcement within a framework of justice of human rights, sustainable development, democracy and peace.

[...] e) contribute to the protection and consolidation of values in society, ensuring the instilling in young people the values where democratic citizenship rests upon and providing critical and objective perspectives for raising discussion about strategic options and the strengthening of humanist’s approaches.

The declaration also states the importance of involving the university with the society and proposes higher education as the solution to the needs and expectation of the nation, serve the community, which is seeking for the eradication of poverty, inequity, damage of the environment, among other well-known social problems.

Finally, the contributions of Gaete (2011) can be considered, who expresses the evolving of the relationship between university and society in three concrete stages. The university first kept a distanced connection with the community, with limited access for elites; its primary activity was professional training and basic research. Then it opened for dominant social groups; its operation expands to applied research, development, and innovation. Knowledge transfer takes place. Finally, the university becomes democratic, and focuses on USR, which seeks for the inclusion of social actors to higher education; it aims for equity regarding the generation of opportunities to access knowledge and undertakes the responsibility of generating social transformation. Within this context, the role of the university is modified and presents challenges in the development of its primary activity and social mission.

UNIVERSITY SOCIAL RESPONSIBILITY

It can be assured that USR derives from Corporate Social Responsibility (CSR). It can be briefly summarized the development of CSR in the way that in the 60’s an approach called capitalist emerged, which emphasizes the maximization of benefits for shareholders; the version is that with better profits the shareholders may have new investments and generate more employment, then the enterprise would be socially responsible.

Higher Education, Social Welfare, and Corruption

In the evolution of CSR, some views are refined, in the enterprise view and the free markets – neo-liberal, the economist Milton Friedman is highlighted. He is a monetarist from the School of Chicago that in the book “Capitalism and Freedom,” published in 1962, refers to CSR. According to Friedman, and quoted by Vaca, Moreno, and Riquel (2007), with monopoly only, “it makes sense to talk about social responsibility because monopolies disrupt the functioning of the market” (p. 3131). Later, in 1970 Friedman says that the objective of organizations is to maximize the economic benefits.

Thus, under Friedman’s approach, the Enterprise has a social responsibility with itself, with the entrepreneurs when looking for increasing their benefits, and if they neglected them, they would not be very responsible. Moreover, their charitable responsible deeds for others are framed in the fulfillment of policies, tax paying and job contribution under a paradigm of industrial organization.

Some authors are introduced as Friedman critics in support of the humanist and altruist position of CSR such as Freeman (1984), Carroll (1979, 1998 and 1999), Mitchell (1997), Bradley (1999), among others. The common factor in their contributions is that they highlight that the primary objective of the management of enterprise activities is to maximize not only entrepreneur benefits but also that satisfying the needs of the society is considered.

From the 1980’s, the society exerted pressure for change and boosted the development of CSR, in other areas. The philanthropic focus of CSR was mainly developed to help the community, donate, charity and the concern for those who have less. The state intervention played a primary role.

Stakeholders approach is developed, which refers to considering the interests of agents who linked with the organization, this is employees’ interests, consumers, government, and the environment, a position that becomes greater since the late 80’s and widely since the beginning of the 90’s.

In Lizcano and Moneva (2004, p. 9) *stakeholders* were defined as “groups of people or individuals affected by the existence or actions of organizations and with some legitimate interest in them.”

During the 1990’s, there were definitions regarding interest groups of the organization, and it was about business ethics, CSR and competitiveness, sustainable development, responsible management, measurements and social impact, even the integrated management of CSR.

In the nineties

(...) It is in this decade, when the term sustainability started being used, which includes not only economic but also environmental and social concepts. Nowadays, what it is meant to get is that enterprises are responsible not just in terms of economic benefits but also in terms of environmental and social (Server and Villalonga, 2005, p. 144).

Then is when some conceptualizations arise, without reaching a globalized consensus, between different definitions presented to CSR.

On October 25th, 2011, the European Commission proposed a new definition of the CSR “*the CSR is the responsibility of enterprises for its impacts in society,*” in the words of Pedro Ortun, General Director of Enterprise and Industry of the European Commission (CE-Communication 681, October 2011, p. 6).

From the ethical point of view of the CSR, Argandoña and von Weltzein (2009) indicate that:

The last reasons to be responsible are not visible results for employees, consumers or society, but the inherent moral quality of the people and the organization [...] The CSR is an ethical concept, which demands socially responsible actions, and that existed before the industrial revolution and the enterprises, especially in Europe, have responded to that. Moreover, the content of CSR has evolved over

Higher Education, Social Welfare, and Corruption

time, depending on history, culture, socioeconomic and political leaders, unusual conditions in different countries, at different times. Therefore, there is no- and it might not be – the unique and precise definition of CSR: a global standard for CSR is rarely possible (p. 8).

Despite all the contributions, there is no agreed definition from CSR, but it is clear that a socially responsible enterprise must consider within its management, interest aspects of the agents with whom it is related. Thus, the differences are mostly produced in the ways CSR practices are carried out in organizations. That depends on the existing pressure.

“When an agent accepts that he or she has some responsibilities, other people develop expectations of the agent’s behavior. That is why it is sometimes said that CSR is a reply from the enterprises to society’s claims and expectations” (Caroll, 1979) in Argadoña and von Weltzen (2009).

To date, CSR is focused on enterprises’ voluntary actions with regard to economic, social and environmental aspects that enable them to improve their competitive edge within a global sustainable development approach. In every context, there are various kinds of pressure such as legal, market and socio-environmental.

There are multiple definitions. In the various meanings and interpretations of CSR, there are still many things to cover; despite there are common elements that are based on reaching the collective well-being of the society.

What it means is to highlight is that from that starting point a new approach to CSR raises, considering the objective of sustainable development. Indeed, there is an inevitable interrelation among economics, society, and environment. That is shown as a warning that if countries do not take essential actions to reverse the existing levels of environmental pollution and the profound social inequity, so in the future there will be more poor people in the world. Poor people are creating a higher vicious circle of injustice, more pollution, and more poverty. The more impoverished people are, the more risk for enterprises in the world; there is no sustainability in economics when there is poverty. Therefore there will not be sustainability in businesses, and human development will be profoundly affected. University challenge considers that with comprehensive training that situation can be reversed.

It is imperative to highlight the real setting where the human being performs, according to Barry, Azqueta, and Field (2006) and Azqueta (2007), such background shows an explicit existing interaction between natural and human communities. From an environmental economy point of view, this interaction is affected due to economic activities that lack adequate ecological management performed by humans, giving rise to unbalance. The enterprises generate negative environmental externalities. What that capsizes is manifested as increased environmental pollution and natural resources depletion in the planet, due to the disproportionate use of water, soil, and energy. Trees are chopped continuously down, and woods are destroyed, the land is unsuitably used in activities such as livestock, mining, forestry without appropriate control; all sort of waste is thrown into water that minimizes its availability; many species are threatened due to indiscriminate exploitation; pollution, in general, is generated, and society is affected.

Thus, restoring the balance between man and environment is an essential challenge for entrepreneurs, because without stability there are not enough natural resources, environmental damage and lower and inefficient economic activity are generated (Epstein, 2009).

It is a circle because these problems affect people not only in their social, physic, and mental condition but also in their economy and ways of life in general, which restricts the sustainable economic development.

Higher Education, Social Welfare, and Corruption

According to the United Nations “the projections state that if we continue neglecting the serious environmental risks and the deep social inequalities, we will jeopardize the decades of constant development of most of the poor people in the world, and even the world convergence of human development might reverse” (IDH, 2011, p. 1).

Sustainable development is not only entrepreneur’s task; it starts with the training of professionals that will be managing different organizations where they will have to make decisions to change the current reality. The quality of their choice, it can be asserted, will largely depend on the quality training they have obtained.

Today it is impossible to be socially responsible if we do not aspire to sustainable development; this is, if our culture, our daily behavior, and our economics, environmental and social logics are not coherently aligned, we will be facing the challenge of depicting from our enterprises and organizations the ethics of social responsibility (FOMIN-BID, 2011, p. 9).

The definitions made on CSR, show the need for a change of a paradigm in the creation of the Enterprise. “*The Enterprise is the social institution that has a greater innovation capacity and therefore, to contribute to a positive change in the current economic, social and environmental situation of our planet; the greater power, the greater responsibility*” (Olcese, Rodríguez, and Alfaro, 2008. p. 15). The change involves integrating CSR into the culture, government, enterprise general and strategies, and operations. To do so, it is necessary to have socially responsible professionals that can cope with challenges.

The contributions, in that regard, from authors such as De la Cuesta, De la Cruz and Rodríguez (2010) point out that:

Academic institutions significantly influence the forming of attitudes and the behavior of business leaders through education, research, management development programs, business training and the disclosure of new values and ideas. Therefore, it is necessary to improve the training of future business leaders on social issues, human rights and environment protection (p. 199).

As with business approach, there is a variety of definitions on USR, though expressed in different ways, all of them come together for the attention of interests and/or society needs from the development of the primary university activity with the purpose of contributing to greater well-being. Despite the research on USR, fewer than CSR, essential contributions for the definitions of USR and the actualization in that regard have been developed. About the role of the university in society the Project “Construye País” (2004, p. 6) states:

With regard to its social mission, it is important to highlight the university should be concerned that transferring and creating knowledge is performed from the context it is immersed, so it contributes to the main element: the possibility to look society from outside, to understand it, to decipher it, to serve and guide it” [...] This is the first aspect of Social Responsibility of a university; disentangle these mechanisms and help to propose a social model and interface mechanisms that do not break our spirit but generate a fairer, less divided and more participatory society.

Then the teaching offered, must enhance learning strategies that provide students with experiences to be transferred in their future social practice. It is necessary to go from practice to theory and vice versa.

Higher Education, Social Welfare, and Corruption

There is then need to rethink university considering USR, that is rebuilding its mission in the sense of generation and training professionals with high human quality, able to contribute in a voluntary, conscious and humanist way to higher equity, democracy, and social well-being. If the concept of Corporate Social Responsibility (CSR) is not yet entirely agreed, the case of USR is not different, the diversity of definitions support that.

Even though a series of researches on USR has been presented, there is still a long way to go because it is not entirely defined, and as it has been mentioned before, the concept of USR is in an evolving process. A lot of contributions that attempt to determine USR might be creating a problem in the generation of consensus to apply actions on the line of USR.

According to Gaete (2011)

Its application in the university field suffers from shortages like those used in the business world: there is no clear or specific consensus of his meaning nor its concrete application, seen in actions or strategies that permit to get a socially responsible behavior unanimously accepted (p. 1).

This problem of focus diversity has more consequences in the university field, not only in the university endeavor but also in the demands that that knowledge society makes.

Social responsibility “*in the university field, it is a relatively new concept, because there is a confusion with the role, social per se, this sort of institutions have with a real concept of Social Responsibility*” (Alessandria, Martin, and Chiovetta, 2010, p. 2).

Within the variety of contributions, first, it is necessary to consider discarding the philanthropic definitions, as it happened in enterprises. It is needed to emphasize the cultural and integral sense of social responsibility to build from universities, consequently with social transformation required.

The concept of USR must reject any synonym of “social generosity,” “social charity” known as philanthropy. Therefore, it is necessarily a reflection on all the academic institution towards the social environment, an analysis of its responsibility, and also critical, its degree of guilt in the chronic problems of society (Vallaes, 2014, quoted by Larrán and Andrades, 2015, p. 10).

According to Gonzalez, Fontaneda, Camino, and Antón (2010) the USR is “*the capacity university must apply a group of principles and values, declared in its management philosophy, in the practice of its basic functions; management, teaching, research and production, and expansion, with a view to responding to the demand of interest groups in its environment*” (p. 28).

Given the range of definitions, USR approach is highlighted and takes as one of its basis the *stakeholder’s* theory within organizations. According to Larrán and Andrades (2015)

USR must be understood under the stakeholder’s theory, where its commitment with the satisfaction of needs and/or expectations from different interested parties in each of their roles (teaching, management, research) from three strands (economics, social and environmental). About these guidelines, USR must be conceived of as a model of direction and management of universities based on a series of social, ethical and/or environmental principles, which must permeate each of the principal university functions, all that from an idea focused on externalities that university activities produce in society (p. 103).

Higher Education, Social Welfare, and Corruption

In similar vein, the organization of universities in Chile, Project “Construye País” defines the USR as *“the capacity university must apply a group of principles and values, declared in its management philosophy, in the practice of its basic functions; management, teaching, research and production and expansion”* Project “Construye País” (2004, p. 14). It seeks to respond to the community it belongs to socially.

For UNED (2008), the USR is:

Offer education services and knowledge transfer following ethical principles, good governance, environmental respect, social commitment and promotion of citizen values, taking responsibility for the consequences and impact derived from its actions. It is supposed to report to the society the positive and negative progress of the commitments made with its interest groups and in the areas of human rights, environment, good governance and social responsibility (p. 3).

As it can be seen, there is not an agreed concept or worldwide accepted in USR. From a particular view, way apart from the various approaches, USR involves that the university assumes objectives that exceed isolated actions within its traditional work regarding the education of professionals and the development of research. With USR, universities tend to promote human values through its training and research processes, additionally. They develop social role trying to understand, from their primary work, social problems.

A definition of USR, as a contribution of the author, is completed as follows:

USR is responding ethically to the needs of the society in terms of an adequate academic and professional training with a human approach, preparing the population to have sustainable development opportunities and generate well-being for the nation, that in its independent freedom or in community endeavor, respects others’ interests and its own; this also involves taking care of the environment where it inhabits, as an inalienable way to ensure its own livelihood and other generations’.

The USR involves decision from the institution authorities, the establishment of commitment to the development of social objectives under an ethical behavior that generate benefits for the society. It requires an adequate organization connected to the institutional strategic plan, from mission, self-evaluation, communication, design, planning, training, implementation, control and continuous improvement.

Vallaes (2014) is very clear to state that “USR is not a free commitment between the university and the society, but a duty that promises, if the society assumes it, to go beyond its egocentric legal independence towards shared social autonomy” (p. 111).

At the university, as well as in an enterprise it is essential to establish differences between philanthropic actions and social responsibility. USR is not philanthropy, as it involves integrating management, training, research, activities of community engagement. While there are private social activities, the willingness of the different involved actors of the university, USR is not developed.

Within such framework, the need that USR develops under an approach integrated with the university strategy as an essential part of a whole. Without an adequate education that brings about change and the required transformation, as a result, there will be neither development nor well-being. The challenge of professional training involves remembering, as the center of all activities, the essential interests of the human being for his sustainable development, not particular interests. Ethics is engaged in activities to fight against corruption, the search for inequity and poverty reduction considering the needs of the human being.

Higher Education, Social Welfare, and Corruption**Problems and Disputes**

The pressures presented by the different agents are each time of more emphasis. For example, authorities create an institutional framework so that the educational institutions in Ecuador perform changes aiming at an improvement in the quality of the education according to the national reality and the international development (SENPLADES, 2013-2017). Students, on their part, demand a superior quality of education to obtain essential employability in the job market. Additionally, the society requires professionals with ethics and values, capable of solving problems of the nation in a socially responsible way.

According to CEAACES (Board of Assessment, Accreditation and Quality Assurance of Higher Education in Ecuador), there is a little connection between the work of universities and the market demand, as Ecuador shows “*little pertinence of the academic offer of the universities and polytechnic schools with the national and territorial necessities of development*,” (SENESCYT, 2017, p. 23).

The big problem is that universities have worked in a separate way, disconnected to their environment and to the social reality, focusing on a traditional education without considering the existent demands. This has restricted their contribution to the sustainable human development. By doing so, the university faces the challenge of covering the shortcoming of that insufficient connection between their acting and society and their real environment.

The situation in which the companies perform currently demands of the actions in terms of the SRE in order to be competitive. “*Society [...] has become more stringent, demanding from the companies a major commitment in their acting. For that reason, it is impossible to think about a corporal success in a long run avoiding social responsibilities*,” (Vaca, Moreno, and Riquel, 2007, p. 3130). The companies require professional leaders in that sense.

On the other hand, reducing poverty would only be possible by fighting inequity. This requires decisions of the people who are in front of public and private institutions. Once again, the requirement of socially responsible professionals is reflected.

In Latin America, the inequality of the distribution of income was maintained in 2015 on a similar level as observed in 2014 (CEPAL [UNECLAC in English], 2017, p. 13). The United Nations Economic Commission for Latin America and the Caribbean [UNECLAC in English] postulates the need for a new development style that puts equity and sustainability in the center and has shown repeatedly the importance of reducing the high levels of inequity that affect the countries of Latin America and the Caribbean (CEPAL [UNECLAC in English], 2017, p. 18).

Several international institutional reports show the outcomes of irresponsible actions, which end up affecting the worldwide population in many forms. There are problems regarding precarious working conditions and infringement of the population's rights, high unemployment rates, and informal jobs, above all among the young people. This turns into a challenge as the young people are the critical factor for economic and social progress. Casual employment shows implicitly the fact that there are precarious working conditions, with meager incomes, with little or no social protection, and without access to labor rights.

However, there have been improvements in the human development in the last 25 years according to the Human Development Index (IDH, 2016):

Higher Education, Social Welfare, and Corruption

Yet human growth has been uneven, and human deprivations persist. Progress has bypassed groups, communities, societies – and people have been left out. Some have achieved only the basics of human development, and some not even that. And new development challenges have emerged, ranging from inequalities to climate change, from epidemics to desperate migration, from conflicts to violent extremism. (p. 1).

If the inequality and environmental problems are not countered, progress towards a sustainable human development will not be possible. Although official local reports show that the social panorama in Ecuador has improved for the last ten years, this is not enough. Problems with poverty and inequality are still entirely unresolved.

In the context that companies and society in general encounter, universities cannot be disconnected to a role of education and research that aims at providing contributions to solve the ongoing issues.

There are several fronts where universities have to act. They need to move strategically, change the traditional forms of management and of decision-making. Nowadays, they face a dynamic and reform-demanding environment, and that implies the need to innovate their types of governance and educational strategies.

It has to be acknowledged that the social responsibility is related to the sustainable development, and is an indispensable source of social progress. Due to different pressures, social responsibility arises as an unavoidable priority.

In fact, 14 years ago, when the objectives of the millennial development were established, which was a compromise between 147 nations to eliminate poverty, it was explicitly set that there would be no progress if there were not any sustainable economic growth. In that sense, the human being is the center of attention in all responsible actions on behalf of the corporal agents, of the society, and of the Country (IDH, 2003).

Despite this compromise, the acting of the university has been kept behind. Until October 2015, only 68 Ecuadorian institutions stuck to that global pact. Among those organizations, just six universities out of 59: Graduate School of ESPOL (Polytechnic Higher School of the Coast), Saint Spirit University, Del Pacifico University, Casa Grande University, De Las Americas University, and Technological Equinoccial University (Global Compact Network Website in Ecuador, 2015).

Evidence still shows an essential economic and social inequality in Latin American countries, which prevents reaching an authentic development. According to the Human Development Index (IDH, 2011), Ecuador had an index of 0.72. In 2016, it had an index of 0.739 (IDH, 2016). Although in the last five years the social aspect has shown a little improvement in that indicator in the country, there are still essential and structural aspects that are missing that have to be overcome to achieve positive results that are permanent, and not only circumstantial.

According to the UNECLAC, it is a fact that inequality in the distribution of income in Latin American countries has remained among the highest rates globally. In Ecuador, the Gini coefficient is evidence for this with 0.46, showing a high level of inequality (BCE, 2011). It should be said that, although Ecuador shows social indicators with a little improvement in the last years, the variability of these do not guarantee a sustained growth and development in the populations' well-being, even more, when its economy keeps a high dependency on exportations of traditional goods without added value.

Finally, it is important to point out that Ecuador's economy maintains a high dependency on exported traditional good without added value. The economic growth rates of the Central Bank of Ecuador (in Spanish, *Banco Central del Ecuador*) show how its averages have varied in the past 40 years, but with a

Higher Education, Social Welfare, and Corruption

decreasing tendency. Thereby, in the 70s, the average growth of the GDP was 6.7%. In the decade between 2000 and 2010, the growth average was 4.4%, while between 2010 and 2016 the average rate was 3.5%. These data were calculated based on data from the provisional National Accounts of the Central Bank of Ecuador (BCE, 2017). The yearly GDP growth of Ecuador in 2016 was -1.5%. As it is noticeable, there has been no meaningful growth over several decades in the Ecuadorian economy.

The above mentioned could increase the for good reasons so-called vicious cycle of the economy, of stagnation, where growth is moderate but with concentration and inequality and, for this reason, with significant poverty. In this context of low and volatile growth, high inequality, essential levels of poverty; it is relevant to mention that the participation of the universities is fundamental to achieve the required change by educating professionals who always act in favor of the sustainable human development.

In accordance with the UNESCO (2014):

Political agreements, financial incentives or technological solutions alone do not suffice to grapple with the challenges of sustainable development. It will require a wholesale change in the way we think and the way we act – a rethink of how we relate to one another and how we interact with the ecosystems that support our lives. All individuals and societies must be equipped and empowered by knowledge, skills, and values as well as be instilled with a heightened awareness To create a world that is more just, peaceful and sustainable. This is where education has a critical role to play. Education for Sustainable Development (ESD) is about shaping a better tomorrow for all – and it must start today. (2014, p. 8).

In this sense, the university must present educational proposals that meet the necessities encountered by society and that, at the same time, generates and delivers professionals with a human quality. Not only professionals that the country or a part of a community requires, but also those needed by the whole nation.

In this education, it is crucial to promote the theoretical development, through research, but also the practical development. That is, the knowledge of the know-how needs to be encouraged. This is a new approach. A challenge for the university that combines theory with practice. Both are of complete utility to create well-being within society.

In this way, the university has a leading role as an educator of change agents; ensure to achieve a human behavior in their socially responsible students. If values are taught, there will be no corruption. If justice is explained, there will be no inequity or a significant imbalance. If they are not only shown to be professionals but also to be human beings and responsible professionals as part of society, sustainable human development will be majorly provided.

Question

Is the USR the same in the HEI in Guayaquil? University commitment must be to reach holistic education for its students with social responsibility, and in this way clearly, contribute to the sustainable and equitable development of the society. Our hypothesis is: “*USR, considered as the integral responsible management of impacts generated from university towards the various involved actors and the society, is underdeveloped in universities of Guayaquil.*”

Higher Education, Social Welfare, and Corruption**Institutional Framework**

The economic model for Ecuador in the XXI century is presented under the Constitution of the Republic of Ecuador in force since 2008. A systemic vision of development is shown, where the primary objective is Good Living. The general principles that rule this development are the organized, sustainable, and Dynamic set of systems: economic, political, sociocultural and environmental (Constitution of the Republic of Ecuador, 2008). The rights that all human beings have as equality of opportunities, growth and dignified development. Then development involves building a fair economic, democratic, productive, caring and sustainable system. Such construction is everybody's current challenge, including businesses and universities.

The primary functions are established under the same framework in Art. 350 (p. 158) which states that:

Higher education system aims at academic and professional education with scientific and humanist vision; scientific research and technology; innovation, promotion, knowledge and culture dissemination; building solutions for the problems of the country, in connection with the objectives of the development scheme.

Article 27 of the Constitution states that education will focus on the human being and guarantee his holistic development, under the framework of respect for sustainable environment and democracy rights, it will be strictly participatory, intercultural, democratic, diverse and inclusive. It will encourage gender equity, justice, solidarity, and peace; it will stimulate the critical sense, art and physical culture, individual and community initiative, and the development of skills and capabilities to create and work.

The current approach of what university is that education is considered an activity related to development of professions towards society engagement for the solution of problems of the human being as the focus of action.

These reforms would make higher education institutions contribute to the education of socially responsible professionals, with more science, technology, and innovation; they would provide to reaching the objectives of the National Plan of Good Living, generating skills, capabilities, and competencies that would help to the generation of more significant growth, economic and social stability of the population.

UNIVERSITY SOCIAL RESPONSIBILITY IN UNIVERSITIES OF GUAYAQUIL

The challenge is that the universities' main activity should contribute to the achievement of the country's strategic objectives. However, how can they contribute to the goals presented for the Well-Being?

The previously obtained results showed that the universities were disjointed from the social demands. Their educational offers were concentrated on few fields of knowledge, focusing on the field of social sciences with a big emphasis on administrative programs, neglecting the areas of hard science, engineering, innovation, and technology thoroughly. In 2009, there were 71 universities in Ecuador, but after a process of quality assessment, carried out by the National Board of Assessment and Accreditation of Higher Education of Ecuador (CONEA, in Spanish), and then by the Board of Assessment, Accreditation and Quality Assurance of the Higher Education (CEAACES, in Spanish), many of them were closed.

There are 59 current universities and polytechnic schools with over 500,000 enrolled students. Four of those institutions of higher education are new, created by the government as a strategy to contribute

Higher Education, Social Welfare, and Corruption**Table 1. SRU in Universities of Guayaquil, Ecuador**

Categories	Variables	Indicators	UG	UCSG	ULVR
MANAGEMENT	ETHICAL, EQUITY, NON-DISCRIMINATIVE MANAGEMENT	USR commitment and SR declaration in mission and vision	YES	YES	YES
		Scholarship regulations	YES	YES	YES
		Inclusive policies	YES	YES	YES
		Promotion of USR campaigns	NO	NO	NO
		Existing Department responsible for USR	NO	NO	NO
	WORKING ENVIRONMENT	Infrastructure	YES	YES	YES
		Services	YES	YES	YES
	PERSONAL AND PROFESSIONAL DEVELOPMENT	Human talent training	YES	YES	YES
	ACTOR PARTICIPATION	Governmental actors' participation	YES	YES	YES
	SRU COMMUNICATION	SRU memoirs	NO	NO	NO
		Exclusive website for SRU information	NO	NO	NO
		General report, not of SRU	YES	YES	YES
	ENVIRONMENTAL CARE	Environmental report	NO	NO	NO
		Implementation of a environmental management system	NO	NO	NO

Legend: UG (University of Guayaquil), UCSG (The Catholic University of Santiago de Guayaquil), (Vicente Rocafuerte Secular University)

Source: Adapted from websites of the Universities of Guayaquil.

to the before-mentioned change in the productive structure and transformation for the country's socio-economic development.

In the following, an analysis of a general outline of the USR in the universities of Guayaquil is presented, performed by using the online information of each institution, considering some of the critical variables and indicators for the substantial function in Management (See Table 1).

A general vision is about verifying the presence of the USR in the principles that norm the work of the institution, such as their mission, declared values of social responsibility, ethical codes, and politics. In these respects, the three universities present statements that one way or another alludes to the existence of social responsibility within the organization. This does not necessarily imply that the USR is implemented in all their aspects. The analysis showed the presence of principles, missions, and values that are stated in relation to the USR.

Higher Education, Social Welfare, and Corruption

Perceptions of the Stakeholders of the USR in Universities of Guayaquil

Primary data were collected in the study units in order to obtain an opinion of various agents of the USR in universities of Guayaquil and implementation strategies of the USR. Surveys using the Delphi method were applied to 43 agents involved in three universities of Guayaquil, such as the University of Guayaquil, which is public, and two co-funded institutions: Catholic University of Santiago de Guayaquil and Vicente Rocafuerte Secular University. Two rounds of the survey were conducted.

The following shows the obtained results. In general, the participants of the survey perceive that there is a very low USR in the institutions of higher education of Guayaquil. They think that only little is known about the topic and that there is no thoroughly developed culture in that sense in the universities. On a Likert scale of 5, over 80% of the respondents assess the USR of the universities of Guayaquil under 3. The average of their responses is 2.56 (See Figure 1).

SRU Management

In general, consistent with the previous result of low SRU, the management of the university with social responsibility shows flaws (See Figure 2). Although the commitment to the social responsibility is stated in the institutional mission, the respondents claim that it is not taken to practice. All actions of USR management are rated below three on the Likert scale. This does not mean that measures in the sense of USR are not taken. It shows that the perception of the respondents is that efforts are insufficient to be rated as entirely responsible. For example, reports are presented, but they are not updated, incomplete or not accessible and not directly focused on the USR.

Isolated actions are carried out, such as environmental care campaigns, but there are no implementations of an integrated system for strategical planning. The universities do not have a department exclusively in charge of the USR management. Nevertheless, some private determined actions are acknowledged to be carried out in the sense of the USR.

In the case of the Catholic University of Santiago de Guayaquil, there are inclusive policies, a department of student well-being, a university ministry, radio and TV programs, scholarships, and activities involving the community, among others. However, the respondents consider there is a lack of development of the topic USR as a culture within the university and not only as actions that currently appear isolated in the view of the actors.

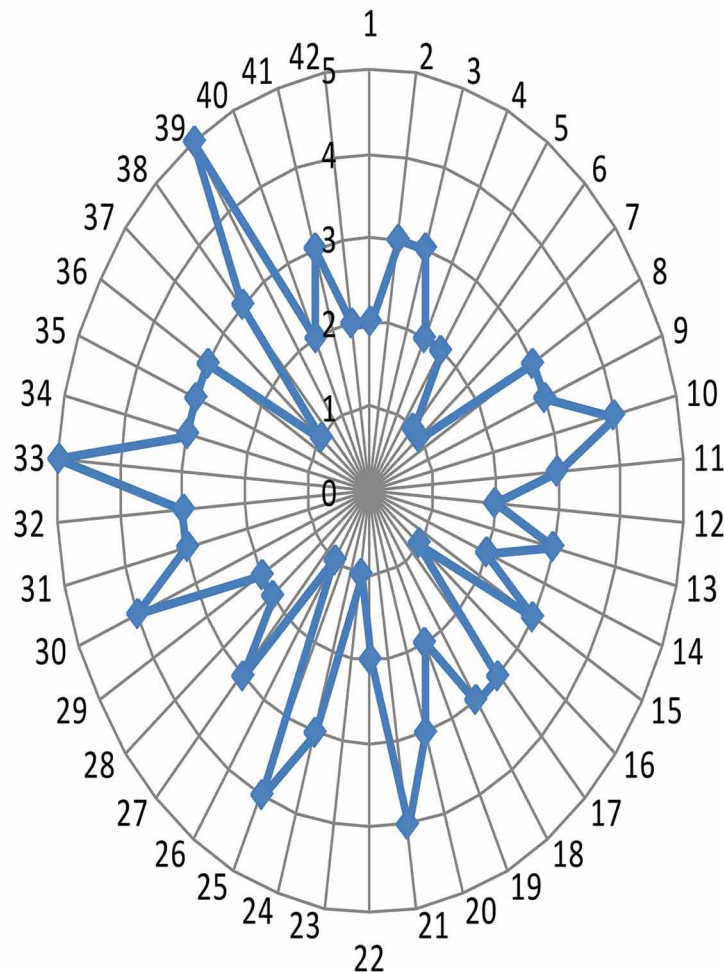
Education With USR

In respect of the variables related to the teaching with USR, the respondents consider that the integration of subjects pertaining to social responsibility in the curricula is what mostly has been implemented. Although this is the most relevant part of their answers, it is not sufficient as their rating on a Likert scale of five is only three (See Figure 3). They think that this area is a big challenge in the university reforms with the purpose of performing significant contributions to the transformation of society to be fairer and equal.

The training had to be planned according to the function of real demands within society and constructed based on the objectives of the country's development. The development plan for Well-Being 2013-2017 shows that:

Higher Education, Social Welfare, and Corruption

Figure 1. The Social Responsibility in universities of Guayaquil
Source: Adapted from Delphi surveys of the SRU in universities of Guayaquil.



The sustained planning of the training of human talent, tied to the increase of educational quality on all levels and modalities, will create in the long run significant capacities within the population and considerable work opportunities linked to the social transformation of the country. In the same way, the sustained improvement of the quality of the educational system will create not only human talent, but also holistic human beings for whom knowledge shall be mainly a process of emancipation and creativity (p. 69).

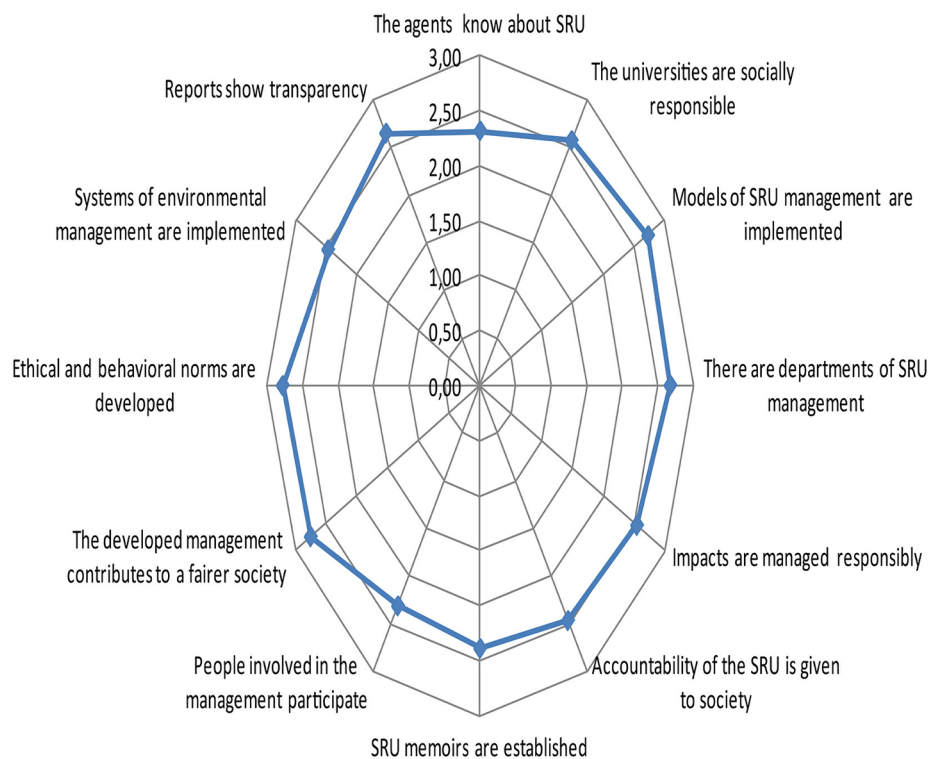
Research

One of the areas within which most of the universities of this country have evidenced to have a significant flaw is research. This is also confirmed in the answers of the survey respondents (See Figure 4).

Higher Education, Social Welfare, and Corruption

Figure 2. Universities managed with social responsibility

Source: Adapted from Delphi surveys of the USR in universities of Guayaquil

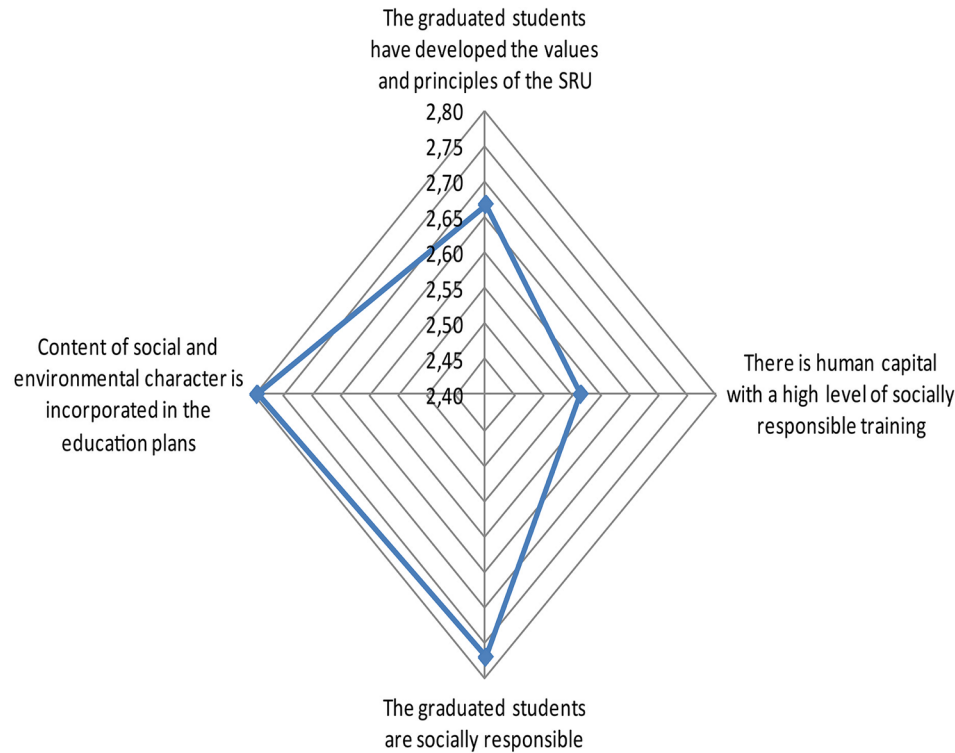


However, it needs to be pointed out that the universities are making a significant effort to overcome this negative reality. The interest and actions taken in this sense are evident. Nevertheless, there is still a long way to go.

This topic has been very much neglected in Ecuador. It has only been for the last few years that the national politics have shown to start promoting research and development. It can be said that this carelessness has been one of the reasons why the universities also neglected this function that requires vital funding not only public but also private.

R&D investment in Ecuador:

In 2007 it was the 0.23% of the GDP, while two years later, in 2009, it was the 0.44% in relation to the GDP (MCCTH, 2013), which means a considerable increase in a short time. However, (...) this investment is inferior to the regional average of 0.66% and much less than in other countries such as Brazil or Spain, which surpass 1% of the investment in relation to the GDP, or countries such as Germany or the United States which approach 3% (Development Plan of Well-Being, 2013-2017, p. 67).

Higher Education, Social Welfare, and Corruption**Figure 3. Training in socially responsible universities***Source: Adapted from Delphi Surveys of the SRU in universities of Guayaquil***Connection With Society**

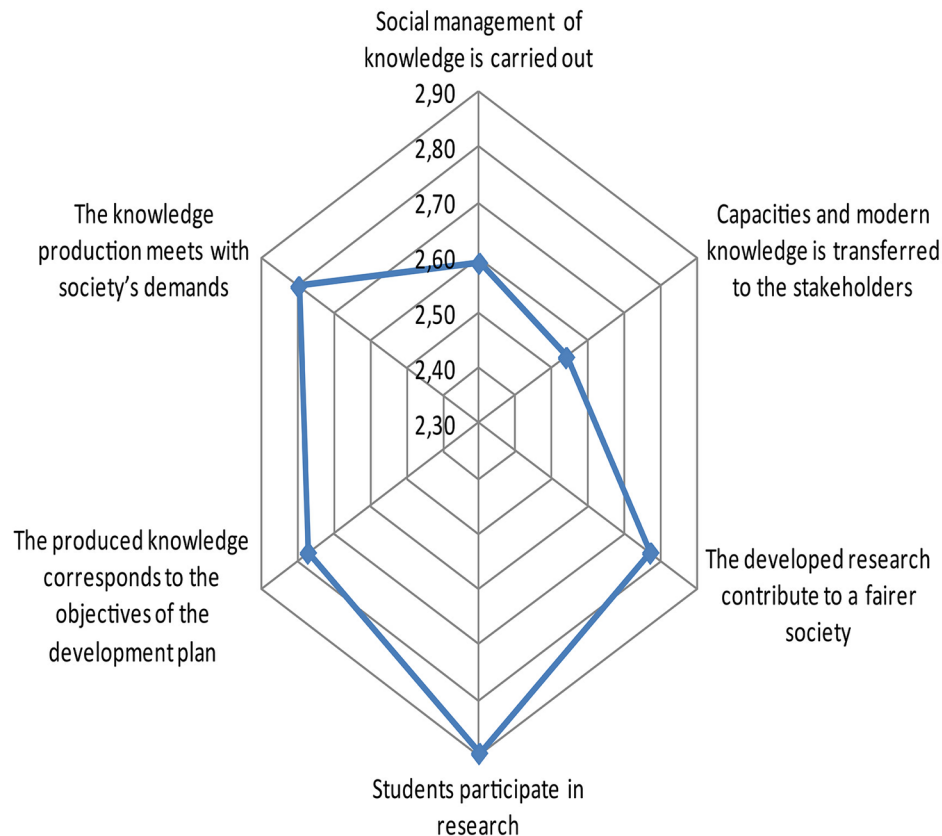
The weakness of the SRU is also reflected in the forms of attachment of the universities to society. The respondents show their broad agreement with this in their answers in which they teach the disconnection between the actions taken by the university and the real demands of the society (See Figure 5). The results show the interference between the university and the community as perceived by the surveyed actors.

According to the respondents, universities are not linked with society since they do not know their realities and specific problems; the learning process is not fully connected to the setting's problems where they happen. They work as islands in the society; stakeholders do not participate actively in social responsibility aspects; very few debates are held with regard to treating problems, and that is important to the community and as a consequence solution are not even given (for example to environmental issues). Due to the weak link with the society, the respondents claim that universities contribute very little to making a fairer society and with opportunities for better well-being. It is necessary to create networks with other institutions with the objective of promoting the development of USR and reverse current reality.

Higher Education, Social Welfare, and Corruption

Figure 4. Research in the socially responsible universities

Source: Adapted from Delphi surveys of the SRU in the universities of Guayaquil.

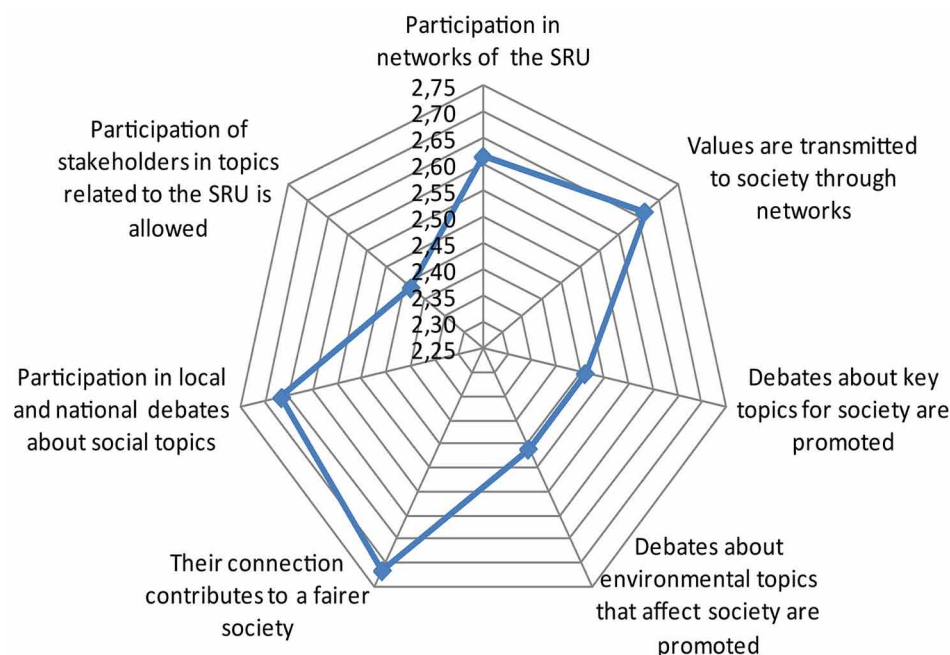


SOLUTIONS AND RECOMMENDATIONS

It is clear that the role of the university in the development of society is essential. It is required then universities committed with people, that train upright professionals with ethical values, concerned about applying their knowledge to solve problems of the society they live in, in pursuit of contributing to the well-being of everybody and available to sustainable development.

That also implies managing a university in a balanced way based on the economic, social and environmental objectives. This means that within the management of universities there should be aware that the delicate task of learning and of knowledge generation is not market service, where there is a high risk of depriving a large population of the youth of knowledge, carrying out consequences when facing a changing environment and many requirements in a new industrial revolution.

Universities have many challenges. It is fundamental to start carrying out self-assessment on the SRU, later to generate commitment with the SRU and put it into practice with the participation of its diverse actors in order to legitimize it under a model process of SRU management. In addition, the formation of networks of SRU in local, regional, national and international universities should be promoted with the purpose of trying to apply one voice only and to compare the results to assess progress.

Higher Education, Social Welfare, and Corruption**Figure 5. The connection of the universities are socially responsible***Source: Adapted from Delphi surveys of the USR in universities of Guayaquil*

Research groups should be implemented regarding topics such as social responsibility and social responsibility of universities. SRU reports should be compiled as a starting point for SRU transparency and as a mean of commitment to improving every year with contributions, results from debates and participation in networks to be formed.

Although those lines could be read with a critical eye, motivational means should be implemented to encourage actions to ensure that each University of Ecuador has its own “project of the SRU as part of their strategic planning,” articulated from its work with training and research to the social demands and to the strategic objectives of this country. The existence of an SRU project that reacts to the management of social impacts on behalf of the university is fundamental.

As a result, from the respondents’ contribution, the need for implementing a system of SRU management in the universities is suggested. Additionally, the central fact of defining an institutional commitment regarding the social responsibility of universities stands out. The creation of a culture of social liability based on the definition of compromise is essential. The participation and integration of the agents who will be able to propose improvements in the SRU should be promoted as a priority for the institution in each area.

The surveyed respondents also reach the conclusion that necessary resources should be assigned so that the planning is enforced and that the SRU performance is permanently put into action.

Finally, it is crucial to train and educate the people involved in the SRU in order to guarantee an appropriate implementation of an SRU model. Variables and indicators should be defined to measure the identity and to carry out monitoring of the development within the field of the SRU.

Higher Education, Social Welfare, and Corruption

FUTURE RESEARCH LINES

It is considered necessary to progress with the analysis and planning of innovative forms to contribute to the work at universities to sustainability. Creative and efficient means should be developed with academic work to achieve an education of participative citizens committed to the local social issues and with the national and international reality, i.e., professionals with human values. Forms of concrete and direct structuring should be proposed. These types should allow inserting the university in the environment in which it develops in a socially responsible way.

CONCLUSION

The society is afflicted with the same socioeconomic problems mostly due to a selfish and self-centered human behavior, which concentrates on their private interests, forgetting that they live in society. Human beings make decisions that end up affecting the well-being of the nation. Otherwise, with the professionals that have been given to the community, it is not explained why there is so much poverty, inequalities, and misery. It is because knowledge has not been used correctly, or has been used to benefit the few at the expense of the majority.

The theoretic review regarding the SRU highlights the responsibility of the university towards the society. This society diverted with socioeconomic and environmental problems is mostly the result of the lack of education of professionals with human quality and responsiveness towards the issues of others. Human beings are taught in Institutions of Higher Education on a professional level, acquiring theoretical, technical and scientific knowledge and developing technical and technological abilities to defend themselves professionally with a relentless competence of survival and egos that subsist on the markets, but they do not prepare themselves to live in society. The educational institution is to blame for this as it takes them in and educates them. Consequently, the universities have a big responsibility with injustices, inequities and the poverty that the population in the world is suffering.

Within this context of accusation and responsibilities led toward the universities, the social responsibility of universities stands out.

The theoretic progress shows in general agreement that the university exists in order to educate and create knowledge that contributes to the development of societies. Moreover, this labor has been completed. However, what is added is that the before-mentioned real contribution should be to the fair, equitable and sustainable development of societies. The latter has not been fulfilled, thence the challenge of the SRU.

At Guayaquil, there are universities that show actions of social responsibility, but in a separate way and not as an integrated part of their strategic planning and organization. The SRU, from the point of view of the surveyed respondents, has not developed in the universities analyzed. Although the universities show a vision, mission, values, and statements directly related to the SRU, in reality, there is no evidence of results regarding this topic. The practical implementation of the SRU is not visible according to the involved stakeholders.

The challenge of creating citizens endowed with ethical principles committed to the building of a world full of peace and well-being, where human rights are respected, and the human being is the center of all action, prevails.

Hence, the university appears as a strategic and critical axis for a fair and solidary development of the nations. If the university does not perform proper management of its impact towards its internal and

Higher Education, Social Welfare, and Corruption

external actors, then there undoubtedly will be no mentioning of a just development or of a reduction of poverty, and the inequity and corruption will persist under modern forms.

It is necessary to implement actions aiming at finalizing the implementation of an SRU model in universities, beginning with the creation of a culture and corporal commitment with the SRU.

In conclusion, it is established that the change in today's society is possible. The university can benefit from the enormous force provided by the central activity that it develops: educating professional, responsible, and very human men and women, as well as producing and presenting to the socially useful knowledge to build its well-being without affecting the sustainability of neither the environment nor any agents.

Therefore, it is required to provide the students a wholesome education so that they manage their professional lives considering in every moment and action the human being as the center of their efforts.

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*Higher Education, Social Welfare, and Corruption***KEY TERMS AND DEFINITIONS**

Backwardness: The difference between society's reality and the aspects treated by higher education institutions (HEIs).

Connection: Effective analysis and attention to social problems where HEIs locate.

Decisions: Actions taken by professionals in a situation that they try to solve. They are expected to be socially responsible.

Equity: It implies non-discrimination with the inclusion of all people without distinctions between race, social classes, or any other type of the development of capacities. It is promoting justice-based and solidary actions for the weakest, and for those who have no opportunities. It requires temporary assistance and further efforts to developing their capacities.

Ethics: Norms that guide a behavior based on values and justice.

Human Development: Actions and policies aiming to achieve well-being among the general population, not only in a group. This means that everybody has access to education, health, housing, essential services, and all their rights are respected.

Pertinence: Educate professionals in agreement with the populations' needs and aligned with the primary objectives and problems of the society, of the country.

Social Responsibility of Universities (SRU): The responsibility that the universities have mandatorily with the society to provide professionals with high ethical and human values, beyond the scientific, technical knowledge.

Sustainable Development: The right and responsibility of all human beings to take care of the world they live in and in which their children, grandchildren and other generations will live in.

Chapter 4

To Teach Leadership Ethically or to Teach Ethical Leadership? Leadership Education in the Polish Executive Education Context

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ABSTRACT

Ethical leadership is a cornerstone of a socially responsible organization. However, organizations operating in transition economies experience a confusing mix of old and new institutional pressures. Hence, ethical leaders face a moral dilemma: whether to follow all laws, rules, values, and beliefs or to purposefully disobey some of these. If they make a wrong choice, their company will suffer a competitive disadvantage. Leaders who enroll in executive education programs receive mixed advice. In this chapter, the authors analyze the challenges of ethical leadership education in the context of the Polish economy.

INTRODUCTION

The desire to succeed is what tends to push people at different stages of their career to strive to be promoted. With leadership positions comes prestige, recognition, fulfilment, money, and power. When asked who they want to be after graduation, students, without hesitation, answer “CEO.” Therefore, it comes as no surprise that leadership education worldwide is booming, with programs and courses offered at all levels of education and in various formats. At the same time, the role of organizations and their influence are greater than ever. They have such an impact that one unethical decision can lead to a world financial crisis or world scandals such as in the case of Enron. But they also have a positive effect when they create trends, beliefs, lifestyles and educate societies on what’s good or bad. One way

DOI: 10.4018/978-1-5225-5837-8.ch004

To Teach Leadership Ethically or to Teach Ethical Leadership?

or another organizations essentially filled in the role of religious institutions, which started to lose their audience. That is how leaders became ‘gods.’

Now, our mission in academia is to understand the range of this phenomenon and try to shape future leaders’ ethical standards and codes of conduct. We need to do that to assure a stable, incorrupt and prosperous future. The question, however, remains: ‘Can we as educators teach students to be socially responsible leaders? What is the role of universities in equipping business leaders and shall we focus on theories or more on skills? Is it possible to become a ‘successful’ entrepreneur, CEO or manager and be mindful of moral standards and ethical codes of behavior at the same time and at what price?’ The general belief amongst people prevails that such programs are too idealistic, that they sell utopian imagination, which is inapplicable for real-life scenarios. On the other hand, ethical business leaders are perceived as good PR people and treated suspiciously. That is precisely why MBA students are skeptical. Nonetheless, the best business schools such as Harvard introduce entire programs on business ethics. In Poland, we still tend to be fascinated by the US example and try to follow these ideas. That is precisely how ethical education gained momentum.

However, what works in business environments with strong formal and informal market institutions, might not work in other contexts. Transition economies, such as Poland, Russia, Brazil, or India, present an interesting challenge for leadership education. Going from a more centrally planned economic system to (more or less) a free market economy resulted in a complex mixture of formal and informal institutions. When the rules of the game are so confusing, leaders (and followers) have been found not to follow some norms for the sake of effectiveness and efficiency. While such behaviors would be penalized by share- and stakeholders in markets with more developed formal and informal institutions, in transition economies they might go unnoticed, thus creating a further moral hazard for managers. If most competitors do not follow some rules, the ethical managers always obeying them put their companies at a constant competitive disadvantage.

What is a serious moral dilemma for managers, also creates a critical challenge for universities and business schools. Traditionally, the role of a university is to create and disseminate knowledge, but more recently it is also to prepare students to successfully enter the job market after graduation. Well established university rankings and accreditation committees assess universities on the ability of a student to find a job right after graduation as well as the salary offered to such a graduate, so the pressure is there. This role leads to an ontological paradox: shall the business school infuse its students with ideas of ethical leadership or teach them how to be effective, yet sometimes unethical, leaders. The paradox might not be clear in the case of public schools, which should shape future leaders to serve the society at large, but becomes more apparent in executive education with tuition fees usually paid by students or their companies. Should we as leadership instructors teach executives to be ethical leaders while they expect to be taught how to be effective leaders?

In this chapter, the authors discuss the challenges and potential solutions to ethical leadership education in the context of transition economies in the example of Poland. The authors start by providing the cultural background and follow it with a broader discussion of leadership in Poland. Then the authors discuss the challenges of ethical leadership education and offer potential solutions.

To Teach Leadership Ethically or to Teach Ethical Leadership?**CULTURAL AND ECONOMIC BACKGROUND**

Around the globe, people face the very same dilemmas when it comes to ethical leadership. This chapter offers several insights on ethical leadership in Poland, a country that finds itself in the heart of Europe. A country with a great, yet tragic history that shaped leadership styles, morality and social perceptions. A vivid ecosystem that creates opportunities for business to flourish and where enterprise birth ratio is above the European average (Eurostat). Poland is believed to be an extremely religious country, characterized by traditional and conservative values and with family at the core of society. In other words, Poland can be characterized generally as a culture of semi-relationship focused, formal, polychronic and variably expressive (Gesteland, 2000). After the collapse of communism in 1989, Poland has experienced the most significant growth when compared to any other European Union country (Piątkowski, 2013). According to the authors' research, Poland became not only the fastest growing economy amongst countries at similar development stages, but also the only one that survived the recession of 2009 and is constantly strengthening the position of the entire Central and Easter Europe region. *As a result, in 2013 Poland has achieved levels of income, quality of life, and well-being never experienced before* (Piątkowski, 2013: 2). The economic advancement of the entire nation, the author continues, is only possible when full adaptation and integration with such standards is achieved. The second phase was composed of simultaneous creation of new criteria for equilibrium and the desire to meet them. That has led to a monetary and budget policy, along with building capital market, a financial- and banking system, which enabled capital flows. But the policy changes were not the only reason for the economic success. Micro entrepreneurs played an important role, too. As Koźmiński (2016) puts it - they contributed to an open society, which can learn from European- and world practices and standards on human rights, political, cultural, and economic freedoms.

Although after surviving the crisis, Poland was named the leader in CEE region and one of the most important players in the EU, it is exposed to inner and outer turbulences, such as unstable political situations, new regulatory frameworks but also the migration crisis in EU and the war in Ukraine. As of 2016 Poland's gross national income per capita equals \$12,372 and the current growth at 2.7%.

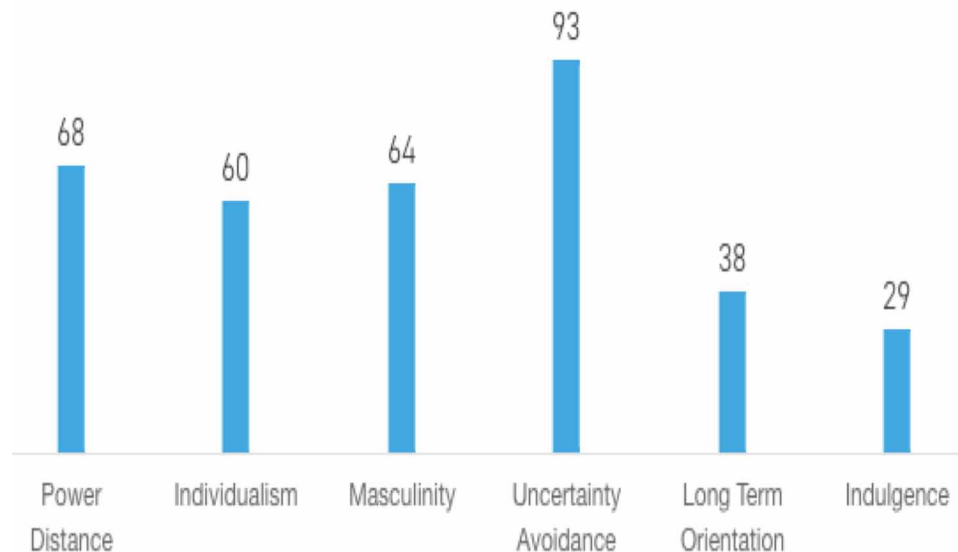
Therefore, the contextual factors influencing leaders have been dynamically changing for the past decades. There are still five major trends that fundamentally shift the perspective of ethical leadership education from a vivid academic debate to the real business needs in Poland. First, Poland found itself in a very dynamic, fragile and globalized business environment, which calls for effective leadership to be able to compete on such a scale after joining EU in 2004. Given only 28 years of democratic history- there was not enough learning as to how to deal with such processes. Furthermore, unfortunately in this part of the world (post- communist heritage) 'effective' still means authoritarian and ruthless, which is a prevailing image of 'success' in many people's minds. Second, Poland is number 3 in EU when it comes to aging society projections with 64.6% of people above 65 as a percentage of the entire population (Reuters, 2013). That means that the 'old boys' mentality is very much present in the corporate elites as there are not enough educated and bright people to take over their leadership roles. Third, related to the previous point, Poland suffers from one of the highest rates of job emigration – with over a million Poles in the UK, Germany, France, and others. The uneven talent distribution requires companies to hire foreigners, who come from places such as Ukraine, China or India, with naturally very different ethical and cultural backgrounds. Obviously, people from different countries think and act differently, what changes the corporate culture from within. Forth, amongst Warsaw Stock Exchange listed companies females make up only 15.2% on boards, 7.8% in board chair positions, and 6.3% in CEO positions (De-

To Teach Leadership Ethically or to Teach Ethical Leadership?

loitte, 2017), which is much less than OECD average. Interestingly enough, Poland has at the same time one of the most opportune working climates for females- number 5 in the world (The Economist, 2016). This very fact means that there are issues present. And finally, top leadership positions are dependent upon the broader political context in Poland, when new parties win elections they change the majority of Top Management Teams in the state-owned companies. That hinders the long- term planning and always raises questions about nepotism, equal opportunities, and corruption. Naturally, phenomena such as rapid social changes lead to a lack of moral authority, especially in business. Media created an image of a successful boss as a white male, in most cases a focused, intolerant psychopath and such success stories are widely promoted. Therefore, it is difficult to describe a unique Polish leadership style, as this style is still evolving. Strongly bounded by socio- political and economic dimensions. Neither Polish leadership research nor international research on Polish leadership style has a long history, but recent comparative studies have shed some light on the direction that Polish leadership is taking. This chapter covers general characteristics of Polish culture and its implications for national preferred leadership styles. It also describes important challenges facing Polish leaders and an overall conclusion about the nature of Polish leadership.

The culture of Poland is analyzed with two cultural dimensions developed from the GLOBE research project and two from Hofstede's study. Poland received an uncertainty avoidance score of 4.75/7 in the GLOBE study and is thus considered as having a relatively high degree of uncertainty avoidance. Formal and informal rules, and codes are important elements of most organizations and institutions; therefore (business) leaders are expected to be administratively competent. It is common for leaders to capture procedures within regulatory frameworks, often leading to their proliferation. As a result, many provisions are often found unnecessary and are commonly ignored. Leaders may find that subordinates both desire regulatory frameworks, yet also ignore them. Finding the right balance between enforcing crucial regulations and the right dose of leniency, at times, is a critical challenge for leaders in Poland. On the dimension of institutional collectivism, Poland scores 4.24/7 and on in-group collectivism- 5.69/7. These scores indicate that groups are important (family in particular), but that the individual does not usually sacrifice his or her aspirations for the group's interests. It is also worth noting that Polish organizational cultures commonly consist of elements found in both collectivist and individualist cultures. On the one hand, Poles tend to be willing to cooperate and participate in team activities, but without simultaneously abandoning their independence. Moreover, individuals tend to value their own well-being and self-image (as employees) more than the good of the company as a whole. In order to form an effective team in Poland, leaders should pay extra attention to the team building stage and may expect it to last longer than in some other European countries. Figure 1 presents the characteristic of Polish cultures as measured with Hofstede's cultural dimensions.

Poland is considered a country with relatively high Power Distance, with a score of 68/100 in Hofstede's study. Although leaders do not generally enjoy widespread respect to such an extent as in most Asian countries, it is nevertheless unacceptable to engage in an open and direct dialogue with those placed higher in the hierarchy. The status of the leader is often based on official structure and hierarchy, not earned through knowledge, skills, and competencies. This relatively high level of power distance implies that leaders could find it challenging to empower subordinates to make decisions on their own. Indeed, empowerment has been shown to have no effect on job satisfaction in Poland. When it comes to Masculinity, Poland scores 64/100 and is thus considered to be a masculine society. The high score indicates that Polish society tends to be driven by the need for achievement and success. Managers and

To Teach Leadership Ethically or to Teach Ethical Leadership?*Figure 1. Poland on Hofstede's dimensions**Source: <https://www.hofstede-insights.com/product/compare-countries/> (accessed on October 15th, 2017)*

leaders tend to be expected to be decisive and assertive. Competition for a job and organizational position is seen as natural.

This short cultural snapshot of Poland paints an image of a workplace, where unfortunately workers are not likely to stand for themselves, which minimizes whistle blowing, and increases power abuse as well as mobbing. Companies develop rules and procedures which are detached from reality and are there just to cover particular interests. Centralization of power translates into a lack of responsibility among the team and deep dissatisfaction with a strong hierarchy ladder. As strongly competitive individuals, Poles may fall into a trap of an unethical corporate race. Overall, there is much to be impacted in the workplace by responsibly educated leadership.

Rok (2009) offers an explanation to this situation: the legal frameworks and cultural software have been providing some challenges and imperfections in times of transition and right after. These were the true obstacles for entrepreneurs to overcome (along with monopolies, uneven talent distribution or lack thereof, or very aggressive competition). More often than not unethical actions were encouraged in order to survive. Rok states that such leaders were prized and rewarded by shareholders and admired by their industry because they were 'able to cope'. One could think that over the last 28 years the situation would change significantly. In such a society, where immoral, unethical and unfair decisions were socially acceptable or even admired, it is yet rather challenging. According to Transparency International Corruption Perceptions Index 2016, Poland is 29th, 4 positions higher than only four years earlier, which makes the progress very slow. When looking at the region it is not as bad as Italy or France, but also not as good as Denmark or Sweden.

Due to the fact that for decades there was no awareness and no need for 'real managers' as soon as MNCs entered Poland in the 90s, they have been looking for people entrusted to business.

To Teach Leadership Ethically or to Teach Ethical Leadership?

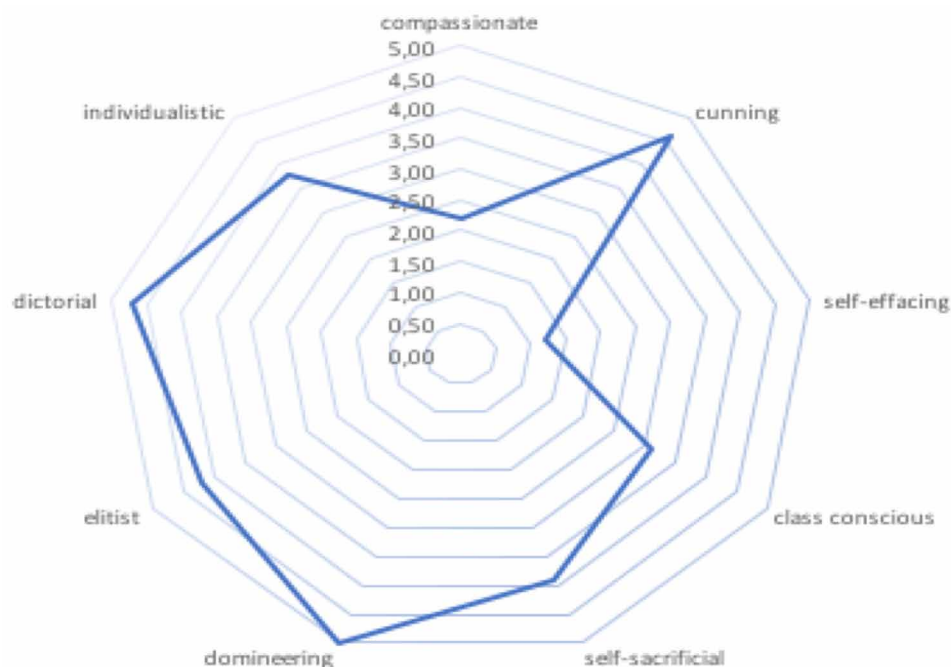
Not understanding decisions was the hardest. How not to betray your inner values. But there is a gradual process of making your skin a bit thicker. (Top Manager, Poland)

For the managers worldwide, because supply is higher than demand, values became an issue. Over the past years some unethical practices were observed. Manipulation, ruthlessness, and a cynical attitude were not only stereotypes but also the reality (Koźmiński, 2016: 222). The real values in management shall revolve around three spheres: customer focus, social responsibility, and the social contract.

Figure 2 presents the Polish culture characteristics as described in the GLOBE Leadership Phase 3. The results suggest that in the Polish context leaders are more macho, domineering, selfish and competitive. Class consciousness is lower in the awareness of Polish board members because most of our elites were killed during the Second World War and the social sphere was rebuilt from scratch. Partially due to this lack of succession, tradition and good practice -- partially due to historic repercussions -- Polish leaders are therefore often characterized as chameleons due to their ability to quickly adjust to new circumstances. This can be good and bad. As Professor Koźmiński (2014: 198) puts it: "Often brutal selection of the top management (...) lead to an emergence of 'victorious warriors', capable of achieving success in even the most turbulent environment." Those veterans as the author calls them are the godfathers of current Top Management Team Members, who equipped their successors with a survival attitude and resistance to unexpected change, who paid for their MBAs, for them to be able to think analytically and quickly make decisions. Yet Polish managers have no soft skills, their managerial communication is poor, and they feel best in the authoritarian "do's and don'ts" kind of management (Koźmiński, 2014).

Figure 2. Poland on GLOBE Phase 3 dimensions

Source: based on Global Leadership and applied to average scores of top management team (TMT) pool



To Teach Leadership Ethically or to Teach Ethical Leadership?

Finally, there is a significant difference in business and management education between Poland and many developed economies. The difference is not only in the structure of curricula or course contents, but it starts before the first day of classes. Most American, Canadian, or British business schools require from MBA candidates 3-4 years of professional experience, while many Polish daytime MBA programs ask for 1-2 years of experience. The difference is even more profound at the level of executive MBA education. Top international institutions, such as Harvard, Kellogg, or London Business School require a minimum of 10 years, with a cohort average of 12-15 years. Conversely, top Polish executive MBA programs require less years of professional experience -- CEMBA at the Warsaw School of Economics (5-7 years) or EMBA at the University of Warsaw (3-5 years). This difference creates both a challenge to executive leadership education in Poland and an opportunity to shape future leaders earlier in their careers.

ETHICAL LEADERSHIP IN POLAND

This chapter is focused on education of leaders, top managers, corporate elites, and everyone who can be described as upper echelons. Hambrick and Mason (1984) recognized that companies turn into a reflection of their leaders. That is precisely why ethical awareness at the top is so crucial - it may or may not be transmitted throughout the entire organization, therefore impacting the performance in the long run. For the purpose of this chapter, the authors, following Gibson and colleagues (2003) define leaders as 'agents of change; persons whose acts affect other people's acts affect them. Leadership occurs when one group member modifies the motivation or competencies of others in the group.' So, what it really translates into is a very special relation between leader and his/her supporters to fulfil a common vision. In practice, however, it is widely observed that people tend to overuse the very term 'leader', very often confusing it with manager, because they are simply unable to differentiate between the two.

The components of ethical/ responsible leadership, based on the moral standards developed by Kohlberg (2001), offers four main elements: moral sensitivity, moral judgment, moral will and moral action, which are impacting on one another. It is a dynamic and self- evolving model, showing the importance of morality in decision-making for leadership. Yet, this part is hard to influence as it lies deep in the values and norms that a person takes for granted. Lewicka- Strzalecka (2010) supports the research stream that education of managers impacts their moral reasoning by providing an explanation that this impact translates into managerial actions. The authors would like to argue that it may not be the case. The understanding and intention do not necessarily translate behavioral levels.

Most recently, Koźmiński (2015) proposed a typology of leadership in the Polish context. After conducting in-depth interviews with 29 prominent representatives of Polish elites, he identified five leadership profiles, five crucial competencies and seven constraints to leadership, which will be briefly discussed below. As it turns out, leaders' biggest constraint is a constant fight for autonomy. That seems to be the source of other barriers identified to by Kozminski (2015), which are presented in Table 1.

A particular strength of Polish leaders lies within their agility and ability to quickly adapt to new circumstances (Koźmiński, 2014). It seems that some of the leadership profiles tend to be more responsive to particular constraints. Hence, leadership profiles stem from political, institutional, entrepreneurial, expertise or spiritual foundations, or the mixture of these. It was observed that some leaders skillfully merge two sources, for example, entrepreneurial with institutional or spiritual and institutional. In the two above cases, the ability of value-creation for a leader was identified to be maximal. On the other

To Teach Leadership Ethically or to Teach Ethical Leadership?***Table 1. Leadership sources in Poland***

Leadership source	Practical meaning in the Polish context
Political	Fight for power and scarce resources
Ethical	Standards framework set by the leaders
Cultural	Embedded rituals, standards, behaviours and patterns
Emotional	Inability to cut the emotions and be strictly professional
Incentive	Motivational level limitations
Institutional	Limited by the organization
Informational	Lack of access, no ability to obtain, store, transform or use

Source: Based on Koźmiński (2015)

hand, in cases where political and entrepreneurial sources, or political and institutional, value-creating capabilities are hindered.

Scholars do agree that leadership is a mixture of behaviors and skills. The dilemma whether leaders are born or made, seems to have its finale in the statement “people can learn, grow and change and that this learning and personal growth does enhance individual effectiveness” (Elmuti et al., 2005). Yet in the very word ‘effectiveness’ the ethical trap is being set for the leaders. These people are responsible for the company’s overall performance, meeting targets, being competitive in the market and providing superior quality to the customer. Shareholders may often require to ‘do what it takes.’ However, as Szczepańska-Woszczyna and colleagues (2015) observed: “A model of leadership based on business performance in the short term is insufficient.” The authors clearly state that to make a prosperous company, responsible leaders are needed to change the organizational culture towards an ethically sustainable one. Clients satisfaction, social impact, giving back to society are of a paramount importance.

Unfortunately, there is very little research on ethical leadership in Poland, or in transition economies in general. Furthermore, the vast majority of available publications is in Polish; hence it is difficult for scholars and practitioners from other transition economies to exchange ideas and experiences. This gap in literature is especially concerning when compared to the vast amount of research on ethical leadership in other contexts, particularly in developed economies.

Challenges in Leadership and Ethical Leadership in Poland

The political and economic transformation of the early 1990s is still observable in Polish leadership practice. The multiplicity of organizational forms (state-owned enterprises, local branches of international companies, Polish public corporations, and privately owned companies), cross-generational cultural differences between Poles born and raised in a socialist reality and those born after 1989; and finally regional differences result in various misunderstandings between leaders and followers within organizations. An effective leader should acknowledge these differences and be flexible to adapt to ever-changing external and internal pressures. Another pivotal challenge when leading people in Poland is the general lack of trust among individuals. Mutual trust is a vital social adhesive and a cornerstone of social capital. For historical reasons (such as late-18th-century Partitions of Poland, six years of Nazi occupation, and forty-four years under the socialist regime), interpersonal and social trust has been replaced with considerable distrust and suspicion. According to recent research on social capital, only

To Teach Leadership Ethically or to Teach Ethical Leadership?

one in ten Poles trust other people (compared to roughly 30% in Western Europe). For this reason, leaders can expect that subordinates may be reluctant to trust leaders or teammates, and may not show concern for the common good. Therefore, translating organizational goals into individual benefits is a key objective of an effective leader.

Finally, recent studies in Poland have shown that charismatic leadership is perceived to be a highly effective leadership style. Poles have also been found to value team-oriented leaders who can integrate team members and clarify vision and goals. Charisma, honesty and administrative competency are all highly desired characteristics of an effective leader. Interestingly, both autonomous and participative leadership styles are seen as less effective.

First, Finkelstein (1992) has proved that educational background translates into strategic decision-making (i.e. more financial background- more acquisitions). Second, that the weight of power and influence is distributed unevenly across the top management teams (TMT). Power is understood in this study as the degree to which a person is able to execute his or her own will in the context of a strategy-making scenario (Finkelstein, 1992: 506). Managers can also create uncertainty on purpose by holding conflicting viewpoints to confuse and manipulate strategic directions (Finkelstein, 1992). Next, the author discusses sources of power, which can be rooted in expertise (functional areas, positions), ownership (number of shares, personal relation to the owner), hierarchical authority (titles, compensation) and prestige (boards presence, elite education) or even personality. Those power sources are factors contributing to the non-observable and cognitive diversity.

Further, the professionalism of some work groups such as lawyers, doctors, bankers, consultants, etc. is measured by the education completed and diploma achieved. Hence, credentials matter. However, a big weight for the aspiring leaders is assigned to the 'personal brand'. It is worth explaining that reputation, past experience, a track record of decision-making and its quality, a career path in the chosen industry and within the institution, as well as references are incredibly important. Those are non-observable-, or so-called 'cognitive' diversity measures and they include lifestyle, norms and values, qualifications, education level, social background, working habits, expectations, religion, and even fitness level (Szaban, 2007: 493). How do they achieve skills necessary to perform their highly responsible tasks? According to Nogalski and Śniadecki (2001:155), those are embedded in knowledge coming from education as well as experience that comes through practice. Jemielniak (2005) concludes that education contributes to knowledge and that in turn becomes the base for expert power.

In the process of getting promotion, potential leaders are sent to business schools to obtain their MBAs, where potentially leadership capabilities can be developed. That is when education can really impact the business. The authors argue that in times of bounded leadership (Kozłowski, 2016) universities play a crucial role in educating the upper echelons and middle management to act more socially aware and responsible. It goes much further than just 'educating' – it really is about engaging in the processes of giving back to those in need by involving the means at hand. Herewith, by discussing the contents of the courses, interviewing the tutors, the methods they use- the authors want to investigate the reality of ethical leadership education in Poland and its influence on the Polish socioeconomic environment.

The notion of ethical leadership education emerged in response to the Wall Street greed- related ethical scandals of the 1980s (Lewicka-Strzańska, 2010). That puts it as a discipline in a rather 'reactive' stand, compared to 'proactive' importance of ethics in medicine or law. Likewise, is not mature enough and not as well established compared to ethical aspects of the two above. Therefore, in principle 'ethics for business' have less of a tradition, lesser importance, and reputation. Yet, as the author notices

To Teach Leadership Ethically or to Teach Ethical Leadership?

every now and then scandals still see the daylight and therefore it leads to conclude that there must be something wrong with the educational system in that area.

The best illustration of the importance of ethical leadership is presented in Figure 3, which shows how late academia started to pay proper attention to the issue and how it is booming.

Nowadays, the majority of bestsellers touch upon leadership skills development, best practices, competencies and ways of discovering a leader inside you. Harvard Business Review and other well-known journals on the market provide insights, interviews and ready-made solutions to leadership problems. Best universities develop courses on leadership and charge fortunes for selling out the promise of leadership.

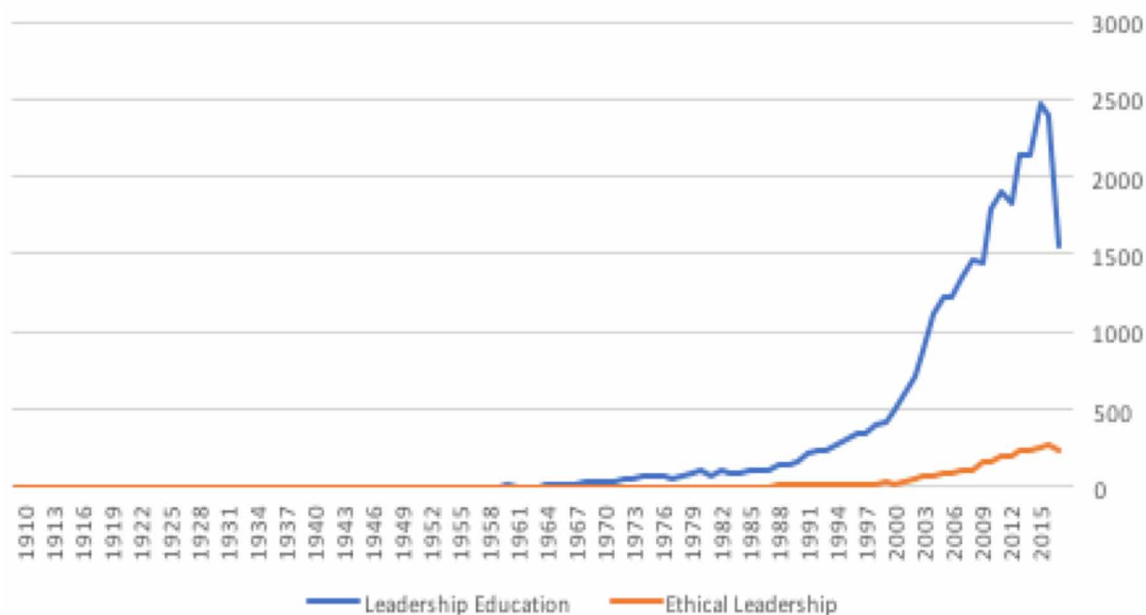
Practical Implications

In everyday life, ethical leadership education boils down to helping students answer seemingly easy questions: 'Is it allowed for me to use my competitors' network if I get access? Should I artificially decrease the targets to get my bonus for over performance?'. The answers are not always black and white. Maybe that is why amongst the Worlds 100 most ethical companies (Ethisphere, 2017) there is only one Polish organization - PKN Orlen - present in the ranking since 2014. It is worth mentioning that the methodology of the ranking takes into account factors influenced by corporate leaders such as culture and ethics, leadership style, or governance.

In more general terms, ethical leadership at a corporate level often creates a critical moral problem which, in its premise, might be compared to the well-known *prisoners' dilemma*: shall we cooperate for common better outcome (i.e. lead the corporations ethically) or cheat to maximize our own gain (i.e. disobey some rules or values). As explained in the game theory research (e.g. Axelrod, 1984) the theoretically optimal solution for both players would be always to cooperate, but in real life competitions, the

Figure 3. Scopus data analysis

Source: Authors' analysis (data accessed on Oct. 15th, 2017)



To Teach Leadership Ethically or to Teach Ethical Leadership?

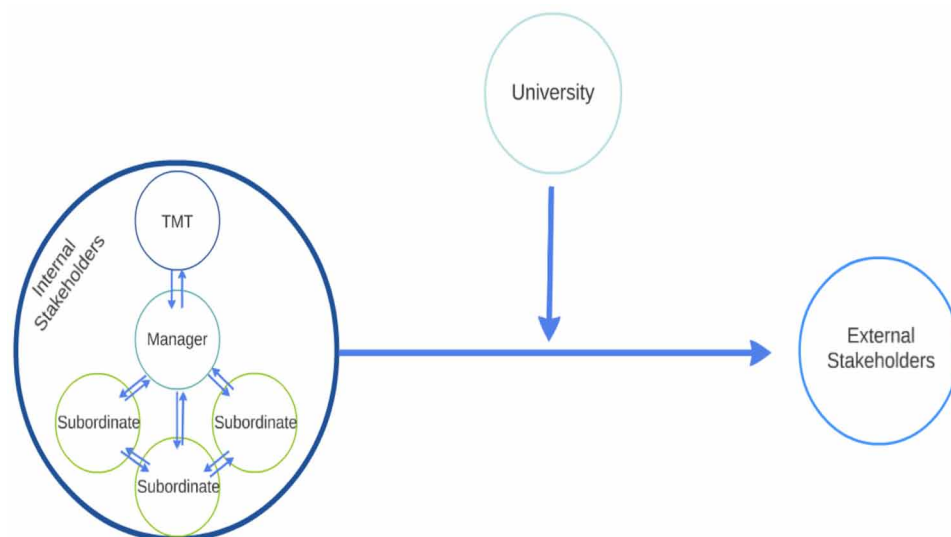
optimal outcomes come from a tit-for-tat strategy. Translating this back to the ethical leadership dilemma, a leader who always behaves ethically is always in a disadvantaged position if the other competitors do not follow the same rules and values. Importantly, it is not only the ethical leader who suffers, but also the total outcome (at the economy level) is lower than it could be if all participants adhered to the same standards. “In order for a society to function and develop further, to be ‘manageable’, it is crucial to maintain balance” (Koźmiński, 2014: 55). Unfortunately, this is not the situation in Poland. Because of its relation to politics, it deserves a deeper explanation. In the first phase of the transformation in Poland, the introduction of democracy and economic freedom provided a new equilibrium, which allowed change (Koźmiński, 2016: 125-127).

There should be little doubt that something needs to be changed. Although business schools sell Leadership Management Programs online and full time, the program contents revolve around primarily topics such as accounting, microeconomics, design thinking, agile operations, HR, growth strategies, crisis management, decision-making and innovation. Ethics, if incorporated at all, occupies a small area of the curriculum. Scholars and business practitioners should call for deep and systematic change in leadership education, which would not only shift the attention to more ‘soft skills’ aspects and higher moral standards development, but would also take a more interdisciplinary approach and focus on practical skills development across industries (Elmuti et al., 2005; Rubin et al., 2010; Copeland, 2015; Ehrich, 2015).

SOLUTIONS AND RECOMMENDATIONS

A two-fold change in approach to leadership education in the context of transition economies is necessary to ensure that new leaders graduating from executive education programs are both effective leaders and ethical leaders. First, ethical leadership education programs shall be a fit between company- and stakeholders needs, therefore they must involve both parties at the stage of program design as well as execution. Understanding the values and beliefs of all organizational stakeholders builds their moral legitimacy in relations with the organization and, hence, is a critical step in assessing stakeholders’ salience (Mitchell, Agle, & Wood, 1997). More engagement of non-business entities in executive leadership education would expose future leaders to a broader spectrum of perspectives on the economy and make them realize what the effects of their actions are in the society. It is not to say that such engagement is not being practiced in Poland or other transition economies, but it is a call for much deeper integration.

Second, teaching ethics, if incorporated in the program at all, is usually spread across many courses (e.g., ethical leadership is a part of an organizational behavior course or ethics in international business as a part of international management). If the standards of ethical business education are to be raised, ethical leadership should be taught as a full independent curriculum, similarly to sustainability courses offered as a part of MBA programs (e.g., at University of Victoria). Currently, no Polish business school offers such a program. The main benefit of such an approach would be the change of students’ attitude from ethics being only a minor topic, lost somewhere between strategic human resource management and general adopted accounting principles, to ethical leadership being a foundation of modern management. When coupled with greater exposure to values, norms, and beliefs of other stakeholders, such a program will possibly foster an appreciation for ethics in business leaders, present and future, in transition economies, thus leading to the faster adoption of developed market standards and practices. Figure 4 presents a simplified model of the effect of universities on developing ethical leadership standards in transition economies.

To Teach Leadership Ethically or to Teach Ethical Leadership?*Figure 4. The process of ethical leadership education**Source: Authors***FUTURE RESEARCH DIRECTIONS**

While transition economies constitute a critical part of the global economic landscape and have received significant scholarly attention in fields like international economics (e.g., Kronenberg, 2004), strategic management (e.g., Mahoney & Chi, 2001), entrepreneurship (e.g., Peng, 2001) or sustainability (e.g., Fülöp, Hisrich, & Szegedi, 2000), there is surprisingly little research on leadership in transition economies (e.g., Zoogah, 2009) and virtually no studies on ethical leadership education. If the ethical leadership education is to change the business practices in transition economies, more research is necessary to better understand the main challenges and assess its effectiveness. The first step should be to examine expectations of both business leaders (MBA and executive education students) and already established business practitioners. Without a solid understanding of these expectations, business schools cannot teach leadership ethically that is to meet these expectations of their customers.

That is precisely why there is a need to conduct an in-depth analysis of the Polish ethical leadership education. Starting with the professors and faculty teaching the courses and collecting first-hand experiences in obstacles of teaching this matter to practitioners. Asking MBA and postgraduate students in Poland to fill in a survey, making sure to understand their perceptions and reality of their motives to study. And last but not least- interviewing the ultimate recipients- corporations sending their middle managers to advance their knowledge to be offered a promotion, as well as the wider stakeholders of these firms. These different perspectives should depict a full and integrated view of the problem.

Further, a comparative study of already established business leaders and the new generation should be conducted to investigate cross-generational differences in values, beliefs and attitudes, and leadership practices. In the cohort who came of age after the institutional transition started, the confusion of rules, values, and propensity to disregard some of them might be lower than in the previous cohort, but the effect is yet to be scientifically examined. While the events of 1989 and the socioeconomic transformation that followed played an important role in shaping an entire generation of business leaders, the enlargement

To Teach Leadership Ethically or to Teach Ethical Leadership?

of the European Union in 2004 triggered another wave of social and cultural changes. Thanks to the liberalization of migration and labor market rules, hundreds of thousands of Polish students and young professionals have left Poland to experience other cultures and to work in Ireland, Great Britain, Germany, France, or Austria. Undoubtedly, many of them will not return, but those who already have (or will return in the future) will use their multicultural background to become ethical global leaders (Hrenyk, Szymanski, Kar, & Fitzsimmons, 2013). The role of universities should be to help these individuals to effectively use their multicultural experience.

Finally, a set of best practices in both ethical leadership education and practice should be compiled to allow a wider group of higher education institutions and business organizations to adopt them. This is an area where universities and business schools should demonstrate their commitment to ethical leadership by driving the research effort and stimulating the intellectual debate on the role of business in development of the civil society. The efforts of two leading Polish business schools – the Warsaw School of Economics and Kozminski University – and their faculty should be acknowledged however, it appears that publications and conferences on ethical leadership are rather rare and scattered. There is a need for a more organized debate on the role of business in the society, both in the public discourse and in academic literature.

CONCLUSION

This chapter aimed to highlight the tendencies as well as areas of problematic issues regarding ethical leadership education in the example of a transitional economy. Its purpose was to show inconsistencies between contradicting perspectives on the expectations-, the role- and the managerial effects of ethical leadership education in Poland. The authors focus on both macro- and micro views. By providing advances in the understanding of the phenomenon from the institutional and cultural viewpoint the authors arrive at the conclusion that Polish leaders are members of a society characterized by mixed scores on cultural dimensions. Hence, it is difficult to point out specific, unique national or cultural traits that differentiate Polish leaders from their counterparts in other countries. However, the ongoing economic transformation and gradual cultural shift fueled by European integration and globalization forces Polish leaders to quickly adapt to new dynamic external and organizational environments. This ability to adapt to external pressures and yet to preserve traditional values can be seen as a unique feature of Polish leaders. According to Koźmiński (1982), a big factor shaping it is ‘direct observations and experiences of individuals and teams, elements of morality, religion, political attitudes and everyday emotions: anger, hope, bitterness, discouragement, and fear.’

On the micro perspective of the leadership practice, a call for a more integrated and fundamentally prepared curriculum was formulated. However, a foundation for ethical behaviors must be introduced already in the schooling system, which requires a deeper schooling reform, following good examples of Sweden and other Nordic countries.

Finally, there is a surprisingly large research gap in ethical leadership literature. While ethical leadership is becoming more and more important worldwide, there are very few studies on leadership in transition economies in general. When it comes to ethical leadership education in transition economies, the only source of literature is local academic journals and book publications (available in local languages only), which is a significant challenge for international researchers.

To Teach Leadership Ethically or to Teach Ethical Leadership?

This chapter is intended to be a starting point for international researchers interested in this topic and looking for basic information. While its context is limited to Poland, the major problems of leadership education are rather universal across most transition economies. The chaos triggered by the transition often fosters unethical behavior due to the lack of formal and informal institutions. New leaders can be drivers of positive change in the economic environment, but first, they need to understand the importance of ethics in business. Therefore, the role of universities and business schools in this process is pivotal.

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KEY TERMS AND DEFINITIONS

Ethical Leadership: A style of leadership primarily guided by respect for dignity and rights of others. It stresses the importance of respect for individuals and the society at large.

Ethics: A branch of philosophy dealing with concepts of right and wrong, good and evil, crime and justice. In more general terms, ethics might be seen as a set of norms determining a more course of action.

Executive Education: Various forms of post-graduate management education for executives, business leaders, and functional managers. Vast majority of ExEd programs are privately funded.

Institutions: The rules guiding living behavior (rules of the game). The term “institutions” refers to both formal rules such as laws and regulations, and to informal rules such as customs or traditions.

Moral Hazard: A situation when individuals (or organizations) make a decision to take more risk than normally expected because they are shielded from the negative consequences of their actions.

Stakeholders: Every individual or organization that may affect or be affected by the company’s actions.

Transition Economy: An economy undergoing a change from a centrally planned economy to a market economy. Examples: China, Russia (and other former Soviet Union republics), Poland.

Chapter 5

Competences of the Future: Educational Processes vs. Challenges and Barriers of Contemporary Labor Markets

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ABSTRACT

We live in a world of constant changes. Progress, modern technologies, and globalization processes make the reality that surrounds us and gives us new opportunities, but at the same time we face new demands. People's wisdom depends on economic and social success, because an educated citizen, able to adapt to the ever-changing world, has a significant influence on the shape of modern civilization. Nowadays the theoretical knowledge gained in the education process becomes insufficient, and it becomes more important to use it in practice to solve problems, communication skills, cooperation, group work, or flexible working in the labor market. A man in the modern labor market must adapt to flexible responses to change and to finding new solutions, continuing learning and problem solving, perceiving causal and functional dependencies, the complexity of phenomena, the design of actions, and acceptance of responsibility for results. The chapter aims to analyze trends in the contemporary labor market and to assess the extent to which employers meet expectations and opportunities.

INTRODUCTION

There is no doubt we live in a world of constant changes. Social, economic, scientific and technical development of the 20th century has brought many changes in society. We are dealing with them because of the evolution of industrial to post-industrial society, also called information society, and consequently to the knowledge society. Progress, modern technologies, and globalization processes make the reality that surrounds us gives us new opportunities, but at the same time, we face new demands. The development of competences in the knowledge economy, the increasing number of people with access to education,

DOI: 10.4018/978-1-5225-5837-8.ch005

Competences of the Future

the aging of the population, generational differences, the shortage of qualified personnel in a dynamically changing environment are challenges that can be met with intellectual dexterity, adaptability to change in the background, the tendency to innovate, the need for their development or openness to risk.

The basis for the development of modern civilization is the knowledge we acquire and use from the earliest stages of education. It is the basis not only for personal and professional development but also for personal fulfillment. If we care about the development of society and the country, we need to invest in education. People's wisdom depends on economic and social success because an educated citizen, able to adapt to the ever-changing world, has a significant influence on the shape of modern civilization. For many years, education systems have been acting as a teacher or "knowledge holder," and a student who wanted to acquire that knowledge. Passive education methods have been and have been a burden and source of many of the graduates entering the labor market. Meanwhile, in the realities of the modern world and business, employers are looking for independent and ready to work candidates. The strategic challenge of 21st-century education is to equip pupils and students with the skills to manage a modern state and to build the competitiveness of the native economy in a globalized world. The education system should identify in advance the competency requirements of employers in order to respond appropriately to the needs of the labor market. Competence, or the ability to use and apply knowledge in a professional context, is a set of capabilities that enable you to perform your work efficiently, achieve your goals, and follow the standards of your practice.

We cannot deny that the world is continuously learning. Current skills of pupils and students are often insufficient and unsuitable for the needs of the labor market. Nowadays the theoretical knowledge gained in the education process becomes inadequate, and it becomes more important to use it in practice to solve problems, communication skills, cooperation, group work or flexible working in the labor market. Compared to other markets, the importance of skills is more pronounced in a dynamic and globalized world. Building necessary skills early on, by broadening and improving the quality of early childhood, is essential, but it is also crucial to ensure that skills taught at school are relevant to the working world. Modern workers must also find their place in the new reality. There is a growing demand for highly qualified and competent employees, called knowledge workers, in the modern economy, known as the knowledge economy. Improving educational-system responsiveness to labor market needs, and ensuring that students complete their schooling with skills needed to find work, require collaboration between employers and public authorities. The rapid growth in international trade in professional services has provoked several professions to organize themselves at a global scale. Continuous economic and social transformations increase the expectations of employers, and therefore there's the need for employees to have critical competencies. The turning point that implied the redefinition of skill in Poland was the accession of Poland to the European Union. Citizens' expertise on the labor market in the contemporary-focused on international migration activities by offering their skills to employers from member countries. The notion of ability, despite its ambiguity, interdisciplinary, multidimensionality, and diversity, is inherent in scientific and practical discourse.

Competency-based human resources management (HRM) has been developing actively in the USA and Western European countries since the early 1990s. In fact, it is a practical manifestation of the dissemination of the concept of employees' 'competencies' in personnel management (Zbiegiem-Maciąg, 2016). According to theoretical assumptions, competency-based management is a new trend in HRM, which emphasizes specific competencies used in the workplace, allowing for more individualized management and individual development of competences within a personal career. Among the various models of HRM, the competency approach is particularly close to the concept of lifelong learning, which

Competences of the Future

places the person at the center of their interest. In the competency approach, the point of reference is the employee occupying the position, not the post itself.

Activities related to competency management, and especially to the development of employee competencies, are not able to reveal their potential in the space of a few months or even one year. Therefore, it is necessary to promote a strategic approach to HRM as a condition of its effectiveness, especially in the perspective of achieving the assumed and expected goals. The modern approach to HRM based on employees' competencies seems to be particularly suited to the challenges that everyday face or will face Polish enterprises in a knowledge-based economy.

In the literature on the subject, a lot of space is devoted to the methods and techniques used to develop employees. This area of the personnel function, due to the strategic importance of human resources for the organization, is becoming increasingly important. Correctly stimulated and controlled employee development translates into an increase in the competitiveness of enterprises, the impact is most visible in knowledge-based organizations their employees. A whole range of premises or objectives can be found to introduce an HRM system based on competencies in the organization. One of the critical challenges of HRM based on skills can be the fact that the meaning of the term competence is not precisely defined and is often understood differently.

This article is an attempt to answer the question of how a competencies-based approach can help in creating the potential of a company in a modern labor market. It is also intended to indicate how essential changes in the path to the importance of competencies should be made at the level of employers who consciously seek to shape human capital in their organizations and based their success on knowledge. This indication also affects employees who, with the appropriate conditions created for it, they will develop their potential, aspirations, and value on the labor market.

BACKGROUND

A high level of education, which is usually described by an increasing number of years spent on studying, is no longer a factor in gaining or sustaining competitive advantage. The modern labor market requires employees to have specific competencies that they acquire through experience, education or informal relationships. The flexibility of human resources usually referred to as adaptability, that adjusts the size and structure of employment to the changing needs of an organization, refers to whether and to what extent employees: "... can use their knowledge, skills and personal qualities to achieve their goals and standards assigned to their roles ..." (Armstrong, 2002, p. 249). The issues of identifying and shaping the desired competencies at the organization level as a whole and in relation to individual job positions, both in terms of operational, tactical and strategic, are complex and multifaceted. "Competence-based management is a new trend in human resource management that emphasizes specific competencies used in the workplace, allowing for more personalized management and individual competence development within individual career paths. From this point of view, competencies are specific to companies or individual work positions in an organization." (Brockmann, Clarke, Méhau, & Winch, 2008, p. 77).

HRM based on competences assumes perceiving the desired results and organizational requirements from the perspective of the employee rather than from the view of his/her position. Skill then becomes the basis for the functioning of the entire human resource management system. Capabilities are a decisive factor in the process of recruitment, selection, filling positions, employee implementation, performance management and employee rewarding.

Competences of the Future

The organization applies competency-based HRM when all aspects of personnel management are integrated around the competencies and not around traditional issues related to tasks or positions (Du-bois, & Rothwell, 2008).

Competence is the ability to use and apply knowledge in a professional context, a set of capabilities that enable you to perform work efficiently, achieve goals, and adhere to performance standards. Initially, competence was understood as the formal right to deal on behalf of an organization, specific issues, and decision-making within a set scope, while the ability to work effectively and efficiently was usually associated with qualifications (Armstrong, 2002).

In the 1980s, competences were understood more broadly as the scope of responsibilities of an employee, assigned to a given job. A groundbreaking event in this respect is the potential that exists in man “leading to such behavior, which contributes to satisfying the requirements of a given workstation under parameters environment of the organization, which in turn gives the desired results” (Boyatzis, 2008, p. 12).

Competence is a conglomeration of knowledge of the range, skills, and attitudes. Some authors add to this set of personality traits as the fourth element of capability (Kossowska, 2002). The traditional approach to competence attaches great importance to certificates and diplomas. The Competence Model emphasizes that professional expertise and active participation in professional life are the fundamental ways of gaining proficiency. Capabilities are not permanent; they change with experience and professional and human development. It is not possible to determine once or for all if someone has the ability or not. Self-measurement of expertise is a complicated process, but most theorists agree that this can only be objectively achieved based on a set of observable behaviors. Draganidis and Mentzas (2006) argue that the strengthening of a company’s competitive position, innovation and efficiency are closely linked to the development of competencies and skills. In recent years, attention has been paid to new skills: the link between labor productivity, higher demand for expertise in the age of globalization, the need for modern technology, young people’s problem with entering the labor market (Garcia-Aracil and Van der Velden 2008). Below there’s a table 1 containing the most popular definitions of competencies.

Categories of Competences

Innovation and efficiency of the company are closely linked to the development of employees’ competencies and skills to strengthen the competitive position of the firm. The employee achieves maximum productivity when his or her talents and talents remain in line with the demands of the labor market and the organizational environment. There is no single closed list of competencies, as their classification is not an easy task, as is their definition. Many of the above competencies are related, often skills and attitudes from one area support the development of another, and aspects such as self-awareness, critical thinking, problem-solving, or constructive emotion management are essential in all key competencies. Specialists create different sets of them. In some studies, up to 300 skills can be found (Woodruffe, 2003).

There is a variety of types of competences. Threshold competencies are the basic (minimum, necessary) skills required for a position (they are not directly related to the performance of the job, each employee has to have them in order to be employed on a given area). They do not distinguish people who achieve better or worse results.

Critical competencies are the most essential key for any organization, workplace or employee to succeed. The essential skills of an organization are what the organization can do best (Drucker, 2002). The key competencies of an organization are what the organization can do best (Oleksyn, 2016). Critical

Competences of the Future*Table 1. Definition of competences*

Author	Definition
Boyatzis (1982, p. 21)	The primary character of a person, which may be a motif, attitude, skill, an aspect of the personal image or social role or range of useful knowledge.
Boyatzis (2008, p. 6)	A set of interrelated, but different, behaviors organized around a basic structure that occurs intentionally.
Reed and DeFilippi (1990, pp. 89–90)	The company's resources and skills, as well as the above-average use of them.
Woodruffe (1992, p. 17)	Set of behavior patterns necessary for competent tasks and functions.
Marrelli (1998, p. 8–9)	Measurable human capabilities that are required to meet job requirements effectively.
Treasury Board of Canada Secretariat (1999)	The knowledge, skills, abilities, and behavior that a worker applies when performing work that is relevant to the performance of tasks and is consistent with the company's development strategy.
Intagliata et al. (2000, p. 12–23)	Measures to achieve the company's stated goals in line with the adopted corporate culture.
Jackson and Schuler (2003, p. 239)	Skills, knowledge, abilities and other characteristics that are needed to perform the duties in an effective manner.
García-Aracil and Van der Velden (2008, p. 219–239)	Talents, skills, and talents of university graduates, which allow for multidimensional enhancement of productivity factors.

Source: Own study based on cited literature

skills in the workplace should be understood as those that most affect the effectiveness and effectiveness of the tasks performed at a given job (Oleksyn, 2016). Optimal competencies (according to Woodruff's "on action") lead them to achieve the desired - optimal, under optimal conditions of results. Woodruff (1992) believes that when starting a job, an employee needs to have the necessary skills to deal with the position. All competencies going beyond this level are highly rated.

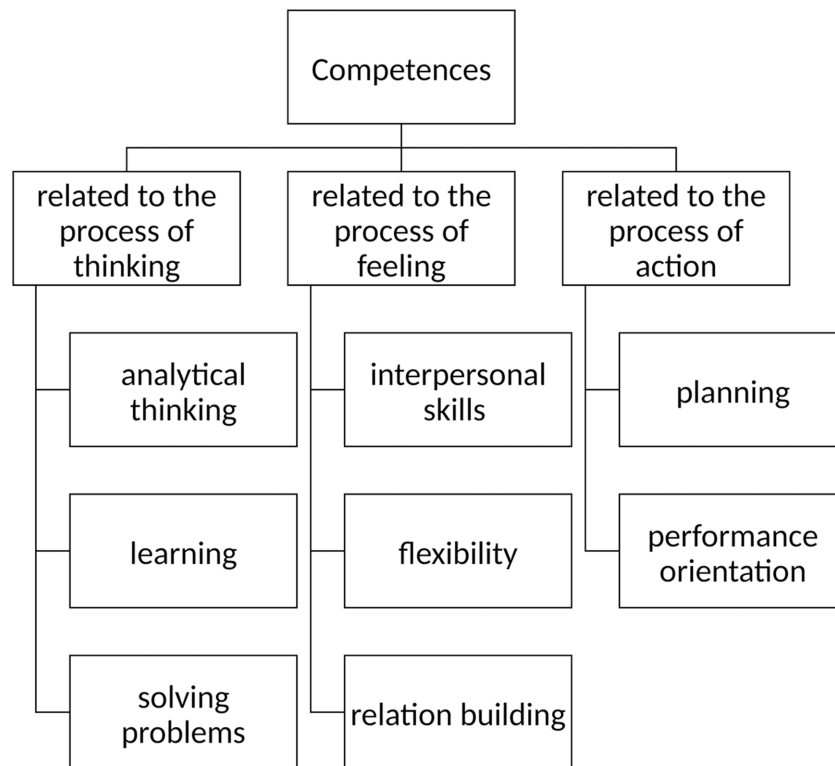
Other criteria can be used to create different classifications of competencies (Moczydłowska, 2015, pp.35):

- **Sources of Competence Acquisition:** Formal and real competences,
- **Scope:** Narrow and broad competencies,
- **Availability:** The "own" competence of the organization and "rented."
- **Purpose:** General and specialized competencies,
- **Perspective of Time:** Current and anticipated capabilities,
- **Measurement:** Skills are quickly and difficult to measure,
- **Ownership:** Individual and group competencies,
- **Content:** Professional, social, business and conceptual abilities,
- **Accuracy of Definition:** General and specific competence.

Competencies can be organized into eight categories according to Rostowski (2012) and Matczak (2017)

Competences of the Future

Figure 1.



Levels and Features of Competencies

The development of skills and competencies indicated in the testimonies confirms that knowledge alone, often only reproductive, is not enough today. Hence, the question of the current challenges faced by economic actors and the need to make not only systemic adjustments to build a better future, but also to encourage and stimulate the acquisition of new skills and social competences, strengthen their potential and awareness in the labor market, and especially young people. Key competencies in terms of knowledge and abilities are essential for every individual of the knowledge-based society. They provide added value in the labor market, social cohesion and active citizenship, by offering flexibility and adaptability, satisfaction and motivation. Therefore, they should be regularly educated in both international and national levels.

One can take a five-step scale for each competency. This means that in each case the competence is described on five levels. Each scale level should be carefully defined, with particular regard to the specific behavior of the person being examined (Filipowicz, 2012):

- **Lack of Particular Competence:** Lack of action indicating that it is being mastered and used in the activities undertaken;
- **Assignment of an Essential Skill:** Irregularly used. Active support and supervision are required from more experienced people;

Competences of the Future

Figure 2.

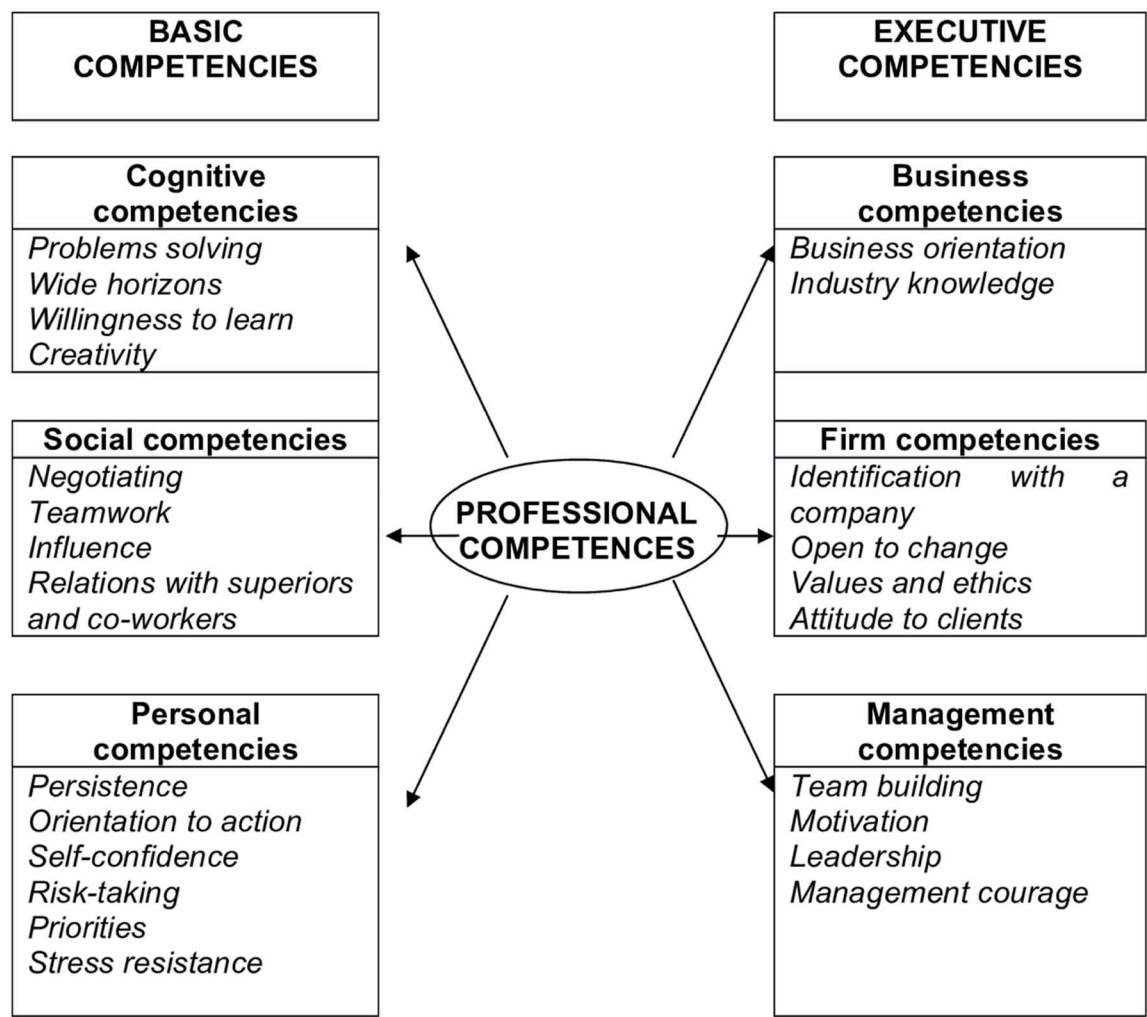
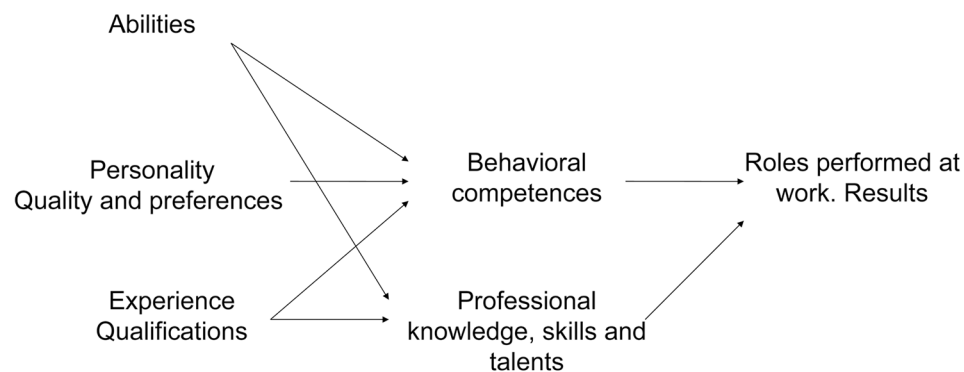


Figure 3.



Competences of the Future*Table 2. Types of competencies*

Competencies	Description
Competence related to talents	Refers to the potential of the employee, the opportunities for development, the use of talents in order to gain new capabilities. Their significance is the higher, the more the company is focused on the changes and the need to develop “new competencies.”
Competencies related to skills and abilities	They concern the factors necessary for success in a specific task at work. This includes the well-known communication, mental, interpersonal, organizational, technical, business, leadership, self-management skills.
Competencies related to knowledge to preparing for specific tasks within a profession, specialization, position or organization	This category contains skills that describe what an employee has learned so far and what can be applied in the right situation. Knowledge can involve facts, events, procedures, theories.
Physical competencies.	They are related to the physical requirements of the workplace. They divide into three groups: physical fitness, sensation, psychophysical abilities.
Competencies are related to styles of action.	Describe how objectives are defined, planning skills and organizational capabilities. What is the ability to visualize a sequence of actions and determine what resources are needed to achieve the goal? What is the ability to work in a precise and orderly manner?
Personality competencies. able to fully utilize our qualification potential, expertise and professional experience.	Complex skills that determine the effectiveness of coping with a specific type of social situation, acquired by the individual in the course of social training. They have a direct impact on the quality and manner of performing the tasks entrusted to them, decide on proper functioning in the group, build appropriate relationships with other people. Thanks to them, we are able to fully utilize our qualification potential, expertise, and professional experience.
Rules and values competencies.	They concern principles, values, beliefs, and allow you to define motives for action. They relate to what they are looking for at work and to the life roles that influence the choices made.
Competencies related to interests	Describe preferences for tasks and the type of work and work environment. They have an impact on efficiency, especially when the kind of work is fully compatible with the non-business sort of interest.

Source: Adapted from Rostowski (2012) and Matczak (2017)

- **Competence Acquired in a Satisfactory Manner:** Allowing for independent, practical use of it in the course of professional tasks;
- **Very Well-Suited Expertise:** Which provides for an outstanding performance of functions in a given area and for passing on other experiences;
- **Excellent Capability:** Ability to creatively use and develop knowledge, skills, and attitudes relevant to a given range of activities.

Competence is undoubtedly a vital element of the company’s competitiveness, which arises in collaboration with universities. Sufficient capabilities are the basis for successful business transformation, which requires consideration of customer preferences and the efficiency of internal communication. In advanced terms, the stages need to be developed (Draganidis and Mentzas (2006)

- **Identification of Competencies:** Requires the establishment of a list of skills that are necessary for the functioning of the company;
- **Modeling of Competencies:** A narrative description of the qualifications for specific job posts, occupational groups, departments, departments or any other unit;

Competences of the Future

- **Competency Assessment:** The level of competence of the employees employed is based on the competency model;
- **Competence Management:** Applying a set of competencies to manage human resources to improve business performance;
- **Competency Standard:** Identification of the level of necessary skills and knowledge of employees, as well as the effort required in a particular job segment or needed for a specific function;
- **Competency Profile:** Prepare a document that describes the set of competencies for each workplace / occupational group.

Zbiegiem-Maciąg (2016) draws attention to the characteristic features of the competencies:

- **Complexity:** Each capability consists of various elements of knowledge, motivation, attitudes, etc.; only in conjunction with each other will make the employees have the opportunity to achieve satisfactory results;
- **Operability and Purpose:** Competence makes sense if it refers to a specific activity and when it is considered by the prism of the object it serves;
- **Situation:** The employee is fully competent in the field if he is able to adapt and work effectively in a changing environment;
- **Variability:** The level of competence can be influenced and adjusted to the needs

And the objectives of the organization;

- **Measurement:** Capability is a graduated category and can be attributed to different levels of performance.

Competencies that will favor the labor market participant in the near future are competencies that are useful in high dynamics and high-risk situations. Under these circumstances, it is not surprising that professional ability is no longer a sufficient criterion for the assessment of the employee by the employer in the labor market today. Employers are looking for employees with specific capabilities and qualifications according to their needs, direction of activity, legal requirements. Professional skills are a prerequisite for employment, but insufficient. In terms of each of the areas of education, the graduates have a better chance of a job, but they are equipped with “soft” skills. The coming years will definitely change the conditions of entry into the labor market, business models of employers and useful formulas of employee functioning in the market. Table 3 presents methods and techniques of competency testing (Juchnowicz and Sienkiewicz, 2016).

How to determine one, understandable regardless of the country of origin, description of the requirements for the potential employee? In this context, the European Council and the European Parliament adopted on 18 December 2006 a European framework for critical competencies in lifelong learning. Critical capabilities defined as a combination of knowledge, skills, and attitudes relevant to the situation, and needed for self-fulfillment and personal development, by being an active citizen endowed with social inclusion and employment. These are general competencies not related to any particular industry, but their possession makes the candidate able to carry out the tasks assigned to him effectively. Key Competencies are presented in their original naming (2006/962/EC):

Competences of the Future

Table 3. *Methods and techniques of competency testing*

Studies of available documentation
Strategy Documentation: This is the basis for analyzing the future direction of the organization. It is possible to predict what the requirements will be for the organization. This will translate into the components of competence - knowledge, skills required in the future.
Personnel records: This includes descriptions of job posts, job description sheets for job evaluation, employee recruitment, training documents. They will only be useful if they are current. They are the perfect source of knowledge about the requirements for individuals in particular work. They are the basis for showing how employees must recognize expertise and skills. Based on the data collected in this way, it is also possible to identify the right behavior and explain the causes.
OPERATIONAL documentation. Current business reports, success records, and failures will indicate competencies that are limited to current business needs.
Research methods
Surveys. They are designed to find the skills that are particularly appreciated by employees and managers. They can be done using standard questionnaires or surveys prepared for specific organizations. They are particularly useful in situations where information needs to be collected from many people.
Interviews. By creating a description of activities performed at a given position, information is obtained about what the employee in the position considers particularly significant, difficult or troublesome. Of course, the subjective nature of the expression must be taken into account. However, the guidelines obtained by this method can be handy. Interviews can be arranged individually, in groups or in expert panels.
Observations. This is the way to find information about the most correlated competences with good results of work. This seems to be an easy way to collect data. However, some problems may arise if the study is subject to management positions. The person who is watching is the supervisor or external consultant. You can also use self-monitoring (employee self-assessment) or simulations.
Expert methods
Kelly's grid. This technique is also a way to look for good and bad variants of action. It is based on how people perceive the world. Anyone can do it using other concepts. The set of terms used by the unit will also be used to explain the behavior of others. Therefore, we are looking for opinions on tasks performed at workplaces.
Critical event method: This method allows you to identify effective and ineffective employee behavior based on real events. However, crucial situations are the key ones in the workplace. The interviews are conducted in the form of interviews, where employees are asked to tell about specific work situations and what they were doing during the meeting.
Expert workshops: Workshops are conducted with the participation of: employees employed at a given position, their direct supervisor, a staff member, and external experts. Step by step: • Job analysis - analysis of activities performed in a given post. Each team member has tasks to complete. The employee is to describe a typical workday, his supervisor determine what distinguishes an average worker from a very good one, the employee of the HR department conducts a questionnaire about the characteristics and behaviors necessary for the proper performance of tasks, and the expert creates a list of competencies that are relevant to other companies in similar positions. • Presentation of Results - Each member of the team is responsible for presenting the results of their work from the previous stage and justifying them, • Create a list of competencies - each member of the team show their proposal for a list of skills (example competencies and their detailed description). • Discussion on recommendations - using brainstorming is essential to augment doubts and allegations, insightful analysis, • Determine the criteria that will determine the placement of the competency in the list, • Choice of skills and formulation of competency portfolio, arrangements are made on the basis of agreement, consensus, • Creation of competency descriptions - i.e., the leveling of competences, their quantities, scales, and types.

Source: Own study based on Juchnowicz and Sienkiewicz (2016)

1. **Learning Ability:** This competence includes knowledge about learning needs, preferred learning patterns, strengths and weaknesses, and the ability to identify opportunities for development.
2. **Interpersonal, Intercultural and Social Competence:** That is, aspects of individual behavior that allow for active participation in social and professional life. It will be important here to understand the rules of conduct and the rules of conduct in different societies and environments. An empathic attitude plays an important role here. This set of competencies allows the employee to acclimatize in a new environment quickly.

Competences of the Future

3. **Civic Competences:** Based on knowledge of concepts and structures in social and political life, involvement in public life, active participation in the activities of local communities. This is especially true for public sector employees.
4. **Entrepreneurship:** The exchange of ideas into action. This is a vast area covering, inter alia, creativity, innovation, the ability to take calculated risks, set goals, plan and execute their plans, manage projects. It is an indispensable basis for acquiring competencies related to specific undertakings.
5. **Expression of Culture, Creative Expression of Ideas, Ideas, Experiences, and Feelings:** This includes knowledge of the issues and the ability to use various means of expression such as music, theater, literature, visual arts, media as well as the ability to refer to one's own views on creativity and expression and the interest in cultural life.
6. **Communication in the Mother Tongue and in Foreign Languages:** The dominant languages are English, German and French.
7. **Mathematical Competences:** A significant role is attached to logical and spatial thinking and to expressing ideas using patterns, models, tables, and graphs. The capability is characteristic and dominant among business circles.
8. **Necessary Scientific and Technical Competencies:** Allow the use of existing knowledge and methodology in performing professional tasks.
9. **Computer Competence:** The practical use of information society technologies in various aspects (work, entertainment, communication). Use your computer and the Internet when collecting, analyzing, editing, presenting, and exchanging information. Communication through the Internet, networking, networking, networking. Work in any company is inseparable from the use of computers and the Internet.

SOLUTIONS AND RECOMMENDATIONS

Functioning of HRM based on competences and its perceived efficiency depends on many factors. The process of designing and creating a competency-based HRM system will vary depending on the goals and culture of the organization, the degree of empowerment of employees, business strategy, technology or currently used management systems. The essential problematic factors in achieving the objectives set for the method of managing human resources by competences can be no experience in handling such solutions, insufficient financial funds, a higher priority for other matters, no support from the company's authorities, the organizational culture of form against change, wrong information flow.

Within thinking about professional competences, more emphasis is placed on skill adaptation of the employee to the conditions in which he will have to work in the future and the ability to gain new skills. Capacity assessment should instead emphasize progress and changes in competencies than their current level. It's not easy to verify if an employee manages with the task, so it would be necessary to check it. Table 4 shows modeling student competencies.

After defining the critical issues affecting the competitiveness of an enterprise, it is necessary to review the strategic plans and operational plans concerning the functioning of the individual, organizational units, and their workplaces. This also translates into an analysis of applied philosophy and personnel policy and corporate culture. Define these areas, the development of which will significantly improve the competitiveness of enterprises on the market. In this context, it is necessary to define the specific competencies of the organizations that are currently and in the future. Figure 4 presents linking human resource management processes with organizational strategy.

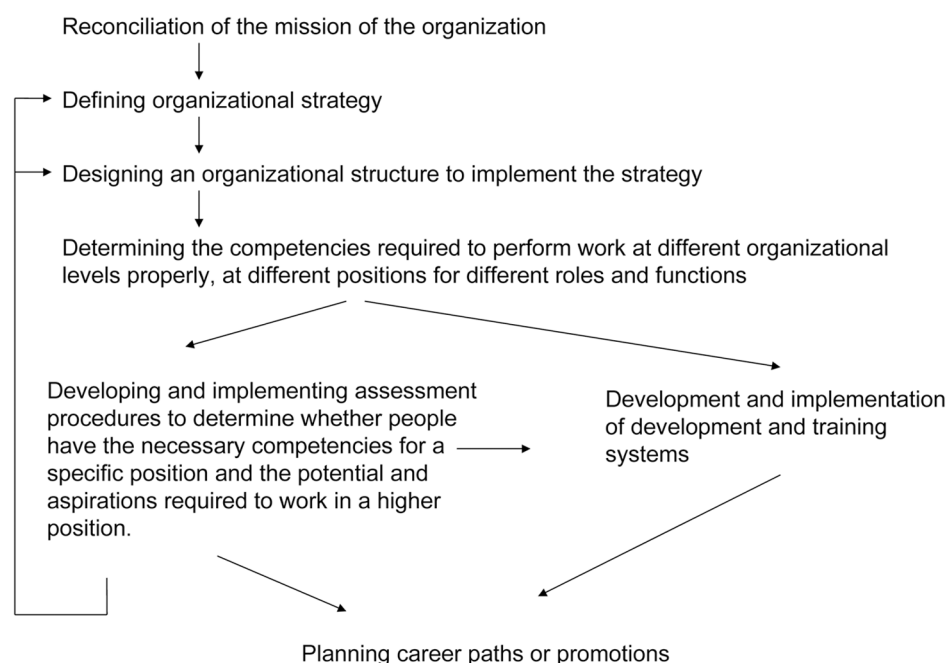
Competences of the Future*Table 4. Modeling student competencies*

No	Name of competence	Method of verification
1	High level of specialized knowledge from a given specialty	Transfer of theoretical and practical knowledge during higher education.
2	Tendencies of developing and acquiring new knowledge	The motivation of students to gain new skills, participate in courses, workshops, conferences.
3	Combining specialized knowledge with knowledge from other fields (marketing, finance)	Curricula should include understanding from outside of the specialty.
4	Practical skills of using advanced technologies	Classes conducted using information technologies.
5	Knowledge of foreign languages	Foreign language classes.
6	Creativity in problem-solving	Case study problem solving, support in searching for new solutions.
7	Teamwork skills	Creation of project groups.
8	Work organization skills	Requirements of punctuality and a systematic approach.
9	Motivation and sacrifice for realized projects	Promotion of project leaders.
10	Personal culture	Required ethical behavior, respect for copyrights.

Source: Bagienska (2012, p. 59).

In this respect, Siu (2009) proposes eight Cs as evaluative criteria for all-around engineering curricula. They are:

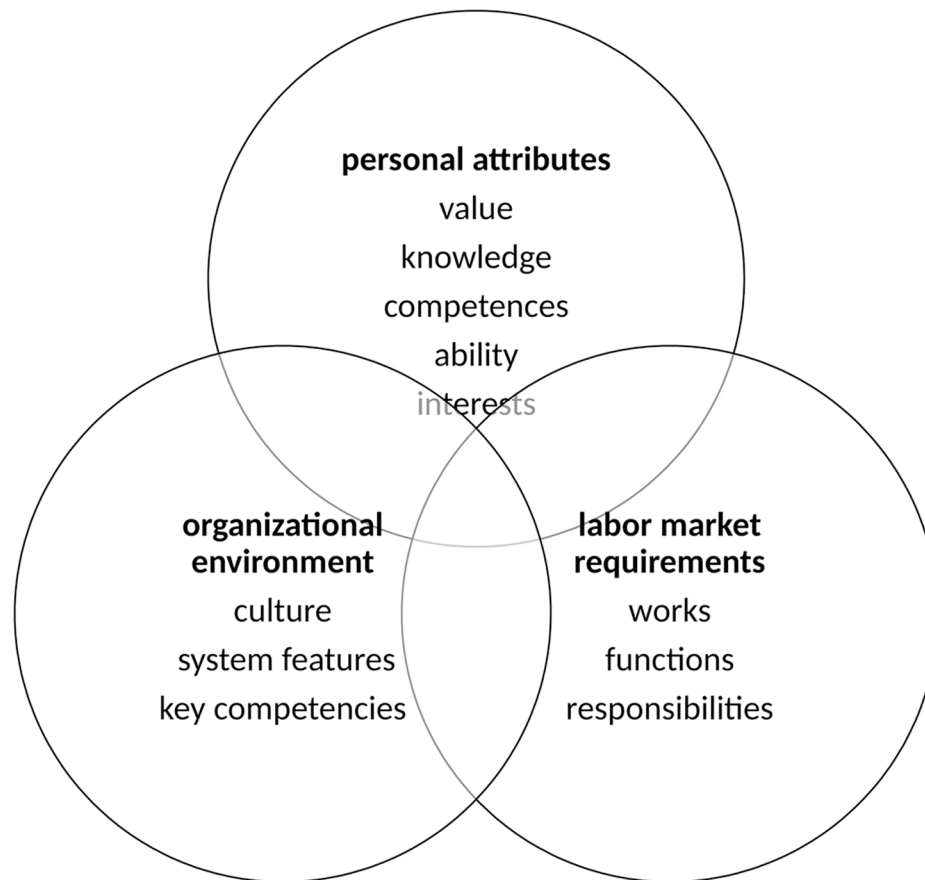
- **Competent:** Engineering education emphasizes both the understanding and the application of knowledge.
- **Comprehensive:** The engineering curricula must be organized to allow students to gain a broader understanding of engineering and related subject areas
- **Critical:** Curricula should allow students the opportunity to initiate, explore, identify, make decisions and then present their own opinions and ideas. In other words, nourishing students' critical thinking ability should be an important objective of engineering education. Critical thinking skills come from students' direct experience with engineering problems
- **Creative:** It is essential for students to learn how to generate innovative ideas rather than model answers,
- **Curious:** Engineering curricula and their related activities and materials should encourage students to be self-motivated and self-initiated to study, to discover, and to explore,
- **Continuous:** Curricula should help students to engage in constant learning. Students should be taught not only the knowledge and skills they need today but also to how to decide what they should continue to learn in the future,
- **Collaborative:** The engineering curricula should provide more opportunities for students to collaborate, not only with those studying the same discipline but also with those from other disciplines and other levels and
- **Compulsory:** It should be mandatory for both male and female students, as well as those with disabilities, to take engineering subjects at the secondary level, so that they can make informed choices about studying engineering at the university level.

Competences of the Future*Figure 4.*

Competencies that determine success in the labor market do not form a homogeneous set (García-Aracil and Van der Velden 2008). It is often believed that matching both the specific environment and the workplace, business or occupation is a crucial competence for success in the labor market (Sidor-Rządkowska, 2016). In this context, there is a distinction between broad and firm specificity, job-specificity, or industry-specificity.

A different classification provides for the division of competencies acquired: (1) at school - directly employed at work, (2) at school - used to acquire new skills, (3) mainly learned at the workplace. Another division indicates five groups of competencies: (1) academic (represent general knowledge), (2) research (precision, attention to detail), (3) professional (directional knowledge and appropriate methods of action), and (4) physiological-manual (manual skills). In a slightly different interpretation, García-Aracil and Van der Velden (2008) classify competencies as

1. Organizational, defined by working under pressure, accuracy, attention to detail, time management, ability to work independently, ability to focus on tasks;
2. Specialized (methodological and methodical) defined by achieving a methodical Information Technology, Documentation of Ideas and Information, Problem-solving, Analytical skills, and Learning ability;
3. Generic, demarcated with broad-based knowledge, interdisciplinary knowledge, critical thinking, communication, writing, participatory co-ordination and organization, economic reasoning, negotiation, assertiveness, determination, leadership, responsibility, and
4. Social-emotional, formed by reflective thinking, self-evaluation, teamwork, initiative, adaptability, loyalty, integrity, tolerance, appreciation of other points of view.

Competences of the Future*Figure 5.**Source: Boyatzis (2008, pp. 5-12).*

In the past, the competition was mainly based on the static competitive advantage gained through cost reduction and the deployment of new technologies, but in new conditions predominates the pursuit of higher action: continuous innovation, mobilization of management skills and the creation of efficient transport and communication infrastructure. Innovation is not the same as the need to follow advanced technological innovations (only large companies can afford such operations), it is enough to introduce rapid imitation of technological inventions, focus on the better organization of the production process or management. Achieving competitive advantage may be a consequence of the synergy/ complementarity of technological innovation, skills and the level of education of employees. Consequently, there is an increasing demand for new skills, which forces the learning process throughout life.

Due to the opening up of European labor markets and the free movement of workers, goods, and services, the European Union faces new challenges. One of them is the convergence of education levels and competency standards of employees from different member states. An important role is played not only by the skills acquired through specialized knowledge and skills relevant to the work of the profession but also by those which enhance the functioning of workers in different areas of life.

Competences of the Future*Table 5. Competency requirements*

Basic level	University level
• Use of technology. • Ethics and responsibility. • Writing communication. • Informational management. • Intellectual abilities. • Computational skills.	• Troubleshooting. • Decision management. • Action in the organizational environment. • Lifelong Learning. • Ability to work in a globalized economy. • Professionalism / ethics of work. • Accountability.
• High level.	• Outstanding level.
• Adaptability. • Entrepreneurship. • Professional examination. • Experience. • Multitasking. • Life experience. • Conducting business meetings. • Coaching. • Cultural diversity (cultural and diversity management). • Teamwork. • Organizational skills. • Interpersonal communication skills. • Reliability.	• Project management. • Managing continuous improvement of product quality. • Autonomy. • Critical thinking. • Leadership skills. • Initiative. • Emotional Intelligence. • Political skills. • Self-efficacy. • Stress tolerance. • Note to details. • Creativity.

Source: Jackson (2009)

Employers often invest in employees, especially in the acquisition of hard skills such as language skills and computer skills. On the other hand, the development of soft competences, whose formation is often a long-lasting and costly process, is not always successful, often with a distance. Many companies choose to hire graduates without experience and competence merely because they want to “shape” a young “plastic” person in the direction in which the employee works. Modern education requires versatile, flexible and creative graduates who, in line with the lifelong learning concept, are open to new knowledge and the need to acquire new skills - even beyond the thresholds of a vocational school or university. Because of many studies, a list of competencies and skills has been identified, which significantly increases the employability of graduates as a potential for employment. Necessary for the recruitment of competencies include:

- Confidence whose attributes (i.e., intelligence) can be shaped and developed, and are given;
- Awareness of their strengths and weaknesses, values, and goals;
- **Confidence in Confronting the Challenges Posed by Independence:** The ability to work independently without supervision;
- **Emotional Intelligence:** Sensitivity to other emotions;
- **Adaptability:** Positive response to changing conditions and new problems;
- **Resistance to Stress:** Effective action under anxiety, stress, initiative - ability to take action without pressure from others;
- **Willingness to Learn:** The desire to develop and improve skills to meet the demands of work and life;
- Ability to reflect on self and others' actions;
- **Reading Comprehension:** Text;

Competences of the Future

- **Mathematical Skills with Numbers and Tools in Practical Contexts:** Measurement, estimation, use of patterns;
- **Information:** Access to various sources of information;
- **Knowledge of Foreign Languages;**
- Organization of own workability of efficient, orderly work, creativity, inventiveness, lateral thinking;
- Listening, focusing attention, capturing key points;
- Writing communication: creating clear reports, texts for a specific recipient,
- Oral presentations; preparation of clear, personalized presentations,
- Translation (verbal, written) of other problems,
- Global awareness in a cultural, economic and economic sense,
- **Business Awareness:** Principles and priorities understanding in business to internalize innovation, customer satisfaction, and customer loyalty;
- Sensitivity to corporate policies, laws of organization and adaptability;
- Ability to work in different ethnic and cultural groups at home and abroad;
- Ability to broadcast priorities;
- **Planning:** Setting achievable goals and setting goals for achieving them;
- Ability to practice in-house knowledge;
- Having an ethical code and proceeding with it;
- **Dealing with Solving Problems:** Choosing and applying appropriate methods for solving problems, influencing others - persuading others of their own point of view, ability to argue and justify their own point of view or mode of conduct, -solving conflicts;
- **Decision Making:** To choose the best option possible;
- **Negotiation:** Ability to discuss a satisfactory goal;
- **Teamwork:** Constructive work with others;
- **Problem-Solving:** Analysis of facts and situations, creative thinking to develop appropriate solutions;
- Computer skills, documenting, working with spreadsheets, file management, use of search tools;
- Positive attitude, willingness to act, openness to new and ideas;
- Innovative approaches, creativity, cooperation, risk-taking.

Employers also provide information on skills required in the labor market. In Poland, for the past few years, a study has been conducted under the name of the Human Capital Balance. According to the last edition of Forbes.pl, the most important for Polish employers are

- Self-organizing competencies (necessary for 54% of employers looking for employees) include self-reliance, self-management, decision-making, initiative, resistance to stress and willingness to work,
- Interpersonal competencies (necessary for 42% of employers looking for employees) - establishing and maintaining contacts, communicating, teamwork and conflict resolution.

Experts from the personal consulting firm Hays Poland have identified ten competencies - both in the industry and in the whole market - which can be the motive force for Poles' career, both for beginners and experienced managers (Domaradzki, 2016):

Competences of the Future

1. **Ability to Build Long-Term Relationships with Customers:** Until recently, the service of individual bank customers often dealt with casual consultants. As a result, there is no standard for building long-term relationships, which, combined with the competitiveness of domestic banking, has made Poles often change their banking service provider.
2. **Business Oriented:** Professionals and managers will look for strong business orientation, understanding their mechanisms and working on KPIs (key performance indicators). This requires developing on the Polish labor market the Western HR model of business partnerships, in which human resource management experts work closely with the managers of the various departments of the company and implement HR processes in such a way that they help to achieve the company's strategic goals.
3. **Corporate Value:** Even among mid-level managers, knowledge of investment decision-making tools is small. In the coming months, people of this competence will be looking for companies operating in the financial markets sector.
4. **Sales Competence:** Due to the high competitiveness in the office and retail space, sales and negotiation skills will be of great importance; attention will be paid to the relationship with tenants and the knowledge necessary to execute the contracts. Therefore, employers in the real estate industry will seek not only people who can negotiate high rent but also be able to build cost-effective agreements for both sides of the transaction in a multi-year lease.
5. **Excellent Knowledge of the Sector in which the Company Operates:** This trend is more and more visible during the recruitment of accounting and financial positions. Finance is a department that now has a real impact on business - it is no longer just "reactive." Therefore, employers from new financial staff expect an in-depth knowledge of the industry and the ability to adapt their activities to the characteristics of the sector.
6. **Knowledge of Foreign Languages:** For several years now, international companies regularly place in Poland IT support - mainly in the field of the helpdesk. This together with the advanced development of the ICT infrastructure of the companies makes employers look for candidates who are well versed in foreign languages, with less emphasis on professional education and even professional experience. So you do not have to be a programmer to work in IT, though your programming skills are the most significant gain for interesting
7. **Project Management Competencies:** In the IT industry, the growing popularity of contract-based work, which typically involves the implementation of a single project. As a result, employers are looking for project management competencies. These are the desirable skills not only among candidates for process management positions but also among lower-level professionals. Scrum is well known for its agile project management techniques, which are characteristic of many technology companies and startups, projects and high earnings.
8. **Ability to Work in a Group:** More and more business ventures are realized with the participation of different employees and co-workers as well as external partners. As a result, the work begins to get more and more distracted, and it means that employees must have the ability to establish quickly excellent professional relationships with many people in a short time. Those who are able to do so automatically increase their quotations on the labor market.
9. **Communication:** Adaptation to the caller is often necessary to reach an agreement. Many professions are associated with maintaining good relationships with a group of demanding customers. Therefore, communication skills and ease of contact are getting more and more valuable.

Competences of the Future

10. **Ability to Work in a Multicultural Environment:** The continuous influx of corporations with foreign capital and the progress of globalization processes make Poland an international working environment where regular transnational projects are flourishing. The need to work in ethnically and culturally diverse groups requires the ability of employees to adapt quickly to a rapidly changing professional environment. An undoubted advantage may be the experience of working abroad in international companies.

The most important criteria for employers during the recruitment process when hiring a university graduate is the personal and interpersonal competencies of the candidate. They also presented the results of surveys conducted among employers and qualitative research in the form of in-depth interviews with employers' representatives, which enabled the development of the so-called "Ranking of the degree of importance of competencies of university graduates according to the surveyed employers" 1) Effective communication, 2) Knowledge of foreign languages, 3) Openness to learning, 4) Engagement, 5) Teamwork, 6) Ability to identify and justify priorities, 7) Ethical behavior as a basis for action, 8) Responsibility, 9) Ability to organize work and effective time management, 10) Flexibility and adaptability (Budnikowski, & Dąbrowski, 2012)

British employers highlighted the following factors: - Business awareness and customer needs - A basic understanding of the driving forces of business success, the importance of innovation, taking calculated risks, the need to meet customer expectations, building loyalty - Solving problems - Analyzing facts and situations, - ability to produce clear and structured written assignments, ability to express, listen and ask questions, - mathematical ability to manipulate numbers, application of precise rules in practical contexts, - application of information technologies (composition of text, calculation in spreadsheets, efficient use of the Internet), - positive attitude to life (can do), willingness to participate / contribute to development openness to new ideas, - entrepreneurship, innovation, cognitive thinking, cooperation.

There is no doubt that in the future many of these competencies will play the leading role in the labor market. Identifying skills and qualifying them allows you to select the required predispositions for a given position. This process is realized after the acquisition, using appropriate methods and techniques. Features like orientation on teamwork, ability to solve problems, creativity or orientation change are considered. Not all young people are fully qualified to enter the current labor market. During the qualitative research, employers criticized in particular:

- **Too Many Students Admitted Studying:** According to employers the influx of education causes a significant reduction in its level. At the same time, employers had better assess the level of teaching of public universities than non-public ones. In case of the latter consider that they are much more interested in attracting a student (and tuition fees paid by him), so they accept everyone and assume they do not throw out of school;
- **Mismatch of Directions to Labor Market Needs:** Employers say too many students are admitted to the humanities, most often served by employers were an example of pedagogy;
- **Too Small Number of Activating Students:** Employers criticized the college for being obsolete methods of education, assuming the passivity of a student;
- **Too Much Emphasis on the Acquisition of Knowledge, Too Small to Develop Skills of Critical Thinking:** This should be linked to the aforementioned little activating way of conducting classes (a type of lecture) as well as with the dominant form of examination - tests.

Competences of the Future

- **Students' Habituation to Individual Work, Too Little Emphasis on Work Teamwork:** In the opinion of employers, graduates are accustomed to solving problems solos that they have difficulty implementing projects in the group of people with complementary competencies

Below there is a list of indicators of employers what actions should be taken by the institution to better align the capabilities of the graduates to the needs of the labor market (Filipowicz, 2008):

- Upturn the number of practical classes
- Augment the number of compulsory internships / traineeships
- Expand the scope of cooperation of entrepreneurs in the form
- Internships
- Increase the influence of employers on the opportunities created
- Study programs
- More attention is paid to shaping competencies
- Social students
- Upsurge the number of research projects
- Rise the employment of practitioners as lecturers
- Provide students with appropriate career guidance
- More attention is devoted to the general education of students
- Raise the competences of the didactic staff of the university
- Promote career vacancies.

FUTURE RESEARCH DIRECTIONS

In the knowledge-based economy, competence management theory became important. It allows the management of human capital in the organization. Its practical use is conditioned by the right measurement of competence Desired employees and real capabilities. During measuring employee competencies, the level of control is assessed the particular expertise of the concerned employees in relation formulated in the organization of requirements in the form of professions of skill. In the literature of the subject are presented various sets of competencies, which can be considered as standard catalogs. They are based on empirical research conducted in real-life organizations, are created by experts from the scientific and practical world, and can be generated as patterns borrowed from specific companies. These directories are helpful in designing competence kits for particular organizations and jobs. Being aware of the divergence in perceptions of employment conditions by graduates and employers can help to streamline the employment process for graduates. Information flowing from the labor market provides information about the needs of employers in terms of the need for employees with specific education and their expectations regarding the skills, competencies, and qualifications of graduates.

Divergences arisen in expectations are indicative of under-utilization of market information. In fact, discrepancies in expectations of employers and graduates show that there is not enough co-operation on the employer's line – universities which significantly impedes and slow down the process of college graduates entering the labor market. To search for a solution is mandatory if prospective candidates and firms want to match.

Competences of the Future**CONCLUSION**

Changes dynamically occurring in the way of doing business have led to the fact that the success of the company is increasingly conditioned by the earlier investment in the development of employees' competencies. This human capital mechanism impacts on economic growth and is based on the finding that knowledge and skills held by employees significantly increase the ability of the entire economy to grow and develop. At present, we are living in times of haste, globalization, and permanently changing reality, not only of economic, but also technological. In order to not be excluded and not to cease to be a well-functioning "cog" of this self-motivating machine of socio-economic relations, professional reorientation and continuous training are often required. The competences of the staff make up one of the core elements of the potential innovative company. This potential, appropriately used, can be the basis of the creative business of a given company. Enterprises, building competitive advantages, will be able to manage their own resources, especially human resources, which are the most crucial factor of the potential innovation.

Graduates ending professional, secondary or higher education must be aware that this is not the end of their education path, as finishing a particular course may be just the beginning of their subsequent studies to gain new skills. The skillful use of acquired competencies, combined with the acquired professional qualifications, is one of the determinants of success in the labor market, as it matters not only knowledge but also the ability to use it. Society, and mostly the government, should strive to create the best conditions for setting up and running startups for young people to create jobs needed for additional working skills to shape new competencies. As a result, the socio-economic activity chain will drive the development of education, and this fact, in turn, will form more versatile graduates, who will holistically contribute to developing the country by promoting innovation and sustainable development for a better tomorrow.

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Competences of the Future

KEY TERMS AND DEFINITIONS

Communication Skills: Defined by the ability to convey or share ideas and feelings effectively.

Competencies: The abilities, knowledge, and skills that enable to do something successfully or efficiently in a job or situation.

Demands of the Labor Market: Demand that exists in a labor market, where employees provide the supply and employers the demand.

Innovate Education: Education that involves new or different methods of learning.

Life-Long Learning: Learning that is pursued throughout life, it is flexible, diverse and available at different times and in different places.

Professional Skills: Skills and qualities required for a specific type of job position.

Chapter 6

Building a Culture of Trust in Higher Education Institutions: Challenges for a New Type of Quality Management

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ABSTRACT

Higher education institutions worldwide are evolving in a so-called quality assurance era in which quality standards are defined and implemented. Quality assurance has, in fact, two sides: one declarative, or formal, reflected into documents, proofs, and even statistics well prepared, and one practical, or informal, that behind all legal issues, the quality of processes is real. The contradiction between the two sides of the quality assurance contributes a false perception of quality and unethical institutional behavior. Higher education institutions can become ethical or more ethical through their people—management, academics, students, alumni, researchers. In other words, the culture of quality needs to be rebuilt towards trust. The objective of this chapter is to provide a clear insight to the contemporary state of higher education institutions' behavior and context to contribute to the building up of new quality management based on a trust in the area of education, research, and social development.

INTRODUCTION: HIGHER EDUCATION QUALITY ASSURANCE – BASED CONTEXT AND ETHICAL NEEDS

The current context of higher education is a difficult one, the main characteristics being its dynamism. External factors coming from macro-environment change, such as legislation, ministerial methodologies, funding, demographical elements, information, and technology contribute to a change in higher education institutions (HEIs) not only to be aware but to be proactive. Internal determinants create an institutional climate and culture that are influenced by external stimuli, but, nevertheless have the power of making the institution a sustainable or a survival one. In other words, an efficient academic leadership drives

DOI: 10.4018/978-1-5225-5837-8.ch006

Building a Culture of Trust in Higher Education Institutions

the institution towards achieving its objectives by confronting the same challenges like its competitors with a different set of reactions, meaning behaviors, actions, strategies, policies.

HEIs in all countries try to develop in a quality assurance context in which they are accredited institutions certified by specialized entities, in which all their study programs must be either temporary authorized or accredited, in which quality standards are defined and implemented at least at their minimum values, in which strategies are well done, but not so well put into practice and so on. On the one hand, quality assurance is declarative, or formal, meaning that documents, evidence or statistics are essential, while on the other hand quality assurance is effective, or informal which reflect the real quality of processes. The difference between the two sides of the quality assurance allows poor institutional behaviors and false perception of quality to be more or less observed. When such a distinction is produced, an unethical action takes place from an institutional and managerial point of view. The higher this gap is, the more negative impact on the society is got. Gulcan (2015) describes merely the difference between theoretical ethics based on normative, descriptive and Metaethics and practical or applied ethics, referring to professional issues in the field; therefore, this is the difference between actions, meanings, and facts that are wrong or right and concrete standards and codes which generate professional guidance to employees.

Many strategies of HEIs show that building a quality culture or consolidating it is a priority for the management team, but this does not always include both sides of the quality assurance. In fact, the contemporary meaning of the quality culture can be described through all the internal actions imposed by the context of standards and legislation. Since the national framework is based on indicators, institutions behave as if achieving proper values to so-called quality indicators is their real objective. This is wrong. The indicators values are results of their activities and not objective. A quality culture cannot be built on strategies having the increasing of the indicators values as objectives. This happens in the case of an unethical institution in which wrong understanding of quality culture changes the whole way of thinking projects, actions, decisions. In other words, strategic thinking is needed by HEIs to be able to express their mission, objectives, activities clearly, to connect these with the resources and to identify their competitive advantage. Strategic thinking in HEIs is seen as the proper way of acting and changing from short-term strategies to longer-term ones. Bratianu & Bolisani (2015) explain that operational thought is no longer enough in a general competitive context, and describe strategic thinking as a solution to create and implement winning strategies. They also provide a clear understanding of the several models that generate strategic thinking: a model based on entropic reasoning, meaning that decisions are time focused, a model based on nonlinear thinking, in which complexity is considered as the most critical dimension and a model of probabilistic reasoning, where uncertain events count.

The current context of higher education and quality assurance procedures reveal the fact that up to a very high level, many HEIs at a national comparison, are quite similar. Differentiation is possible even if the quality assurance system might also impose the list of the subjects to be studied at a specific program as compulsory, optional or elective subjects. Therefore, building a quality culture is connected to developing strategic thinking for the leadership. An objective that is not realistic, or achievable proves weaknesses of the strategic thinking of the leadership. Combined with falsity, it goes again to unethical behavior. Many HEIs have described what is ethical or unethical mean according to their institutional concepts and provided transparent clarification. Academic Integrity at Princeton (2017) is a publication in which not only what is wrong in terms of unethical behavior is described, but also, solutions and recommendations are provided for the members of the academic community. Therefore, on one side, the university is defined as an intellectual community where trust is a central concept related to the idea circulation within the university; examples of plagiarism are explained, as well as misrepresenting

Building a Culture of Trust in Higher Education Institutions

original work and even possible penalties. On the other side, the academic community learns how to build an ethical behavior, including how and when to cite sources, how to work correctly and benefit from assistance and collaborative work and how to develop a disciplinary process.

Standards of ethics exist in the quality assurance procedures, and in all cases, it is declared entirely implemented. Its minimum value reveals the need that the higher education institution has a code of ethics and proves that it is known by the entire community. The existence of the document called code of ethics and its post on the website does not mean that the academic community knows its content and follows the rules. Its existence and position have to do with the declared side of the quality assurance, with the need of having it in order to fulfill the standard, to the absence of a proper and adequate strategic thinking.

Moving from a declarative quality assurance approach to an effective one is not a simple task. It is not a simple matter of one debate to make one decision to change from declarative to adequate quality assurance. It is a process that takes time. The entire academic community has a high responsibility to work ethically. In other words, the culture of quality needs to be rebuilt towards trust.

In the recent EUA Annual Report (2016) it is mentioned that approaches to research ethics and integrity are of interest in order that new trends in HEIs should be created and identified, meaning policies and solutions to contemporary issues. The new set of Standards and Guidelines for Quality Assurance in the European Higher Education Area of 2015 explained the importance of the academic integrity and freedom in relationship with academic fraud. Therefore, a new approach is needed in higher education from educational leadership to each member of the entire academic community related to a new type of value-based education.

A literature review should reflect the current state of higher education context and demonstrate the interest on ethical issues at national and international level coming from academic leadership and quality assurance representatives. Unethical behavior versus ethical behavior would, therefore, be described from the personal and cultural understanding of trust. In other words, moral behavior will be defined in terms of trust-based quality assurance in HEIs. In addition, the need of becoming more ethical oriented in actions and strategies will be connected to the lack of real quality assurance mechanisms in HEIs. Ryan (2015) explains the concept of quality assurance in higher education and its applications, showing that in terms of effectiveness of quality assurance practices, external procedures are very useful in the process of quality improvement, as well as the practices involving stakeholders in quality assurance in higher education; in other words, an extended and mixt team is more valuable for the quality assurance perspective, meaning that students, academics, researchers as well as different interested parties can all contribute to adequate quality of the study programs.

This paper mission is to provide a clear understanding of the current higher education behavior and context in terms of the relationship between ethical values and quality culture, in order to contribute to the building up of new quality management based on a trust in the area of education, research and social development. The primary paper objectives are the following:

- To describe the contemporary ethics-based context of higher education at the international and national level
- To correlate the quality management principles and standards to concrete institutional behaviors
- To define the culture of trust in HEIs
- To propose a model of the trust-based culture of quality management in HEIs.

*Building a Culture of Trust in Higher Education Institutions***BACKGROUND: FROM INTERNATIONAL ACHIEVEMENTS TO INSTITUTIONAL QUESTIONS**

HEIs belong to national educational systems. No matter if they are public or private, they follow the same national requirements in terms of quality assurance mechanisms, standards, and indicators. Vukasovic et al. (2002) provide an insight of origins and application of quality assurance in higher education, explain what trends and policies have they developed and identified main differences among different national quality assurance systems; they also define most relevant concepts in the quality assurance area: quality, quality assurance, quality control, quality enhancement, quality assessment, quality audit, standards, quality culture, and accreditation. Therefore, they state that quality assurance has been firstly introduced in the business industry in 1950's meaning from the very beginning that quality is being to be judged and compared, while in higher education it appeared beginning with the need of a quality assurance and accreditation system mentioned at a European level as an essential aim of the Bologna Process. Loukkola and Zhang (2010) examining the quality culture reveal the importance of the Lisbon Strategy (2000), of the Berlin Communiqué (2003), of the European Standards and Guidelines for Quality Assurance in the Higher Education Area (2005), of the EQAR creation and activity beginning with 2008, like all changes related to internal and external quality assurance that took place. They show that quality in higher education is a sign of attractiveness and competitiveness, but in order to improve it, institutional autonomy is needed. The same document describes the relationship between quality assurance and quality culture, interrelated processes, in which quality assurance is generated from institutional decisions, while quality culture is more difficult to change, including shared values, beliefs, expectations and commitment; in order to achieve a proper quality change, communication, participation, and trust is needed. At the same time, the Association of American Universities founded in 1900, currently consists of 62 institutions from the United States and Canada and promotes best practices in education and research; it believes that quality of American Universities can be generated from academic principles which are stipulated in a vital document, such as institutional autonomy, academic freedom, and shared governance.

In different institutional cases, quality is correlated to ranking positions of HEIs. Platis (2017) states that quality improvement is difficult to be managed when rankings are paid insufficient attention, but an excessive ranking consideration will be destructive; therefore, a proper institutional strategy should be build considering rankings only to some extent. Hegde (2013) also explains the need for internalizing the quality culture based on Indian experience and states that quality is an internal matter needed to professionalize education and that there is no single model for all institutions, each of them being responsible in defining its way of doing. Therefore, it is clear that quality assurance is a general preoccupation in higher education. What has already been achieved is related to the formalization of actions from objectives related to quality principles and goals. Quality culture in HEIs can be described through quality principles and values expressed by the leadership and reflected in standards and indicators, but this is just declarative or formal quality assurance. The real quality assurance is behind this one and is more connected to the concept of quality culture, since the actual quality assurance has to do with the principles and values implementation or application, with people's commitment, beliefs, and expectations.

All efforts towards quality assurance and management in higher education have been reflected in changes at national and international level. Here are some examples showing the current interest for quality assurance in higher education and leading topics of interests:

Building a Culture of Trust in Higher Education Institutions

- **National Standards:** In each country, one or several dedicated associations have been responsible for promoting relevant standards for quality assurance in higher education, teaching, and learning, management, research and processes related to societal involvement; such examples are: The Quality Assurance Agency in the UK for Higher Education (QAA), Agency for Quality Assurance and Accreditation Austria (AQ).
- **National Trainings:** Many companies have started to provide training on quality assurance in higher education, some of them were organized at the dedicated agency at a national level; example: Quality Assurance for Higher Education and Training Institutions arranged by AIT Extension, as a training and consultancy company.
- **International Projects:** Examples: Development of Quality Assurance in Higher Education in Moldova (QUAEM), Quality Assurance of Cross-border Higher Education (QACHE).
- **International Standards:** Examples: ESG-Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015).
- **International Conferences:** Examples: 1st IQAEE International Conference on Quality Assurance and Enhancement of Higher Education (2017), Conference on Future Education (2017), International Conference on Quality Assurance in Higher Education: Standards, Mechanisms and Mutual Recognition (2010).
- **International Thematic Peer Groups:** Example: EUA Thematic Groups generating from the Teaching and Learning Initiative for 2018 are dedicated to active learning, development of teaching competencies, a career path in teaching and evaluation of learning and teaching.

A more in-depth analysis of this national and international preoccupation for quality increasing in HEIs show that there is a lot of room for institutional improvement. New bodies and committees have been established in order to manage better different institutional processes that may affect their quality:

- **Research Ethics Committee:** Its role is to improve quality in research from an ethical behavior point of view related to the conducted study and collected data.
- **Ethics Committee:** It has been established in order to manage unethical behavior cases in which staff is involved – administrative, academic, leadership, researchers, students, mainly related to plagiarism, but not limited to this.
- **Ombudsman:** This office has been created within HEIs in order to deal with cases of contradictory behaviors compared to the Code of ethics.

Therefore, it is clear that the declarative quality assurance does not prove to be very efficient when at institutional level new efforts must be made to create new committees, working groups, entities in order to manage the reflection of the quality into behaviors – institutionally and personally. The ethical changes in the area of higher education are a result of national and international standards and legislation, but their efficiency can be proved only in institutions that have moved from declarative quality assurance to real quality assurance. In fact, any position, reaction, the intervention of an institution is in fact, a result of an individual or group of individuals' attitudes, beliefs, and behaviors.

Shetty (2014) explains ethics in education as a result of people's way of understanding what is right and right and shows that a universal ethics definition hasn't been given; he states that what is ethically right and wrong has to do with the values established in the society; in addition, when ethical dilemmas appear, moral reasoning help in the process of figuring out a solution and application of the moral

Building a Culture of Trust in Higher Education Institutions

principles. Even if such solutions look, new questions remain without clear answers. Ike (2017) explains that ethics matter asking some issues for higher education stakeholders, like how to find curricula of studies to enhance both character and learning, or what values to provide to graduates in order to help them to deal with a potential corrupted employer. Stuckelberger (2017) explains the decline of trust in higher education and the need for a standard set of values to be shared at a global level, where belief must be a condition for cooperation. He also states that a declarative mission for excellence must be followed by a clarification from an ethical point of view, the distinction being possible to be achieved in an unethical way. In other words, the entire strategic management must be reconsidered by academic leadership in terms of ethics.

BUILDING A NEW TYPE OF QUALITY CULTURE IN HEIS**Institutional Quality Culture; Principles, Values, and Needs**

Quality culture is not the same with quality assurance. While quality assurance is a system institutionally developed based on internal and external standards, quality culture refers to that relationship among people in the organization when everybody is responsible for the quality, not only the leadership. Vettori (2012) explains this approach as generating from Crosby (1986) cited by Harvey (1993) and demonstrates that in the higher education field, a multitude of quality cultures exist; it is based on values and practices that are shared among people. He also states that a quality culture is a tool for reflection and in order to understand it, internal examinations of strategies, policies, tools, practices, principles, etc. might help. In other words, quality culture is about more than having strategies and tools; it is about how they are in fact applied and used, in order to generate quality improvement.

Stuckelberger (2017) shows that there are cases in which ways of doing things generated scandals outside the organization and that damaged reputation. Platis (2017) states that academic rankings are essential even if HEIs face a lack of resources. Starting from the most relevant classification in the academic area, ARWU (2017), as a proof for institutional reputation, a selection of the first 5 ranked HEIs from different countries, reveals different approaches on quality culture, as seen in Table 1.

Many other examples can be found. What is relevant from the simple analysis of the institutional websites is that for all cases, HEIs have expressed higher interest in quality culture. Some of the examples show values that reflect interest for trust-based quality culture, integrity, and cooperation. Therefore, the perception of quality culture in the sense of values such as trust, teamwork, and integrity corresponds to the real quality assurance that is behind standards and indicators. Another important correlation can be deducted from the abovementioned examples: a culture based on values such as trust, cooperation, and integrity have a crucial general impact on overall quality that contributes to a high institutional reputation reflected in ranking position. Main correlations are among variables, as seen in Figure 1.

More features might be identified for each of the two types of quality cultures. What is to observed is that less of formal elements mean more of real characteristics of the quality cultures. Fewer documents and procedures, indicators and statistics, etc. mean more trust and cooperation, more ethical behaviors and institutional integrity, etc. At the same time, the formal culture will never disappear as an entire way of doing things; a proper method is capable of supporting appropriate actions.

Institutions are having values of trust, cooperation, mutual understanding and integrity can be considered examples of good practice. Institutions cannot just decide to change the formal quality assurance

Building a Culture of Trust in Higher Education Institutions*Table 1. Institutional quality culture characteristics*

Crt. Nr.	University	Country	Position in ARWU	Description of quality interest based on institutional websites (number of online searches on the site, plus values)
1.	Harvard University https://www.harvard.edu/ https://hms.harvard.edu/harvard-universitys-statement-values	US	1	• Quality culture: 83,800 • Quality assurance: 12,500 • Values: respect, honesty, and integrity, the pursuit of excellence, accountability • Result: an environment of trust, cooperation, and mutual understanding.
2.	University of Cambridge http://www.cam.ac.uk/ http://www.cam.ac.uk/about-the-university/how-the-university-and-colleges-work/the-universitys-mission-and-core-values	UK	3	• Quality culture: 13,511 • Quality assurance: 12,125 • Values: freedom of thought and expression and freedom from discrimination • Result: highest level of excellence.
3.	Swiss Federal Institute of Technology Zurich https://www.ethz.ch/de.html https://www.ethz.ch/en/the-eth-zurich/working-teaching-and-research/values.html	Switzerland	19	• Quality culture: 182,000 • Quality assurance: 166,000 • Values: fair and cooperative management style, non-discrimination • Result: the culture of cooperation.
4.	University of Toronto https://www.utoronto.ca/ http://www.anesthesia.utoronto.ca/vision-mission-values	Canada	23	• Quality culture: 83,800 • Quality assurance: 12,500 • Values: integrity, commitment to innovation and excellence, diversity and social justice, support, and collegiality, etc.
5.	The University of Tokyo http://www.u-tokyo.ac.jp/en/index.html http://www.u-tokyo.ac.jp/en/about/mission.html	Japan	24	• Quality culture: 13,800 • Quality assurance: 792 • Values: partnership, leadership, public responsibility.

Source:(author, websites retrieved October 29, 2017)

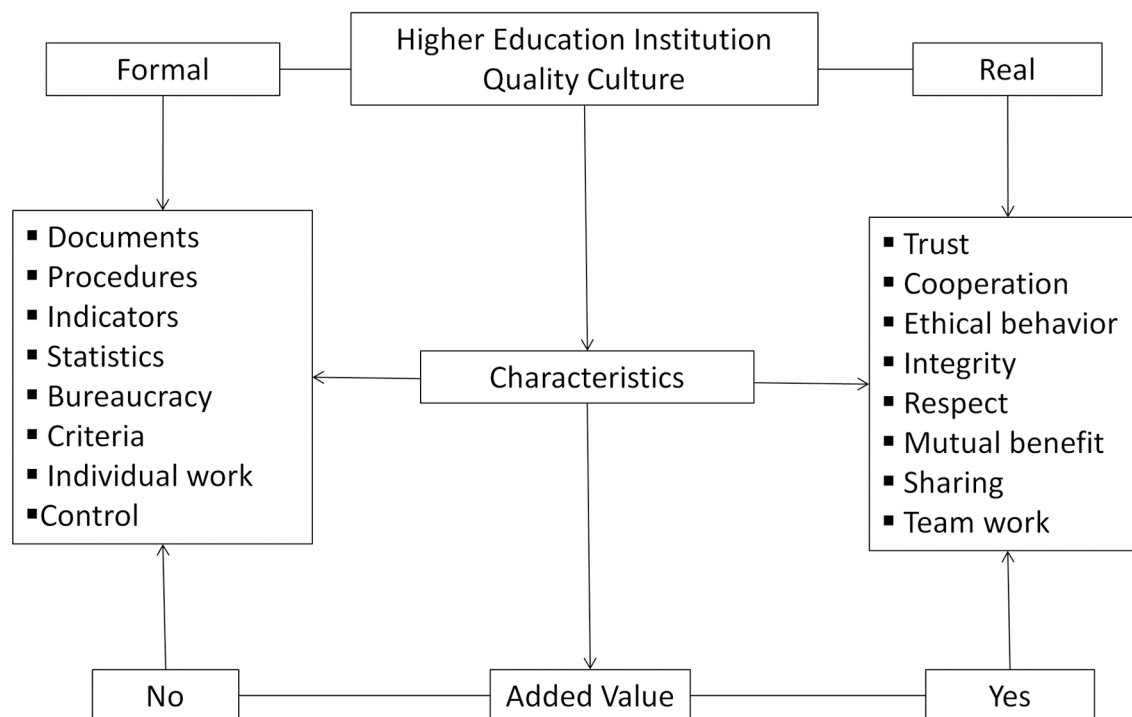
towards a real one, from a declarative quality assurance based on indicators to a quality assurance based on behaviors, from a result achievement orientation towards a process efficiency orientation. Achieving a trust-based quality culture takes time.

In addition, the efficiency of the quality culture is not easy to be understood by an external evaluator if he or she does not interact with people. Studying the website and the administrative documents is a necessary process in an external evaluation, but the site visit is needed in order to check the efficiency of the facts mentioned in the self-report. Who really understand the effectiveness of the quality culture is the people working in that institution. They live every day in the institutional context; they know if one decision is going to be useful and if some documents are going to be ignored or considered if one message is needed to be followed by bureaucratic other behaviors. In other words, the quality culture is better understood by people working in the institution, then by externals. Sometimes, even partners might see how long a process might take and how they deal with a particular agreement shows some features of the quality culture type.

Building a Culture of Trust in Higher Education Institutions

Figure 1. Formal quality assurance versus real quality culture in HEIs

Source: Author



Building a Culture of Trust in Higher Education

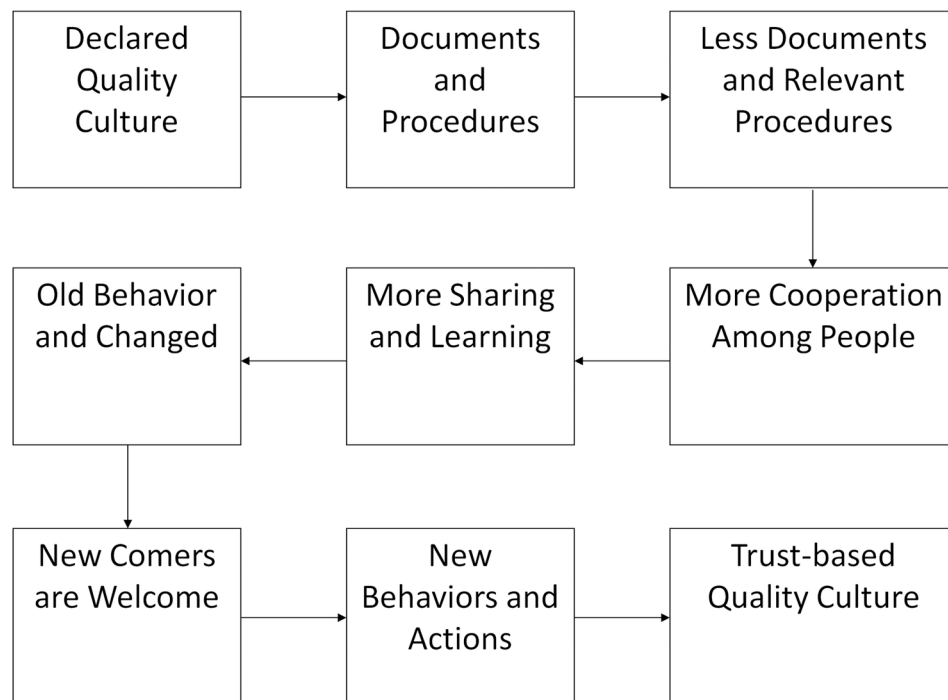
Building a culture of trust is a process of changing the current culture into a new one. When such a change appears as necessary, a less confidence-based culture is trying to be transformed into a trust-based culture one. In Figure 2 characteristics of the two types of quality, culture is shown.

A simple transfer from a formal kind of quality culture to a trust-based one is not possible, many phases being continuously needed. Fewer documents might mean more trust among people working together, more cooperation, sharing, and learning. These all, along with newcomers' behaviors contribute to a more efficient movement towards the needed quality culture.

A trust-based quality culture can be defined in one of the following ways:

- **Set of Institutional Values that Manage the Improvement:** Transparency, integrity, morality, honesty, respect.
- **Set of formal and Informal Procedures:** Sharing and cooperation, mutual support, learning one from another.
- **Everyone's Participation:** All members are involved in quality achieving, there is no cheating and people cooperate.

Changing the non-trust based quality culture into a trust-based one is not straightforward. Ariely (2013) explaining that cheating is infectious, demonstrate that sooner or later, no matter how well be-

Building a Culture of Trust in Higher Education Institutions*Figure 2. Quality culture change in HEIs**Source: Author*

haved someone is, he or she will begin to cheat, and this would have a significant impact on the entire economy; he also states that understanding the core values help in the process of reducing cheating. In other words, institutions should do a continual reminding of the core values. A higher education institution can do a lot of things in order to recall the core values generating a less and less non-trust quality culture. They are values related to ethics and moral behavior, towards good relationship among people, towards cooperation and support. Many events can reveal the interest for core ethical values, either for institutional integrity or for moral behavior, events that take place within HEIs such as conferences, seminars, focus-groups, events organized by faculties or departments, by students' associations, etc. Other events are held by external parties; the more academics participate in such events, the more aware they become of the importance of a trust-based quality culture.

Malhi (2013) explains the quality culture by shared values, beliefs and norms which conduct to continuous improvement of the quality of goods and services. He also identifies 8 steps to be followed in the process of creating and sustaining a quality culture. These steps can be adapted to a trust-based quality culture in HEIs, as in Table 2.

In order to build a culture of trust in a higher education institution, its current state is essential to be evaluated. This should not be a formal evaluation of the processes that take place within the institution, but a proper assessment. In other words, from a legal evaluation point of view, all standards for quality assurance might look implemented in a higher education institution, if not at a referential level, at least to a minimum one. This achievement does not necessarily correspond to a trust-based quality culture.

Building a Culture of Trust in Higher Education Institutions*Table 2. Steps in creating a trust-based quality culture in HEIs*

Crt. No.	Steps for creating a quality culture (according to Malhi (2013))	Description for a trust-based quality culture in HEIs
1	Recognizing the need for change.	Usually, people are reluctant to change. They do not want to admit the fact that something is wrong and if they do, they consider that it is not their responsibility to try to change. In a trust-based quality culture, people admit the need for change, and they proceed in order to generate it. They are either change promoters, change supporters or change accepters.
2	Diagnosing existing organizational culture.	There are cases when people just know things that are wrong, but they do not do anything else in order to make things better. They do not speak with a loud voice about facts or behaviors, they disagree unethical behavior but do not act. In a trust-based quality culture, people are able to communicate about difficulties because they all know that they are willing to improve things together. In other words, is not needed any type of diagnosis, but a right determination of the organizational culture.
3	Determining the desired culture which supports organizational vision and strategy.	If falsity is played within the institution, the existing culture cannot support organizational vision and strategy. When honesty and fairness take place, all actions contribute to real improvements towards strategic objectives. In a trust-based quality culture, even goals are set up correctly in order to be achievable as a real institutional capacity.
4	Communicating the desired culture to all organizational members.	Institutional values in declarative quality cultures are included in formal documents, so they would be great documents. In a trust-based quality culture, organizational values are shared permanently among people through their acting and way of working.
5	Modeling of desired behavior by leaders.	Academic leaders might know what higher institution needs, what change should be taken. But changing people's behavior is not a simple task, sometimes being easier to accept that some people might quit and others replace them. In a trust-based quality culture, staff recruitment is significant.
6	Conducting appropriate training at all levels to imbibe new culture.	A trust-based quality culture takes time. People that have proper behaviors should be more encouraged to make other tasks. Training on non-cheating might not work, but an instruction on plagiarism or on academic integrity definitely do. In declarative quality culture, a practice on ethics is not readily accepted, being considered that promoting such values, outsiders would believe that they are indeed, on the contrary, meaning un-ethical. In a trust-based quality culture, such training is new opportunities to remind the community the real values.
7	Reinforcing the desired behavior.	A continuous effort is needed in order that people understand that what has started to happen is not an occasional event, but a long-term change for the institutional benefit.
8	Evaluating progress towards the desired culture.	Progress is evaluated from time to time by people who begin to see the results of the changes. Administrative work might become more simplified, trust being the solution for other required previous documents, but of no use.

Source: Author

Table 3 shows the general orientation of current standards towards a trust-based quality culture approach, based on Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015).

Model of Trust-Based Culture of Quality Management in Higher Education

A trust-based culture in higher education corresponds to a real quality assurance type, to quality management in which quality is natural to get improved, all participants were actively involved and cooperate towards this. Malhi (2013) explains four simple ways to make quality a way of life: to have the top management committed to the change, to observe a proper behavior to leaders, to promote a climate

Building a Culture of Trust in Higher Education Institutions*Table 3. Standards and trust-based quality culture support*

Crt. No.	Standards and Guidelines for Quality Assurance in the European Higher Education Area (2015)	Trust-based quality culture issues
1	Setting the context.	Quality and transparency are needed in order to build mutual trust.
2	Scope and concepts.	Standards are meant to promote transparency and mutual trust
3	Purposes of accountability and enhancement.	Trust is created and connected to institutional performance.
4	Purposes and principles.	Trust is facilitating recognition and mobility.
5	Policy for quality assurance.	Academic integrity and freedom are actively supported.

Source: Author

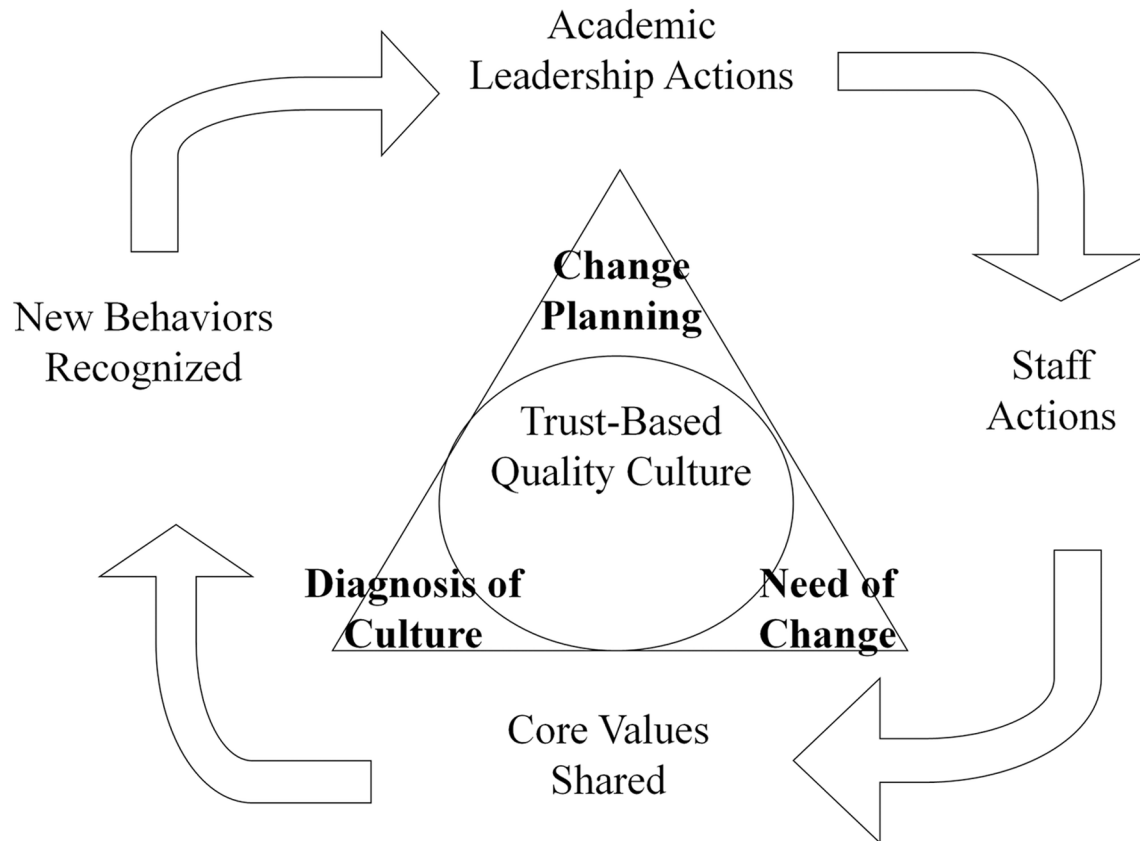
of mutual trust and teamwork, to recruit new people dedicated to this approach. In higher education institution, this approach would mean:

- **Rectors Commitment to the Trust-based Quality Culture:** the change should begin from the top management to the bottom. In the beginning, some drastic changes might be taken, like structural or organizational changes meant to replace people from different positions. Rectors must be involved in the transition. Otherwise, it will not be considered that he is willing to support and share the difference.
- **Leadership Trust-Based Behavior:** academic leadership must prove that he or she has a proper behavior committed to change. In other words, a simple declaration from him that he will be supporting this change, will not be considered a real one. Fewer words expressed and more actions taken towards the shift in supporting trust-based quality culture are ways of moving from declarative to trust-based quality culture.
- **Internal Climate of Mutual Trust, Team-work, and Cooperation:** people are going to learn how to work together. In case of conflicts, working together will not be possible, so in particular situations, only new members of a team might help.
- **Involvement of New Entrants:** new people will be hired to share the core values towards trust-based quality culture. They will have to be able to deal with the existing staff, to show that they can work together.

Figure 3 is a reflection of the trust-based quality culture model. The model is a simple representation of a change from an existing system to a new quality system.

Trust-based quality culture is a result of a process that starts from the recognition of the need for change and a correct, honest and transparent diagnosis of the current culture state. Then, the switch itself is planned. All these happen because leadership acts and also, the entire academic community starts to act towards the core values sharing. In time, new behaviors begin to replace old ones. The action flow can be reconsidered from another side, like starting from the admission of a new beginning through the recognition of new behaviors, which will imply further academic leadership actions, as well as staff actions. As a consequence, core values will be institutionally shared.

The model of trust-based quality culture in HEIs consists of a set of changes generated from a correct understanding of the current quality culture state and from the recognition of the need for change. Aca-

Building a Culture of Trust in Higher Education Institutions*Figure 3. Model of trust-based quality culture in HEIs**Source: author*

democratic leadership is looking for a new type of institutional behavior based on core values, and therefore, employees become more and more actively involved. The main components of the trust-based quality culture model are:

- **Quality Culture:** People involved in the HEIs are quality culture makers and takers; employees working for a long time are those that create culture, while new-comers are receivers of internal institutional characteristics.
- **Need for Change:** Either leadership or impressive groups of followers realize that things cannot continue like they used to and a need of reform is considered as the only solution to a quality culture improvement towards ethical principles; therefore, decisions are made in order to diminish the contradiction between the current quality culture state and the desired one. A set of planned changes or actions are identified and started to be implemented.
- **New Behaviors:** Step by step, small effects begin to be achieved, firstly in terms of people's responses. They start to cooperate better, to share more, to work more together. Institutionally, a change from self-interest behavior towards a collaborative action is considered. The more it lasts, the more effective the difference becomes. When no return to old operation is possible, the trust-based quality culture is achieved.

Building a Culture of Trust in Higher Education Institutions

Therefore, the phases to build-up the trust-based quality culture within HEIs are:

- **Understanding the Current Quality Culture State:** This is a starting phase in which academic community in general and educational leadership, in particular, identify the characteristics of the present quality culture.
- **Determination of the Gap Between the Core Values and the Current Culture State:** This is the phase in which leadership recognizes the difference between the active quality culture and the declarative one. The declarative state is ethics-based and corresponds to the core values, while the production quality culture corresponds to the existent quality culture within the institutions.
- **Empowering of Leadership:** This phase is generating a decisional process. Leadership makes decisions: the decision of the necessary change, the choice for change planning, choices for actions, decisions for staff involving.
- **Staff Engagement:** A trust-based quality culture cannot be built up in case people do not want to understand the need for such a change and do not ethically act.
- **Building up New Behaviors:** Building up further actions takes time. Change can start with teamwork, and people's behavior can be extended, as an example of good practice.
- **Sharing of the Core Values:** Ethical behavior started to become a current characteristic of the quality culture in a higher education institution.

Therefore, all the above-mentioned components and phases of the trust-based model of quality culture are essential, all together being a real generator of core values sharing in institutions. Nevertheless, the need for change is even a more dedicated step in order to ethically change. If leadership does not realize that the current state is no longer acceptable, that the present culture declared as an ethical one is, in fact, a non-trust quality culture, which is against to the concept of quality itself, the change cannot become effective. In other words, the contradiction between the current state and the core values is only determined in case of an institutional truth moment. At the same time, just leadership actions and behaviors are not enough to properly get the institutional trust-based quality culture. The entire academic community must be involved, and staff engagement is necessary.

SOLUTIONS AND RECOMMENDATIONS

In the current context of HEIs, quality assurance is a present system. When outside companies are hired or encouraged to provide consultancy related to quality assurance, these procedures will be no more than formal ones, very general and similar to other institutions, inspired by business companies. If the quality assurance system within a higher education institution is developed by its own staff, the chance of being less formal is high. Nevertheless, less legal, does not mean that so built, the quality assurance system will provide a trust-based quality culture. In an official type of quality assurance system, people actions are dictated from the job description, and they are very concerned about their formal assessment. In fact, a trust-based quality culture has less to do with procedures; it has more to do with people and with relationships among them. In a trust-based quality culture, people cooperate, they act like a real and valid team, they support each other, and the tasks generated from the job description are fulfilled as a consequence of this trust-based behavior.

Building a Culture of Trust in Higher Education Institutions

One simple proposed solution to change the quality culture from a declarative and formal one to a real and trust-based one is to repeat core values for the existing people continuously and to pay a lot of attention to the quality of the new entrants in the institutions. Newcomers and existing personnel slowly and slowly will begin to have similar behaviors and will work efficiently in teams. The entire institution will become more flexible, more adapted to change, less bureaucratic. The more ethical behavior is present, the more trust-based relationship among employees will be observed; therefore, more collaborative work will be done, teamwork will become more active. On the contrary, since cheating is infectious, the quality of the recruited people is paramount; they will very soon adopt the behavior they observe. Therefore, two cases appear in HEIs:

- **The Evidence of a New-Established Team:** When a new project is to be run, or a new task is to be achieved; a new working group has to be defined. The leadership has a vital role in the nomination of the project manager or if the project is a competition-based result, then, who the manager is and what behavior he or she adopts is very important. A trust-based team is practically a small one, the relationship among people being a result of previous experiences and based on respect for professional background and quality of work. The selection or recruitment of the human resources is highly relevant in assuring a decent team behavior from the very beginning of its establishment.
- **The Case of Existing Team:** Academic leadership has to face situations in which more or less the same team has to deal with a new task or decision-making process. From a trust-based behavior, the possibility to attract newcomers in an existing organization might be beneficial and might also generate behavioral changes. Cheating can be stopped if the number of newcomers is higher than the current members, so an ethical behavior can be expanded, but this is not a specific fact. In some unfortunate practices, newcomers become attracted by unethical actions and start to cheat. This is why, the recruitment of the newcomers is again, critical, so they can positively influence the existing members and not become negatively affected by them.

At the same time, different behaviors can be observed of the team manager and of the members, as seen in Table 4.

- **Manager's Ethical Behavior and Ethical Behavior of the Team:** This relationship is the best one from a real quality culture. The compatibility between a manager and his or her team is clear; cheating is not possible, cooperation is based on entirely trust among all people involved in the working process.
- **Manager's Ethical Behavior and Unethical Behavior of the Team:** The manager has a very delicate and complicated task to change the team behavior towards a better and ethical one, based

Table 4. Standards and trust-based quality culture support

Behaviors	Team behavior: ethical or unethical	
Manager's behavior: ethical or unethical	Manager's moral conduct and ethical conduct of the team.	Manager's ethical behavior and unethical behavior of the team.
	Manager's unethical behavior and ethical behavior of the team.	Manager's unethical behavior and unethical behavior of the team.

Source: (author)

Building a Culture of Trust in Higher Education Institutions

on trust and commitment, on cooperation and mutual respect. The solution is given by the trust-based model of the quality culture when the need for a change is accepted.

- **Manager's Unethical Behavior and Ethical Behavior of the Team:** The team behavior is influenced by the manager's behavior. The team member will become divided into two groups of cheaters and non-cheaters, some might give up on their teamwork and mission and look for other projects or even institutions.
- **Manager's Unethical Behavior and Unethical Behavior of the Team:** This is a case of very destructive behavior. The institutional reputation will be sooner or later affected, and stakeholders will become suspicious.

In all cases, quality assurance procedures help a lot from not being only declarative, but efficiently operational. In other words, what international standards include related to trust, cooperation, integrity and teamwork should not remain just typed words or expressions, but a way of doing things in HEIs. A trust-based quality culture has to develop from inside individuals, no matter how much effort the institution pays for. Therefore, control of cheating is needed, so existing staff and newcomers will not be influenced by bad behaviors. Fraud can be managed when transparency is no longer declared as a core value, but also an implemented value in practice and reflected in actions.

FUTURE RESEARCH DIRECTIONS

Quality culture is difficult to be considered as a bright output of efficient quality management. It cannot be regarded as a process with a precise origin within the institution, but it can be observed merely as an outsider seeing results of collaborative work among the different categories of personnel. Building a culture of trust takes time. People must firstly trust this type of quality assurance, must be confident in the trust-based quality assurance and in order to do so, this must be piloted at a small scale, like for instance a department or a team project for a process that involves collaborative work. Therefore, future research directions might be:

- **Role of Trust in Building an Institutional Reputation:** Trust describes the relationship among people when they work together and interact in a way or another, but it is also present in the people's perception towards an institution. Trust can be reconsidered and transformed in an institutional strength in higher education which will generate more partnerships, will attract more students, etc. Trust-based reputation consists of the stakeholders' beliefs and perceptions that what is described and provided as institutional information is accurate and valuable.
- **Understanding the Relationship between Trust-Based Quality Assurance and the Institutional Bureaucracy:** More documents are invented when a lack of trust is happening. A correct analysis at a small scale such as a department could demonstrate the impact of the trust-based relationship among people on bureaucracy. In other words, when trust increases, some formal procedures are simplified and not necessarily needed documents could be avoided.
- **Transparency Versus Trust:** Transparency and trust go along very well. Trust is more natural and faster installed when clarity is in place. More transparency means more evidence and unambiguous facts, fewer doubts and more trust among people.

Building a Culture of Trust in Higher Education Institutions

- **Assessing the Trust-based Quality Culture:** Quality assurance is by definition, a system that is frequently monitored and evaluated. Evaluating trust-based quality culture in the absence of appropriate indicators and criteria will change the perception of quality. More feedback and opinions will help the assessment process.

CONCLUSION

Building a trust-based quality culture is not a simple question of yes or no decision. It is a long process of changing behaviors and relationships. It starts from a clear understanding of the current context for HEIs, meaning not only internal ways of doing things but external factors, such as quality perceptions, rankings, national and international standards. A new type of quality management is related to a trust-based quality in which people work together, cooperate and support each other. There is no doubt that ethical issues, in general, have generated enormous interest in a higher education institution, but there is still a gap to fill up between changing from immoral principles to right actions and behaviors. Quality assurance mechanisms have made some efforts towards setting proper standards related to ethical behavior. Again, specific standards for quality assurance reveal only the declarative side of the quality culture. An effective one is possible only when people firmly believe in the ethical principles and promote a trust-based quality culture.

A definition of such a quality culture is possible since its elements are clear: cooperation, mutual support, learning, and sharing, etc. The more correlation is studied between quality management principles and standards on the one hand and institutional behaviors on the other side, the higher the need for trust-based quality culture is.

The culture of trust in HEIs is possible to be achieved in the context of leadership involvement beginning with the acceptance of a change need. Once other people get involved, the behavior is getting to change, and if this is difficult, decisions can be made, including recruiting of new people. In time, results of trust-based responses will be observed from the bureaucracy decreasing point of view, from the simple way of internal dealing with similar issues like in other institutions. HEIs face at least four challenges: to realize that trust or more trust is needed among people, to decide about the change for building a new type of quality culture, to take actions accordingly and to assess the results.

Therefore, the trust-based quality culture is a new way of quality assurance in which all people get involved, want to cooperate and work in teams. The word that defines trust-based quality culture is *together*. People work together, decide together, learn from each other and share things, having mutual interests and benefit. Trust-based quality culture is less declarative, more profound one reflected into ethical behaviors. Cheating is not permitted. It is not allowed, not only from a procedural point of view but from an individual and team behavior one. It is replaced by a strong commitment to the institutional task.

Quality culture is based on standards and indicators which is a good thing. They provide a clear and shared understanding of what level of quality in teaching, learning, management, etc. is to be achieved from a study program or another activity organized in higher education. From a declarative state of quality culture to an effective one is a long way if the willingness is not reliable. If the need for change in terms of behaviors is clear, the starting point is a change planning towards trust-based quality culture. A new type of managers and employees is wanted: a kind of personal commitment, of non-cheating actions, of pro-active people. Finally, ethics is a self-feature of everyone's behavior. Teamwork is significant, but the manager's response is more influencing the team's practice than the team affects him or her. This is why,

Building a Culture of Trust in Higher Education Institutions

when new tasks appear, academic leadership has a high responsibility in the manager's nomination. Then, the manager will know how to select and recruit people for his team to be compatible with his behavior. If people cannot be contracted or replaced, then existing ones will have to learn a trust-based behavior.

The model of trust-based quality culture in HEIs suggests the possibility of changing the current declarative state of quality culture by sharing the ethical behavior practices of small teams and also by the continuous empowerment of the core values.

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KEY TERMS AND DEFINITIONS

Ethical Behavior: Individual, group, and institutional behavior guided by core values considered general good values.

Model of Quality Culture: A representation of institutional factors or phases that reflect the way of acting towards quality improvement through all the people's involvement.

Model of Trust-Based Quality Culture: A representation of institutional relationships among people working together as teams, cooperating, supporting each other, sharing, and learning one from another.

Quality Assurance: A principle and a way of acting towards continuous improvement of quality.

Quality Culture: A general quality approach in which all individuals believe and accept as being relevant to the institutions they work in.

Standards: Level of specific variables considered as mandatory or referential to be achieved in order that the institution reflects its products and services quality.

Trust-Based Quality Culture: The general belief among all persons within an institution that they can all work together to improve quality.

Chapter 7

To Take or Not to Take?

The Importance of Business Ethics

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ABSTRACT

Business ethics are not only an effective method of competitive struggle but also measurable economic benefits. The sense of responsibility allows to limit arbitrariness and develop a concept of freedom that will take into account the needs of others. In the face of a crisis of values, the ethical attitudes and moral issues are of particular importance, both in the professions of public trust and in the economic sphere. The analysis confronts two separate groups, those who enter the market and establish their business and those who already are in the market and have to manage. The attitude of the people involved in the market depends on the atmosphere on it. Due to this, the authors analyze the beliefs of the students to ethical issues and their views on the rules which control the economy because they will be responsible for the local market.

INTRODUCTION

At the base of human behavior, there are convictions that have a real reflection in the proceedings. References to these beliefs and actions are always ethical and moral values that are expressed in the norms of code, custom, and morality. Despite the current problems facing the European and global economy, all the possible accomplishment in the field of forming ethics' perception of participants of the economy market are of particular importance. Ethics has become a signpost for employees as well as employers, setting the direction for professional and personal success.

Business ethics are not only an effective method of competitive struggle but also measurable economic benefits. The sense of responsibility allows limiting arbitrariness and developing a concept of freedom that will take into account the needs of others. The benefits of liability strategies are considered in the long run. These are:

DOI: 10.4018/978-1-5225-5837-8.ch007

To Take or Not to Take?

- **Increased Investor Interest:** Lenders are more interested in working with responsible companies that, in addition to excellent financial performance, manage in a transparent way, responsibly build their image and good relationships with the environment. For many investors, the company's economic credibility depends on its social credibility.
- **Increasing Consumer and Stakeholder Loyalty:** Increasing consumer awareness means that, in their choices, they also rely on the trust of the company and its image.
- **Improving Relationships With the Local Community and Local Authorities:** Company that participates in the life of the local community, taking long-term and measurable social investments, facilitates its smooth and conflict-free functioning. Social responsibility enables to become permanently rooted in the society and to win the favor of its inhabitants.
- **Increasing Competitiveness:** Establishing rules of responsible business is one of the strengths of companies gaining competitive advantage. Polish companies apply CSR policy as one of the most effective ways to build their position in global markets. In fact, in global markets meeting, responsible business standards are more evident.
- **Raising the Level of Corporate Culture:** Due to the challenges of CSR, the company increases standards of conduct for stakeholders and thus avoids the cost of dangerous partnership. These changes affect the forming of the corporate culture of an organization that creates an organization based on trust, responsibility, and transparency for all concerned.
- **Shaping a Positive Corporate Image Among of Employees:** Corporate social responsibility is one of the elements of non-financial motivation for employees. Thanks to: ethical codes, social programs, environmental care, the image of the company in the eyes of the employee are improving.
- **Recruiting and Retaining the Best Employees:** When a company's image improves and employee trust increases, the company's attractiveness in the labor market grows, thus attracting new and retaining the best employees.

In opposition to moral attitudes, however, one cannot overlook the fact that man is a rational being and increasingly he is guided by the principle of maximizing benefit and satisfaction. He becomes an economic man (*homo oeconomicus*) acting in accordance with the particular interests that determine the direction of his conduct. That is why entrepreneurs entering the market and those already on the market can maximize their benefit and will bring them into unethical activities.

Ethics in business should be the foundation of every organization's activities. In the face of the crisis of values, the ethical attitudes and moral issues are of particular importance, both in the professions of public trust and in the economic sphere. Due to the challenges of today's market and global competition, in the opinion of many entrepreneurs: honesty hampers success. The bold phrase: The first million you have to steal becomes a hint as to how to proceed to win. The absence of severe sanctions also entails that entrepreneurs are willing to risk taking on corruption or broadly unfair competition at the price of behavior contrary to moral norms.

In view of today's challenges facing higher education, originating both in demographic and cultural factors, there is the analysis of academic teaching in the context of influence students' attitudes and personality development and cultivating an intellectual culture. It is increasingly common to trust that we are dealing with a new situation in education today. The aim of education should be not only to acquire scientific knowledge of the world but also to prepare children and young people to deal with uncertainty and change. Accent should be shifted towards developing creativity, exploring, experimenting. One of

To Take or Not to Take?

the primary functions of the university should be the implementation of intellectual culture and shape pro-social attitudes. This is the simplest way to build a social compromise and trust and to improve the condition of the common public and society. In the long-term perspective, this will contribute to sustainable development, including the well-being of the community.

This is why the chapter will present the results of research conducted on students of economics science and young entrepreneurs about the perception of ethical and unethical behavior in business. This analysis will allow confronting two separate groups, those who will enter the market and establish their own business and those who already are in the market and have to manage. The results will show whether ethics in business is an oxymoron.

In addition, the chapter will show whether, since business primarily involves people-to-people contacts, that means that while we do not accept such behavior, we commonly use it. Do the fundamental principles such as trust should be plotted out of social life? Finally, cheating and dishonest commercial practices cannot have a future, since we are a knowledge-based, not a lie-based economy.

BACKGROUND

“Homo sum; humani nihil a me alienum puto” (Terence), hence the constant struggle between good and evil, the ethical with the unethical issues, not only in the context of social relations but also the sphere of economy.

According to the Maslow's pyramid concept, people fulfill their needs according to a particular hierarchy, from the physiological needs, through the requirements of security, belonging and recognition to self-realization. In order for a person to realize himself in society fully, these needs must be met. The ways to reach the next level of the pyramid can be many, including unethical actions. Before they are taken, the morality should stop the man.

There are seven reasons for moral behavior among people, quoting after Kohlberg: avoidance of punishment, gaining reward and acceptance, avoiding criticism on authority, contributing to the prosperity of society, achieving justice and preventing self-condemnation by being faithful to universal principles (Buksik, 1997). The motives of moral behavior are a self-regulatory that allows to organize human action according to a set pattern of behavior and maintain ethical standards (Ejovwokeoghene Ogbari, Oluremi Oke, Ibukunoluwa, Akintunde Ajagbe and Cat Ologbo, 2016; Klimczak, 2006).

G. Sartori points out that the changes taking place in society, where the economic man is speaking, make it less rational for his members to share their duties and fear for common goals than becoming a parasite and pursuing a desire for profit and loss (Pomykała, 1995). The concept of *homo oeconomicus* (Rogowski, 2003) described human beings who are rational and self-interested beings capable of making judgments towards subjectively defined ends (such as accumulation of wealth and resources) (www.businessdictionary.com); the person that desires to maximize his/her needs or desires without commitment and effort.

Profit is not the only regulator of company life; Human and moral factors must be taken into account, which from a longer perspective prove to be at least as relevant to the life of the enterprise (John Paul II).

The ever-increasing role of the economy and its impact on social life is mainly due to the intensification of activities being implemented today. The strong presence of the economy in everyday life is because most people are employed or self-employed. Such organization of work creates business links. Therefore, due to such a high degree of interference, society demands ethical regulation of business activity.

To Take or Not to Take?

Ethics comes from the Greek word *ethos* and *oethos*, meaning custom and behavior referred to human action. It is perceived as a set of rules that should be guided in life - a specific code of conduct (Popkin, 1994). In society, people should refer to principles such as: do not steal, do not lie, do not deceive, respect another person. Similar rules have their equivalent in the business. They concern human actions in the context of the style of running a business or functioning on the market. Business ethics is one of the foundations of social responsibility, without which this idea is not created, but it should not be equated with it. Business ethics is the first step on the way to implementing CSR (Filek, 2006).

Ethics is, above all, a science that deals with the broadly understood field of morality (Sowiński, 2012). Business ethics is a practical expression of the so-called applied ethics, which is supposed to answer questions related to social cope, in this particular area of the economy. Man assumes the role of the creator of both principles and moral actions. The focus of business ethics is both human actions (decisions, deeds, behavior), human attitudes (resulting from these deeds), and man himself as the perpetrator of the act, or the subject of the posture (Sowiński, 2012). Ethics says how it should be, not how it is and what is right *semper et ubique*. Most of the ethical dilemmas in business concern honesty and justice.

Business ethics adapt methods and goals of normative ethics, adapting them to specific requirements related to moral problems occurring in business. Its subject is the real moral requirements that are forming in this sphere of the functioning of civilization. In this respect, business ethics deals with both purely commercial organizations and non-profit organizations. (Kordas, 2008).

Moral principles are translated into ethical codes that serve to articulate the principles of the company and show in theory how firmly committed to ethical behavior is. Their role is to point out the desirable rules of conduct and to replace the supervision of moral principles. Often, however, there are no sanctions along the moral code, which would be a warning against breaking the system. This causes the real power of the ethics codes to have a negligible effect.

Therefore, in social life as well as in economics, it is essential that at least minimum moral norms, expressed in the sense of personal responsibility and responsibility, are obligatory. Disloyalty or dishonesty, also in the sphere of economic life, distort the relationship between the actors involved in the interactions.

The business environment consists of economic entities represented by individual entrepreneurs, companies, etc., which not only generate profits but also support social development. In this dimension, the economy begins to assume responsibility for the future shape of the world, a system of values that will dominate. Consequently, emerging pathologies will have consequences for society as a whole (Filek, 1998).

Today, unethical actions are less efficient than ever. Because of corruption, the scandals and blackmail are not only losing customers, but the whole economy is slowly falling into a state of constant chaos or becoming mafia-like (Sowiński, 2012). Society as an observer of economic processes demands better solutions. In the sphere of economic life, the directions of activity should be socially responsible, ecologically friendly and economically valuable, in line with sustainable development.

The importance of respect for ethical principles is growing not only in changing legal regulations but also in the development of ethical codes and pressures on the part of the public to address the minimum market requirements for moral behavior (Drucker, 1997).

So in the economy, we are dealing with a zero-sum game, where profit one always means a loss for others. The “first million” stereotype - which must be stolen to perceive entrepreneurial behavior in the jungle, in which the stronger, devoured the weaker. It seems that it is difficult to reconcile the economy

To Take or Not to Take?

with morality, according to M. Friedman: The business of business is business, which sets the direction for the industry to focus primarily on maximizing profits, especially the owners.

Collins (2010) suggested that when companies have to compete with each other so vigorously, just making money in business is not wrong itself. However, the manner in which some corporations conduct their activities brings up the question of ethical behavior.

In opposition to this approach, theories that emphasize ethics also arise. One example is the concept of “triple E” in Poland, popularized by W. Gasparski, which speaks of three components: efficiency, economics, and ethics should be the basis of human activity, especially in economic space.

Morality alongside law and custom is a fundamental way of regulating, exerting external pressure on the business environment to look at the ethical context of its activities, but there are internal pressures associated with rational calculations and a pure desire to reduce the risk of economic games and the mere need for fairness (Fromm, 1996, pp. 217).

In the face of social expectations of business activities, Corporate Social Responsibility. Initially, business reacted reluctantly to this phenomenon, seeing mainly the limitations for development. With time, CSR has become important (Bem-Kozieł, 2008).

This critical issue is of interest to the European Commission. According to the EC, CSR is the concept that companies voluntarily take into account social and environmental issues in their business and relations with stakeholders (COM, 2001, 366). It is a way to manage the company, according to which people managing a company should respond to possible to identify the expectations of stakeholders to ensure obtaining competitive advantage and lead to the sustainable economic development and social (Kwarciński, 2016, 83).

The assumption is therefore to create a climate that is conducive to companies to fulfill their obligations under their social responsibility. It emphasizes the role of CSR in building the trust of the environment - both internal and external stakeholders and the public. Such relationships create the basis for new ventures, innovative initiatives, and sustainable development. They are an outstanding example of ethical behavior (Kostera and Koźmiński, 2002).

Many ethical entrepreneurs, however, define luxury as they cannot afford. Meanwhile, they have to go into corruption schemes. A common problem in business is the issue of corruption. According to analyses by Transparency International, an organization dealing with the fight against corruption and mitigating its impact on the community, Poland in 2016 took 29th place in 176 countries, scoring 62 points. In 2000, we occupied the 43rd position, in 2007 – the 61st position. Therefore, the result for 2016 is outstanding (www.transparency.org, 2016).

Greater business transparency is currently being acknowledged as central toward organization's permit to function; enhanced corporate performance is engendered via inspiring an enterprise to achieve its stated objectives (Dabor, Isiavwe, Ajagbe and Oke, 2015).

Some unethical practices do not violate legal sanctions, but they are pejoratively evaluated, and their use can stop paying off and become extremely expensive in the words of Franklin: honesty is the best policy. This competitive advantage is hard to break, and companies can gain market leadership. Increasing investor interest, rising consumer and stakeholder loyalty, improving relationships with the community and local authorities, increasing competitiveness, raising the corporate culture, shaping a positive corporate image of the company, gaining and retaining the best employees.

Ethics in business life and business by a part of society is perceived as an oxymoron that has no reason to be in the business sphere, where profit is most important. Among the public more examples of unethical behavior than moral ones can be found. Rockefeller said, “Do not ask me how I made the

To Take or Not to Take?

first million,” and others say, “I do not believe that the accumulation of capital can come in the way, as Americans call it, the moral economy. “Moral economy is a luxury that a country that has already accumulated capital can afford the honesty” (Giordano, 1994, 114). Emerging moral discomfort entrepreneurs try to reduce using the “business is business” statement (Sowiński, 2012).

Business ethics could be reduced to three dimensions: the company’s attitude to the employee, the attitude of employees to the company and the view of the company to other business entities. In all these areas, relationships must be reconciled with the efficiency of action.

Within these three dimensions, it is possible to identify specific areas where ethical and unethical behavior occurs:

1. **Company to Employee Relationship:** Employment, working, and dismissal conditions, pay and incentive conditions, conflict resolution in the company, rules, and values in the company. These issues arouse a lot of emotion as they affect a large group of people;
2. **The Attitude of Employees to the Company:** Honesty, confidentiality, conflicts of interest;
3. **The Company’s Relationship to other Business Entities:** To microcosm: customers, competitors, shareholders, suppliers, etc. (Garret and Klonoski, 1886).

By analogy to Maslow’s concept, wage issues are a fundamental need that motivates work, and therefore its value should be appropriate to the amount of work - just. Needing to be part of a team, a sense of recognition is another need, which helps not to be frustrated and used. An ethical employer is one who understands the needs of his or her employee, respects him or her, and allows him or her to feel satisfied and responsible for their work.

Examples of unethical behaviors that employed do are exploitation of not paying the due remuneration (both in time and in the amount), induction to work over the norm without adequate pay in the form of overtime or diet, use unethical behaviors such as mobbing.

Often the employee enters into a conflict of interest with the company. This may be due to another system of values or contradictions of Community objectives in the face of individual targets.

The actions should counteract the passive relationship to social reality, as the increase in the orientation to the duplication of “take” and “have” (Wilk, 2003) attitudes can have a destructive effect on the future shape of society, which in its actions will be guided solely by particular interests, forgetting the community. ethical values. Emerging dilemmas in economic activity force them to consider them in moral terms.

Since people in professional relationships are involved in business relations, it is interesting to note how students who study economics and are already on the market or are just entering it raises ethical issues. Since the attitude and values of the people drive the economic environment, the opinion of students can show the image of the morality of the Świętokrzyskie market. On the other hand, attention should be paid to the role of didactics conducted in higher education institutions, which may influence the promotion and reinforcement of their students’ ethical attitudes.

The subject of the study is the economics students’ perception of ethical issues. Research allows the verification of the personnel factor, which contributes the most to the perception of ethical standards in business. The student’s assessment and feedback is characterized by his own experiences and individual character, which the authors decided to aggregate.

Outlined theoretical background of the article allows for an extensive selection of the concept of business ethics. The analysis of the problem of ethics in terms of student perception has been limited to

To Take or Not to Take?

a more familiar issue and main associations, which seems to be the basis for future decisions made by them, also in the economic sphere.

In the authors' opinion, the survey was not only essential to gain views and views of students about the phenomenon of business ethics, but also to make them aware of the importance of this element in economic life. The questionnaire was anonymous, but its overall results were presented to the group that filled out the surveys. This allowed for the confrontation of their responses with the phenomenon scale among others. Ethics for students is one of the many subjects required to pass the semester in university, which is why the authors wanted to draw attention to the practical application of the acquired theory during the practice.

CHALLENGES OF HIGHER EDUCATION IN THE CONTEXT OF SHAPING ATTITUDES: OPPORTUNITIES AND THREATS

Introduction to the Main Focus

The dynamically changing socio-economic environment (having its sources in both demographics, psychological, economic and cultural factors) forces the adaptation of many spheres of life, including formal education, including academic, informal (Non-formal learning is a lifelong process. By participating in a specific experience, knowledge of the subject is acquired; Education is mainly done without our will. It includes not only increasing knowledge and skills but also shaping attitudes and values) and non-formal education (it is all activities that aim to broaden expertise and acquire practical skills but do not take place within the framework of a formally established system of education. This is outside of school, college, course or training. It is based on the practice, experience and activity of the student), to prepare workers for entry or return to the labor market and entrepreneurs to new challenges. The changes also apply to the attitudes that will be taken by entities operating in the area of the market economy. This has the effect of building human capital and adapting to the requirements of an innovative, knowledge-based and ethical standards economy, one of the goals of modern political entities. Although the states designate development directions or education frameworks, they do not have full control over unethical activities in the economic sphere. Therefore, working at the basis of educating young people (pupils and students) during educational activities, the importance of ethics in economic and social life, and building a sense of shared responsibility for interpersonal relationships is an essential contribution to the impact of the academic environment on the local environment.

The role of higher education is to teach not only to equip students with the knowledge but also to understand the processes taking place in society and the ability to use that knowledge in practice. The challenge facing modern education is to create space for the development of specific competencies, knowledge, and skills.

In 1993, UNESCO established the International Commission for Education for the 21st century. In her opinion, education should be organized around four aspects of culture, which are, in essence, pillars of knowledge:

1. learn to know, to get the tools of understanding;
2. learn to act to be able to influence your environment;
3. learn to live together to participate and collaborate with others on all levels of human activity;

To Take or Not to Take?

4. learn to be, a pursuit that is related to the previous three (www.unesco.pl, 2017).

It seems that in all the pillars ethics can be a bond for these activities. “Without the individual morality, one cannot make the necessary reforms. Even if the structural bases of economic life are properly organized, the corresponding “moral equipment” in the form of the virtues of economic operators is a condition for the proper functioning of the whole (Sowiński, 2012, 122).

Colleges and universities have an impact on the future of emerging social capital. It is not enough to know theoretical knowledge in order to be competitive with employers or to decide on their own employment. *Homo oeconomicus* (Węgrzecki, 2012) must take into account in the process of its education the adaptation of educational forms to “personality, adaptability, motor development. Ignoring these psychological and social factors in the past has led to the creation of educational institutions that have deformed a healthy personality” (Kozielecki, 1998, 10).

The aim of this article is to present students’ perceptions of business ethics. Their attitude and awareness depend on whether the economy will be based on the knowledge and ethical principles underlying social coexistence or on lies and deception. This is an important issue that these young people are entering or are already in the market and have an influence on shaping the relationship and rules that dominate it.

The results of the research are to show whether ethics in business is an oxymoron student or a real occurrence. In addition, if the company primarily includes people-to-people contacts, does that mean that although we do not accept the unethical behavior, we use it universally? Can the basic principles of trust, social responsibility, and sincerity be out of social and economic life?

THE METHODOLOGY OF THE RESEARCH

The primary goal of the chapter was to show how the ethical and unethical actions of the economy, including the Świętokrzyskie market, is shaped by the assessments and attitudes of the students involved in the study. This subsection presents the results of studies conducted on students of economics and entrepreneurship - students of the School of Law and Medical Sciences in Kielce on the perception of ethical and unethical behavior in business - evaluation of expected and perceived moral attitudes of the students of the Faculty of Economics.

The research was conducted at the University at the turn of the academic year 2016/2017 and 2017/2018 and included 100 full-time and part-time students of economics studies in the second and third year of study. The anonymous questionnaires were used for the research. Students consisted of two groups, entrepreneurs (50 persons) and non-entrepreneurs (50 persons), but both groups had the same survey. The analysis allowed for the confrontation of these two separate groups and the same positions.

The questionnaire survey consisted of ten questions of different character (closed and open questions), and the respondents were asked to choose the answer that matched their opinion or to select the best answer the respondent. Results of the study were presented in percentage.

Study Analysis

The first of the questions included a request to determine what ethics is for the researcher. Respondents could describe or list ethical characteristics. Entrepreneurs and students in response to this question defined ethics as a science of observing principles, customs, culture (20%), general principles of conduct,

To Take or Not to Take?

maintaining good relations with customers; adherence to the principles of fair competition; behaviour - adapted to the situation (60%), 20% did not answer this question. The answer to this question is that ethics are perceived primarily by the prism of behavior and not as a science of morality. In none of the questionnaires appeared a reference to moral behavior.

In determining the characteristics and meaning of ethics, the cultural and religious background is of great importance in Poland, which has a significant impact on the perception of ethics associated with respect for Christian morality. It is not surprising, therefore, that the students interpret the concept.

A large number of surveys has not answered the question of what ethics is. However, it cannot be precisely stated why the answer did not come and should not be combined with a lack of knowledge on the subject because in the next questions the respondents were able to determine ethical and unethical behavior.

Another question was the choice of what ethics in business was for respondents. Students were asked to choose one of the following ideas: value, hint, practice, necessity / condition, relic, obstacle, an oxymoron. Students could also indicate their answer or admit that they do not know what business ethics is.

For the vast majority of business ethics in business is value - 80%, for 7 people with guidance, and for the remaining necessity. For students, ethics are primarily value (64%), 14% necessity, for 6%: idea, advice, practice, 2% obstacle, and 4% do not know what it is.

Despite the possibility of giving his own answer, no one took advantage of it. It seems, therefore, that the list of prepared meanings was sufficient for students.

In Question 3, whether or not the listed features are essential, the essential characteristic of the entrepreneur is the honesty. According to philosophical ethics distinguishes there are at least three ways of justifying moral norms. "These are: (1) deontonomism – good is what an autonomous subject commands himself to be a duty; (2) utilitarianism – good is what brings benefit; (3) personalism – moral good is the affirmation of human dignity (Zadroga, 2017).

It means doing the right thing / properly for all your duties, and it entails another quality, that is, becoming a trusted person. In opposition to this, it is dishonest, which can be defined as contradictory to honesty, that is, behaviors manifesting, among others. guilty of impunity, fraud, criminal of pursuing particular interests, cunning, cronyism, procrastination, hypocrisy, greed, lack of sensitivity, corruption, deceit or falsehood. Such behaviors occur between the employer and employee, in employee relations as well as between the company and its surroundings (Maciuszek, 2002; Daszkiewicz and Gierasimczuk, 2003). It is unethical to disrespect for personal dignity and excessive burden on employees, all forms of treatment of people. These are the main reasons for interpersonal conflicts in the company (Skurjat, 2014). The results of the surveys carried out on students are consistent with the results of research in the field of values important in business (Olesiński, 2006).

In Poland, there is a canon of values universally appreciated and those that we will find in the Decalogue. It is easy for Poles to distinguish right from evil by referring to condemned behavior and defined values. It is, therefore, an element of self-regulation.

For students, the essential feature was justice, which was 100% - understood as fair and right conduct, most often associated with the proper distribution of goods or impartiality. This answer may indicate that students as employees are concentrated on their respective chapter of assets, including the payment for their work, hence the characteristic they chose as the most important.

For more than 20% of the surveyed entrepreneurs, values such as honesty, non-discrimination, and credibility are invalid in economic life. Surprisingly, the answer given by 10% is that in economic life the profit is not essential. Can we conclude that in this case, we are not dealing with individuals acting

To Take or Not to Take?*Table 1. Features describing the business*

FEATURES	Important		Invalid	
	Entrepreneurs (%)	'Just' students (%)	Entrepreneurs (%)	'Just' students (%)
Honesty	100	98	-	2
Righteousness	86	80	14	20
Respect	88	98	12	2
Loyalty	88	90	12	10
Sincerity	76	86	24	14
Responsibility	100	98	-	2
No discrimination	70	80	30	20
Credibility	70	92	30	8
Trustworthy	100	92	-	8
Justice	88	100	12	-
Profit	90	86	10	14

Source: Own study based on research

like *homo oeconomicus*? Moreover, over 10% do not attach importance to respect, integrity, respect, loyalty, and justice.

Among the students, the least attention is attached to righteousness and non-discrimination, and the most apart from fairness are honesty, respect, and responsibility - over 90% of the respondents.

For 80% of students, all the indicated features (without exception) are essential in business life, while only 70% of entrepreneurs chose all the features. This may result from the practice of economic life and the need to deal with the market vs. approaches as it should be declared by students.

In the fourth question, the respondents answered the question of what influences them on shaping ethical awareness. Students respond family, colleagues, life experience, education, personal values and moral norms, beliefs, situation, knowledge, society, environment, attitude to others, respect. These responses can be grouped by their origin:

- **The Family:** It is the family that shape child's norm and the rules, it is the process of socialization and the process of education affecting the behavior of the adult man;
- **Friends:** Are the point of reference for a growing child and then a young man. Young people are influenced by their surroundings and the environment in which they live (Schaffer, 2004);
- **Life Experience:** Personal experience can affect the perception of future events. The knowledge and skills acquired during life also allow to deal with dilemmas in life;
- **Oneself Convictions, Values, Moral Norms:** Shaped during life, influenced by previous factors, they build relationships with others. respect;
- The present situation is a resultant of all the above elements.

By analogy and asking for such factors in the company, it could be concluded that similar ethics, which is a component of organizational culture, will be shaped by many factors, in the opinion of authors, among others. will be:

To Take or Not to Take?

- **The Employee / Employer:** Whose behavior is determined by life experience, knowledge, values, education, etc .;
- **Co-Workers:** Who also affect the company's atmosphere;
- **The Rules of the Company:** Both formal - e.g., ethical and informal codes - are real, as there are companies that openly allow unethical behavior because it is in the interests of the company;
- **Market Situation:** Resulting from the company's strategy, competitive environment and ways of coping with the economic situation. Microenvironment can very well shape the context of ethical behavior.

Values and beliefs seem to be the most enduring human qualities that influence decision-making, criticism, justice, and honesty. They often determine the behavior of people.

Another question was the admissibility of unethical actions.

Survey results in both groups show a significant variation in the responses. Out of the questionnaires, the vast majority of respondents admitted that if they did not see a different way, they would go to unethical activities. In addition, the group of students indicated the "compulsion" of such activities. There is, therefore, a risk of sociological normalization - that is, the recognition of what is acceptable for the norm, even if it was a pathology. Justification of such behavior is supposed to result in the cessation of cognitive dissonance (it occurs when taking into account two cognitive elements, the content of one of them results in a psychological contrast or denial of the other) (Strelau, 2006). In their assessments, students duplicate stereotypes and apply moral relativism. Knowing the rules to be followed, they would consciously take unethical action if it brought them closer to achieving the goal set. This proves that despite the knowledge of the rules, they are often willing to act in accordance with their own interests. it arouses anxiety but indicates a general tendency, and it is often also a justification for behavior. Examples can be multiplied: "it was a one-time operation," "did not hit the poor," "I did not have the exit." In the group of entrepreneurs, 32% do not allow unethical behavior, the results in the group of students show a 30% response.

Ethics provides economic order while becoming a profit tool. Respondents were asked whether the ethical behavior was rewarded. They had the answer "yes, if so how?" And "no, if not why?" Thirty-

Table 2. Clarification for admissibility of unethical actions

Answers	% of answers	
	Entrepreneurs (%)	'Just' students (%)
Yes, but only in justified cases	32	26
Yes, if the case is worth doing	10	28
Yes, if there is no other way	62	40
Yes, if I know that others are doing so	14	10
Yes, when I choose the lesser evil	18	24
Yes, if you cannot act another way	10	40
Yes, when I really need something	0	6
No	32	30

Source: Own study based on research

To Take or Not to Take?

two percent of entrepreneurs indicated that ethical behavior is rewarded, showing ways of remunerating them, among others, hikes, bonuses, mutual respect, and customer trust. No - 68% of entrepreneurs said, half of them pointed out as the reason, among others: that this is used against entrepreneurs, this is not a typical practice, no one pay attention to it, it does not pay.

A group of students - 58% stated that ethical behavior is rewarded, pointing out ways such as increase, praise, trust, increase profits, clean conscience. 42% found that ethical behavior is not paid because it reduces benefits; the more unethical practice is worth it, because exploitation counts, people look at the good of another, everyone counts on themselves, there are not honest people, not everyone reciprocates because it is a natural behavior.

Question 7 ask which behavior is more profitable, for 50% of entrepreneurs are ethical behaviors, 30% said they did not know 20% admitted that unethical behavior. Results show that for 78% of students ethical practice is more profitable than non-ethical procedures and that only 4 respondents would pay for unethical behavior. Students have more faith in the fact that actions taken in accordance with moral principles work better and have measurable effects. Entrepreneurs are more critical and refer to ethical activities with higher reserves.

Student's assessment of the profitability of ethical behavior may be due to the fact that in the Polish public debate it is more often heard about unethical conduct that has not been appropriately punished, rather than rewarding ethical behavior.

From the answer to the 8th question that respondents would choose to achieve a business goal, it follows that in both groups people are guided by their conscience.

It may not always be ethical because of the mechanism of repression and moral relativism. Often, for the purpose of clarifying one's own position, attitude or decision, a tool is invoked to appeal to those principles that promote the pursuit of momentary expectations or interests, thus challenging the existence of a permanent basis for the value system. Entrepreneurs also chose the answer "in accordance with the law," because in their case business conduct must comply with the established legal principles. Otherwise, they are exposed to sanctions.

Students are also guided by a warning, generally accepted ethical principles, but also the highest profit and want to achieve business goals at all costs.

Table 3. Ways of achieving the goal

Which way would you choose to complete your business goal?	% of answers	
	Entrepreneurs (%)	'Just' students (%)
According to your own conscience	54	72
According to religious orders	-	-
According to the premonition	-	4
Accordance with the law	42	6
In accordance with generally accepted ethical principles	-	8
According to the highest profit	2	6
At any price	2	4

Source: Own study based on research

To Take or Not to Take?

Among the total number of respondents, as much as 6% strive to achieve their business goal at any price. From here, we can conclude that, despite the awareness of the principles, according to Machiavelli's rule - "the end justifies the means" people justify acting against morality.

Question 9 concerned the motivation to implement the projects. Both groups chose efficiency in achieving their goal.

In addition, entrepreneurs have also indicated profit as a factor to achieve their goals. Both groups have also paid attention to the common good, which may be a sign of solidarity, and in the case of entrepreneurs, it may manifest itself in CRS activities for the benefit of the local community. However, no group has been identified as "lesser evil" in Poland, which is still a wrong choice. The behavior of business units is firmly determined by the desire to profit and achieve the goal, as indicated by the results of business surveys, but this is a truism because business is just for profit is taken.

The last question addressed specific examples of ethical and unethical actions. Among the respondents were:

- **Ethical Behavior:** Fair competition, respect for the law, culture, charity, loyalty to the client;
- **Unethical Conduct:** Price collusion, corruption, customer retaliation, pregnant women's release, fraud, advertising, politics (Snihur, 2006).

The interactions of business people with other people are exposed to unethical situations where some people want to gain something in relation to others and usually bear the mark of dishonest acts.

Students pointed out among ethical practices: not selling alcohol to minors, not disclosing company data, legal proceedings, healthy competition, honesty, philanthropy, decent salary. Among the unethical: obscurity of relevant information, failure to adhere to established rules, corruption, attitudes toward profit, ill-treatment of employees, cronyism, cheating of customers, greed.

Among the ethical activities indicated in the two groups are those who should be a constant practice as they result from good social coexistence. In the meantime, the behavior that should be the norm is today regarded as a praiseworthy ethical action.

Table 4. Motivation to implement the projects

What do you do when your projects are executed?	% of answers	
	Entrepreneurs (%)	'Just' students (%)
Speed of execution	8	2
Efficiency in achieving the goal	48	66
Ethics	6	8
Convictions	2	6
Intuition	4	4
Common good	8	10
Choosing the lesser evil	-	-
Profitable	24	2
Utilities	-	2

Source: Own study based on research

To Take or Not to Take?**SOLUTIONS AND RECOMMENDATIONS**

The objective of this study is to investigate how the students understand moral standards in business. The research question formulated to determine this is: How does the entrepreneurs' moral standard affect the market share of the firm? Even though business ethics could be perceived to be a contributory dimension of business efficiency, some of the students indicate that business ethics is essential only as a tool for generating costs.

In summary, the research was exploratory and did not answer a number of serious problems. The study, however, outlined a number of valuable inspirations. Based on the analysis of the answers obtained, we can draw conclusions about what attitudes predominate among students, what behaviors are mainly expected, and how the situation in the Kielce business is assessed.

The characteristics are shown, such as honesty or confidence, build a climate of cooperation, can in some way reduce uncertainty, once frustrated, affects relationships for the future, is the expected value, and this reduces the cost of running a business. Trust is a valuable asset in business life. F. Fukuyama understood trust as the kind of social virtue necessary to increase wealth and prosperity (Gasparski and Dietl, 2001). Confidence allows you to achieve your business goals while respecting the other side. It lowers the costs of running a business and limits the use of control regulations.

The subject of the research was the perception of ethical business standards by students, including entrepreneurs studying economics. The results are consistent. Most of the differences are in the assessment of particular features important in economic life. These differences result from the experience of individual participants in the market. Although the researcher understands what ethics is, in their attitudes, one can see moral relativism connected with the justification of situations, which may cause unethical actions. The answers also do not confirm that the most dominant approach is to be a *homo oeconomicus* aimed at maximizing profits.

In the theoretical assumptions obtained during the studies, competencies, and skills of an ethical nature, allow for responding to changes taking place in the economy, because they create an excellent chance for efficient functioning in society. "Creating different ethical regulations in business may eventually threaten the moralizing of the morality, the changeability of its rules, the adherence of the rules, and thus the smaller force of its influence" (Kopka, 2012, 17). However, it is a confrontation of theoretical knowledge with the practice of economic life.

In theoretical assumptions obtained during the studies of ethical competencies and skills, they allow reacting to changes taking place in the economy, because they create a good chance for efficient functioning in society.

Who then shapes the proper hierarchy of the value of the young man, his attitudes, and views? Parents, the environment, the school, the university, the people with whom they meet in person and the people they observe, the media, bring them up. A student is a well-formed unit. Not everyone can affect his personality, although there are still areas where the need to shape the social consciousness and acquire the required social competence is remaining.

According to the authors, the next stage of education in the field of ethics should be universities. They prepare the participants of economic life. According to the authors, focusing on the practice of economic life in terms of morality is more important than just theoretical considerations on ethics in business. Students should acquire social competences, which is consistent not only with the assumptions of European Union programs but also with the principles of social coexistence. The role of academic teachers should be the promotion of ethical behavior and unfair stigma. Research has shown that although

To Take or Not to Take?

students know what ethics are what features are essential in economic life and identify examples of ethical activities, they nevertheless support in specific cases the abandonment of moral behavior towards the goal. Showing students of good practices allow destroying the stereotypes prevailing in business ethics. Such knowledge should follow tradition and rules. This behavior would enable the real building of interpersonal relationships, including business relations.

FUTURE RESEARCH DIRECTIONS

The results indicate that the level of knowledge is high. It is worrying to allow unethical actions in situations where reasonable solutions fail. There is often a lack of reflection of how immoral actions strike the other. Although today's colleges are made up of individualists, it is crucial for them to become aware of the importance of group work. The importance of being able to play in different roles, but also to build relationships between the crucial and the ethical reflection that contributes to shaping attitudes and social relations in the society, determines the development of individuals and social groups. Critical competencies are translated into real-life situations and the acquisition of which serves both private and professional life.

In 2000, the European Council, recognizing people as a fundamental value in Europe, formulated the guidelines for a European framework setting out a catalog of the eight essential skills necessary for functioning in the knowledge economy and required in the face of globalization. These skills have become the cornerstone of lifelong learning strategies, so having them allows for full and active participation in social, economic or political life. Among them are: social and civic competencies, for example, the ability to participate effectively and constructively in society and work, allowing for conscious and responsible engagement in public life, where ethical principles are the cornerstone of social solidarity, and the initiative and entrepreneurship. It consists of the ability to put ideas into action through creativity, innovation and risk-taking, and the ability to plan and manage projects in pursuit of personal goals with the principles of social cohesion (www.eur-lex.europa.eu, 2017). The revised qualification framework of Polish higher education adapted to the conditions of modern economy and processes of internationalization takes into account the above skills and competencies that are required at the stage of implementation of the education program. They allow making young people aware of the importance of ethical actions for social relationships. Hence the idea of preparing an article on the perception of moral issues by students. The authors wanted to know their students' views on ethical issues and reflect on how universities can participate in the process of developing good habits, moral attitudes, and awareness of the importance of such activities for the welfare of societies.

The authors suggest that future researchers could broaden the scope of this study by emphasizing on the other countries. Based on the findings of this study, it was recommended that there is a need for clearly defined ethics within the, for example, European scope. The concept of ethics in an international context allows for a better understanding of the complicated moral situation of a man, his historical, cultural and environmental conditions and psychological.

This would allow conducting comparative research on the perception of ethics by representatives of different countries. Students who come on labor market and entrepreneurs that want to increase the market share of its companies must uphold moral standards.

To Take or Not to Take?**CONCLUSION**

Only knowledge, often just theoretical, is not enough today. Hence, current challenges faced by economic actors and the need to make not only systemic adjustments to build a better future, but also to encourage and stimulate the acquisition of new skills and social competences, strengthen their potential and awareness of their own predispositions. In the labor market, the *homo oeconomicus* was able to adjust to them smoothly. The results of the questionnaire are a strong argument for considering economic problems in moral terms, as ethical and unethical actions are intertwined intimately. The market is intimately connected with the sphere of knowledge and education, the penetration of these systems justifies the purpose of carrying out in-depth research in the future.

Education requires adaptation to be new, changing living conditions. Demographic change, matching training to the labor market and the expectations of entrepreneurs, the importance of modern technology, the high unemployment rate among young people or the specter of the economic crisis that is still circulating over Europe - are some of the challenges for the educational institutions of the Old Continent. Institutions must educate and support ethical attitudes, as the end-to-end students are the social capital that determines the quality of life of other people in the local community. A young person - a student, must be prepared not only to perform professional roles, but also should be supported by moral development. Didactics with practice offered by higher education should serve to shape the right attitude towards market participants. These actions are to oppose passive relations with social realities, as the increase in the orientation of duplication of beliefs of “taking” and “having” positions (Wilk, 2003) can have a destructive effect on the shape of society in the future, which in its actions will be guided solely by particular interests, forgetting the community ethical values.

Accepting and abiding by the personal standards of business ethics may provide proper respect for every person within the economic context. The ethics' rules in business are conducive to responsibility for protecting the dignity of every person who participated in the market. Drawing students' attention to the issue of business ethics is a good starting point for formulating specific solutions to moral dilemmas in different business situations. An individual must consider this in own conscience when he participates in the market.

Many economic activities include an ethical component. Authors suggest that young people should take into account not just market efficiency, but also its moral quality. Graduated students should be aware that it can be challenging to choose what is morally right for the human, because such a choice may result in losing extra profits or in incurring some measurable economic losses.

What is more, the entrepreneurs must know that it is also essential that their business should comply with moral norms, because it also depends on the economic effectiveness and efficiency.

Authors of this book chapter try to convince or at least encourage students, both who ‘just’ study and those who are entrepreneurs, to care for an ethical dimension in their professional activity. If it is the recipient's expectation too far-reaching, at least let the article contribute to reflect on what it would be like if the moral and ethics sphere in economic life and business were commonly considered.

The personal ethics of each market participant play a unique role. It's from them as a last resort depends on the ethical and moral level of entrepreneurship.

The authors are convinced that the education of future participants of the economic market, including entrepreneurs in terms of ethics, is very much needed. It often happens that contemporary business is characterized by social responsibility.

To Take or Not to Take?

The activities of enterprises have a significant impact on society, including the common good. In spite of studying ethics and its knowledge, immoral actions in the field of business occur very often. It cannot demonstrate that it does not try to help students in being better people. It seems that the approach to the lectured subject should be enriched with practical skills in solving ethical problems occurring in business activities - a case study. Moral knowledge can inhibit, to a certain extent, unethical actions through the realization of a potential threat. In fact, caring for high ethical standards in business life benefits all market participants, as “management, economics and entrepreneurship studies teach how to prosper on the market, observe the economic situation and move in terms of finance, marketing, etc., but they do not teach you how to proceed ethically in work. How to learn credibility and integrity to be seen in contacts business as a person who always acts in accordance with the law and his own morality” (Dziadkiewicz, 2012, p. 156).

In 1905, J. Korczak wrote “The task of schools is not science, but development, is not to push the heads of useless ballast, but prepare them for the life that they could enter as mature people. Is not it a comical fact that a maturity patent is issued by a school on the principle that a student can use logarithm, explain the phenomenon of eclipsing the moon. The mature one is the one who knows what he is living for, what his attitude towards the people and the history of mankind is - and in that sense, he acts” (Korczak, 26).

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To Take or Not to Take?

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KEY TERMS AND DEFINITIONS

CSR (Corporate Social Responsibility): Take responsibility for the local community, share profits for the benefit of the community. One of the examples of ethical business activity.

Ethics: Science of morality, about how it should be, not about what it is, and about what is right and wrong.

Homo Oeconomicus: A belief that some human being desires to maximize his needs or desires such as wealth, avoiding effort.

Honesty: Human conduct consisting of to be right and true in relation to another person.

Human Capital: An Economic theory which assumed that man is the most valuable asset of an enterprise. The man is not only workforce but also knowledge, skills, competencies, experience, and attitude.

Qualification Framework: Description of qualification awarded in the higher education system in a given country.

Social Competence: The ability to live among people, including cooperation with others.

Chapter 8

Personal Values and Proclaimed Values of the Education System: Results of Empirical Research in the Case of Croatia

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ABSTRACT

The primary purpose of this chapter is to empirically analyze the relationships between the personal values of current students and the officially proclaimed values of education systems, based on the case of Croatia. To assess whether the declared values, which are intended to guide higher education, are accepted by students, a preliminary sample, consisting primarily of students from business schools in Croatia, is analyzed. The empirical findings show a high level of linear correlation among the variables, describing the students' values and the proclaimed values of the education system. Linear regression models, using gender, level of study, and scholarship status, show a causal relationship among the four dimensions of the proclaimed values and selected aspects of students' values. These findings can be used to rethink the potential contribution of students to the development of the Croatian education system, as well as to show possible directions of action for school leaders and policymakers.

INTRODUCTION

In this chapter, authors analyze the potential relationship between the students' personal values and the officially proclaimed values of the educational system. This topic has been extensively studied from the perspective of the objectives and value conflicts in higher education (McPherson, 1983), which is, also, often used in the public and policy debate on the role and value of higher education (HE) in the society.

DOI: 10.4018/978-1-5225-5837-8.ch008

Personal Values and Proclaimed Values of the Education System

This stream of literature leads toward many different types of studies, including the critical sociological studies of stakeholders' power and interest, as well as subjugation of the less influential ones, within the realm of higher education (see, e.g., Smyth, 2017). Value-based analysis has been applied to the increasing competition and marketization of higher education (McKelvey & Holmén, 2009) and the structural changes of the individual roles, as well as the entire field of higher education and its market-based functioning (Ergül & Coşar, 2017). This issue is essential for the social responsibility of higher education institutions, as defined by its civic contribution (Ehrlich, 2000), stakeholder relationships (Jongbloed, Enders & Salerno, 2008) and solving the sustainability challenge (Nedelko, Potočan & Alfirević, 2017).

Value-based conflicts have been recognized as sources of (in)congruence in developing an academic identity and responding to the trend of academic managerialism (Winter, 2009). They are also discussed in the context of career issues for teaching faculty (Skelton, 2012), as well as in the analysis of value-free vs. 'partisan' orientation of education researchers (Greenbank, 2003) and their influence to education policy (Ball, 1997) and management of individual academic institutions (Ribeiro et al, 2016).

To sum up, despite the significant and recognized importance of personal values in business organizations (Brodbeck et al, 2000; Nordlund & Garvill, 2002), as well as in the non-profit and the public sector (Jelovec, Wan der Wal & Jelovec, 2011; Nedelko & Potočan, 2013), not much attention has been given to the proclaimed values of education, especially in East-Central Europe. Authors' literature search has not revealed any existing studies, dealing with the interaction of students' personal values with the values of the educational institutions and/or national educational systems, on either the theoretical or the empirical level. In addition, focus on students, as key stakeholders of educational institutions (Warwick, 2016), should provide useful information to the educational leaders and policy-makers. Therefore, the objective of this study is to discuss the potential implications of empirical value analysis for higher education institutions (HEIs), especially in small, "peripheral" European countries.

LITERATURE REVIEW**The Socioeconomic Context and the Challenges for Higher Education**

Modern societies are increasingly based on knowledge and innovation, i.e., the "knowledge economy," whose development requires the active participation of institutions of higher education in economic life and innovation activities (Senge, 1990; Howkins, 2001; Carayannis & Campbell, 2009; Carayannis & Rakhmatullin, 2014). Along with their traditional mission to create and disseminate knowledge, universities and other HEIs need to stimulate the entrepreneurial development of society and contribute to the creation of commercially viable knowledge (Etzkowitz et al., 2000). This also requires universities and other HE actors to institute different forms of co-operation with other producers and users of knowledge in society, as well as to establish new organizational and institutional structures, such as research parks, university spin-offs, and entrepreneurial support institutions (Dill, 1995; Newman et al., 2004; Peet & Hartwick, 2009; Altmann & Ebersberger, 2013). Multiple linkages and activities are required from universities, along with world-class excellence in specialized research areas, in order to successfully meet the described social and economic challenges (Wright et al., 2008) and stimulate creativity and knowledge, as applied to economic activity in society (Dubina et al., 2012).

Personal Values and Proclaimed Values of the Education System

The development of such “additional knowledge” and “non-traditional” institutional arrangements places conflicting demands on the social stakeholders of HE (government, enterprises, non-profit organizations, individuals occupying different social roles, etc.) and institutions of higher education. While there are optimistic voices calling for a new age of innovation and economic development (Korten, 2009), critical voices have also emerged. According to the Austrian philosopher Konrad Liessmann (2006), recent European developments in HEIs reform, including the implementation of the Bologna accord, boil down to commercialization, trivialization, and the loss of important educational traditions. The proposed idea of a “knowledge society” is nothing more than a smoke screen for critical theories, which culminate in describing contemporary educational processes in HEIs in terms of “McLearning” (Jacques, 2017). Different proposals have been put forward, hoping to provide constructive solutions to the issue of the dwindling relevance of HE and its institutions, which seem to find themselves in a Procrustean bed. HE institutions and staff should simultaneously: provide specialized and cost-effective education relevant to the modern economy; contribute to both knowledge in a traditional sense and to innovation, and offer a high level of service to its stakeholders and to society.

Some solutions could include the transformation of doctoral studies and the “socialization” of Ph.D. holders into the academic community to become adaptive faculty members (Mitchell, 2007), or to achieve overall institutional flexibility and innovativeness (Acito et al., 2008). Academic organizations themselves are supposed to apply entrepreneurial attitudes (Botsaris & Vamvaka 2016) and search for innovation opportunities (Lafley & Johnson, 2010) in the same way that profit-sector organizations do.

Similar tensions are caused at the level of individual faculty members by the “neo-liberal” social script, with faculty (especially junior faculty) trying simultaneously to be flexible, mobile and adaptable to changes in the educational environment, as well as committed to the more traditional notions of knowledge creation and academic honor (Budak, 2017). Thus, should an academic be expected to become more of a “business person,” aligned to the needs of the educational business (s)he is involved with (Klimorski, 2007)?

In such an increasingly complex and competitive environment, HE institutions might drift away from their original educational mission and values related to research, teaching, and citizenship (Lorange, 2002), toward the priorities set by the relevant social and political agenda(s), as indicated by the critical theory of education and its policies (Ball, 2000). This should lead to different value conflicts, which have to some extent been explored in the cases of academic staff and leadership (Smyth, 2017), especially in “entrepreneurial universities” (Sotirakou, 2004). However, this value conflict has rarely been explored from the students’ perspective, which is the objective of this paper.

Challenges to Higher Education in Croatia

Global market changes and the transformation of the social environment (Mitchell, 2007; Altmann & Ebersberger, 2013) also have significant implications for higher education systems and institutions of “peripheral” European countries. They affect the employment opportunities of graduates, the structure and scope of their required knowledge and competency profile, the structure of changing professional qualification systems, and the level of competition among the knowledge supplying institutions. This is especially relevant in the post-transitional countries of the South-Eastern European (SEE) region, including Croatia. With the troubled implementation of the Bologna reforms, somewhat ineffective governance systems, and the lack of a working relationship with the labor market (Zgaga et al., 2013), the HE systems of the entire region are facing multiple challenges.

Personal Values and Proclaimed Values of the Education System

Typically, in such “peripheral” countries, due to budgetary constraints, governments are introducing more constrained systems to allocate financial support to HEIs (Vukasović, 2009). At the same time, the Croatian HE system lacks the institutional capacity to efficiently use the available funds (Obadić&Aristovnik, 2011), which seems to be a common situation among public sector institutions in post-transitional countries (Meyer-Sahling & Yesilkagit, 2011). Increased pressures from unfavorable demographic trends, as well as competitive threats from foreign and privately owned HE institutions, can be expected (Rajić, 2010; Kraft & Vodopivec, 2010). There is an ongoing discussion and even lobbying for the government to issue “education vouchers” which could be used to pay for education at public institutions of higher education and/or to cover the fee of private schools partially. Additional competition to traditional HE institutions will take the form of online courses and programs, as well as other non-traditional channels for knowledge dissemination and professional education development (Etzkowitz et al., 2000; Klimorski, 2007; Rideout & Gray, 2013).

It is likely that these marketing challenges will require new program development and the use of English as the language of instruction in order to be a part of the broader European business education scene and to broaden the student/customer base. In addition to these trends, other challenges, such as the shortage of faculty, the increased importance of soft skills in the curriculum, and the application of information technologies, should be addressed through improved internationalization (Hawawini, 2005). Some limited evidence of the potential success of such a strategy, at the level of an individual HE institution in Croatia, has been proposed (Spremić, 2018).

Values in the Context of Transforming Higher Education

Institutions of higher education should serve society by contributing to economic development, both by discovering and disseminating new and applicable knowledge (Ireland et al., 2008; Mitchell, 2007; Acito et al., 2008) and by improving the competencies of their graduates. The dominant role of the market and its influence on HE will probably continue to lead toward additional pressures for a more cost-effective institutional structure and practice (Newman et al., 2004; Carayannis et al., 2014). This will lead to the further monitoring and rationalization of academic practices (Klimorski, 2007), which raises issues of academic values, their implementation (EFMD, 2013), as well as their incorporation into the curricula (AACSB, 2008). Values, culture, ethics, and norms of organizations (as defined by Deal and Kennedy, 1982; Schein, 1985; Furnham & Gunter, 1993; Hofstede, 2001) apply to HE institutions as well. Their relevance is emphasized by the fact that these institutions depend, even more profoundly than their profit-sector counterparts, on the goodwill of their stakeholders (Jongbloed, Enders & Salerno, 2008). As previously discussed by Pavičić, Alfirević, and Mišanović (2009), the introduction of managerial concepts and tools could be a practical solution for stakeholder management issues in HE. On the other hand, it should be acknowledged that HE institutions and the values, culture, ethics, and norms of their stakeholders are interdependent, which limits the scope of market-based solutions and managerialism.

As suggested (although for a case in the profit sector) by Ogbonna and Harris (2002), sector-wide, “macro-cultures” have significant effects on the understanding of the meaning and role of an organization and its behavior. Values and culture tend to be treated as a stable entity of undeniable existence and stability. However, culture could be subjected to multiple social interpretations, viewed in terms of the idiosyncratic reality of meanings and different change mechanisms (Meyerson & Martin, 1997). This could mean that institutions of higher learning lose their once self-assured perception of occupy-

Personal Values and Proclaimed Values of the Education System

ing a central position, relevant for the creation and dissemination of new knowledge, as well as for the development of the whole of society.

This leaves HE institutions in a potential *value gap*, which could be developed by their stakeholders. The topic of values is no stranger to the research of organizations and their management. On the contrary, studies on values are quite common, primarily based on discussions by Hofstede (2001), Schwartz (1992) and Rokeach (1973). Various studies have shown that the values of managerial and non-managerial staff represent a significant driver of organizational behavior (Adler, 1983; Hambrick & Mason, 1984; House et al., 2004; Sosik, 2005; Pastor & Mayo, 2008) and serve as a predictor of future individual attitudes and behaviors (Munson & Posner, 1979; Ralston et al., 2014).

There are also specific fields within values-based research, such as the issue of value compatibility among an organization and the individuals involved in its operations and development. Previous research has paid particular attention to the congruence of employee and managerial values with personal and work outcomes, as well as organization-wide constructs, such as culture and performance (Posner & Munson, 1979; Posner, Kouzes & Schmidt, 1985; Wright & Pandey, 2008; Edwards & Cable, 2009). The influence of other stakeholders' values on organizations has not been studied extensively, although the impact of values on decision-making processes and organizational performance has been raised by Anderson (1997) and in subsequent research.

The authors of this chapter are not aware of any previous attempts to analyze the congruence of stakeholder values empirically *with the organizational and sector-wide values and culture(s) in higher education*. The merit of such studies is emphasized by the differences in values of the for-profit, non-profit, and government sectors established by Van der Wal, De Graaf and Lasthuizen (2008). An additional contribution to the field of education is found in a variety of interpretations related to the university mission and essence held by HEIs stakeholders (Wæraas & Solbakk, 2009).

RESEARCH METHODOLOGY

Research Question and Hypothesis

Based on the previously discussed theoretical viewpoints, an important *research question* emerges: *Is there a gap between the values of selected HE stakeholders and the organizational and sector-wide values of higher education?*

Such a research question opens a new and complex area of empirical investigation in the field of higher education, which cannot be addressed by a single study. Since Telford and Masson (2005) have already discussed some preliminary evidence on the existence of stakeholder value gaps in higher education at the level of a single institution, the authors of this study decided to concentrate on *value congruence with HEIs sector-wide values*. Although multiple stakeholders of educational institutions could have been considered, due to the preliminary and exploratory nature of the study, students were selected as a single stakeholder. There are multiple theoretical justifications for such a research strategy, although the most important argument is found in the marketization trend of higher education, treating students as consumers (Molesworth, Nixon & Scullion, 2009), leading to the introduction of market orientation and marketing constructs in HE research and practice (Hemsley-Brown & Oplatka, 2006; Hemsley-Brown & Oplatka, 2010).

Personal Values and Proclaimed Values of the Education System

Following some empirical evidence on more extensive social structures as guiding the values and development of young people (Roberts, 2003), it was decided to *empirically test the congruence of students' personal values with the values of the educational system*, so as to determine the potential outcomes for Croatian institutions of higher education and the implications for further value-based research, as well as its application to the field of education. Therefore, the following research hypothesis was formulated:

- **Hypothesis 1:** There is value congruence between students' personal values and the officially proclaimed, sector-wide values of Croatian higher education.

Future research is expected to further explore the *congruence of multiple stakeholders' values with individual and educational values*, as well as *potential gaps among values and the activities of higher education, based on such values*. Such studies should also take into consideration the broader socio-economic context of HEIs and the specific constructs inherent in educational research.

The Conceptual Research Framework

Based on the previous theoretical discussion, in this section, the conceptual framework for the empirical study is outlined. In line with the research objective, as identified in the introduction of the chapter, students' personal values, proclaimed values of higher education and control variables had been identified as the constructs, to be included into the conceptual framework. Students' personal values are used as independent variables, since the students' role among the stakeholders of education is being emphasized (Warwick, 2016), along with the need for educational institutions to align their activities and processes with the students' needs. Such an orientation is widely accepted and referred to as the market orientation, or stakeholder management in HEIs (Pavičić, Alfrević & Mihanović, 2009; Hemsley-Brown & Oplatka, 2010) and continuous/life-long education (Siu & Wilson, 1998). It is less frequently studied in the elementary or secondary education, although this topic is being quickly developed (Oplatka & Hemsley-Brown, 2004; Lubinski, 2007). Students' personal values are measured using the conceptual approach of the Schwartz Value Survey, which has been widely applied and verified in previous empirical research, as discussed in the section on research constructs (framework operationalization).

Our conceptual orientation is to identify the generalizable constructs from the cultural values, proclaimed to serve as values of a national education system. The potential value gap will be studied by comparing the operationalized constructs and the control variables, including gender, the level of study and the scholarship status, as those have been verified as relevant in previous research (Eagle, Low, Case & Vandommele, 2015; Potočan, Nedelko, Mulej & Dabić, 2016).

Research Constructs

Schwartz and Bilsky (1987) define personal values as concepts or beliefs, referring to desirable behaviors or end states, transcending specific social situations. Values are conceptualized as *"important life goals or standards, which serve as guiding principles in a person's life"* (Rokeach 1973; Schwartz 1994). The operationalization of their approach to determining individual values can be found in the Schwartz Value Survey (SVS) (Schwartz, 1992), which includes 56 single values. Based on an empirical analysis related to the importance of 56 values in 67 countries, Schwartz proposed a universal structure of personal values considered valid across different cultures. It consists of ten individual value sub-dimensions.

Personal Values and Proclaimed Values of the Education System

They are further categorized into high order dimensions: openness to change vs. conservation, and self-transcendence vs. self-enhancement, which join the traditional aspects of individualism vs. collectivism. Identification of the students' personal values is based on the described ten universal values that have been empirically validated on multiple occasions, for example by Schwartz et al. (2001), Bardi and Schwartz (2003), Schwartz and Boehnke (2004).

The identification of sector-wide values of the Croatian education system is based on an analysis of adopted policy documents. In the case of Croatia, officially accepted educational policy documents were consulted in order to determine the proclaimed formally (sector-wide) values of the education system. The National Curriculum Framework (NCF) for Pre-School Education and General Compulsory and Secondary Education (MSES, 2010, 14-15) explicitly lists the socio-cultural and educational values to be implemented by the education system. These are knowledge, solidarity, identity, and responsibility. They are intended to serve as the source of seven generic educational goals (MSES, 2010, 15). The Croatian Strategy for Education, Science, and Technology, adopted in 2014, builds upon the general values proclaimed by the NCF and describes them in the following terms (MSES, 2014, 32-34):

- High-quality education for all.
- Equal educational opportunities for all.
- Compulsory general education.
- Horizontal and vertical mobility.
- Inclusion of all students in the education system.
- The scientific foundation of education.
- Respect for human rights.
- Professional ethics and competence.
- Democracy.
- Independence of education institutions.
- Pedagogical and school pluralism.
- The European dimension of education.
- Interculturalism.

An arbitrary grouping of the previously listed items created the operational definition of research constructs for the proclaimed values of the education system. The newly created constructs, including the results of testing for internal consistency by using the Cronbach Alpha model, are as follows:

- Knowledge outcomes of education (including knowledge creation, the high quality of educational practices, the competence and ethics of the educational staff – as provided by the education system; Cronbach $\alpha = 0.804$).
- Fostering the culture of students (including students' solidarity, identity, and personal responsibility; Cronbach $\alpha = 0.806$).
- Fostering the culture of educational institutions (as related to the democratic aspect of managing the entire education system, independence and organizational culture of educational institutions; Cronbach $\alpha = 0.835$).
- Social outcomes of education (as related to the equality of educational opportunities, the obligatory character of elementary education, regard for special educational needs, human rights and interculturalism – as provided by the education system; Cronbach $\alpha = 0.828$).

Personal Values and Proclaimed Values of the Education System

- Adaptability of education (including its horizontal and vertical mobility, scientific foundation and the European dimension – as provided by the education system; Cronbach $\alpha = 0.786$).

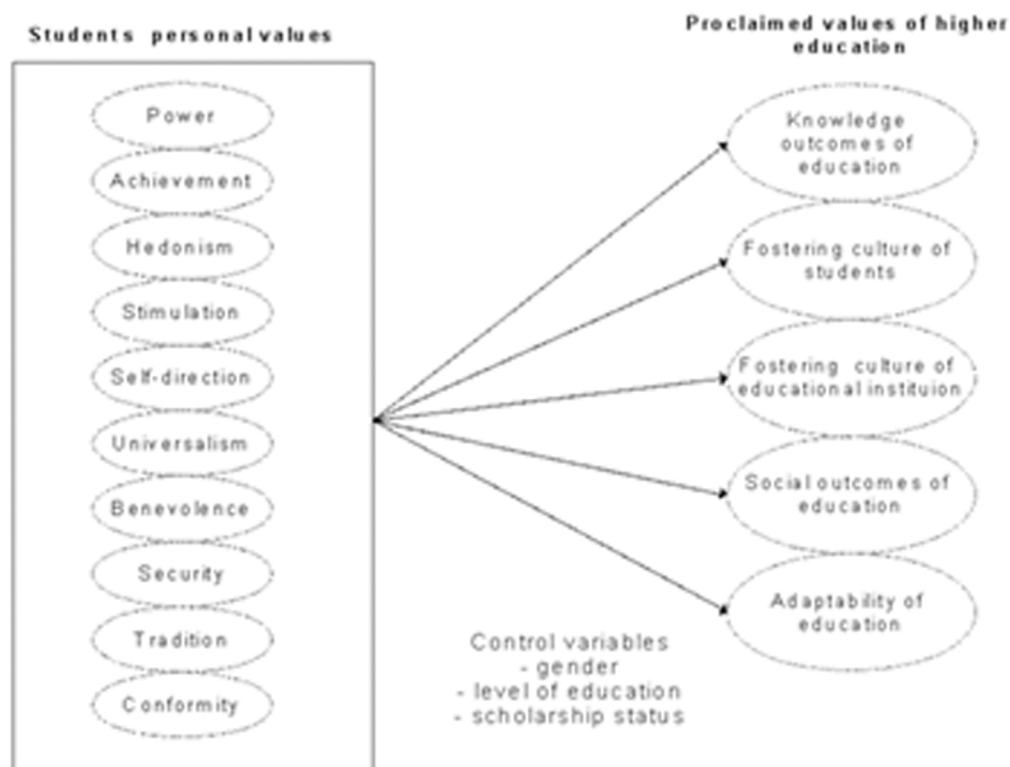
Given the exploratory nature of this study and the empirical values of the reliability coefficients, it can be concluded that the grouping is appropriate.

Figure 1 illustrates the operationalized research model, with the previously described constructs included.

Sample and the Research Instrument

Due to the preliminary and exploratory nature of this study, the sample for this study was selected by using the non-probabilistic approach. It consisted of 214 students, studying at different higher education institutions in Croatia, with the Faculty of Economics (86%) and the Faculty of Social Sciences and Humanities at the University of Split (4.7%) being the focal points. A further 4.7% of respondents studied at different departments related to business education (Economics and Tourism) at the University of Zadar, 2.3% at the Faculty of Science of the University of Split, 1.4% at the Department of Economics and Business Economics of the University of Dubrovnik, and the remaining 0.9% at the Faculty of Economics and Business of the University of Zagreb. The majority of respondents were studying at the undergraduate level (85.5%); 4.2% of respondents were studying at masters level; 0.5% of students

Figure 1. The operationalized research model



Personal Values and Proclaimed Values of the Education System

were in integrated bachelor/master programs; 6.5% were doctoral students, and the remaining 3.3% of students did not wish to disclose this information.

The sample structure is based both on availability and, partially, on an attempt to achieve comparability with the previous studies of students' values (*cf.* AlfIREvić & Brčić Kuljiš, 2016), which used comparable student samples.

For this study, the classical SVS research instrument was used, as described previously, to identify the respondents' personal values. The measurement of personal values was conducted on a 9-point scale, previously used and validated by the described SVS studies. The values of the education system were adopted verbatim from the analyzed educational policy documents. The participants' adoption of those values was measured by a series of statements (related to each of the values), asking for the level of participant agreement, as measured on a standard Likert scale, with five response categories, ranging from 1 (strongly disagree) to 5 (strongly agree).

Research Procedure

Students of faculties and departments at Croatian public universities (which should implement the principles set by the official educational policy documents) were asked to fill in an online questionnaire, with the anonymity of responses being guaranteed. Namely, the data were collected using a commercially available online survey system, which did not obtain any personal information and did not reveal or note the respondent's IP (Internet Protocol) address. Respondents were informed about the objective of the study and the intended use of the collected data. As already mentioned, due to the availability and the consent of the student population, an attempt was made to construct a sample, which could provide an empirical comparison of the value congruence for students of business/economics, and social science/humanities (*cf.* AlfIREvić & Brčić Kuljiš, 2016). However, due to the relatively small number of collected responses at the Faculty of Social Sciences and Humanities of the University of Split, such a detailed comparison could not be performed and remains a potential future research task. The data were further validated, and statistical analysis was performed by using the SPSS software package.

RESULTS AND DISCUSSION

Descriptive Statistics of Research Constructs

The results of the personal values survey, according to Schwarz's methodology, are presented in Table 1. The most important values for the sample of Croatian students are Benevolence, followed by Self-Direction and Conformity. They are followed by another group of essential values, which includes Security, Achievement, Hedonism, and Universalism. The low value of the Power value and an emphasis on Benevolence and Universalism can be explained by the predominantly female sample (Schwartz & Rubel, 2005). This is contrasted by the focus on Power and Achievement in the empirical research of students' values in business schools (Verkasalo, Daun & Niit, 1994). It is also unclear why, from the viewpoint of traditional cultural/political patterns characteristic of a broader range of transitional (and post-transitional) countries, Self-Direction and Conformity do not seem to be viewed as opposing values (Bardi & Schwartz, 1996).

Personal Values and Proclaimed Values of the Education System*Table 1. Respondents' personal values (according to SVS methodology)*

Personal values (according to SVS)	Minimum	Maximum	Mean	Std. Deviation
Power	1.75	9.00	5.2407	1.48483
Achievement	3.00	9.00	6.9439	1.17226
Hedonism	1.50	9.00	6.8528	1.47771
Stimulation	2.33	9.00	6.4112	1.42126
Self-Direction	3.40	9.00	7.1972	1.07842
Universalism	3.13	9.00	6.8446	1.11926
Benevolence	4.60	9.00	7.2748	1.12705
Conformity	3.75	9.00	7.1180	1.10049
Tradition	3.40	8.60	6.3103	1.23858
Security	2.60	9.00	6.9477	1.22994

Source: Authors

There is no precise value profile for the respondents, consisting predominantly (more than 95%) of public business school students. The predominant values seem to be a mix of those hinting at a 'conservative' personality, obedient toward social authorities, as well as more individualistic ones. The respondents also seem to be neutral regarding the acceptance/rejection of the proclaimed (sector-wide) values of education in Croatia (see Table 2), as all means point toward the mid-point of the Likert scale used in the empirical research.

Analysis of Relationships Among the Research Constructs

Multiple, statistically significant associations were found by using a simple linear correlation (as presented in Table 3), which provided justification for an analysis of the potential causation.

Linear regressions, using SVS-based personal values as predictors of education system values, gender, study level and scholarship status as control variables, lead to statistically significant models. In the case of the **knowledge outcomes of education**, the obtained regression model, consisting of control variables only, is highly significant (F-Statistic = 4.362; $p = 0.005$), as is the model tested (F-Statistic = 3.062; $p = 0.000$). The level of study is the only significant control variable. On the other hand, out

Table 2. Acceptance of proclaimed values of the education system by Croatian respondents

Values of the education system	Minimum	Maximum	Mean	Std. Deviation
Knowledge outcomes of education	1.00	5.00	3.3474	.90169
Fostering the culture of students	1.00	5.00	3.3302	.87984
Fostering the culture of educational institutions	1.00	5.00	3.3084	.91951
Social outcomes of education	1.40	5.00	3.5561	.79914
Adaptability of education	1.00	5.00	3.4206	.79138

Source: Authors

Personal Values and Proclaimed Values of the Education System*Table 3. Correlations of research constructs*

	Power	Achievement	Hedonism	Stimulation	Self-Direction	Universalism	Benevolence	Conformity	Tradition	Security	Knowledge outcomes	Fostering the culture of students	Fostering the culture of institutions	Social outcomes	Adaptability
Power	1	.503**	.438**	.439**	.218**	.141*	.094	.282**	.176**	.374**	.209**	.196**	.214**	.178**	.199**
Achievement		1	.523**	.528**	.686**	.498**	.559**	.544**	.350**	.401**	.212**	.194**	.195**	.236**	.212**
Hedonism			1	.522**	.534**	.338**	.375**	.403**	.176**	.484**	.069	.019	.124	.130	.035
Stimulation				1	.603**	.528**	.470**	.334**	.325**	.425**	.147*	.123	.143*	.156*	.168*
Self-Direction					1	.670**	.673**	.503**	.356**	.465**	.107	.090	.090	.154*	.146*
Universalism						1	.661**	.553**	.551**	.491**	.177**	.157*	.210**	.232**	.191**
Benevolence							1	.667**	.618**	.482**	.201**	.152	.197**	.221**	.209**
Conformity								1	.610**	.571**	.198**	.179**	.245**	.227**	.258**
Tradition									1	.484**	.163*	.144*	.187**	.200**	.178**
Security										1	.233**	.127	.181**	.236**	.215**
Knowledge outcomes											1	.750**	.722**	.680**	.703**
Fostering a culture of students												1	.664**	.708**	.671**
Fostering a culture of institutions													1	.754**	.690**
Social outcomes														1	.799**
Adaptability															1

Note: ** statistically significant at 5%; * statistically significant at 1%

Source: Authors

Personal Values and Proclaimed Values of the Education System

of the proposed predictors, the personal values of Hedonism and Security prove to be statistically significant (see Table 4).

As regards **fostering the culture of students**, the model is statistically significant with the personal values, entered as predictors, along with the control variables (F-Statistic = 1.822; $p = 0.043$). The model with the control variables only is not significant (F-Statistic = 1.423; $p = 0.238$). The personal value of Hedonism is a significant predictor (see Table 5).

The linear regression model for the variable describing **fostering the culture of institutions** is statistically significant for the control variables only (F-Statistic = 2.784; $p = 0.042$). The model with the personal values, entered as predictors, also proves to be significant (F-Statistic = 3.058; $p = 0.000$). The level of study is an important control variable, while the personal value of Self-Direction is a significant predictor (see Table 6).

When **social outcomes of education** are predicted by the SVS-based personal values of students, the model, consisting of control variables only, does not prove to be statistically significant (F-Statistic = 2.246; $p = 0.084$). The model, with predictors entered, satisfies even the 1% significance threshold (F-Statistic = 2.451; $p = 0.004$). However, **there are no statistically significant predictors in this case** (see Table 7).

The *adaptability of the education system* can also be modeled by using a similar approach: the linear regression model, consisting of control variables only, is statistically significant (F-Statistic = 4.391; p

Table 4. Linear regression of the knowledge outcomes value, using personal values as predictors

Model		B	Std. Error	Beta	Sig.
1	(Constant)	4.560	.468		.000
	Gender	.048	.138	.025	.729
	Study level	-1.083	.307	-.253	.001
	Scholarship status	-.075	.169	-.032	.657
2	(Constant)	2.760	.666		.000
	Gender	-.071	.139	-.036	.610
	Study level	-1.103	.306	-.257	.000
	Scholarship status	-.029	.165	-.012	.858
	Power	.057	.058	.093	.333
	Achievement	.156	.095	.198	.104
	Hedonism	-.141	.059	-.232	.018
	Stimulation	-.007	.065	-.011	.914
	Self-Direction	-.098	.107	-.117	.362
	Universalism	.039	.091	.048	.669
	Benevolence	.151	.098	.188	.124
	Conformity	.019	.090	.023	.832
	Tradition	-.040	.073	-.054	.587
	Security	.145	.072	.197	.046

Note: $R^2 = .066$ for the model with control variables only; $\Delta R^2 = .118$ for the analyzed model

Source: Authors

Personal Values and Proclaimed Values of the Education System*Table 5. Linear regression of the students' culture value, using personal values as predictors*

Model		B	Std. Error	Beta	Sig.
1	(Constant)	4,092	,470		,000
	Gender	-,061	,139	-,032	,662
	Study level	-,603	,309	-,143	,052
	Scholarship status	,004	,170	,002	,983
2	(Constant)	2,727	,680		,000
	Gender	-,146	,142	-,076	,306
	Study level	-,610	,312	-,145	,052
	Scholarship status	,020	,168	,009	,906
	Power	,082	,060	,137	,173
	Achievement	,115	,097	,149	,240
	Hedonism	-,149	,060	-,249	,014
	Stimulation	,007	,066	,011	,916
	Self-Direction	-,086	,110	-,104	,433
	Universalism	,073	,093	,091	,431
	Benevolence	,090	,100	,114	,367
	Conformity	,087	,092	,108	,346
	Tradition	-,031	,074	-,043	,678
	Security	,037	,074	,051	,615

Note: $R^2 = .022$ for the model with control variables only; $\Delta R^2 = .097$ for the analyzed model

Source: Authors

= 0.005) and the same applies to the model, with potential predictors entered (F-Statistic = 3.251; $p = 0.000$). The level of study is, once again, found to be a significant control variable, and the personal value of Hedonism is a statistically significant predictor (at the standard 5% level), as presented in Table 8.

Table 9 summarizes the empirical findings of the causal empirical analysis. It is interesting that the dimension of the proclaimed (sector-wide) educational values related to the culture of students can be empirically predicted by the personal value of Hedonism, while the culture of educational institutions, is empirically predicted by the personal value of Self-Direction. On the other hand, along with Security, Hedonism also predicts the knowledge outcome dimension of the proclaimed values and serves as the only predictor of the adaptability dimension.

The cultural dimensions of the education system seem to hide a conflict of the culture of students (as predicted by the personal value of Hedonism), vs. the culture of HE institutions (as predicted by the personal value of Self-Direction). Educational institutions seem to focus on intellectual freedom, creativity, independence of an individual, his/her curiosity and the freedom to choose his/her own objectives (being the components of the Self-Direction personal value). These components even seem to be compatible with the models of the educational institutions' culture and climate (Van Houtte, 2005; Schoen & Teddlie, 2008). On the other hand, the personal value of Hedonism consists of two items, related to pleasure-seeking attitudes and behaviors. An additional personal value, which proved to be empirically relevant, is the Security, which captures the values of the items, describing self-discipline,

Personal Values and Proclaimed Values of the Education System*Table 6. Linear regression of the institutions' culture value, using personal values as predictors*

	Model	B	Std. Error	Beta	Sig.
1	(Constant)	4.220	.480		.000
	Gender	.045	.142	.023	.753
	Study level	-.905	.315	-.208	.005
	Scholarship status	-.007	.174	-.003	.969
2	(Constant)	2.325	.675		.001
	Gender	-.049	.141	-.025	.729
	Study level	-.869	.310	-.200	.006
	Scholarship status	.010	.167	.004	.952
	Power	.092	.059	.149	.122
	Achievement	.136	.097	.171	.161
	Hedonism	-.075	.060	-.122	.210
	Stimulation	-.047	.066	-.073	.472
	Self-Direction	-.217	.109	-.255	.048
	Universalism	.144	.092	.174	.120
	Benevolence	.124	.099	.152	.211
	Conformity	.126	.091	.151	.169
	Tradition	-.035	.074	-.047	.633
	Security	.051	.073	.068	.487

Note: $R^2=.043$ for the model with control variables only; $\Delta R^2=.141$ for the analyzed model

Source: Authors

social relationships, and social order. The potential antagonism between these two constructs could be crucial for an explanation of the known outcome dimension of the official/proclaimed educational values. It is unclear how Hedonism contributes to an understanding of the adaptability dimension of the declared educational values.

The obtained empirical results justify *acceptance of the proposed hypothesis on the value congruence of students' personal values and the officially proclaimed, sector-wide values of Croatian higher education*.

CONCLUSION

In an attempt to encourage value-based research in the field of education, this chapter analyzes the associations among students' personal values and the proclaimed, sector-wide values of the education system in Croatia. Due to its preliminary and exploratory nature, it is still not possible to provide a straightforward explanation of the obtained results. Still, a segment of the results seems to follow the established themes of educational management and policy fields, such as the culture and climate of educational organizations. *The most significant conclusion of the present study is related to the existence of causal, statistically significant relationships among the students' personal values and the majority of the dimensions belonging to the proclaimed values of the educational system.*

Personal Values and Proclaimed Values of the Education System*Table 7. Linear regression of the social outcomes value, using personal values as predictors*

	Model	B	Std. Error	Beta	Sig.
1	(Constant)	4,445	,423		,000
	Gender	,041	,125	,024	,741
	Study level	-,650	,278	-,170	,020
	Scholarship status	-,134	,153	-,064	,381
2	(Constant)	2.777	,603		,000
	Gender	-,067	,126	-,039	,595
	Study level	-,678	,277	-,178	,015
	Scholarship status	-,095	,149	-,045	,525
	Power	,025	,053	,045	,643
	Achievement	,158	,086	,226	,070
	Hedonism	-,063	,053	-,117	,239
	Stimulation	-,039	,059	-,069	,503
	Self-Direction	-,141	,097	-,189	,148
	Universalism	,111	,083	,153	,179
	Benevolence	,081	,088	,114	,359
	Conformity	,049	,082	,067	,550
	Tradition	-,035	,066	-,054	,594
	Security	,114	,065	,175	,081

Note: $R^2=0.153$ for the analyzed model with control variables and insignificant predictors

Source: Authors

It is still open to debate why such a relationship has not been empirically found for the value dimension of achieving the desired social outcomes of the education system, i.e., whether the lack of such a relationship can be ascribed to students' characteristics or to the functioning of the education actors and their practices within the system. The pattern of results suggests that findings of actual students' values, notably several of its dimensions (such as hedonism, self-direction, and security) do influence the proclaimed values of higher education. This should be taken into consideration in strategic and operational decision-making in higher education, as well as in the curriculum design.

IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Implications

Our findings provide several theoretical and practical implications. On the theoretical level, the general research framework can be enhanced, according to the well-established notion from the business sector, regarding the "person-organization fit" (Westerman & Cyr, 2004), as to highlight the student and stakeholder orientation of educational organizations. On the practical level, several implications are relevant.

Personal Values and Proclaimed Values of the Education System*Table 8. Linear regression of the adaptability value, using personal values as predictors*

Model		B	Std. Error	Beta	Sig.
1	(Constant)	4.550	.409		.000
	Gender	.062	.121	.037	.607
	Study level	-.919	.268	-.245	.001
	Scholarship status	-.123	.148	-.059	.405
2	(Constant)	3.051	.578		.000
	Gender	-.043	.121	-.025	.724
	Study level	-.914	.266	-.244	.001
	Scholarship status	-.107	.143	-.051	.456
	Power	.059	.051	.111	.248
	Achievement	.065	.083	.095	.435
	Hedonism	-.154	.051	-.289	.003
	Stimulation	.029	.056	.051	.612
	Self-Direction	-.048	.093	-.065	.609
	Universalism	.028	.079	.039	.727
	Benevolence	.102	.085	.146	.229
	Conformity	.147	.078	.206	.061
	Tradition	-.082	.063	-.129	.193
	Security	.089	.063	.139	.156

Note: $R^2=.066$ for the model with control variables only; $\Delta R^2=.128$ for the analyzed model

Source: Authors

Table 9. Personal values as empirical predictors of the values of the education system

	Significant control variable	Significant predictor(s)
<i>Knowledge outcomes</i>	Level of the study	Hedonism, Security
<i>Fostering the culture of students</i>		Hedonism
<i>Fostering the culture of institutions</i>		Self-Direction
<i>Adaptability</i>		Hedonism

Source: Authors

Firstly, the pattern of the results on the acceptance of proclaimed educational values could be helpful in planning education reforms and curriculum development. In the analyzed case of Croatia, there is a *relevant need to address the cultural issues in the higher education curricula and further develop the organizational culture and climate of HE institutions*. Those should take an active role in improving their culture and promoting stakeholder-oriented cultural awareness, instead of merely adopting a formal code of conduct.

Secondly, some of the obtained results are relevant for further HE reforms. Noteworthy is *the negative associations between hedonism and the students' perception of knowledge outcomes and adaptability*

Personal Values and Proclaimed Values of the Education System

of the education system. There is, also, *a somewhat less visible cultural conflict between the cultural dimensions, related to students and the HE institutions,* which has not been captured by previous empirical studies. Nevertheless, it is not especially surprising, as the students' culture seems to focus on the personal value of Hedonism, while the culture of HE institutions leans toward the personal value of Self-Direction. This finding suggests that the cultural changes should be included in the agenda of the HE reform, as to recognize and solve the negative consequences of the identified cultural conflict

The less favorable perception of the education adaptability could be associated with the consequences of hedonism, such as achieving pleasure and personal satisfaction (Schwartz, 1992). We may speculate that the students, who highly appreciate hedonism, might wish the education system to possess a very high level of adaptability, which could not be, in each case, oriented toward the quality of the educational process and outcomes.

Thirdly, as related to the control variables, the *level of study* is negative and significantly associated with the majority of the proclaimed values of the education system. This implies that HEIs need to engage more to fulfill expectations of their key stakeholders – i.e., students (Warwick, 2016), since it seems that, as students advance to the higher level of studies, their perception of considered proclaimed values becomes less favorable.

Limitations

The most significant limitation of this study is the level of generalizability, which can be (potentially) achieved by the proposed line of research. Namely, it is difficult to determine a generic framework, which could be applicable to the values of a variety of different education systems. In the specific case of Croatia, it was relatively easy to determine the proclaimed values by analyzing the adopted policy documents and creating a framework, which proved to have relatively high internal consistency. However, it is quite difficult to state that such a structure is applicable to different education systems and contexts, which would require additional research aimed at the formulation of a more generalizable framework. The success of any future research in this direction would also determine the viability of the topic of this study as a potential new direction in the study of values and their application to the field of education.

Another significant limitation is related to the methodology of a self-reporting survey, where students rated items, describing the proclaimed values of the education system. Self-reporting may have some implications for the results (Schwartz, 1999). This could be a potential source of bias, since respondents may have lack of knowledge about the HE system, or they might not be willing to reveal their actual opinions. Finally, a potential bias could be introduced by the use of the same dataset to compute both the dependent and independent variables (Podsakoff, MacKenzie & Podsakoff, 2012).

FUTURE RESEARCH DIRECTIONS

The outlined recommendations also call for *broader research of values in education.* It should also be suggested that the identified categories of proclaimed values of higher education should be further verified, for their use in a broader context, especially in the Central and Southern European regions. The presumptions about the similarity of proclaimed values of higher education can be based on the convergence of declared values of higher education organizations, due to their involvement in the international environment and, especially, requirements of accreditation processes (such as the AACSB,

Personal Values and Proclaimed Values of the Education System

and EFMD for business schools). This could be caused by the cultural similarities among the students in the region(s) considered – such as the Southern and Central Europe (Potočan, Nedelko, Mulej & Dabić, 2016). Nevertheless, these presumptions need to be tested empirically within the proposed region, as well as in Europe.

Another possible research venue could focus on potential *value assessment conflicts among the stakeholders of national education systems*. Thus, it would be very beneficial to use self-reported students' and HE managers' value assessments (Paunonen & O'Neill, 2010), as to determine the discrepancy in the perception of proclaimed values of education systems by those two key stakeholder groups. This also opens the issue of *analyzing the value gaps, not only on the level of a national educational system but also on the institutional level, including the comparative studies of different groups of educational institutions*.

ACKNOWLEDGMENT

This study was supported by the Ministry of Science and Education of the Republic of Croatia and the Slovenian Research Agency. Additional support was provided by the Croatian Scientific Center of Excellence for School Effectiveness and Management.

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*Personal Values and Proclaimed Values of the Education System***KEY TERMS AND DEFINITIONS**

Attitudes: Someone's perception regarding the objects and/or subject in his/her environment.

Culture: The shared and learned psychological patterns and social interactions related to understanding and reacting to environmental stimuli.

Education System: Policy formulation and implementation framework, including resources and facilities, as well as the organization and administrative arrangements for (public) schooling at all levels of education: from kindergarten to higher education.

Educational System Values: Principles guiding the formulation, implementation, and evaluation of educational policies and practices, as stated in national policy documents.

Personal Value: A pattern of assigning importance and the most appropriate reaction to environmental stimuli, based on the construction of social value and its association with the (re)action itself.

Schwarz Value Survey (SVS): A methodological approach, developed by Shalom H. Schwarz, for determining and classifying universal human values, their precedents, and causes, as well as their behavioral influence and other social consequences.

Stakeholders of an Educational Institution: All interested parties, either individuals or organizations, having a legitimate interest in the processes of an educational institution, as well as their inputs and outcomes.

Chapter 9

Fourth Industrial Revolution: Towards University Teaching Based on Values

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ABSTRACT

We are at the beginning of the fourth industrial revolution. The authors understand that university education should embrace the keys to this scenario and do so immediately. Considering this fact, new university teaching should be supported by technological immersion, but also by a culture of proactivity and training in values. The third of these pillars achieves an unimaginable relevance in regards to this emerging industrial revolution, which aims to become the revolution of values. Within this context, the university must move into the practice of ethical values and offer training based on soft skills. Moreover, there is a path that links ethics with soft skills based on the synergy between the two. From this idea, the central objectives of this work are to propose a university model for educational innovation based on values that also includes the tools for its implementation. The chapter ends with a practical case for implementing the model at the fablab that the University of Extremadura has available for its students majoring in Information Technology Engineering.

INTRODUCTION

It is indisputable that we are entering what is called the Fourth Industrial Revolution (4IR), the revolution of interconnection, artificial intelligence, talent, but also of ethics (Porter & Heppelmann, 2014, 2015).

At the Davos Forum (WEF, 2016) it was argued that this 4IR would be a *revolution of values*, while at the same time reflecting on how we can put economic growth at the service of people: Can technology be used for social change? This rebirth of civic principles is already evident and is being consolidated in the form of organizational trends (APD, 2016): exemplary governance, the intensification of relations

DOI: 10.4018/978-1-5225-5837-8.ch009

Fourth Industrial Revolution

between organization and stakeholders, and the subsequent changes in education and the way of learning. In short, *the person in the center of the organization*.

On the other hand, another distinguishing feature of this 4IR is the depth and accelerating rate of change of the labor market so that we anticipate that (a) as early as 2020 a third of current professional skills will not be classified as essential, at the same time as (b) those skills called, in the broadest sense, social skills or soft skills (persuasion, collaboration, emotional intelligence, etc.) will become critical in organizations.

Thus, commitment and project management have currently become the most valued skills for companies (EP & CE, 2015, 2016), though they may not be for long, given the fact that the most in-demand employee skills have changed since 2015 compared to those requested for 2020, with these changes mainly being towards a soft skills profile in this order: the solving of complex problems, critical thinking, creativity, people management and coordination with others (MG, 2016).

A critical issue is a convergence that is observed between the consolidated tendency of organizations towards governance based on ethics, which translates into them having an ethical culture, and the most in-demand profiles for professionals characterized by this type of soft skills. This is so that relevant moral principles and values are converted into soft skills such as those requested by current and future organizations (critical thinking, people management, commitment, initiative/proactivity, change management, responsible behavior, communication, and shared decisions, among others); at the same time, this protects fundamental skills of this kind from ups and downs as the cultures of organizations continue revolving around ethics. In conclusion, from this ethical alignment, soft skills require the convenience of implanting in official teaching a new training scheme that allows this synergy between both fields to be exploited. There would be a direction in this change in education and learning that represented a settled trend.

More specifically, there is no doubt that this scenario suggests setting up a new educational framework in universities very soon, which can face these pre-eminent features of new organizations with guarantees. Leaders must design and put into practice the further education of future generations as quickly as possible (Hirshman, 2016) in order to prepare them for this changed and changing labor market, but it is the teaching institutions that should make first and foremost for this revolution of skills and ethical values in their future graduates (Human Age Institute, 2016).

But how can these institutions deal with the transformation? We are facing a complex and gradual structural change which should be characterized by the habit of practicing ethics and professional skills based on examples, initiative, and creativity, in a climate of trust and shared experience (Human Age Institute, 2014). All this goes to demonstrate attitudes of proactivity in the university and its students.

The general objective of this work is to identify the guidelines and tools needed for the implementation of an innovative university education Model or Program based on values and, therefore, in developing a good part of the soft skills required by new and continuously changing organizations. Finally, we wish to specify the fundamentals of this Model in a case of university teaching innovation applied to a specific context.

For all this, the ethical dimension will be used as the Model's envelope—hence, the name of Values Training Model—while the training virtues in soft skills would represent its internal elements: as a whole, civic values and professional skills would form an educational system, that is, a set of interrelated units because they pursue a shared teaching objective, adapting to a more updated and desirable university education.

Fourth Industrial Revolution

After discussing a short approach to ethics and its application in the teaching sphere, the design of the proposed general Model or Program will be described, meeting the challenge of turning students into responsible, committed global citizens who are taught through example. We will then set out some successful models that have been based on identical or similar schemes of thought as the one that is offered here and that, therefore, are easily replicable for this purpose. To finish, we propose guidelines in a case that applies the proposed Model to a specific university scenario and close with possible future research and some final considerations of the work.

ETHICS AND TEACHING

Approach to Ethics

Any collective creates rules that regulate the relations among its members in accordance with some values: it is precisely one of the characteristics of the concept of a group (Gómez, 2011). Ethics, as a branch of the practical nature of philosophy, is responsible for the moral behavior of man in society. The difference between ethics and morality lies in the fact that ethics is the science of morality while morality is the subject matter of ethics (Escovar, 2003).

In contrast to analytical or critical ethics, we find applied ethics, that is, ethics that deal with values as a tool for solving the moral dilemmas of human coexistence. It focuses on social and political problems as well as codes and professional responsibilities. Of all the approaches to applied ethics, the aim of this paper is decided by consequentialism, that is to say, a mental stance on the grounds of morality that is based on the consequences of actions (Girondella, 2011).

The broad range of the subject of ethics, as well as the university environment which we are dealing with, invites us to choose that known as *public ethics*. This is the ethics of civil society, the scope of the community not directly submitted to state intervention (Cortina, 1998). It is composed of a series of principles and values that are the basis for the peaceful coexistence of citizens in pluralistic societies; they are socially accepted. The moral principles on which public ethics is based are freedom, equality, solidarity, active respect, dialog, responsibility, and justice. And the benchmark values of this ethics include honesty, compromise, truth, solidarity, cooperation, tolerance, respect, and peace.

In the university, reference is usually made to ethics in relation to the exercise of deontological principles in the performance of work activities, but this notion of public ethics surpasses those limits by far.

Education in Ethical Values

If it is not from values, there is no possibility of carrying out an educational process. There is no man devoid of culture and values: approaching man and knowing him implies entering into his world of meanings and values through which he lives and expresses himself. Hence, values will inevitably be contained, explicit or implicit, in education (Ortega, 1994).

But nefarious historical events together with undesirable actions of the most recent business world, especially in the more developed countries, have caused harm in society (Hein, 2011) such as the conversion of universities into engines for economic growth and, with it, into institutions guided by corporate interest, competitive individualism and the implementation of internal control and audit systems

Fourth Industrial Revolution

(Sutherland & Saltmarsh, 2011). This has hit hard the consideration and exercise of political ethics in university teaching.

This has been compounded by the growing difficulty that university students face, in guiding themselves using their judgement and personal sense within a collective culture, due to the vast amount of information that is generated, which is much more significant in volume that is required to learn, understand, submit to criticism or integrate into a worldview (Mayo et al., 2011).

This perception of training has caused the scientific and professional community to mobilize in major national and international meetings in order to start laying the foundations of these new teaching methods for future well-being (Buck et al., 2012; Paio et al., 2012). It is worth mentioning a large group of researchers whose objective is focused on promoting civic education in the western world: among many others, Nai-Kwai Lo and Si-Wai (1996); Pinhey and Boyer (1997); Kennedy, (1997); Cogan and Derricott (1998); Hahn (1998, 2005); Crick (1998); Print et al. (1999); Bahmueller and Patrick (1999); Kerr (1999, 2002, 2004); Naval et al. (2002); Naval (2003); Naval and Jover (2006).

UNESCO itself has repeatedly stated that education in values is the excellent response to the global challenges of injustice and inequality (Ugarte & Naval, 2008/2009): moral education thus becomes a powerful tool through which society is endowed with values that facilitate a harmonious coexistence. A civic culture whose principles and minimum values are responsible freedom, recognition of the equality of every human being in terms of dignity and fundamental rights, justice, compassionate or altruistic solidarity, active respect and a predisposition to dialogue.

In the sphere of universities, organizations, declarations, and prestigious international forums defend implementing a more up-to-date, comprehensive and inclusive alternative vision in universities: the mission of a university should be to encourage the development of *global and responsible citizens* (Boni & Lozano, 2006; Boni & Gaspar, 2011; Manzano, 2012; Martin & Garcia, 2014). That is a more active university in the resolving of social challenges.

The result is that this new educational paradigm, arising from the events that occurred in 1989 (the fall of the Berlin Wall), the growing criticism towards extreme liberalism or neoliberalism and to the globalization of the economy, begins to sink slowly into the fabric of universities but is on an already unstoppable rise with repercussions of a sociological, psychological and educational nature (Callan, 1997; Paerse & Hallgarten, 2000; Sober & Wilson, 2000; Putman et al., 2003; Naval, 2003, 2006).

It has been noted that universities should aim to produce thoughtful people, with their own judgment, to augment their positive critical judgment, to empower them to carry out actions that give meaning to their lives and improve their interpersonal relationships: of a family, social and labor nature (Santos & Lorenzo, 2010). In other words, they should focus on the Integral Global education of students (Lozano et al., 2003):

- Global, because the student must know all about their environment, that is, they must be specialized in their area of knowledge, but with a clear vision of the context in which they will undertake their labor activity.
- Integral, because they must develop their full potential: attitudes, abilities, skills, and values.

To summarize, universities should be, in addition to conveying instrumental knowledge, the educator of civic citizens; hence a universe of intellectual and participatory skills should also include social and intercultural skills (Ugarte & Naval, 2008/2009) through which students develop a unique awareness

Fourth Industrial Revolution

concerning ethnic diversity, immigration and enhanced respect for the ideas, beliefs and/or traditions of other cultures.

However, one issue must remain clear: education in values is not a discipline that is independent of the contents or skills that are sought in the delivery of the subjects but is a cross-curricular approach that is not limited to what is taught, but how it is shown (Delors Report, 1986). A formula to which must be added that the teaching of values should be based on example, due to the simple fact that it is challenging to teach professional ethical learning without it.

Finally, we argue that this new vision is impossible to achieve without a parallel development of values in the institution itself: in this case, the university.

An early case of this paradigm is found in the European Union (EU). The new century urged the EU and its universities to undertake a process of adaptation to the new social and labor reality. As a result, it created the European Higher Education Area (EHEA)—or Bologna Process—based on competency-based learning with more participative training and the consideration that not only competent professionals must be trained but also responsible citizens who work for a better world (Berlin Conference, 2003).

TRAINING MODEL FOR VALUES: PROPOSAL

The Model supposes a strategic, or long-term, the decision by the university, the center and/or degrees involved and corresponds to their respective management bodies. Therefore, the methodology that we will apply to design it is based on the strategic decision-making process undertaken by the management of any non-profit or profit-based organization (Donnelly et al., 1994; Castillo et al., 2006; Bueno, 2008), with the following logical adaptations: Planning, Organization, Execution and Control, with the corresponding feedback that this last phase represents (Figure 1). Each stage of this management cycle will be developed:

- In a climate of Creativity, the origin of all innovation
- With the concept of the university as an open and collaborative system and therefore willing to make Alliances with other agents
- At all times alert to what is being done in this field in other universities, centers or degrees in order to improve the initial proposal, that is Benchmarking, for any of the three areas to which the Model can be applied no matter how desirable the initial plan may be for a specific university. This will be the model described here

We begin by addressing each of these stages of the Model or Program (Figure 2, Figure 3, Figure 4).

Phase One: Strategic Planning: Strategic Thought Model

It is useful to begin by defining the concept of social value as the generation of a positive change in the well-being of individuals as a result of a social action (Clark et al., 2004): social value is created by solutions to social problems such as video game design for active aging, by online platforms for information and integral training for immigrants, by a specific marketing plan for disability associations, etc.

A committed university begins by reflecting on and deciding the direction to be taken for this Model or Program (Figure 5), that is, it's strategic thinking in its social aspect:

Fourth Industrial Revolution

- The Strategic Thought Scheme begins with the fabric of values that the university wishes to apply. The general approach will be towards values that make up public ethics but based on the freedom to adopt an attitude of responsibility and commitment.
- The Mission of the project is to promote the training of responsible and committed university professionals so as to foster the common good, that is in order to create social value. A more developed and sustainable society may be established in terms of social, environmental and governmental deficiencies.
- The university applies a consistent vision to provide this and to create a space for teaching and collaborative innovation for social change. More specifically, the training of participative and proactive individuals devoted to improving society. Thus, the origin and purpose of this education is *the individual* and the path to be followed action based on the example.

This turns the project into an internal proactive or *intrapreneurial* university activity, that is, in the design and implementation of a long-term plan *from within the university* (Muñoz et al., 2011a). It will be a dual level of *intrapreneurship*: that of designing and implementing this innovative model in pedagogical terms, as well as the process undertaken by the students for their practical implementation, a university endeavor based on a student's attempt while executing it.

In short, a culture of university innovation must be generated that empowers agents of change (Living Unilab, 2016) through an enterprise aimed at creating social value, a social enterprise: it is not in vain that we know entrepreneurs/intrapreneurs are needed as drivers of change in society.

Consequently, and from a theoretical point of view, the concept of intrapreneur must be chosen for this Model from the Schumpeterian perspective, that is, a generator of change (Young, 1986) that faces social problems from a new perspective and is prone to make alliances with different sectors of society (with companies, non-governmental organizations, public agents) to form an operational network that is used to find an innovative solution to social problems without necessarily going through the creation of a company.

- The objectives chosen for the long term must be aligned with the selected Values, Mission and Vision. Of course, the ultimate goal will be the consolidation of the Program in the long run.

Thus, we need to raise three issues:

- Innovate is a way to find a new solution that achieves success (Pisani, 2016).
- Intrapreneurship requires a specific process (Balmaekers, 2016), the reason for which we will apply an agile methodology for entrepreneurship/intrapreneurship.
- We should also introduce ethics into this conceptual scheme, based on the following two arguments:
 - Muñoz (2011) reveals that throughout history, there has been a healthy relationship between culture, innovation and social progress. However, he notes that currently, a cultural crisis exists that hinders the relationship between innovation and social values. Therefore ethics reclaims its relevant role as the glue that binds both problems.
 - The results of managing science or technology without the inclusion of specific criteria may invalidate the results of applying them. This demands the addition of the ethical dimension in the action model (Martín et al., 2013).

Fourth Industrial Revolution

All the above direct us towards applied ethics that is, towards proactive self-taught students inspired by universal principles that should be practiced as the effective method of learning: students should advance from making reflections on ethics to viewing public values as a vehicle for solidary behavior (Flor et al., 2011).

Phase Two: Organization for Its Implementation

Baseline Approach

This is a pedagogically innovative model for the creation of innovative social responses in the area of higher education that strive to be consolidated over time. It requires the integrated management of the Program *based on processes* as well as a suitable *innovation management* model; procedures that should never be so complex as to stifle this initiative ultimately.

As for the primary activities of *innovation management* (López et al., 2007), the Model raises the following (Figure 6):

- The work of vigilance (internal and external) is complex and costly for a university, at least in the beginning, they should be taken on in an informal manner, in accordance with the available resources.
- The strategic Selection phase is not precise, due to the proactive nature of the intended Program, making the strategic *offensive*.
- Particular attention should be given to the remaining two phases to be undertaken: Innovation implementation and Learning.
 - The first of these, consisting of transforming an innovative idea into a real project, would consist of two stages:
 - The university and, subsequently, the management team, shall have the necessary knowledge in order to develop this educational innovation. There are certain global precedents, but they should be adapted to the reality of this university, center or degree.
 - The execution of the innovative program—as we shall see—implicates its introduction in the direction of the participating internal and external agents.
 - As for the Learning phase, we suggest the application of a summarized version of *knowledge management*, implying a spirit of ongoing program improvement.

To all of this, we should add the most highly recommended training of a cooperation network in order to implement the program. This is concerns the Control of results.

There are various models of innovation management. We note that the EFQM Model (EFQM, 1999-2003; EFQM, 2013) is a reference, especially in Europe as it is promoted by the European Commission, being applicable to all types of organizations, and due to its non-regulatory and integrating nature, including as it does other models of recognized prestige. For these reasons, we decided to design an EFQM Model for this university social innovation program, for all its stages, with a bearable profile. A generic proposal such as that in Table 1, including the new criteria already adapted to this educational innovation Model, as a working framework that also assesses its progress.

We verify how this proposal of the EFQM model applies a systemic approach for the undertaking of an excellent Program, an open and dynamic system. Its interaction and satisfaction criteria meet the

Fourth Industrial Revolution

expectations of the Program's interest groups, innovation research that envisages it as an Innovation System (Freeman, 1987; Nelson, 1992) given the need to involve distinct internal and external university agents, the fact that social entities may assist in restoring the social nature of education (Batlle, 2010), as well as the pronouncements of the OECD and EU (Perruchas et al., 2005), supporting innovation work in national, regional and local ecosystems lead us to create an *ad hoc innovation ecosystem* within the institution.

Therefore, aligning ourselves with the declarations of supranational institutions such as the EU and the OECD (Perruchas et al., 2005), supporting innovation work in national, regional and local ecosystems as being relevant, although applied in an institutional environment: we dare to import this systemic vision for the management of innovation in a real micro-setting that was promoted in and created by a university.

In short, a space that understands and practices open innovation, centered on people, transversal, systemic and associated with a real place of experimentation. If we conceive of a *Living Lab* as a bank of real-life tests conducted in an experimental context where producers and users interact to create innovation (Universidad de Valencia, 2017) collectively, the above suggests that we will be building a dynamic Model that approaches a *Living Lab university-social collaboration*.

Requirements for Success

As a result of using the EFQM (Table 1), the successful Program organization shall apply a series of standard conditions (Muñoz et al., 2011a; Muñoz et al., 2011b; Martin et al., 2013; Muñoz, 2011; Martin & Garcia, 2014):

1. Total university involvement
 2. Management team
 3. Interdisciplinary nature
 4. Strategic alliance and mobilization of all commitment agents
 5. Willingness to serve
 6. Funding
-
1. The university, as well as the center or degree deciding its implementation, should know of the need to apply this social aspect and be available to participate in the process. Next, we must take into account not only the importance of the University's appropriate response to its citizens but also demonstrate its commitment to the same (Martínez et al., 2016).
 2. The administration of the Program is based on the creation of a management team. This team shall always be reduced in size, in order to have the agility that is necessary to make decisions and perform actions, but it shall be highly motivated by the social projects that are to be taken on.

Furthermore, the management team should be made up of individuals of distinct ages and gender so as to benefit from different perspectives, which shall provide the projects with diversity.

3. With this goal of considering ethics and social venturing from a transverse perspective, all the actors of this complex universe will participate in the Program with backgrounds that are as diverse as possible, so as to offer the enrichment that diversity brings: professors from distinct departments

Fourth Industrial Revolution

and research groups of the university, non-business organizations that are linked to both areas, companies, public entities, among others, all driven for the common service of society.

It is recommended that at least the majority of the acts of the agents with the students include a proactive ethical-social aspect added to the specific content of the degree. Furthermore, the active participation of all with the most intense dialogue possible will be a requirement since, among other reasons, here, in this play of different ethics of agents and students, is where the personal ethics of each student shall develop and where their attitude to social intervention is created.

4. The EFQM model highlights the relationship between the Program and its stakeholders (interested parties) for its definition, implementation and intelligent control of results.

Although in Table 2, García et al. (2014) identify the University, Students, and Companies as crucial agents, we understand that this spectrum should be extended to include organizations of the Third Sectorⁱⁱ and Public Administrations, even individuals, and groups particularly interested in social innovation (Guerra & Sánchez, 2016). The latter can play their role through the enormous participatory possibilities of what is known as digital citizenship (Angulo, 2017). Close collaboration between all of them converts them from stakeholders into partners in a formal alliance.

Given that the relationship between the university and society requires the active participation of the latter (Vogt, 2011), the intensity of the work to be carried out and its necessary interrelationship involves the creation of a strategic alliance between all the participating agents in the Program. Given their status as Program partners, the actual participation is guaranteed by a relationship of reciprocal benefit or a win-win situation for all the actors participating in it.

An example is given by the students: the mobilization of the students so that they participate in the Program gets good results if the Program is integrated as much as possible into the student's official study plan as a way of compensating the student's efforts, apart from any personal satisfaction gained (García et al., 2014). This translates into a form of academic compensation that is in accordance with the work carried out and its scientific/technical nature: accreditation with another course (or part of the same), with mandatory practical studies in some classes, and/or with the end of year degree project.

In short, the university must decide the form of the compensation for the remaining members of the alliance. This alliance should also provide a mentoring unit for students interested in this Program, which also promotes the voluntary participation of students in it.

5. The dynamics of ethics that are generated should lead to the will to serve the common good, especially in students who are the real protagonists. Based upon the idea that in this Program students learn by carrying out service for the community (Batlle, 2010) and may achieve social improvements by identifying the appropriate environments, this awareness ultimately leads to the creation by the students of a *real project* that may eventually serve to resolve *social problems*.
6. The initiatives included in the Program must be financed prior to its implementation. Financial sources can be from, among others:
 - a. Sponsors of organizations, especially companies, which can make up part of the created ecosystem
 - b. Income from projects carried out for the user organizations
 - c. Funding programs of public administrations from different geographical and functional areas.

Fourth Industrial Revolution**General Process**

The general Program process shall be divided into two blocks, which are always interconnected:

1. To obtain students with a *civic ethics-based* reasoned decisions.
2. To earn an *attitude, education, and training of social proactivity* in relation to the student's degree.
3. Starting from the fact that social entrepreneurship involves the status of innovative, as well as the fact that entire creative activity is not an event but a strategic, systemic and open process (Cornejo, 2011). For this, we start from the necessary interrelation that must occur between three basic dimensions when making ethical decisions in formal education (Spector 2016): Principles, Values, and People (Figure 7). It would begin by working on the principles of the students, to move to a more general level represented by their values and applied all in a specific university context (Spector 2015), and this in such a way that:
 - a. Ethical principles: being reasonable and open-minded when evaluating the progress
 - b. Values, identified by means of evidence that should be shown
 - c. People: students and their environment as the main subjects of the initiative

This work must be done, remember, through the cooperation of all the agents involved in the open social innovation that is going to be undertaken: it becomes one of the decisive actions of the strategic alliance that emerges.

This interaction encouraged from the University and undertaken in free spaces open to dialog and exchanges formally integrated into the student's education eases one of the two areas from which we start: the discovery of the particular ethics of each student. When coming into contact with the ethics of the different partners this exchange of principles and values, together with self-reflection, ends up by shaping each student's sense of ethics—their personal ethics—and helps them to awaken the underlying value of responsibility (Muñoz, 2008). We should highlight the importance that the latter is carried out allowing the student total freedom as only in this way shall it be assumed as an own value (Flor et al., 2011).

However, this work philosophy must be applied to a vision of applied ethics, given our strategic outline, as well as a methodology that allows the student to evaluate whether or not to carry out a determined social action, that is to say, help to decide with criteria. Martín et al. (2013) propose *consequentialist ethics*, that is, confronting the positive of a decision facing (*benefits*) with the negatives (*cost*) so as to dismiss those actions in which the latter exceed the former; in the final analysis, applying cost-benefit analysis. In this way, we will have a student who will decide what they want to do—freedom—on their way towards the solution of a social problem with a criterion based on the value of the responsibility.

4. But the above stage does not guarantee that the student will be converted into a proactive student in the social sphere. In the first place, it is necessary to channel the students' creative and commitment through *learning the concepts, processes and practical contents of social problems*—always including environmental ones—as well as social ventures. These activities will be developed by the components of the innovation ecosystem (alliances), which have just been profiled in this second phase. The students' personal ethics and their applied consequentialism also end up being consolidated in it.

Fourth Industrial Revolution

In the second place, and after these training activities, students should carry out a real project to generate social value. On the basis of the fact that recent research shows that the development of citizenship in the university has a direct impact on the attitude of students with regards to the community (University of Valencia, 2016-2017), the proposal of real projects means including in the created ecosystem those organizations and social groups that are dedicated to solving social deficits, such as the Third Sector. With respect to the real project, there are two possibilities:

1. The collaboration of students in projects which social entities are addressing and for which they are seeking such cooperation.
2. The realization of a social innovation project entirely developed by the students.

Carrying this out would require an open, active, co-creative methodology and as adapted as possible to these purposes. While the Project-Based Learning (PBL) methodology is pedagogically appropriate (Perez, 2008), the solidarity of this activity would advise a more specific method. Therefore, the Service Learning (SL) method is very appropriate as it links the learning of the student with social commitment (Batlle, 2013a) and this includes the most complex curricular contents: in fact, SL has come to be considered an educational culture and while it was not a methodology designed for the university nowadays more and more universities are involved in SL projects (Martínez, 2006; Fernández & Martínez, 2016).

SL allows learning in the territory, with this socio-cultural reality of this area becoming a source of knowledge which, together with the training and previous education, generates future professionals in favor of higher social inclusion. It even allows the student to overcome borders given that is applicable to the development of global civil society, such as in international development cooperation (Martínez, 2014).

All this makes SL a working methodology and a finalist because it shows that SL favors the student's civic commitment, which contributes to their social and personal development (Martínez et al., 2016).

Given its efficiency, a multitude of useful university practices of a very different nature has already been carried out with SL (Batlle, 2013b):

- Makes reading for children and young people with difficulties easier
- Technology to improve the community
- Collaboration on a number of fronts with associations linked to immigration
- Improvement of the oral communication of adolescents
- Creating healthy public gardens
- Preventing drug use
- Improving the quality of life of hospitalized children
- Disseminating what ethical banking is
- Promoting community development.
- Streamlining communication with NGOs
- Disseminating cultural heritage among people at risk of exclusion
- The theater as an instrument of equal opportunities
- Training of volunteers for associations

Fourth Industrial Revolution**Phase Three: Execution - Implementation**

The performance of the Program should follow a sequence. We suggest adapting the one known as *funnel development* (López et al., 2007) (Figure 8), which gives the following:

1. Once the program is designed, in accordance with the chosen Planning and Organization, we test the planned schedule. To do this, it is highly advisable, to start with a Pilot Project, and submit it to a Lean startup iterative process that reduces the possibilities of the program's failure (Ries, 2010).

Specifically, a reduced version of the Program is designed (known in this Lean startup philosophy as a *minimum viable product*) and submit this pilot to the consideration of a panel of experts on this subject, who should include partners in the Alliance, and who after checking it and valuing it, will provide us with their feedback in the form of improvement suggestions (Figure 9). After applying them to our Pilot Program, we will obtain a second improved version of it. This iteration with the panel can be performed as many times as is reasonable so that its result will be the final Program that we shall apply.

2. Finally, the launch and start-up of the definitive Program.

Phase Four: Control of Results - Learning

We know that knowledge is the final result of a particular innovation process which is fed back by successes and failures with a view to improving it (Castells, 1997). We are, then, before the real Learning stage of the planned, organized and executed Program.

Led by the university, center, and/or degree—depending on the scope of application—but with the participation of the remaining partners, these actors would reflect on the successes and failures of the three previous phases of the Teaching Innovation Program, Planning, Organization, and Execution, to learn about how best to improve it in future editions: this last stage allows feedback to the integral process, therefore, and it would do so by analyzing the results obtained by the Program.

The tools chosen for this final stage would be, in this order:

- Measurement of results, usually through *indicators*. It is just as challenging as necessary to design and implement a set of management indicators that measure, in accordance with the EFQM, the results achieved by the Program not only for the recipients but also for the other agents of the generated innovation ecosystem (Alliance).

Evaluation of the social impact on abstract and operational challenges, although there is a categorization of existing methodologies for this, which go even beyond the EFQM, and amongst which the Program can choose (AECA, 2015; Kaplan & Norton, 1992; Elkington, 1998; Karoly, 2008; REDF, 2002; Acumen Fund, 2007; GIIN, 2011; Colby et al., 2004; London, 2009):

- Performance methodologies or management processes; Balanced Scorecard or the Triple bottom line
- Impact methodologies; measured quantitatively or qualitatively.

Fourth Industrial Revolution

- Knowledge management: the knowledge necessary for a progressive improvement of the Program in the first and successive editions that are not managed by it. We must not forget that innovation is a process based on continuous learning.

This tool begins when those responsible for the Program design the learning processes necessary to perfect it (Barba & Magarzo, 2013). The impact results obtained will feed those processes.

- Continuous improvement. This requires achieving, even more, a high degree of involvement of the institution, the center and/or the degree to obtain incremental improvements based on ideas of any person of the strategic alliance that has emerged: this behavior should become a habit.

SUCCESSFUL PRECEDENTS

As well as the benchmarking exploration that is recommended in the proposed model, this Program was not created in a vacuum, as there are previous successful experiences, oriented in the same direction as this model or with an innovation teaching profile with which we share aims and significant elements. that can be redirected towards our subject area. Therefore, we offer in Table 3 a summary of outstanding programs that converge with our Model. These are success stories applied in different geographical regions, countries, supranational spaces such as the EU, or on a global scale, promoted and carried out by different types of entities, universities, a group that logically predominates, but also companies and governments, as well as being implemented in different formats and with different methodologies. We can even see in these success stories how the leap is being made from a single university program to multi-university programs made up of a group of universities that work in a network for this very purpose.

PROPOSED FABLAB PROGRAM

The general lines of the program based on the proposed model, that would be implemented in two related degrees of a specific university, are presented below.

Contextualization

The teaching stage is represented by the Degrees in Computer Engineering, Software and Computers, taught at the School of Technology (University of Extremadura, Spain) and among them, the compulsory subject Economics and Business—integrated into both curricula. This center has become a *Living Lab (SmartPolitech)* and has a FabLab (Smart Open Lab, *SOL*) which constitutes the central hub of the Extremadura Network for Prototyping and Digital Manufacturing.

The Concept of FabLab: A Social Utility

Closely related to a *Living Lab*, a *FabLab* (Fabrication Laboratory: FL) represents a free access space devoted to the self-manufacturing of technological products with a robust, innovative component. While this is a concept that is difficult to define due to its continuous evolution, as well as being a concept still

Fourth Industrial Revolution

under construction (Menichinelli, 2013), we can set a FL as a production space capable of inventing and allowing free access to tools and to the essential abilities for the digital manufacturing of almost any physical object that we can imagine based on machines controlled by computers (Gershenfeld, 2005).

On the other hand, the FL allows people and projects to be shared which strongly links it to society and its advance: an FL creates opportunities to improve the quality of life throughout the world (Fab Foundation, 2014). It is no wonder that the collective mentality that is promoted in them is called to determine the future production of the life of humanity and its relationship with the environment (Díez, 2012) based on the *hacker* or innovation culture using knowledge.

One of the aspects in which an FL creates value is in digital education, in the development of abilities required by companies in the 21st century and in training in values (Guerra, 2015). With regard to the latter, Third-sector institutions (Valpreda, 2015) share with the FL its non-profit making approach, its vision of solidarity and democracy (Nesta, 2017), in addition to other values, and that is why there can be a particular convergence between FL y the Third sector. In this regard, an FL, being non-profit, can develop technological prototypes of social utility at a lower cost than they would be in the marketplace for third-sector institutions, public administrations, and other non-profit-making organizations.

To summarize, an FL can create social value by facilitating the pooling of resources and abilities to improve the lives of individuals and society. And if the FL is from a university, this virtue is very useful in technological university education and with the vocation of mutual well-being as is the case here.

A General Description of the Program

With regards to students of computer engineering, accredited professional computing associations, in particular, IEEE and ACM, stress the high risk that computer engineers cause or might cause damage. Universities as institutions must commit to turning engineering into a profession that is focused on social wellbeing. The aim is, therefore, the *responsible* use of new technologies, confirmed by measuring the impacts generated in society (Linares, 2014). Students will design, develop and validate an SL project in a group that consists of prototyping technology for a non-profit-making organization that needs it.

In Table 4 we show the guidelines as a roadmap of the Program that is being considered. All the work will require a great deal of creativity due not only to the innovation of the Program, which has few precedents but also to the various obstacles that make experiences of this kind difficult.

FUTURE RESEARCH DIRECTIONS

There is still a long way to go with this line of teaching innovation in the university that has just begun. Therefore, it would be of great interest to study the ideal mechanism or forum to promote global training in values of higher education. This could be accompanied by the creation and dissemination of international standards on the guidelines of how to design and start up a process as complex as this, a competent instrument in other global issues. Equally, the general or specific financing routes for this should be researched in order to identify the most efficient and effective ones.

Fourth Industrial Revolution

CONCLUSION

Despite all of the above, only the real and internalized belief of political leaders and, therefore, of university officials in the necessity and benefits of innovative programs of this nature will allow a reasonable assurance of success. This is a necessary but not a sufficient condition because it would, in turn, require a reasoned and enthusiastic transfer of those responsible towards the rest of the agents involved: teachers, students, businesses, NGOs, public administrations.

This, of course, together with the complexity that this type of networking represents—between public and private and a mixture of both—the financial resources required by the Program, and the necessary cultural change, which is mainly needed at the university, represent barriers that hinder this teaching development. If the Program is fully embedded in the teaching plans of the degrees and not as an extra-curricular activity, the difficulty increases although at the same time so do the efficacy of the results.

Despite this, the internal and external tensions in favor of the change that university education is going through will help to facilitate this transformation.

In the final analysis, it is necessary to implement a genuine Management of the change of university education in this area.

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KEY TERMS AND DEFINITIONS

Education in Values: The training that the student receives in which the ethics applied and its values play a fundamental role.

Ethics: Comes from the philosophy that deals with the moral behavior of man in society.

FabLab: Free access space dedicated to the self-manufacturing of technological products with a robust and innovative component.

Fourth Industrial Revolution: The first industrial revolution (1714) used water and steam as the driving forces. The second (1870) was that of electricity and the division of labor. The third industrial revolution (1969) has been automation, electronics, and IT. We are entering the fourth industrial revolution.

Innovation Management: The set of processes and decisions that guide an innovation process.

Social Intrapreneurship: Whose primary objective is to have a beneficial impact on society rather than generating a profit for its owners.

Social Innovation: Innovation applied in social projects and enterprises.

ENDNOTES

In line with the matters raised in the Delors Report (1986).

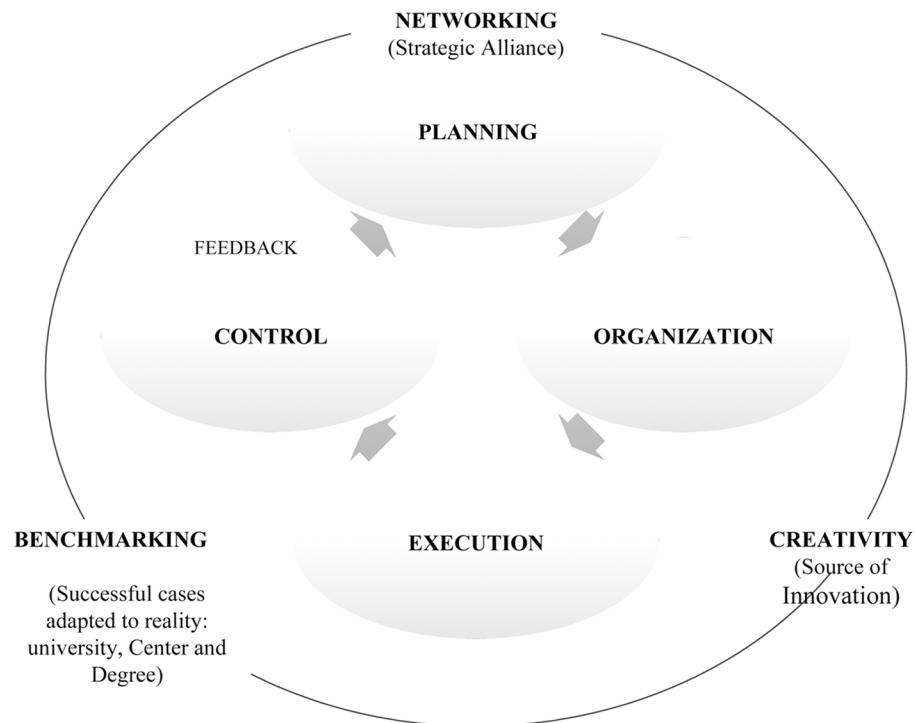
- ² The Third Sector consists of private non-profit organizations in the strictest terms since they do not distribute profits or surpluses.

Fourth Industrial Revolution**APPENDIX**

(*) In all the *Figures*, and to homogenize them, *Entrepreneurship* is referring to *Intrapreneurship*.

Figure 1. Model of the program (level one)

Source: own compilation



Fourth Industrial Revolution

Figure 2. Model of the program (Level Two A)
Source: own compilation

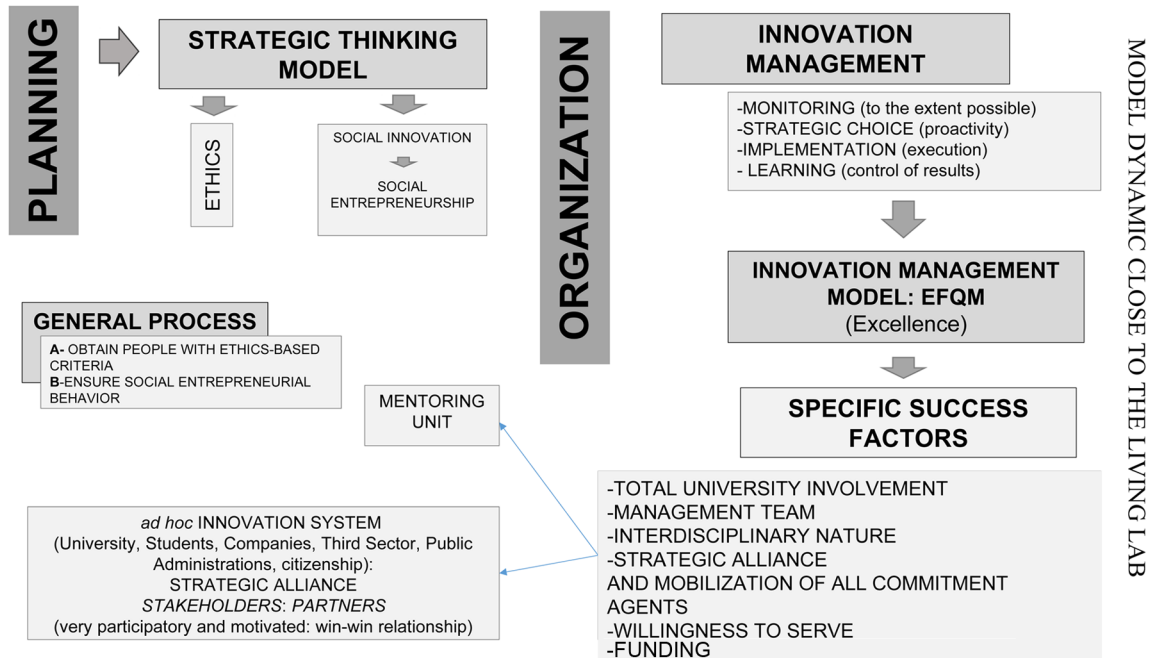
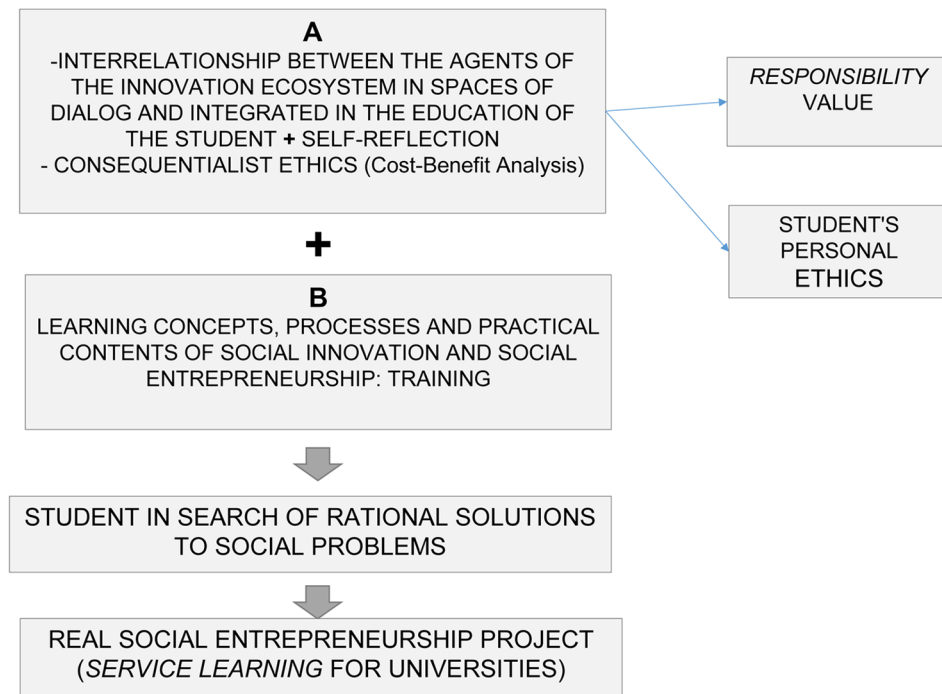


Figure 3. Model of the program (Level Two B)
Source: own compilation



Fourth Industrial Revolution

Figure 4. Model of the program (Level Two C)
Source: own compilation

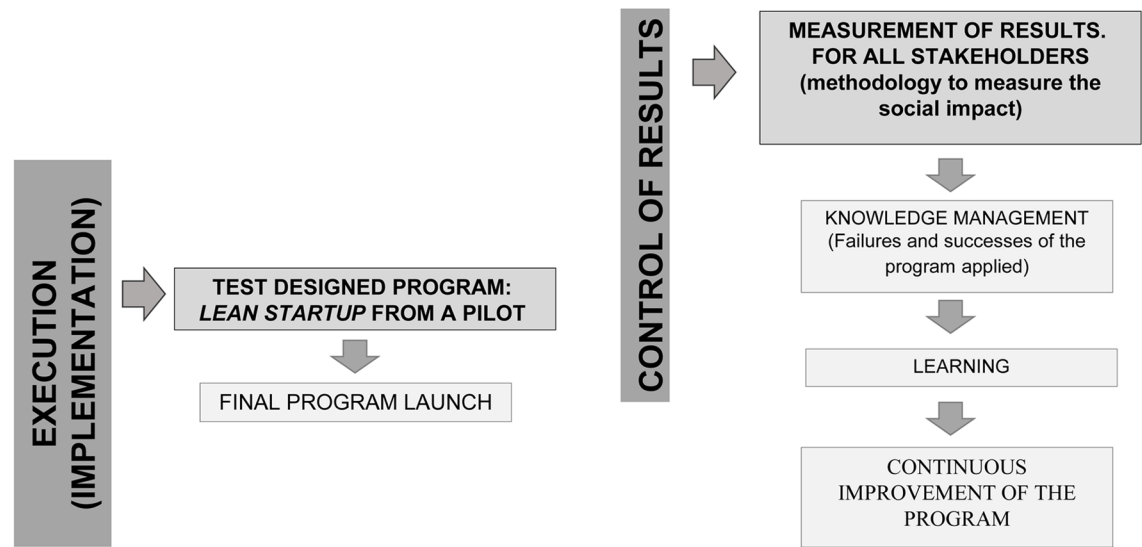
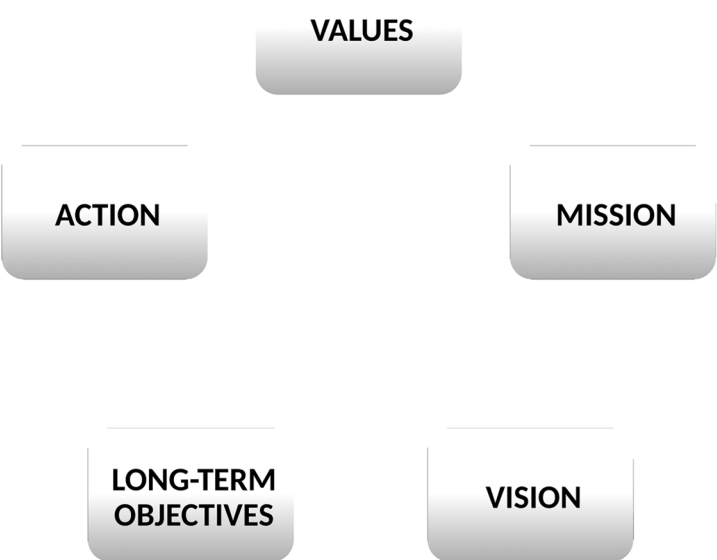


Figure 5. Strategic thinking model
Source: own compilation from Johnson et al. (2010) and Bueno et al. (2006)



Fourth Industrial Revolution

Figure 6. A Generic model of innovation management
Source: own compilation from López et al. (2007)

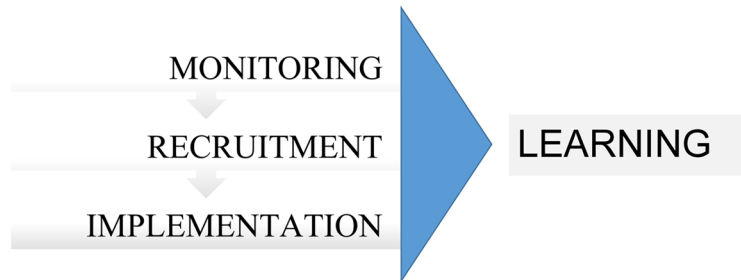


Figure 7. Essential interrelationship in an ethical decision-making model at the university
Source: Spector (2016)

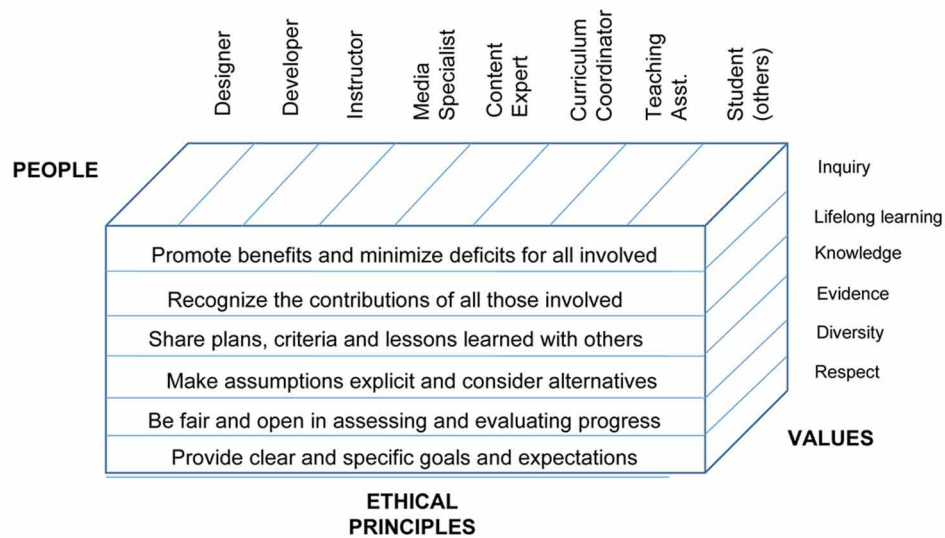
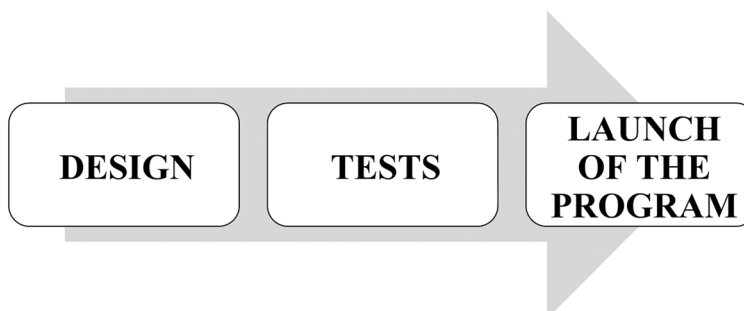
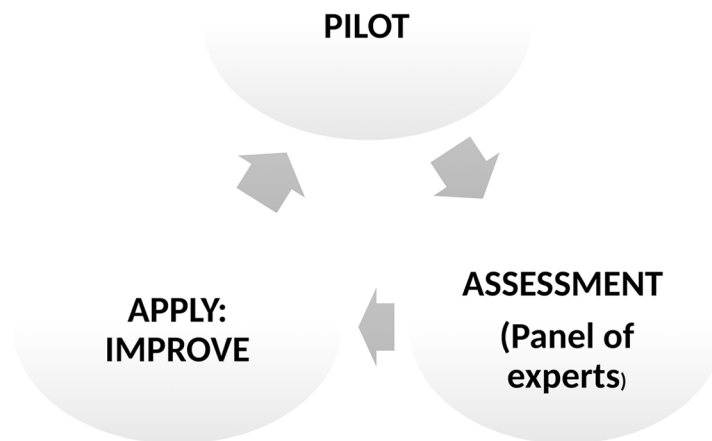


Figure 8. Implementation process adapted to the nature of the program
Source: own compilation from López et al. (2007)



Fourth Industrial Revolution

Figure 9. The general process of the lean startup methodology
Source: own compilation from Ries (2010)



Fourth Industrial Revolution*Table 1. Criteria of the EFQM model adapted to the teaching innovation*

Criterion	Definition
Leadership	Characteristics of the group of directors of the university, center and management team: • They should design and drive this change at the university • They should develop the strategic thinking model of the program, as well as act as models of a culture of excellence • They must be personally involved to ensure the implementation and continuous improvement of the program management system • They should interact with the partners and other representatives of the company with a role in the program • They should reinforce a culture of innovation among the members of the program
Policy and strategy	• The strategy is based on the current and future needs and expectations of the stakeholders • The policy and strategy are based on the information of performance indicators, research, learning and external activities • The core of the program is developed, reviewed and updated • The policy and strategy are communicated and deployed through a fundamental processes outline
People	• Planning, management, and improvement of the participants • The identification, development, and maintenance of the knowledge and ability of the people in the program • The assumption of responsibility by the people in the program • The existence of dialog between external agents and the university, center and team manager • Reward, recognition, and support are given to the people in the program
Alliances and resources	• Management of the strategic alliance/s • Management of financial resources • Control of the buildings, equipment, and materials • Control of the technology • Management of information and knowledge
Processes	• Systematic design and management of the operations • Introduction of the necessary improvements in the methods through innovation in order to fully satisfy the stakeholders, therefore generating more value for them • Choice and development of projects based on the needs and expectations of socially excluded groups • Support service subsequent to the completion of the project • Management and improvement of relations with socially excluded groups
Results in the recipients	• Measuring the perception of their satisfaction with the project and its management • Performance indicators
Results in the people integrated into the program	• Measuring the perception of their satisfaction with the university, center and management team: • Performance indicators
Results in society	• Measuring the perception of their satisfaction with the university • Performance indicators
Key results	• Key results of the performance of the program and the university • Key indicators of the performance of the program and the university

Source: own compilation from EFQM (1999-2003)

Fourth Industrial Revolution*Table 2. Relationship of mutual benefits of the collaboration between agents in the process*

University	Students	Companies
Innovative teaching methods	Professional experience in a real production context	Direct access to talent
Alliance of knowledge with companies and other organizations that can last longer than the project	Academic recognition	Alliance of expertise with the University
The possibility of importing successful practices of the company or organization to the University	Personal experience if it is carried out in an international context	The possibility of transfer of knowledge from the University to the Company or organization in question
The offer of real possibilities and innovative solutions to its students with an unbeatable cost-benefit ratio	Contacts with companies and other organizations that can facilitate the start of a professional career	

Source: García (2015b)

Fourth Industrial Revolution*Table 3. Some successful references aligned with the proposed model*

Program name: UESEVI (Unit for Social Entrepreneurship, Ethics and Values in Engineering)		
Promoter		Center: School of Mining Engineers. University: Universidad Politécnica de Madrid (Spain)
Geographical scope		Spain (Madrid)
Strategic profile		Mission to train engineering students on the basis of ethical criteria that predisposes them to the common good so that they undertake projects of social value
Format		Classroom. Interaction: • Course on ethics and applied social intrapreneurship • The cycle of interdisciplinary conferences • Real practice for social problem solution
General methodology		• Assembly of education and training • Progressive creation of a network of stakeholders that meet in spaces of training, dialog, reflection, and real practice of social value: networking • Mentoring • Participation of stakeholders
Benefits	For Students	Students discover the perceived need of improving society by humanizing their profession and knowing how to address this challenge.
	For the university	• According to the purpose for which it was created: to generate social improvement • Advances in teaching innovation methodologies
Funding		• At the beginning: private funding provided by the FAC Foundation • For its continuity: the need to integrate the program in the management structure of the center: the UESEVI is created (dependent on the Sub-Directorate for Quality and Social Responsibility of the center).
Program name: LIVING UNILAB		
Promoter		Complutense University of Madrid (Spain) King Juan Carlos University (Spain)
Geographical scope		Spain
Strategic profile		• Vision: to facilitate and promote an experiential innovation space that leads to collaborative action for social change • Mission: the university contributes to creating citizens and professionals that are responsible and committed to the common good, individually and collectively, forming a global, prosperous and sustainable society from the socio-cultural, economic and environmental point of view. • Values: excellence, responsibility, listening, trust, collaboration, equity, sustainability, transparency, and multi-disciplinarity
Format		Classroom —in real contexts — and online
General methodology		• Real spaces: solution of social context problems in the framework of teaching and research • Community for learning: reflection-action-reflection • Contagion effect: inspiration, identification of opportunities for action (<i>intrapreneurship</i>), replicability and/or scalability of generating social value projects. Guarantee: academic rigor • Process approach: project divided into stages • Participation of stakeholders (including Third and Fourth sectors, as well as Public Administrations)
Benefits	For Students	• Improving competences • Increased motivation for learning • Updating the knowledge of their discipline • Expanding their professional network • Enhances their CV • Creation of new projects: intrapreneurship/entrepreneurship
	For the university	• Graduates with work experience from the projects • Interdisciplinary training and impact on the environment • Graduates who will respond to specific situations with an integral vision

continued on following page

Fourth Industrial Revolution

Table 3. Continued

Funding		Income from projects
Program name: VALS (Virtual Alliances for Learning Society)		
Promoter		University of Salamanca (Spain) OpenDirective LLP (UK) RayCom B.V. (The Netherlands) University of Bolton (UK) University of Udine (Italy) University of Cyprus (Cyprus) Mindshock S.L. (Spain) The University of Oxford - OSS Watch (UK)
Geographical scope		European Union.(EU)
Strategic profile		Looking for co-operation between universities and companies/open source foundations throughout the EU to address real business problems without the need for the student to travel (virtual practices)
Format		The system of virtual practices for students in companies/open source foundations using a virtual platform
General methodology		• <i>Semester of Code</i>: a semester in which students carry out practices on real problems in companies and foundations related to free software. The student offers the solution that is planned and intended to be implemented • Focus on processes for the management of the <i>Semester of Code</i> • Academic tutors (from universities) and mentors (from companies/ foundations of open sources) • Participation of stakeholders
Benefits	For Students	• To acquire professional experience in real contexts and without having to travel to the company (zero cost), as well as in the development of cross-curricular competencies • Experience in moving around global environments • Contacts with companies in the sector with a view to their incorporation into the labor market • Academic recognition: covering the practices of their degree, or part of them, as well as reusing the final degree project.
	For the university	• Develops pedagogical innovation methods • Long-term contracts with companies • Innovation and reality for students with an incomparable cost-benefit rate • Promoting intrapreneurship attitudes and development of cross-curricular skills (creativity, work in multi-disciplinary teams, problem-solving, communication with stakeholders, ...)
Funding		European Union (EU). Lifelong Learning Programme (Sub-Programme Erasmus-Knowledge Alliances)
Initiative name: UCOPS (Undergraduate Capstone Open Source Projects)		
Promoter		• At the start: Canadian Government • Later on: 25 Canadian Universities (the University of Calgary, Bishop's University, Brock University, Dalhousie University, Laurentian University, University of Ottawa, Polytechnique Montréal, ...)
Geographical scope		Canada
Strategic profile		Promote best practices in real companies without the student having to travel (virtual practices of real problems)
Format		The system of virtual practices of students in companies using the virtual platform
General methodology		• Students carry out practices for real problems and projects in companies • Mentoring • Two face-to-face meetings between students and mentors, at least one at the beginning • Participation of stakeholders

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Fourth Industrial Revolution*Table 3. Continued*

Benefits	For Students	• Personal and professional experience before leaving university • Professional practice in real environments • Academic reward: validations in some subjects, degree final project, ...
	For the university	• Improves academic learning
Funding		Sponsors (by the stakeholder <i>Target companies of the virtual practices</i>)
Program name: GSoC (Google Summer of Code)		
Promoter		Google
Geographical scope		Worldwide (More than 100 countries)
Strategic profile		• To create and disseminate programs developed with open sources for the benefit of all [social objective] • To inspire young developers to be involved in the development of open sources • To help the open source IT projects • To offer students more significant connection with scenarios for software development in the real world
Format		The system of virtual practices for students in organizations through online participation
General methodology		• Students carry out practices for real problems and projects in companies • Mentoring • Participation of stakeholders
Benefits	For Students (who are over 18 years old)	• Direct relationship with scenarios for software development in the real world: acquiring experience • Opportunity to find work in areas related to this training • Increases the possibility of recruitment of graduates by the participating organizations • Google financially rewards students who complete the project successfully
	For the university	• Improves academic training
Funding		Google

Source: own compilation from Muñoz et al. (2011b), Muñoz et al. (2011a), Martín & García (2014), Flor et al. (2011); García et al. (2014a), García et al. (2014b), García (2015a), García (2015b), García et al. (2015); GSoC (2017); Jérôme et al., (2011)

Fourth Industrial Revolution*Table 4. Guidelines for the program proposal*

STAGE	COMPONENTS	DESCRIPTION
PLANNING		
Strategic thought model	Values	This is based solely on the Responsibility value. The rest will arise throughout the general process.
	Mission	Collaborate in the training of computer engineers that are responsible and actively involved with social improvement.
	Vision	Preparation of computer experts with training and an intrapreneurship attitude based on people. A premise of a rational assessment based on the cost-benefit analysis is added to this.
	Long-term objectives	Broaden the scope of action from the initial pilot program, which is linked to the subject of Economics and Business of both degrees only, to other items in these courses.
ORGANIZATION		
Innovation Management	Monitoring	Creation of a small Social Needs Observatory that also includes a social Coolhunting system conducive to pro-activity in prototyped initiatives.
	Strategic choice	Depends on the project: proactive or reactive (if there is an intended project).
	Implementation and Learning	Outlined below.
EFQM model: success factors	• Complete conviction of the management team, School of Technology and the University of Extremadura for the need of this program. • An innovative culture of teaching excellence model shall be applied to the program that also includes interaction with stakeholders in order to meet their current and future expectations. The results obtained must be measured to do this, that is to say, the performance of the program and the impact on each one of its stakeholders - who, on the other hand, must take responsibility for the programs. • The learning, resulting from managing the knowledge generated, shall provide a permanent improvement and updating of the program and the participants: to design the knowledge management model. • The already defined strategy shall be communicated through an approach of critical processes. • The rewards for each of the stakeholders shall be determined since a strategic alliance will be formed among all of them in order to share resources and capabilities or to obtain higher performance of those held by the university. • Low-cost activity. The funding will come from the alliance or/and public administrations and/or supranational funding programs. • Application of focus approach, in continuous improvement, always based on the needs and expectations of the groups at risk of exclusion and that includes later support for the prototyping. • All of the above requires multidisciplinary processing, from within and outside of the university: to be determined. • Measurement of critical performance and impact of the program and the university.	
General process	Cause engineers to act with rational ethics	Seminars for informational purposes on the possibilities of social cooperation of the computer engineers, with a background of professional and personal ethics of the students and always addressing the cost-benefit of the computer interventions. Taught by the stakeholders due to their different perspectives (including video conferencing).
	To achieve social intrapreneurship attitudes in students	Teaching and practice of concepts, techniques and own processes for social innovation, social intrapreneurship and SCR (workshops). Taught by the partners that are the most closely linked to the management of the social intrapreneurship projects.
	Real social innovation project	• Training of students to prototype: courses known as Arduino Day carried out at the center. • Learning of the SL methodology by students. • Choice of the project: matching social needs that are aligned with the technological capabilities of students. • Co-creative work plan between external agents and the university community (Alliance). • Management of resources required. • Prototyping: co-creation, experimentation, iteration, Lean startup and launch of the final prototype. • Apply the chosen academic and social recognition.
IMPLEMENTATION		
Testing the designed program	• Designing the pilot program (first year) • Choosing the panel of experts that will assess and improve it • Determining the final pilot program	
Launch	• Startup of the final pilot program	
CONTROL OF RESULTS		
Measurement of the impact	Application of the performance and social impact methodologies chosen to assess the results obtained from the pilot program.	
Knowledge management: learning	Execution of the processes that make up the designed knowledge management: learn from the successes and errors made in order to improve the implemented pilot program.	
Continuous improvement	After performing the previous point, finish by emphasizing the need to go on systematically improving the program in each edition.	

Source: own compilation from Guerra and Sánchez (2015), Guerra (2016), Guerra and Sánchez (2016a) and Guerra and Sánchez (2016b)

Chapter 10

Ethical Governance for Sustainable Development in Higher Education Institutions: Lessons From a Small-Scale University

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ABSTRACT

In contemporary societies, higher education institutions face the impact of globalization, which is mainly demanding in imposing and shaping ethical practices. While higher education systems and dynamics cannot be understood apart from this broader context, its primary focus seems to remain as equal as ever: the creation of knowledge-based societies and economies, education and the creation of socially responsible citizens. Against this background, this chapter aims to present and critically discuss the strategies implemented in a higher education institution towards building a culture of integrity. The empirical focus is a small-scale university located in southern Europe, peripheral to prominent universities and major countries.

INTRODUCTION

Ethics might seem a very abstract and elusive concept yet when confronted with reality and specific issues it becomes more evident: ethics is “the challenge to do what ought to be done.” (European Commission, 2013, p. 10). Higher-education systems appear to be no exception (Couch & Dodd, 2005).

DOI: 10.4018/978-1-5225-5837-8.ch010

Ethical Governance for Sustainable Development in Higher Education Institutions

In contemporary societies, Higher Education Institutions (HEIs) face the impact of globalization, which is particularly demanding in imposing and shaping ethical practices (Singh & Stükelberger, 2017). While higher-education systems and dynamics cannot be understood apart from this broader context, its main focus seems to remain as equal as ever: the creation of knowledge-based societies and economies, education and the creation of socially responsible citizens (Robinson & Moulton, 1985; Nair, 2014).

Ethics do matter in Higher Education (IBE/CIHE, 2005). All over the world, higher-education institutions are focusing more attention on their ethical responsibilities, what goes beyond its legal responsibilities (Sadlak & Ratajczak, 2006). Moral principles apply to the conduct of individuals and the organization as a whole. HEIs should create ethical learning environments, in which very different students, sometimes coming from diverse parts around the world, can learn the principles and traditions of particular professional practice, acquire and foster knowledge, and develop skills to help them become responsible citizens and ethical leaders (Couch & Dodd, 2005). However, moral responsibilities are much broader than this, as ethical issues are manifold and arise in a wide range of situations, including those relating to the teaching and learning process, research and development activities, but also linkages to the broader society.

In such a context, why tackle ethics? According to the report *Ethics Matters: Managing Ethical Issues in Higher Education*, prepared by the Institute of Business Ethics and the Council for Industry and Higher Education, in 2005, there is a range of reasons for HEIs to do so, namely: governance, upholding an organization's mission and values, guidance for staff, guidance for students, risk and reputation, legislation, pressure from students and other interested parties, recruiting staff and attracting students, and encouraging funding, sponsorship and business involvement (IBE/CIHE, 2005, p. 10).

At this point, a distinction should be made between ethical challenges to both higher education and science and governance as such, and preventive measures and remedies. In this sense, a lot of literature is devoted to draft an ethical framework of governance in the area of higher education and science. While some works refer to the role of the codes of conduct in HEIs (Rezaee, Elmore, & Szendi, 2001), Kohler (2004) suggests remedial or preventive ethical frameworks of governance, namely the cultural integration of governance and ethics, and the management of ethics and risk prevention. Transversally, several associations and informal groups gain visibility in the field. For instance, the Committee on Publication Ethics (COPE), established in 1997 by a small group of journal editors in the UK, now has over 12 000 members worldwide from all academic fields. Membership is open to editors of academic journals and others interested in publication ethics. COPE provides advice to editors and publishers on all aspects of publication ethics and, in particular, how to handle cases of research and publication misconduct. It also provides a forum for its members to discuss individual cases¹.

Against this background, this chapter aims to present and critically discuss the strategies actually implemented in a higher-education institution towards building a culture of integrity. The empirical focus is a small-scale university², located in Southern Europe, peripheral to prominent universities and major countries.

The chapter starts with the background, where a presentation of the University is made. This is important keeping in mind the vast and broad audience and the need to give the eventual reader the coordinates to understand what follows. As such, historical notes from the past into the present are included to summarize 458 years of history and the institution's mission, vision and values are presented. Finally, this section summarizes the University's management bodies, scientific-pedagogical units, and leading services³.

Ethical Governance for Sustainable Development in Higher Education Institutions

After such a historical and contextual section, the text moves on “from the present to the future.” Therein, the reader is introduced to the University’s Strategic Development Plan, SWOT analysis and strategic orientation for the period 2015-2020.

The text then explores two main topics, which justify an in-depth analysis and discussion. Firstly, the focus is on the students’ admissions strategies and teaching-learning processes, specifically the conduct regulation newly implemented at the University. This comprises the techniques developed in the classroom to impart the teaching-learning processes of integrity and ethics in higher education, as well as rules of ethical conduct regarding the students’ practices and committees recently created to analyze and eventually authorize investigations developed within the context of specific courses and research projects. As institutions of higher education are said to be a moral force holding a privileged place at the society as they educate and prepare the students, to be honest, and responsible for a promising future, this section will explore critical topics upon which such moral force is being anchored. Transversally, such issues cannot neglect essential and up-to-date questions regarding the Information Security Challenges. These can be defined as the set of obstacles that occur ensuring the security of information, including ethical, technical, organizational, legal and human aspects. While the information age brought information security management issues to the fore, it also came to highlight the importance of developing a coherent strategy for information security management and maintaining the integrity of the information systems in place and the associated management processes (Dhillon, 2000; Egan & Mather, 2004). Enterprises and organizations of all kinds cannot ignore such challenges, and the Universities constitute no exception.

Secondly, the chapter focuses not on the internal dynamics of the academy, preferably on the relations between the academy and the exterior. Namely, it addresses topics such as research, publications, entrepreneurship, business incubators, and accelerators in higher education. Specifically, this section explores links between associated stakeholders (students, faculty, management, etc.), as far as the sharing of a culture of conscious decision making and values for the progressive future of the society among all is considered to be a key variable.

Finally, under the title “Thinking globally: enhancing a culture of integrity”, the quality evaluation system is presented as a holistic tool, which connects all the structures of the University, thus contributing to enhance a culture of quality through ethics, i.e., efficiency, integrity, and accountability of the human resources (faculty, students, etc.) and also to have in place a scientific audit system of governance. This section is organized two main sub-sections. First, “Lessons learned: Ethics as the driver,” and after, “Lessons to teach: Ethics as a process.”

By the end, the authors expect this chapter can offer a detailed portrait of the different, yet articulated strategies used by a particular higher-education institution to compete in a global market, at the same time being fair and responsible to the stakeholders with whom it interacts at the local level. As part of an edited book about the importance of ethics and application of ethics, entrepreneurship, and governance in higher-education institutions, this chapter will undoubtedly contribute to enhancing further understanding of the challenges posed to institutions facing similar challenges in and across Europe. Ultimately, the authors believe that lessons from a small-scale university might serve stakeholders of institutions imparting higher education to design a code of ethics framework and governance policies that facilitate its implementation for the good of the society to foster entrepreneurship in their local communities.

*Ethical Governance for Sustainable Development in Higher Education Institutions***BACKGROUND: FROM THE PAST INTO THE PRESENT****The University of Évora: 458 Years of History**

The University of Évora, in Évora, Portugal, was established on the initiative of the Crown, under a Jesuit management. Its activity began November 1st, 1559. For two centuries, it affirmed itself at the national and international levels, contributing to the missions in the territories of America, Africa, and Asia either under Portuguese administration or with which Portugal had commercial or diplomatic relations. With the extinction of the Society of Jesus and the Jesuits expulsion in 1759, the University was closed, without, however, being extinguished.

It was restored, two centuries later, in 1973⁴, by the decision of the Minister of Education Veiga Simão, under the name “Instituto Universitário de Évora. “From 1973 to 1982, it was managed by an installation Committee chaired by Professor Ário Lobo de Azevedo. During this period, the departmental structure was drawn; facilities were acquired, and the programmatic basis was established according to the agricultural vocation of the region and the design of political democratization of education and access to knowledge. As a result, two rows of courses were, sequentially, created. Firstly, a set of classes related to agricultural production, landscape, and spatial planning, and the agribusiness: Agricultural Engineering and Animal Science Engineering, Landscape Architecture and Biophysics Engineering; at the same time, also Sociology, Economics and Agribusiness management. Secondly, teacher-training courses for primary and secondary education: the teaching of mathematics and drawing, biology and geology, physics and chemistry, history, Portuguese, French, Spanish, and English.

At the end of the 70s, the original designation of University was recovered⁵. Since the 80s, the profile of the 1st cycle courses begins to change, with the settlement of the so-called “scientific degrees” in counterpoint to the “teaching”: history and archaeology, languages and literature, biology, earth sciences, physics, chemistry, mathematics, and computer science, psychology, and philosophy. It was in this decade that the University gained its administrative and financial autonomy⁶; the first statutes were approved, and the primary election for Rector was held.

In the following decade, the 90s, the Portuguese Science Program was initiated, and the first research centers were established. By this time, the University expanded into the areas of health and the arts. Indeed, in this decade were created some of the currently existing Research Centers; numerous research projects have been launched and funded either by national funds. The first research grantees were hired.

The expansion of the University to the arts was achieved by the creation of bachelor degrees in music, theatre, visual arts and architecture; the opening to health (animal and human) came true with the opening of the degree in veterinary medicine, the creation of the Veterinary Hospital, and the beginning of the process for the integration of the S. João de Deus nursing school, founded in 1955, that was concluded in the following decade (2005⁷).

The first decade of 2000 was marked by events that were instrumental in the current structural setting of the University of Évora, in its teachings and on its scientific activity: (i) the adequacy to the Bologna process⁸; (ii) the amendments to the statutes in harmony with the Legal System of Higher Education Institutions in Portugal (RJIES); (iii) the creation of new research centers (or reorganization of existing ones) and Chairs, and (iv) the voluntary submission to the international assessment by the European Universities Association (EUA).

The amendments to the statutes⁹ led to the grouping of Departments in four Schools with pedagogical and scientific autonomy (School of social sciences, School of science and technology, School of arts

Ethical Governance for Sustainable Development in Higher Education Institutions

and the School of nursing), and the creation of a doctoral school, the Institute for research and advanced training (IIFA), which aggregates also research centers and Chairs.

In 2015, the University approved the strategic development plan focusing mainly on three anchor areas: I: agriculture, food, environment and land management; II: heritage (material, immaterial and human) and arts; III: information and communication technologies.

The offer of 1st cycle courses was stabilized. For the supply of 2nd and 3rd cycle, the University established the directive only to allow new courses when in association with other national, or international, Universities. More than 90% of courses were accredited for six years without conditions by the Agency for Assessment and Accreditation of Higher Education (A3ES). The internal quality assurance system has been accredited by A3Es in 2013 and consolidated without conditions in 2014.

THE INSTITUTION'S MISSION, VISION, AND VALUES**Mission**

The University of Évora is one of the universities in the Portuguese higher education public system. As such, it aims the production of knowledge through scientific research and artistic experimentation and technological and humanistic development; the socialization of knowledge, providing the traditional student population, as well as to the working people, the academic qualification providing possibilities to achieve Bachelor degrees, master's and doctoral, and other ad-hoc training courses to ensure lifelong learning; the transmission of knowledge to the community aims innovation and business competitiveness, as well as the modernization of public services and social and cultural development of the community as a whole.

Vision

The University of Évora is part of the region in which it operates, the Alentejo region, choosing it as the preferred target for the effort of knowledge socialization. Is also part of the European Community with which it shares identical human, cultural and scientific values, and also aims to interact with neighboring regions with which establishes strategic partnerships. Moreover, the Portuguese-speaking countries (e.g., Brazil; Angola; Mozambique; Guinea; Cape Verde; S. Tomé e Príncipe; East Timor) are also part of the University vision with which it seeks to extend the mission. In such an effort underlies the idea that students' preparation must always take into account the global world in which they live.

Values

The intrinsic values of the University of Évora are the respect for human dignity, academic freedom, the individual merit, the accuracy in performing any tasks, the democracy underlying the decision, and the absence of social, ethnic or confessional discrimination.

The educational, scientific and cultural project is defined in the Statutes of the University of Évora¹⁰, which indicates the mission and purposes as follows (Art.2): I) The University of Évora, also known in short as the University or the UE, is a creation, transmission and dissemination of culture, science and technology center, which, through the joint study, teaching and research will be integrated into the life of

Ethical Governance for Sustainable Development in Higher Education Institutions

society. II) Are purposes of the University: a) the production of knowledge through scientific research and cultural creation, involving the discovery, acquisition and development of knowledge, arts and practices on an advanced level, b) the constant practice of free inquiry and attitude of critical questioning, c) the socialization of knowledge transmission through education, training, lifelong learning, transfer to the socio-economic and public disclosure d) contribute to the transfer and enhancement of knowledge and artistic creation e) The provision of community services and, in particular, promoting the development of the country and in particular, the region in which it operates; f) the cultural, scientific and technical exchange with similar national and international institutions and the promotion of the mobility of students and graduates; g) to contribute to international cooperation and the development of intercultural dialogue. III - The University is responsible for carrying out courses for granting degrees and academic titles and honorifics and the provision of other certificates and diplomas, as well as the certification of equivalence, the accreditation of skills and recognition of degrees and qualifications.

For the University of Évora, an educational, scientific and cultural project should be a tripartite approach to the reality where the institution acts. This trilateral approach is grounded, firstly, in the scientific research, developed by their teachers and researchers. Scientific research, in addition to its direct contribution to the progress of science, is the base of education and cultural production of the institution. Secondly, such an approach is based on learning that allows the transmission of formal knowledge, generated by scientific research, at different levels, corresponding to the different cycles of education. The conversion of science into practical skills enables the performance of specific functions and technical activities, specialized and/or professionals. Thirdly, it is based on the production and promotion of cultural processes and facts, agents of informal education, dissemination, and implementation of the university in the extended social community in which it operates. It is through the articulation of these three areas that the University of Évora remains attentive to the society in which it appears, trying to capture the sense of economic and social transformation and rethink its training, aiming to respond to both the needs and challenges arising from such changes.

Management Bodies, Scientific-Pedagogical Units, and Services

Under the Legal System of Higher Education Institutions (RJIES) and the University Bylaws¹¹, the University of Évora government is exercised by the General Council, Rector, and Management Council. The Rector is the superior governing body, assisted by three vice rectors, four pro-rectors, and one administrator. The General Council shall perform the duties provided for in the law and in the bylaw, including the rector's election, the appraisal of the acts of the Rector and of the Management Board, the proposal of initiatives considered necessary for the proper functioning of the institution. The Management Board is responsible for managing the administrative, patrimonial and financial management of the Institution, as well as for the management of human resources. Under the bylaw of the university there are also the following advisory bodies: (i) Academic Senate, which should promote the cohesion of the institution, as well as accompany and stimulate all areas of academic life; (ii) Scientific Council, which should coordinate the Scientific Councils of the Schools, aiming to promote the interaction between them; (iii) Evaluation Council, which should implement self-evaluation mechanisms of the institution's performance, develop and support external and internal evaluation, and monitor the implementation of recommendations arising from the evaluation process.

Ethical Governance for Sustainable Development in Higher Education Institutions

The University is made up of five organizational units (OUs): four Schools (Arts, Science and Technology, Social Sciences and São João de Deus Nursing School) and the Institute for Advanced Research and Training (IIFA). The primary mission of the Schools is to organize and teach 1st and 2nd education cycles. The São João de Deus Nursing School has the particularity of being an organizational unit of polytechnic education. The teaching of the 3rd studying cycles and international master's degrees are integrated into the IIFA, together with the research units, namely the research centers and three chairs (Renewable Energy Chair, Rui Nabeiro Chair - Biodiversity and UNESCO Chair in Intangible Heritage and Traditional Know-How). Thus, IIFA is a unit which mission is to support the research activity in order to guarantee the quality of the work of the units, ensure the evaluation of their scientific production and articulate the scientific activity with the advanced education and training system.

The structure of the Organizational Units is very similar to each other, although there are some singularities. Each School has the following organizational bodies: (i) Director, uninominal body of executive nature, which is elected by the School Assembly; (ii) School Assembly, with the task of monitoring the functioning of the organizational unit and producing recommendations about its operation; (iii) Scientific Council, which is responsible, among other functions, to evaluate the school's scientific activities plan; (iv) Pedagogical Council, which is responsible for, among other functions, giving its view on pedagogical guidelines and methods of teaching and evaluation; (v) Advisory Council, which is responsible for advising the Director in defining strategic areas for the development of teaching, scientific-pedagogical activities, extension activities to the community; (vi) Internal Evaluation Committee, which aims to carry out the internal evaluation of the unit.

Each School is made up of Departments, which are organizational sub-units, responsible for the management of teachers and technicians involved in the teaching activities, and for coordinating 1st and 2nd education cycles. Each Department has a Department Assembly, which elects its Director.

The IIFA has a Director, a Scientific Council, and a Pedagogical Council. The Director is appointed by the Rector, after hearing the IIFA Scientific Council. This Scientific Council is made up of 25 members, with the following distribution: the Directors of the research units that integrate IIFA (in a number not exceeding ten); Representatives of the School's teachers and researchers in proportion to the size of each of these Schools, representatives of the research units and chairs. The Pedagogical Council of the IIFA is made up of the Directors of the 3rd studying cycles and of the master's degrees in association with international higher education institutions and by an equal number of students elected for each studying program, according to the electoral regulations of the University, up to a maximum of 20 members.

The University also has scientific-pedagogical units, namely: Library, Experimental Farms, Veterinary Hospital, Orchestra, Popular University, and a Center for Educational Technologies and several specific Research Units.

Finally, the Services constitute fundamental support structures for all the activities developed in the University (Rectory Services, Academic Services, Administrative Services, Science and Cooperation Services, Computer Services, Technical Services and Social Action Services). The Office of Legal Counsel has the function of providing legal support to the General Council, the Rector and the Directors of the Organizational Units.

*Ethical Governance for Sustainable Development in Higher Education Institutions***FROM THE PRESENT TO THE FUTURE****Strategic Development Plan**

The strategy for the period 2015-2020 is based primarily on (i) internationalization, with a particular focus on production and knowledge dissemination, (ii) identification of scientific areas susceptible to anchor the institution and aligned with the country and the region realities, (iii) adapting teaching methods in accordance to real training needs of a youth who is preparing to take a share of the responsibility for political stability and socio-cultural and economic progress of the country and Europe, and (iv) on economic and financial sustainability of the institution itself.

The strategic development plan echoes a deep diagnostic work and reflection on the intrinsic reality of the University. It is organized according to the framework provided by the region's strategic operating plans (NUT II) in which the institution is inserted, and the NUT III regions with which it interacts directly. It is noteworthy to refer that the national reality and the universal standards of quality, which the University of Évora incorporates while integrating the European networks of higher education and science, are always on the background of this strategy.

The institution's proposal is based precisely on the assumption that without quality, there will be no chance to become competitive. Quality should be built: in cooperation with national counterparts and international institutions; through constant qualification of its workers, academic and non-academic staff; rewarding merit, in all circumstances; respecting the "public service" that is entrusted to it, particularly with regard to the training of young generations.

SWOT Analysis

In each context, positive and negative sides can be identified, offering strong development restrictions, which constitute, if not stimuli, challenges, and opportunities to be taken into account in the design of future directions. SWOT analysis applied to the external context, but also the internal reality serves as an identification holder of major strategic action and relevant measures, applicable to the three pillars of the mission: the production, the socialization and the transfer of knowledge.

- **Strengths:** Good scientific and artistic capacity installed in some areas of the UE; good students' attractiveness for some areas of the UE; the existence of the Alentejo science and technology park; good land deployment in Alentejo, in irrigated conditions and edaphic conditions, very favorable; proper implantation in the Alentejo coast and in regional organizations; right image on African countries of Portuguese language; historical thickness with clear expression to equity level.
- **Weaknesses:** Increased breakdown of national students; weak scientific productivity, in general; reduced institutional dimension; lack of rejuvenation of the faculty; weak institutional cohesion translated in disinterest by institutional problems; strong geographic dispersion of the various components of the UE; administrative machinery bit modernized.
- **Opportunities:** Substantial public funding available (e.g. Portugal 2020); significant financing available at European level, the Horizon 2020 Programme for science and technology; extremely large Portuguese population, lacking in quality training, present in the southern hemisphere; wide range of natural and cultural heritage features that characterize the largest region of Portugal (1/3

Ethical Governance for Sustainable Development in Higher Education Institutions

of the country), susceptible of being the object of rational exploitation and rehabilitation involving the ability of scientific and technological research; appetite for higher training in Portuguese language, in several countries around the world; abundant solar energy; high exposure to the sea.

- **Threats:** Increasing centripetal power from Universities from Lisbon and the North; weak productive activity within the region, translated into a lower contribution to the national GDP; public laws constraining efficient management; systematic reduction of public budget, without reverse perspective; progressive youth population thinning in the region, which will tend to increase in the future; the absence of regulation on courses offered among regional higher-education institutions the region and in the country.

Strategic Orientation (2015-2020)

The University aims to: (1) Be recognized as the best University in Portugal in its anchor areas not only nationally but also internationally; (2) Have excellent reputation of its research centers, both nationally and abroad; (3) Be recognized as a knowledge transfer engine; (4) Contribute actively to the high employability of its graduates; (5) Have a long-term financial sustainability; (6) Have a prominent position in the rankings in comparison with the other Portuguese universities.

The strategic direction for the University of Évora embodied in three groups of vectors that are complementary, the orientation vectors, subsidiary vectors and cross vectors¹². The orientation vectors guide the University activity for the four-year term in which concerns organization and objectives of functions essential to fulfilling our mission: research, teaching and knowledge transfer. The subsidiary vectors guide the activity of the University for the period with respect to the organization and objectives of the University's resources, including human resources, financial and infrastructure resources. Cross vectors frame the University activity for the four-year term. These strategic objectives will be framed by defining the methodology for conducting impact studies prior to any measures to implement; and the definition of a strategy of professional fundraising.

Orientation Vectors

VO1: Structuring of anchor areas.

Purpose: To deepen the differentiation of the University in relation to their counterparts and, consequently, contributing to its economic and financial sustainability as well as scientific and pedagogical. It is proposed, as structuring anchor areas for the University of Évora, the following: 1) Agriculture, food, environment (including natural resources and energies) and spatial planning; 2) Cultural Heritage (material, immaterial and human) and the arts; 3) Information and communication technologies.

VO2: Internationalization of teaching and research.

Purpose: To strengthen research teams, receive EU funding, prepare students for international careers.

VO3: Sustainability.

Purpose: To adopt the concept of sustainability in the management of University resources reconciling the economic perspective with an ecological and social vision of the functioning of the UE.

VO4: Educational Model.

Purpose: To create an educational model that accompanies the student throughout their academic career, promoting new ways of conveying knowledge to society and call on society to participate through the development of relationships with the different stakeholders.

Ethical Governance for Sustainable Development in Higher Education Institutions

Subsidiary Vectors

VS1: Human Resources.

Purpose: Valuing people, giving them conditions to express their potential is a *sine qua non* condition for attracting talent and gain commitments to the common cause which is to create a strong and qualified University.

VS2: Financial Monitoring.

This vector passes through two fundamental points: internal management capacity and demand for funding.

VS3: Infrastructure.

Infrastructures are essential pillars of the University function. Infrastructure's availability and quality are essential.

Cross Vectors

VC1: Internal System for quality assurance and development.

Purpose: Development of the Internal System of Promotion and quality assurance of the University, oriented to the achievement of qualitative results that can increment growth and recognition.

VC2: Information System.

Purpose: Consolidation of the information system.

VC3: Communication strategy.

Purpose: Implementation of the communication system of the University with a view to enhancing growth and recognition.

The Strategic Plan monitoring is performed with an annual periodicity, through monitoring; study of indicators and objectives, definition, identification and implementation of corrective actions for those who move away from the goals. This information is included in each year activity report.

BUILDING A CULTURE OF INTEGRITY

Changing Inside: Admissions and the Teaching-Learning Process

Students' Admissions Strategies

The students' admissions processes and related management procedures have to be fair, consistent and defensible. Besides the admission based on the National Contest for Access to Higher Education, the University attracts students through several other ways. Particularly important from an ethic point of view was the publication of the Regulation of Applications for Access and Admission at the University of Évora¹³. This document gathers, updates and adapts the various regulations in force for the different competitions/schemes of access at the University of Évora: a) Regimens for Re-entry and Change of Institution/Course for access and entrance for the frequency of cycles of conducting studies Bachelor's

Ethical Governance for Sustainable Development in Higher Education Institutions

degree and master's degree in integrated master's degree; b) Special competitions for access to and admission to the cycle of undergraduate studies and integrated master's degrees, destined to candidates with specific qualifications, namely: (i) Students approved in the tests specially designed to evaluate the capacity for the attendance of the higher education of the over 23 years old; (ii) Holders of a Diploma of Technological Specialization; (iii) Holders of Diploma of Professional Higher Technician; (iv) Holders of other higher education courses (doctorate, master's degree, or bachelor's degree); c) Special International Student Access and Entry Contest for access and admission to the frequency of the study cycles leading to the degree of master's degree and master's degree in integrated master's degree; d) Local Competition and Vocational Aptitude tests for enrollment in the course in Music; e) Local competition for access and entry into 3rd cycle courses; f) Local competition for access and admission into the 2nd Cycle and Post-Graduations courses.

All this information is disclosed online, thus creating more equal opportunities for all those wishing to pursue their studies in higher-education at the University of Évora.

The Teaching-Learning Process

In recent years there has been a proliferation of academic regulations at the University of Évora, which complicates its interpretation and, consequently, impairs the relationship between the institution and its students. Facing the need to turn such a relationship more effective and efficient, the rectory has stimulated the discussion around the elaboration of an Academic Regulation of the University of Évora¹⁴. This document updates and systematizes in one coherent text the different regulations regarding the services provided to students. The report is entirely disclosed online, on the University web page, thus creating equal access to everyone wishing to clarify any pending question or doubt.

Aware of the central role of ethics in the combat to academic fraud aiming the enhancement of a culture of integrity for higher education, the Academic Regulation of the University of Évora includes in Article 102 a Code of Conduct, Fraud, and Plagiarism. On the one hand, fraud or plagiarism committed in any evaluation test implies the annulment of the trial and its result, without prejudice to other eventual disciplinary proceedings. In the case of plagiarism detected in thesis, dissertation, report or project work' public vivas, the student should be considered disapproved in the tests, being able to be reinscribed in the following academic year. Once fraud or plagiarism has been verified, the teacher must communicate it to the Director of the Organic Unit, who, depending upon the seriousness of the event may refer it to the Rector for disciplinary purposes.

Students can always exercise the right to contest. Nonetheless, these measures had the advantage of clarifying among the academic community a problem that is known to be transversal to higher-education institutions (Almeida et al., 2016).

Ethical Conduct in the Teaching and Research Activities

Planning, doing and evaluating research always pose ethics questions. Whenever research is about human beings, ethical criteria are applied and taken into account within a specific social context in continuous evolution. The development of standards requires research, the contribution of the entire community of researchers and the establishment of moral and legal principles (Guraya et al., 2014). According to several authors, the monitoring and evaluation of ethical aspects during research involving human beings

Ethical Governance for Sustainable Development in Higher Education Institutions

should be the responsibility of an interdisciplinary and independent commission (Vancly et al., 2013; Guraya et al., 2014). Ethical committees in the areas of health and well-being should, thus, supervise the ethical standards of the research undertaken in order to preserve and guarantee human dignity and integrity. It is up to this committee to analyze and reflect upon research projects that include ethical issues. By the end, the decision is taken based on legislation, deontological principles, and the international recommendations.

Following such recommendations, the University created the Ethics Committee of the University of Évora (CÉ-UÉ), which is composed of a multidisciplinary team¹⁵, with representatives from the four schools: the social sciences, science and technology, the arts and the nursing school. Accordingly, significant steps were made with the publication of the Regulation of the Ethics Committee of the University of Évora¹⁶, which defines the Ethics Committee as a collegial body, which mission is to promote reflection and contribute to the definition of guidelines, aiming at consolidating a policy of safeguarding ethical and deontological principles in the areas of scientific research, teaching, interaction with society and in the general functioning of the University. Therein, the Ethics Committee ensures the observance and promotion of standards of ethical quality, namely integrity, and honesty, as well as the deontological principles in the activity of the units that integrate the University of Évora and in the conduct of its members in the above areas.

Regarding the need for establishing principles and rules for the experimentation involving animals, there is the consensus that testing in living animals is needed, but it must respect the ethical principles of life, dignity and creation as a whole (Fraser, 1999; ASAB/ABS, 2012). The reflection of the research involving animals must be continuous and should take into account the existing scientific knowledge with regard to the factors that influence the well-being of animals, as well as their capacity to feel and express pain, suffer, anxiousness and definite injury. Accordingly, the observance of the ethical principles in experimentation involving animals should be subject to a committee of ethics for animal well-being (Varga, 2013). The tasks of this committee are to follow up and attest the respect for the quality of life of the animals subject to experimentation.

Aware of these issues, the University also created the Organ Responsible for Animal Welfare of the University of Évora (ORBEA-UÉ) and published the corresponding Regulation¹⁷ which establishes the Animal Welfare Body, in accordance with national and Community legislation, in particular regarding the protection of animals used for experimental and other scientific purposes. The primary goal to promote the animal welfare and to be responsible for issuing opinions and monitoring the maintenance and use of animals in research and teaching at the University of Évora.

Idem

Information is a source of power, and the introduction of new technologies has always been a source of ethical dilemmas. Not surprisingly, old and new ethical problems occur with the adoption of computer technologies, which are responsible for conducting the world, with increasing speed, into an information age. Undoubtedly, in nowadays the world, more and more people work with and depend on information systems, computer networks, and decisions taken by Artificial Intelligence algorithms.

Although there are some pioneer works, namely Wiener's approach in the 40's concerning ethical issues in information technology (Winer, 1948 and 1950), or the later works from James Moore and Richard Mason in the 80's (Mason, 1986; Moor, 1985), there has been mostly a vacuum concerning ethics in computer systems, and cyberspace that has been progressively filled-in recent years (Bynum, 2016). The seminal work from Richard Mason in 1986 created one of the first and most essential frameworks

Ethical Governance for Sustainable Development in Higher Education Institutions

to deal with the ethical dilemmas in information systems summarized by the acronym PAPA: privacy, accuracy, property, accessibility.

In the specific context of the University of Évora, and having PAPA as background, three crucial challenges arise: privacy with the adaptation of the University Information System (SIIUE) to the European General Data Protection Regulation (GDPR)¹⁸; property is mostly concerned with plagiarism in the academic context; and privacy, accuracy, and accessibility are mainly connected with Information Security.

These challenges have been handled in several ways. Firstly, as mentioned before, plagiarism was explicitly included in the academic regulation. At the same time, a software-based service was acquired in order to simplify the detection of plagiarism in scholarly works. Secondly, the development of the university information system, that is an in-house developed system is taking into account the constraints imposed by the GDPR. Namely, the rights of data owners to access, correct, and delete (with the exceptions considered by law) personal data in a straightforward way, but also the management of data records with a specific purpose and limited lifetime.

On the one hand, the concept of “data protection by design” which stands for a development process that takes privacy into account throughout the whole process is fully embedded in the GDPR. This has a direct impact on the development process. On the other hand, security, although it is a critical factor in the Data Protection issue, it has its own procedures, that go much further than software system development. Transversally, Information Security has been tackled implementing methods according to international norms and standards like ISO27001, including Disaster Recovery and Redundancy systems, internal security norms, and internal and external audits.

It is true that universities should promote the creation of good practices and continuously update of norms and “Codes of Ethics” considering the specific context of information systems. Nevertheless, considering the very high, and always increasing, the speed of change in the context of computer and information systems one should not expect that any internal norm and “Code of ethics” remains indefinitely as an adequate tool to deal with ethical dilemmas in the academy. As stated by Laudon “[...] many ethical situations involving IT are different from those of the past, offering new opportunities for both right and wrong action, and calculating consequences can be so difficult.” Moreover, “Ethics, then, should be seen as a process of human understanding and reasoning, not as a static condition that is achieved.” (Kenneth, 1995, p.39).

Linking Outside: Relations Between the Academy and the Exterior

One of the more relevant missions of academies is the socialization of knowledge. This includes their relationship with the exterior and, namely, being able to handle the complex task of transferring the knowledge produced at the universities to the society.

Knowledge transfer is a quite complex task, and it can be achieved through several actions: research and development projects, publications, patents, entrepreneurship actions, incubation and acceleration of “ideas,” and the creation of spin-off and start-up companies. However, for each of these actions, there are a number of issues related to the ethics of the involved processes: should the transferred knowledge be public and with an open-access? How to obtain a right/fair balance between the intellectual property of the results of the research, the need to create added-value in the society, and the desired goal of having a public open-access to the knowledge?

In what follows, it is the purpose of this article to explore and discuss some of the problems related to these issues and how they are being handled in the University of Évora.

Ethical Governance for Sustainable Development in Higher Education Institutions

Research and Development (R&D) Projects

R&D is the primary source of the new knowledge at the Universities and, as a consequence, its support and increase are one of the major goals of academies. Nonetheless, how can this process be achieved? Should it be constrained by the needs of the regions or should it be entirely unconstrained and free? And should researchers have unique benefits or should it be considered as part of their role at the Universities?

At the University of Évora efforts are being made to set-up a balanced scenario: research topics are not constrained, but there are more financing options for research related with the strategy of the university and the region. Moreover, researchers do not get direct financial benefits from the results of their research, yet the research is taken into account in the evaluation process¹⁹ and; furthermore, researchers can manage the project's budget without any kind of interference.

Publications

Publications are one of the most common outputs of research. Research work can be published in scientific conferences, in journals, book chapters, or as simple technical reports. However, also in this topic, several issues are raised: should the publications be available to the general public in an open-access mode or should they be published by specific publishers having more restricted access?

The University of Évora actually follows a mixed approach: research work can be published by international publishers, but it has also to be released in the scientific repository. Additionally, the full paper should be public after a maximum period of six months. In fact, the University adopted a rule which defines that a research paper is only taken into account in the evaluation process of the researcher if it was added to the institutional repository. With this rule, it was possible to increase almost exponentially the number of (public) papers of the repository and, as a consequence, the visibility of the associated work.

Patents

Patents are also a potential output of R&D projects. They can play a relevant role in the knowledge transfer process because they can be the basis of the creation of spin-off companies, or they can be the focus of commercial agreements with already existent companies. Moreover, they can aid to increase the relationship with these companies and generate income to support further research. However, patents should not be used in a “blind” way, only to protect industrial property and without any associated procedures aiming to generate add-value to the academy and to the region. If the academy has no intention of exploring the patent, it's better to open the knowledge to the society.

Again, at the University of Évora, the strategy is to follow a mixed approach: the University published the Regulation of Intellectual Property²⁰ allowing each researcher to patent his/her inventions, having all the support from the University in the patent process (in Portugal or in Europe). Moreover, the regulation defines the possibility to create a spin-off company to explore the patent, or the University can help in the process of finding a right partner to explore the patent. The regulation also defines the division of the potential profit between the University and the researcher: by default, this value is 50% for each. However, if the University and the researcher believe the invention/research has no potential for direct exploitation, it is the only object of intellectual property registration, and a patent is not fulfilled.

Ethical Governance for Sustainable Development in Higher Education Institutions

Entrepreneurship Actions

Entrepreneurship is a crucial action in the knowledge transfer and socialization process. It is vital to implement vigorous activities promoting entrepreneurship in students and academy staff. Again, and as in the previous points, several ethical issues are raised in this process. In order to deal with these issues, the University of Évora created a particular course on entrepreneurship, which is offered to all Ph.D. degrees of our University. The objective is to increase the level of awareness of ethical issues of the most potential entrepreneurs.

Incubation and Acceleration of “Ideas”

New ideas and fresh research results need good conditions to be transferred to the society. As already referred, one option is through the creation of spin-off or start-up companies. However, in order to create successful companies, these ideas need to be “accelerated” and “incubated.”

In order to support this process, the University of Évora is an active member of the Science and Technology Park of the region where it is established (Alentejo), and one of the primary focus of this Park is, in fact, to foster the process of acceleration and incubation of ideas. The Park has all the required competencies to support the process of company creation, including helping in the development of business plans, internationalization and applying for financial support. That way, after identifying a “good” idea and protecting it from a patent, the researcher can be aided to create and incubate a spin-off company in an entirely integrated and easy way.

Creation of Spin-Off and Start-Up Companies

As referred in the previous points, the creation of spin-offs and start-up companies plays a vital role in the knowledge socialization process. In the University of Évora, in association with the regulation for industrial property, there is specific regulation for the creation of spin-off companies from any University collaborator (student or staff): the Regulation of Spin-Off Companies of the University of Évora²¹. This regulation defines clearly how a researcher can create a company and maintain the relationship with the University. The primary goal is to increase the number of established companies based on the results of the research while avoiding possible ethical problems in the collaboration between researchers, the new companies, and the University.

Thinking Globally: Enhancing a Culture of Integrity

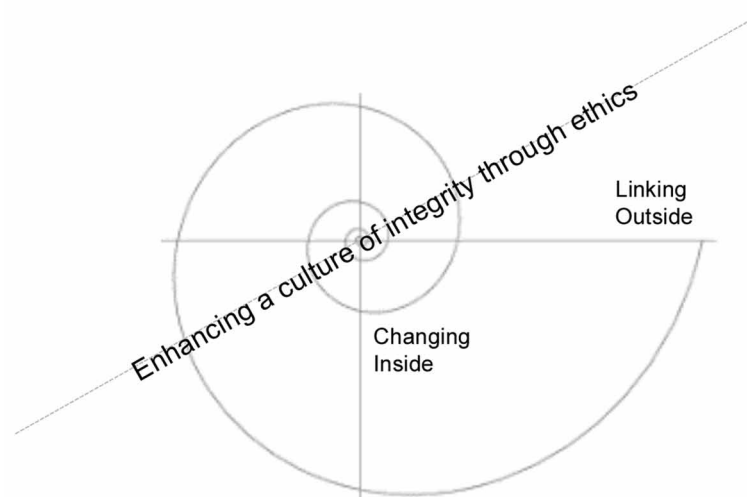
Lessons Learned: Ethics as the Driver

Above it was detailed the set of measures taken at a specific small-scale university aiming for sustainable development. In the pages that follow it is argued that ethics is the instrument that can drive higher-education institutions in such a path, either promoting inner changes or linking the university with the outside world. Like in a spiral, such processes are intertwined and feed themselves mutually: changing inside is needed for connecting outside, and linking out requires changing inside. While this is a never-ending process, it is undoubtedly the only way to ensure sustainable development (Figure 1).

Ethical Governance for Sustainable Development in Higher Education Institutions

Figure 1. The spiral of ethical governance in higher-education institutions

Source: Own elaboration.



Lessons to Teach: Ethics as a Process

The commitment to the development of strategic solutions that allow the evolution of continuous quality indices is an object that depends on the mixed success of work systems, determinants for achieving results' improvement and the consequent recognition and positioning of any university, both at the local, regional, national and international levels.

The process of certification of an Internal System of Quality Assurance is not an end in itself but rather an objective that presupposes the rooting of a culture of practices aimed at the quality of institutions as a whole, in a dynamic and flexible perspective adjusted in time. Additionally, the maintenance and expansion of certification as a guarantor of transversal results of quality are thus a mission that is of all the interlocutors involved in the process and on which, increasingly, depends upon the sustainability of an institution of Higher Education.

In this context, it is noteworthy to highlight the importance given by the University of Évora to the planning and monitoring of results. These processes are mirrored in the evolutionary outcomes of accreditation and recognition of the university's training, research, extension, and services, what's the same as saying, in the overall quality of the systems intrinsic to the mission of the University of Évora (UE, 2015).

The implementation of internal procedures aligned with quality management processes at the University of Évora dates back to 1993. Since 2006, these processes have integrated into their regular management policies the new national and European directives resulting from the Process of Bologna.

In recognition of a work of continuous improvement, the institution assumed, in 2014, the unconditional certification of its Internal System of Quality Assurance (ISQA-UÉ) by the Agency for Assessment and Accreditation of Higher Education (A3ES). As a fundamental complement to its quality objectives, in the same year, the university starts the process of certification of its Services, in the dimension of direct relationship with students, at the levels of Academic Services, Administrative Services, Computer

Ethical Governance for Sustainable Development in Higher Education Institutions

Services and Technical Services. Already in 2017, the University of Évora carries out its Institutional Evaluation by the A3ES, whose process is in progress.

Responding to the challenges of the planned management of the subsystems that make up the complex functional system of the university, the ISQA-UÉ contributes with: a) The definition and cross-cutting transparent communication of strategies concerted with a culture of quality; b) Promoting the explicit recognition of responsibilities by all stakeholders in the process; c) The promotion of the planning of actions and procedures favorable to the achievement of the objectives outlined; d) The definition and treatment of indicators that allow the monitoring of results; e) Promotion of evolution-friendly evaluation and self-assessment mechanisms; f) Transversal and cyclical disclosure of results.

A significant part of the procedures inherent to the organization, control, and monitoring of data and information, handled within the ISQA-UÉ, derives from the effectiveness of the Integrated Information System of the University of Évora (SIUÉ). SIUÉ allows the automation of a large number of procedures, providing data for the construction of several indicators, thus allowing, in articulation with the work developed by the Office of Planning and Quality Assurance (GPGQ), an increasingly better coupling between the assumptions of the ISQA-UÉ and the results obtained by the entire university community.

The practical involvement of stakeholders in decision-making and planning of university activities is a decisive aspect for the success of ISQA-UÉ. It is thus assumed as institutional practice the participation within the system of students, teachers, researchers and services at the university, as well as internal and external partners, as indispensable elements in the creation and consolidation of a culture of quality and for its excellent governance.

The full hearing of the different actors involved within the system contributes, in turn, to a better acceptance of the decisions of governance, being the promotion of internal audits of essential documents to approve, an example of this integrating culture.

It is also promoted by ISQA the monitoring of external agents to the institution, such as former students, employers, and other partners, thereby enhancing the process itself and increasing its impact on society. The broad scope and high level of integration of the ISQA-UÉ make the system a participatory engine for all stakeholders (Secca Ruivo et al., 2014).

Within the framework of the integrated evolution of the ISQA-UÉ, it is noteworthy the approval of the Strategic Development Plan of University of Évora (PDE-UÉ), in 2015. As referred before, the adoption of this document by the General Council of the university brought a strategic orientation to the institution, making it easier to follow the cycle of continuous improvement, reinforcing the monitoring of the different aspects of university performance, such as internationalization, human resources management policies or the articulation between the SIPGQ-UÉ and the governing bodies (UE, 2017).

The systemic performance of the SIPGQ-UÉ operates directly at six levels of impact, cyclically present throughout the year: 1) Planning Processes; 2) Accreditation of study cycles; 3) Internal and external surveys; 4) Data processing and monitoring; 5) Reports and Results Studies; 6) Service Certification.

The integrated articulation of these six lines of action, fueled by a permanent dialogue with the academy and external partners, results in the feeding of the dynamic and organized mechanisms that allow to maintain and evolve the own system, and the maintenance of its external audit and certification.

The interaction between SIPGQ-UÉ and its interlocutors is managed through a Pro-Rector for Quality, in close and permanent connection to the Office of Planning and Quality Assurance, in an ongoing dialogue with the Rector, the Organic Units, and the University Services.

At the level of the operational Planning Processes, there are three decisive moments:

Ethical Governance for Sustainable Development in Higher Education Institutions

1. The construction of an Activities Plan emanated from the monitoring of the Strategic Plan, approved for four years. This annual document, defined and published by the Rector, with strategic guidelines for actions, goals, indicators and a guide to the Assessment and Accountability Framework (QUAR) is a basis for the aligned definition of the Activity Plans of each Organic Unit and each Service of the university.
2. The biannual collection and monitoring of the achievement of the goals set by the Rector for the Activities Plan of each year - QUAR UÉ - and the centralized monitoring in the GPGQ of the annual QUAR of the Organic Units and Services of the university.
3. The elaboration of the Annual Report of Activities UÉ with a demonstration of the fulfillment and trends of evolution of the qualitative and quantitative indicators pre-defined.

The publication on the university portal and the internal dissemination of monitoring phases of this last document allow the Rector, the Organic Units, and the Services to plan in a timely and concerted way the priority strategies to be included in the Planning Cycle of the following year. The goal is that, at the end of the four years of implementation of the UÉ Strategic Plan, the university has achieved the goals defined therein, that is to say, integrally executed by altogether (UE, 2014, 2015, 2016).

With regard to the accreditation process of Study Cycles by A3ES, we emphasize four process types directly articulated between the Organic Units, the Quality Pro-rectory and the GPGQ: Self-Assessment/Accreditation of Cycles of Studies in Operation (ACEF), Request for prior accreditation of New Cycles of Studies (NCE) and Special Request for Renewal of Accreditation of Cycles of Studies Non-Aligned (PERA).

As a continuous process throughout the year, in addition to the Annual Reports and Studies produced by GPGQ, the ISQA-UÉ has implemented internal mechanisms and tools for facilitating access to information promoted through SIIUÉ, as in the cases of computerization of surveys (Costa, 2017), regarding the syllabus of the curricular units (FUC), the Reports of Curricular Units (RUC), and, additionally, the Course Reports (RC), which include automatic indicators that reflect student satisfaction indexes in the Curricular Units and Cycles of Studies and Services, as well as in the case of RC, several indicators relating to the operation of the Cycles of Studies itself, each year.

Another internal measure that promotes transparency and anticipation of external evaluation processes is the availability and timely availability of editable self-assessment scripts, equal to those of the A3ES, to the Organic Units.

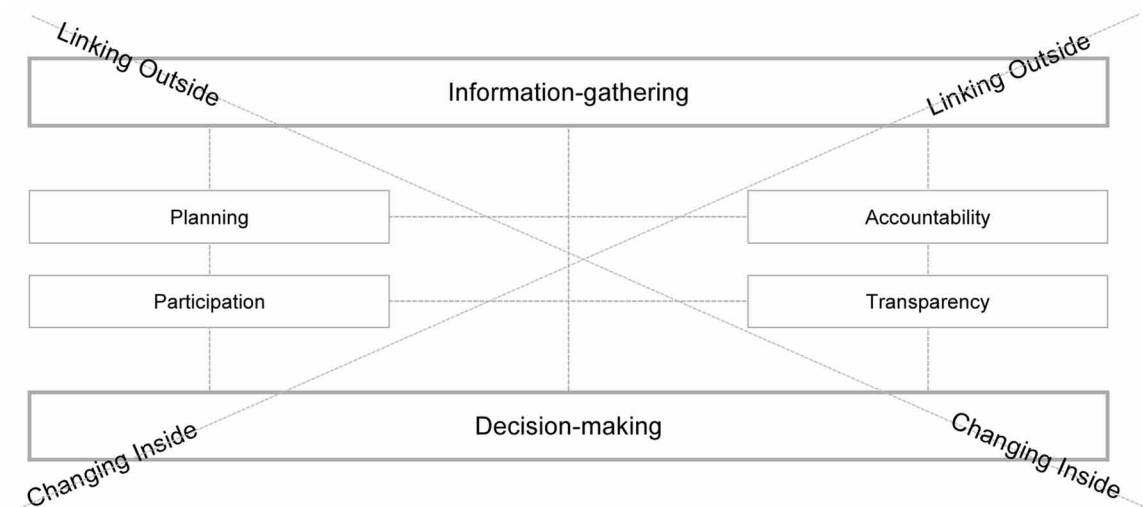
Since 2015 onwards, simplified procedures and guidance documents for the different accreditation processes were made available by the Rector to the academy²², thus clarifying and deepening the already existing procedures. In addition to the follow-up of the evaluation processes, the Pro-Rector for Quality Assurance and the ISQA Office directly support the Organic Units and respective departments, as well as teachers responsible for the evaluated course (Person Responsible for the Request - PEP). The given support is broad and multi-level, comprising the level of clarification of questions related through the process of completing the scripts, the level of data provided to fill tables with indicators of each Cycle of Studies, and the level of final verification of all processes, as regards compliance with the legislated accreditation criteria.

Of these processes, it is stated that the accreditation rate per year of submission (average of three years) shows an evolution from 92.7% in 2015 to 98% in 2016. This means that out of 51 cases submitted and completed in the last three years, about 50 processes have been accredited, 40 of which without conditions.

Ethical Governance for Sustainable Development in Higher Education Institutions

Figure 2. Enhancing ethical governance in higher-education institutions

Source: Own elaboration.



It is noteworthy to analyze the progress in the greetings rate of arrival times to the Rectory of these A3ES processes. In 2015, the University of Évora registered a rate of 18.8%, having risen in 2016 to 83.3%. This progress of results reveals the commitment that the academy puts in these processes and of the recognition of ISQA-UÉ as an integrating system and promoter of evolutionary quality results.

In short, the spiral of ethical governance that was presented earlier must be anchored in a quality system, able to connect the information-gathering and decision-making processes (Figure 2).

While planning and participation are fundamental as assumptions of practice, accountability and transparency constitute vital requirements of returning. Relations occur every time and every way and enhancing them through ethics is definitely a key factor when pursuing sustainable development in higher-education institutions.

CONCLUSION: PATHS AND CHALLENGES FOR ETHICAL GOVERNANCE IN HIGHER EDUCATION INSTITUTIONS

This chapter intended to present and discuss the strategies actually implemented in a higher-education institution towards building a culture of integrity. The empirical focus was a case study within a small-scale Portuguese university, the University of Évora, located in southern Europe.

With more than 458 years of history, the University of Évora now faces the challenges of modernization and globalization while maintaining a responsibility towards the creation of knowledge-based societies and economies, education and the creation of socially responsible citizens.

Ethics is the key and cross-cutting instrument to enhance a culture of integrity in higher-education institutions. In the University of Évora, this was made visible, on the one hand, through changes in the admissions strategies and teaching-learning processes, specifically the conduct regulation newly implemented at the University, but also the rules of ethical conduct regarding the students' practices and committees recently created to analyze and eventually authorize investigations developed within the context

Ethical Governance for Sustainable Development in Higher Education Institutions

of specific courses and research projects and issues regarding the information security challenges. On the other hand, this was also made visible in many domains regarding the relations between the academy and the exterior, namely, when addressing topics such as research, publications, entrepreneurship, business incubators, and accelerators in higher education.

In view of the foregoing, it is argued that in small-scale universities, the quality evaluation system is the holistic tool which connects all the structures of the University, thus contributing to enhance a culture of quality through ethics, i.e., efficiency, integrity, and accountability of the human resources (faculty, students, etc.) and also to have in place a scientific audit system of governance.

While this text brings light into the experience of a specific small-scale university, it offers empirical evidence of using ethics to enhance a culture of integrity that goes beyond such a particular university and can be applied in many other universities around the world. Contribution to knowledge is provided through the detailed description of several precise practices, either promoting inner changes or linking the university with the outside world. Like in a spiral, those practices are intertwined and feed themselves mutually: changing inside is needed for connecting outside, and linking out requires changing inside.

Furthermore, empirical evidence supports the idea that such a spiral of ethical governance should be anchored in a quality system, able to connect the information-gathering and decision-making processes. While planning and participation are fundamental as assumptions of practice, accountability and transparency constitute critical requirements of returning. Relations occur every time, and every way and enhancing them through ethics represents a challenge when pursuing sustainable development in higher-education institutions, both at the global and local levels.

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KEY TERMS AND DEFINITIONS

Academic Integrity: The full and shared moral code or ethical policy of the academia. It includes values such as avoidance of academic fraud, in the form of cheating or plagiarism, maintenance of the specific educational standard, honesty, and rigor in both research and publishing. These values usually are made visible in the way of internal institutional regulation.

Ethical Governance: The set of management rules, practices, and processes, specifically and explicitly driven by moral principles.

Ethical Leadership: The ability to drive the institution through principles of transparency, free flow of information, and good governance, thereby transmitting an image of security and confidence both indoors and outdoors, namely with regards the stakeholders with which it interacts.

Ethics: Well-founded standards of what is “right” and “wrong,” expressed in terms of rights, obligations, and benefits to the institution and, ultimately, the society.

Governance: The framework of management’ rules, practices, and processes by which a specific institution ensures accountability, fairness, and transparency both inwards and outwards.

Information Security Challenges: The set of obstacles that occur ensuring the security of information, including ethical, technical, organizational, legal, and human aspects.

Research Ethics: The ethics considerations, dilemmas and trade-offs that apply throughout the research process, from the very beginning, when having an idea and designing a project or study, through the fieldwork, analysis, dissemination, and reporting of the research findings.

Sustainable Development: It is perceived as the development in a holistic sense, not only from a multiple economic, social, educational or environmental perspective, that can meet human development goals in a balanced and fair way, and without compromising the future generations. It implies an action on all fronts: governments, businesses, civil society and people everywhere all have a role to play, as they are both the producers and the outcome of such processes and actions.

ENDNOTES

- ¹ Further information on COPE can be consulted online at <https://publicationethics.org/>
- ² Despite the diversity of criteria that can be used for the classification of higher education institutions (van Vught et al., 2010), this article uses as main indicator the size of student body. Currently this number is around 7000.
- ³ Further information can be found on-line, throughout the University web page, available at www.uevora.pt.
- ⁴ Decree-Law No. 402/73, August 11th.
- ⁵ Decree-Law No. 482/79, December 14th.
- ⁶ Ministerial Order No. 1126/82, December 2nd.
- ⁷ Decree-Law No. 175/2004, July 21st.

Ethical Governance for Sustainable Development in Higher Education Institutions

- 8 The so-called Bologna Process was unleashed by The Bologna Declaration (June 19, 1999), a joint document signed by the Ministers of Education of 29 European countries, meeting in the Italian city of Bologna. The declaration marks a paramount shift from higher-education policies in those countries and has established a European Higher Education Area, based on the commitment of the signatory countries to reform their education systems. Although the Bologna Declaration is not a treaty, the governments of the signatory countries have undertaken to reorganize their countries' higher-education systems in accordance with the principles enshrined in it. Portugal was no exception.
- 9 Regulatory Decree No. 54/2008, October 20th.
- 10 Regulatory Dispatch No. 10/2014, August 5th.
- 11 Normative Rule No. 10/2014, August 5th.
- 12 The Strategic Development Plan for the University of Évora, 2015-2020, can be assessed on-line at <http://gdoc.uevora.pt/385497>
- 13 Order No. 6/2017, March 27th.
- 14 Academic Regulation of the University of Évora, Dispatch No. 11704/2016, September 30th.
- 15 Order No. 64/2017, June 14th.
- 16 Order No. 11/2017, April, 26th.
- 17 Order No. 10/2017, April, 26th.
- 18 Regulation(EU) 2016/679.
- 19 Regulation of Evaluation of the Performance of Teachers of the University of Évora, Dispatch No. 1038/2011, January 12, 2011.
- 20 Regulation of Intellectual Property of the University of Évora, Service Order No.10/2015, March 13th.
- 21 Regulation of Spin-Off Companies of the University of Évora, Service Order No.11/2015, March 13th.
- 22 Circular No. 10/2015.

Chapter 11

A Triple Helix Model Based on Open Collaborative Innovation in Colombia: A Proposal for Higher Education Institutions

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ABSTRACT

The open collaborative innovation model based on a triple helix proposes a way by which collaborative processes and innovation networks create value. It contains seven components: (1) innovation challenges, (2) internal-external knowledge, (3) paradigm change, (4) leadership, (5) interinstitutional and transdisciplinary teams, (6) communication, and (7) creative solutions; and six principles: (1) identity, (2) agreements, (3) flexibility, (4) commitment, (5) recognition, and (6) trust. This research emphasizes on the importance of Component 5 for programs of open collaborative innovation, since the joint work among the academy, the government, and the industry to create a triple helix consolidates systems of regional innovation that are necessary to improve national competitiveness and productivity.

INTRODUCTION

To begin, it is necessary to define the concepts that compose the Model of Open Collaborative Innovation. [1] **Model** from Latin-*Modello*, means a reference to be imitated or reproduced. [2] **Innovate** from Latin-*Innovare*, means to change something by introducing new features. [3] **Open** from Latin-*Apertus*, means said from an unsolved matter or business. [4] **Collaborate** from Latin-*Collaborare*, implies work

DOI: 10.4018/978-1-5225-5837-8.ch011

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

with others towards the realization of a task. Therefore, an open, collaborative innovation model refers to many people or organizations that modify, change or introduce new features into an unsolved matter or business of an organization, which becomes a reference for others (May 2018; Vandervelde, 2018).

Next come the definitions of the model dimensions: [5] ***Processes*** from Latin- *Processus* means: move forward, set of consecutive stages of a natural phenomenon or an artificial operation. [6] ***Collaborative*** from Latin-*Collaborare*, means: work with others towards the realization of a work. [7] ***Network***, from Latin- *Rete*, means: set, computers, or informatics devices connected among themselves, able to exchange information.

When interpreting and putting these definitions together, it is possible to deduct that a collaborative process integrates a number of actions in consecutive stages to advance towards the completion of work. While an innovation network appears when many interconnected people or teams interact among themselves to create something (Leue-Bensch, 2017; Podmetina, Hafkesbrink, Petraite, Teplov and Dąbrowska, 2015).

Regarding innovation networks, this chapter shows the classification of networks, the meaning of networks of value, the gaps that affect such systems, the architecture of a business network, the systems in the relation Academy-Industry-Government, the types of collaborative networks and the move from an innovation network towards online platforms.

Finally, the chapter presents the methodology used to validate the hypothesis related to interinstitutional and transdisciplinary teams and their correlation with the recognition to contribute to creative solutions to innovation challenges. Such information was obtained from people who participated in Catedra Bancoldex, a program taught since 2015 at various Colombian universities, coordinated by Universidad EAN, and that promotes the relation Academy-Industry-Government. Innovation challenges presented in Catedra Bancoldex 2016 have been structured by the Program of Productive Transformation, an autonomous Bancoldex unit.

LITERATURE REVIEW

Collaboration, Co-Creation, and Cooperation

The difference among collaboration, co-creation, and cooperation is not clear. However, their definitions can clarify their differences.

Co-creation refers to the joint creation of a product by the enterprise and its customers. It is the real contribution from customers to the product, considering their needs (Prahalad & Ramaswamy, 2004; Ramaswamy, 2011; Vargo & Lusch, 2008; Fuller, Hutter & Faullant. 2011; Roberts, Baker & Walker, 2005). The Nysveen & Pedersen (2014) Model of Co-creation proposes the customer interaction with the product, considering the sensorial, cognitive, relational, affective and behavioral dimensions. ***Co-operation*** refers to the communication between independent enterprises that have a specific purpose, allowing them to exchange resources to get a mutual benefit (Araiza & Velarde, 2008). There are four types of cooperation:

1. In production, by which enterprises benefit from scale economies and cost reduction (Strauss, 2017)

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

2. In innovation, by which enterprises benefit from the use of technologies and costs and risks reduction (Ismail, 2017)
3. For the market, when enterprises share, search for access to new market niches and decrease in costs of advertisement and promotion (Peña, Chang, Encalada, and Yépez, 2016), and
4. To manage, when benefiting from the improvement of management processes of human resources, finances, and taxation (Hobcraft, 2018).

Enterprises that cooperate develop higher levels of technological capacities than those that do not. This allows them to get more adequately involved in regional and national innovation systems (Ramírez-Salazar, 2016).

Collaboration is the link between organizations to exchange information, capabilities, and resources in order to get results, which could not be possible to achieve if they work separately (Schrage, 1990; Ramírez-Salazar, 2016). Collaboration refers to those agreements by which all parties share costs, resources, and benefits in the same project (Swindel & Hilvert, 2014). The partnership is a share creation process in which two or more parties with complementary capabilities and competencies interact with each other to create a shared result. It is clear that collaboration is an action that can be immersed in associative, cooperative or co-creative processes. Therefore, the partnership is an appropriate action to develop programs that involve various organizations or teams that aim at supporting a common objective, so they all contribute with their experience and knowledge to solve a specific problem (Loyer, 2016).

Factors That Consolidate Collaboration

- **Trust:** It is one of the most relevant principles when working in teams composed of people from different cultures, areas, ages, and values. Each project brings new expectations and different perspectives, therefore, it is necessary to create trust among the parties involved (Cheikhrouhou, Pouly & Madinabeitia, 2013); Warner & Witzel, 2004). Information exchange is essential for collaborative processes; trust arises when ethical and honest behavior is observed when using data and information shared by everybody (Pouly, Monnier & Bertschi, 2005; Kumar, Scheer & Steenkamp, 1995). In fact, more trust is generated when transference of knowledge is reciprocal, just and equal among parties (Lu, 2007).
- **Quality:** Collaboration projects success depends on the way participants contribute with their knowledge. It is necessary to apply techniques to control the quality of the contributions of each participant in the different stages of the project (Grunbacher, Halling, Biffl, Kitapci & Boehm, 2004). When a project starts, it is necessary to have clarity about the minimum quality requirements expected from each person, team, and organizations. There are top quality academic accreditations that qualify universities as well as quality certifications for enterprises.
- **Commitment:** It is the responsibility to allocate tasks in collaborative projects. Collaborative work led to knowledge integration without requiring a contract, therefore generating higher engagement (Ruan, Ochieng, Price & Egbu, 2012). An action link, which highlights each organization for its contribution(s) is created when organizations get involved in joint collaborative projects. When people know their reputation, recognition and visibility are at stake, commitment grows (Pérez-Urbe, 2012, p. 276).

*A Triple Helix Model Based on Open Collaborative Innovation in Colombia***Collaborative Processes: The Critical Action of the Relation Academy-Industry-Government (Triple Helix)**

To build innovation systems in a specific area or region, joint innovation projects must be joined by universities that provide knowledge, enterprises that provide needs and experience, and government agencies that provide public policies and resources: this relation is called the triple helix (Sábato & Botana, 1968; Etzkowitz & Leydesdorff, 1996; Ramírez-Salazar & Garcia, 2010).

When there are collaborative projects among the academy, the industry and the government, transformation regarding innovation occur inside each organization; by being involved with others, organizations incorporate best practices, reform processes, change paradigms and reinvent new programs. On the other hand, organizations learn different roles without losing their own identity (Tveit, 2011; Leydesdorff & Etzkowitz, 2001).

The CUEES (Committees University Enterprise, State), which are composed by the regional universities, enterprises and government organizations, is an example of the relation between the academy, the industry and the government in Colombia (Figure 1). They develop innovation projects, financed with government resources, mainly from COLCIENCIAS (Colombian agency that leads the System of science, technology, and innovation; it depends on the Presidency of Colombia). In Bogota (Colombia), the committee Alliance University-Industry Government is a successful case because of the projects that Connect Bogota is managing in its role as the organization that puts together innovation projects in the region (Ramírez- Salazar, 2013).

Role of Organizations in Collaborative Processes

- **Government:** Its primary purpose is to stimulate innovation for the helix as well as for every single organization. It must keep searching for possible risks and work to consolidate innovation culture in each region. Its central actions revolve around the development of policies and the equal allocation of resources (Roberts, 2007).
- **Academy:** It includes universities and R&D centers; it concentrates on providing knowledge to solve challenges posed by the industry and the government (Roberts, 2007).
- **Industry:** Enterprises are the main character given the development and jobs they provide to their regions. Their primary responsibility is to maintain trust relations between the helix members, promoting closer ties with the academy to its managerial and manufacturing objectives (Roberts, 2007).

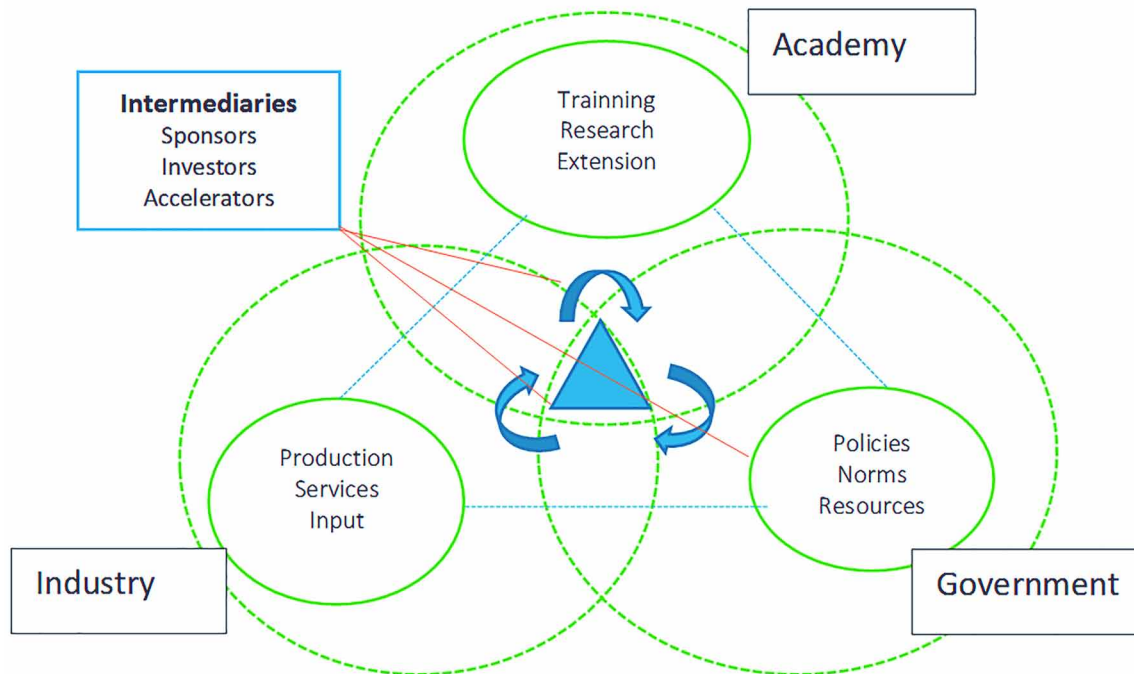
Key Factors of Collaborative Processes

- **Distance has no Effect:** The origin of an organization is non-relevant, what matters is its contribution to the collaborative processes (Muscio, 2013).
- **Clear Rules:** From the beginning of the project there must be clarity about its real needs, specific objectives, scope, time, communication ways, and delivery of reports; this way parties will fully know what is expected of them (Schofield, 2013).
- **Recognition:** Academicians are interested in participating in collaborative projects since they can be in contact with the industry: the industry is interested because it gains visibility, recognition, and it can promote the new products created jointly (Tartari & Breschi, 2012).

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Figure 1. Academy-Industry-Government collaborative processes

Source: Adapted from Nakwa (2013, p. 67).



- **Innovation:** Being involved in projects in which the triple helix participates is considered a competitive advantage (Luengo & Obeso, 2013).

Networks in Collaborative Processes

When organizations and people form teams and interact in collaborative projects, collaboration networks arise. Such networks are classified, according to their function as:

1. Information and Communication Networks, which only share knowledge
2. Academic Networks, generated in universities for internationalization of students and professors.
3. Research Networks that promote R&D+I projects, and take advantage of sharing labs and expertise from each research group
4. Innovation Networks expanded to provide solutions to innovation challenges from the industry; and
5. Technological Services Networks, that may be regional, national or international, and can be formed informally or formally, regulated by an agreement among the parties (Sebastián, 2000).

For the network to become strong, and to get its own shape, it is necessary to provide it with proper projects that open way for innovation. An innovative region strengthened because of research between the academy and the industry, boosts regional innovation systems (Mancinelli & Mazzanti, 2009).

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

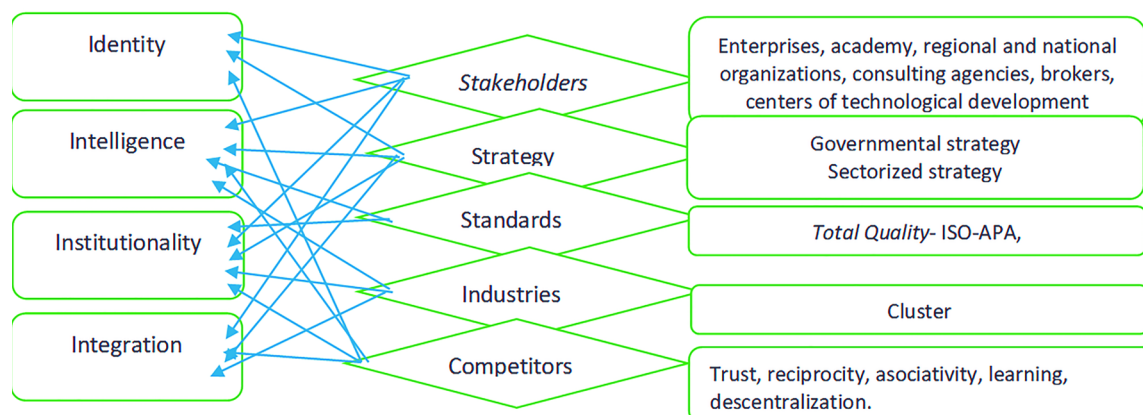
Not wanting to share Know-How is a factor that prevents the consolidation of networks. This usually happens in enterprises that have been able to differentiate themselves from others by implementing processes of research, development, and innovation, and therefore, have created value proposals that do not want to share. As a result, project networks where interinstitutional and transdisciplinary teams are going to work together, the following four dimensions are to be considered (Figure 2):

1. Identity, which is respect for the trait of each organization.
2. Intelligence, defined as the collective learning acquired to become a competitive advantage.
3. Institutional behavior, a formality that exists in each one of the organizations and teams involved in the processes (an institutionally healthy organization is one in which protocols and procedures that follow ethical norms are evident)
4. Integration, when all organizations that join projects and networks collaborate as a single one. It is like if all subsystems become one single system in each project (Cooke, 1996).

Figure 2 shows that innovation networks are composed by enterprises, academic institutions, regional organizations, governmental organizations, consulting agencies, agencies, brokers and technological development centers; they all come with different identities and diverse cultures that make open collaborative innovation projects become a connection of knowledge. Regarding being institutional, it is evident those quality systems such as APA (2018) (American Psychology Association: Norms refers to the organization and presentation style most used in Social sciences. Its publication Manual contains the norms to be used when presenting a scientific document), ISO (ICONTEC, 2016) (Set of standards about quality and quality management, established by the International Organization for Standardization ISO) and Total Quality. They can be applied to any type of organization or activity oriented towards the production of goods or services, among others, bring positive responses from projects to the needs posed. Therefore, trust, reciprocity, associativity, decentralization, and learning created with collaborative projects generate an integration of competences that strength the network.

Figure 2. The architecture of an innovation network

Source: Adapted from Cooke (1996).



*A Triple Helix Model Based on Open Collaborative Innovation in Colombia***Interinstitutional and Transdisciplinary Teams in the Triple Helix Interaction**

Teams join networks because of the following needs: Networks between users and produces to answer to customers' needs; a case is food products, for which enterprises ask customers for collaboration and feedback regarding taste, price, ingredients, service, etc; Internal organizational networks to look for development, production and commercialization of products. In some occasions, getting support from external entities to improve internal processes is called open innovation, currently used by enterprises to attract new technologies and knowledge to enhance internal efficiency; and External networks to get external resources. Enterprises look for investing and financial market networks to reach international markets and for expansion opportunities (Freeman, 1991).

When different organizations join open innovation projects they usually do it via global business collaborative networks, which are managed by manufacturing, management chain, value chain and open innovation support; or via local or national collaboration networks that involve the academy, industry, and government; they are created mainly by the forming of clusters and regional innovation systems, most of the time by guidelines from the national government (Flores, Boër, Huber, Pluss, Schoch & Pouly, 2009).

Benefits That Networks Provide to Interinstitutional and Transdisciplinary Teams

Organizations that participate in networks are benefited from government policies, acquire and develop new competencies, adapt easier to external environment changes, and gain image, prestige, and reputation (Oliver, 1990; Verma & Zoumpa, 2012).

On the other hand, organizations get involved in online platforms because they are mature and want to give a step forward towards the next digital level (Hartley, 2011). Use of Facebook, Wikipedia, Amazon, PayPal, Twitter, YouTube and WhatsApp brings benefits such as access to social media, knowledge, identification of brands, sales support, and information dissemination. Another advantage of the use of the network is *crowdstorm* or massive collaboration sources, crowdfunding, and microcredit (Abrahamson, Ryder & Unterberg, 2013).

NEW GENERATIONS IN INTERINSTITUTIONAL AND TRANSDISCIPLINARY TEAMS

New generations are taking charge of organizational processes; Generation Y is formed by people who reached adulthood in 2000, now called Millennials. According to McCrindle (2014), this classification brings a paradigm change for organizations.

Millennials are characterized by:

Their innovative attitude, as they like to challenge themselves and to be challenged by their organizations. Getting involved in innovation ecosystems is stimulating for them (Zahra & Nambisan, 2011; Ramírez- Salazar & Pérez Uribe, 2016).

Their Collaborative working, because they fit exceptionally well in the model described in this chapter. They use digital tools, move all over without needing to be all together in the same place, are

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

flexible and dynamic, and share without fear of getting their ideas stolen from them. They use transversal communication, and their job is one more life experience (Myers & Sadaghiani, 2010; Ramirez-Salazar & Pérez-Urbe, 2016).

Their intense use of digital tools, as what they find in their technological devices calls their attention. **Being Experiential**, because they like to feel a sensation in every situation they live; for them, a challenging open innovation project is like a game by which they can conquer the world (Econsultancy, 2014).

Their dynamism in Social Media, as they want to be visible and comment their experiences; they share information and feel their messages can help others (Telefonica Global, 2014).

Being Healthier, as they embrace fitness, having healthier eating and body care habits. They prefer the bike than the car; try to be vegans; while in open collaborative projects they will prefer activities to be performed in open areas, with healthy food available (Landa, 2016).

It is evident that interinstitutional and transdisciplinary teams are composed of people from different ages and that Millennials are influencing new teams' *modus operandi*. Those who lead collaborative projects must know the behavior of Millennials since they will manage and implement most of the actions and programs arising from such projects.

Description of the Open Collaborative Innovation Model

The model is a methodology developed to contribute to the creation of value in enterprises by using collaborative processes and innovation networks (Ramírez-Salazar, 2016). Three dimensions, seven components and six principles (Figure 3) compose the model.

MODEL DIMENSIONS

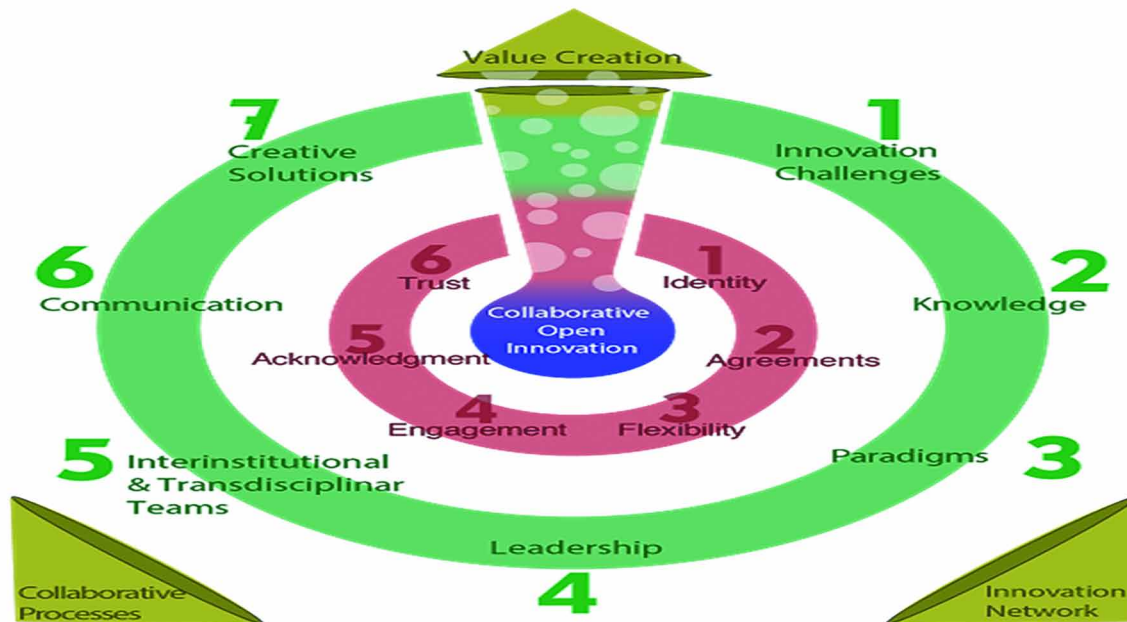
The model has three dimensions:

- **Collaborative Processes:** Actions that participants of an open innovation project manage, and/or the knowledge with which they contribute to achieving a joint project. The activities performed by the participants are complementary, their objective being the creation of value.
- **Innovation Networks:** Deals with the interactions manage internally in the Open innovation collaborative projects, which are visible by means of digital tools.
- **Value Creation:** Refers to the added value that participant entities generate from collaborative participation and innovation networks. Model components are the seven steps taken to develop an open collaborative innovation project.
- **Innovation Networks:** Is a need, problem or opportunity posted at a given moment in an enterprise company (Euchner, 2014). When starting an open, collaborative innovation project, it is essential to be clear about the needs of the users, the problem to be solved, or what can be used from the external environment.
- **Internal and External Knowledge:** It is the different point of view from people or entities outside the company (Chesbrough, 2009). It is necessary to look outside. For example, Blockbuster or Kodak did not realize what was happening around them, and the new technologies made them obsolete; reinventing is the key (only achievable by other's points of view).

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Figure 3. Open collaborative innovation model

Source: Adapted from Ramírez (2016).



- **Paradigm Change:** There are different ways to act (Senge, Smith, Kruschwitz, Laur & Schley, 2011), Why many places keep on doing the same? Universities keep offering the same programs, airlines offer the same destinations, restaurants offer the same menus, and theaters offer the same plays, it is necessary to change ways and to turn products provided into experiences. Keep in mind that those who designed most of the products are now too old to understand the new generation. Therefore, enterprises must change processes and procedures in order to attract new customers.
- **Leadership:** The leader directs a project by stimulating people's creativity (Zarate, 2015). The leader not only encourages but also persuades people with his acts. Leaders must tend to live a healthier, technological, multitask, entrepreneurial, and experiential life.
- **Interinstitutional and Transdisciplinary Teams:** Working teams among various organizations and knowledge areas (Ezkowitz y Leydersdof, 2006; Sábato & Botana, 1968). The word "interinstitutional" refers to the participation of various organizations in the same project with the same objective. The word "transdisciplinary" refers to how to organize knowledge in a way that supersedes only knowledge areas per se. By considering each knowledge area brought to the project, more comprehensive understanding is evidenced; experience is coming from diverse areas, none of them being more than other, resulting in an aggregate of contributions (Pérez-Luna, Alfonso & Curcu-Colón, 2013).
- **Communication:** Verbal, facial and written that allows narrative expression with other people (Euchner, 2014). Once the project idea is born, the need arises to find a way to spread information, to motivate teams to participate. It is then that communicators' creativity is needed. People who receive the message of a good tale, a story with sense, or an experiential case will feel motivated to participate. Communication is present in every project at its beginning (informing its importance), during the project (keeping information updated) and at its end (reporting results).

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

- **Creative Solutions:** Answer chosen by a group of experts to a need or problem described by the enterprise (Prahalad & Ramaswamy, 2004). It is then when the project finishes through a process of *design thinking* (Ambrose & Harris, 2010; Beckman & Barry, 2007; Design Council, 2007). Such process starts by knowing the problem/need/opportunity context. Then, there is an exploration to find opportunities, passing to a method of idea creation, focusing on the most convenient. The chosen idea is structured to be validated by pilot testing, and finally, it is delivered to the enterprise for implementation.

Model Principles

They consolidate relations among participant teams. They unite, strengthen and generate trust.

- **Identity:** Set of own social and interinstitutional features from a person or organization (Cooke, 1996). The more diverse the parties' personalities, the harder to reach common points of view, as well as the more interesting what is finally accepted as valid for everyone.
- **Trust:** Security environment (Cheikhrouhou *et al.*, 2013; Saiz- Álvarez, 2009). A secure environment is evident when people speak openly, and the information is shared without thinking others will use it for their own benefit. It is necessary to create an environment of honesty and transparency in order to have trust during the development of the project.
- **Agreements:** Consensus among parties (Euchner, 2014). Ways to achieve consensus must be agreed upon since the beginning of the project. Besides, the decision made must be accepted and supported by the team. There are mechanisms to reach agreements; leaders must propose different alternatives and the most convenient in order to avoid decision-making delays must be chosen by all.
- **Flexibility:** Easiness to participate and interact in the development of the innovation project, without the need of following lineal (Kumar, Tewari, & Singh, 1990). As explained for a manufacturing process by the authors cited, flexibility is necessary for collaborative projects in order to unite teams in different ways, different schedules, different objectives, etc. An organization or person can mobilize flexibly according to the project's convenience.
- **Commitment:** Being responsible for tasks (Pérez-Uribe, 2012, p. 276). Moving forward is not possible if the products required from the team are not delivered with the quality agreed at the beginning. Each person's responsibility is an acquired ethical duty. Everybody must agree to be responsible for his/her required tasks since the beginning.
- **Recognition:** To value people's work (Pérez-Uribe, 2010, p.183). Actions, products delivered, decisions and achievements have to be evaluated in order to have a right team environment. Recognizing others for their efforts will make the workplace a better place.

The model presented in this chapter has been successfully used in Bancoldex and many Colombian universities. The program has been developed as a class called "*Catedra Bancoldex*," which provides solutions to the country's business growth promoting the relation Academy-Industry-Government. Currently (2017) the following organizations are participating:

- **Industry:** enterprises that request support from the Program of Productive Transformation, "*INNpalsa*" and autonomous "*Bancoldex*" units.

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

- **Government:** *Bancoldex, INNpulsaa* and the Program of Productive Transformation.
- **HEIs:** *Universidad Externado, Universidad Uniminuto, Universidad Nacional, Universidad del Bosque, Universidad Sergio Arboleda, Universidad del Área Andina, Universidad Uniagustiniana, and Universidad EAN.*

OBJECTIVES

- **Objective 1:** To present how it works an open collaborative innovation model, that promotes the relation Academy-Industry-Government works.
- **Objective 2:** To validate the fact that “in order to keep these organizations and teams united and for them to join challenges of business innovation, it is necessary to recognize their efforts, their participation and contributions; thus, they will be able to come up with creative solutions to solve specific needs of the society”

METHODOLOGY AND STATISTICAL ANALYSIS

The model was validated with three groups: 1) Academy-industry-government experts 2) Bancoldex directors, y 3) Catedra Bancoldex students.

Model Validation With Experts From the Academy, the Industry, and the Government

Focus groups were performed to validate the proposed creation and design, this way, the perception that all groups of stakeholders involved in the model are perceived (Denzin, 1978). A group of experts on the topic presented uses focus groups to know the perception of a situation (Hair, Anderson, Tatham & Black, 2007; Weber, 2013).

The model was presented to four professors of innovation and to eleven professionals currently work as innovation directors or coordinators in the enterprises where they work. The activity was divided into three scenarios [1] to present the model, [2] to provide a sheet in which the experts could validate the importance of the model's dimensions, components and principles, and [3] to get the perception of each of the participants. Finally, a survey was applied to find out their perceptions about the dimensions, components, and principles of the model.

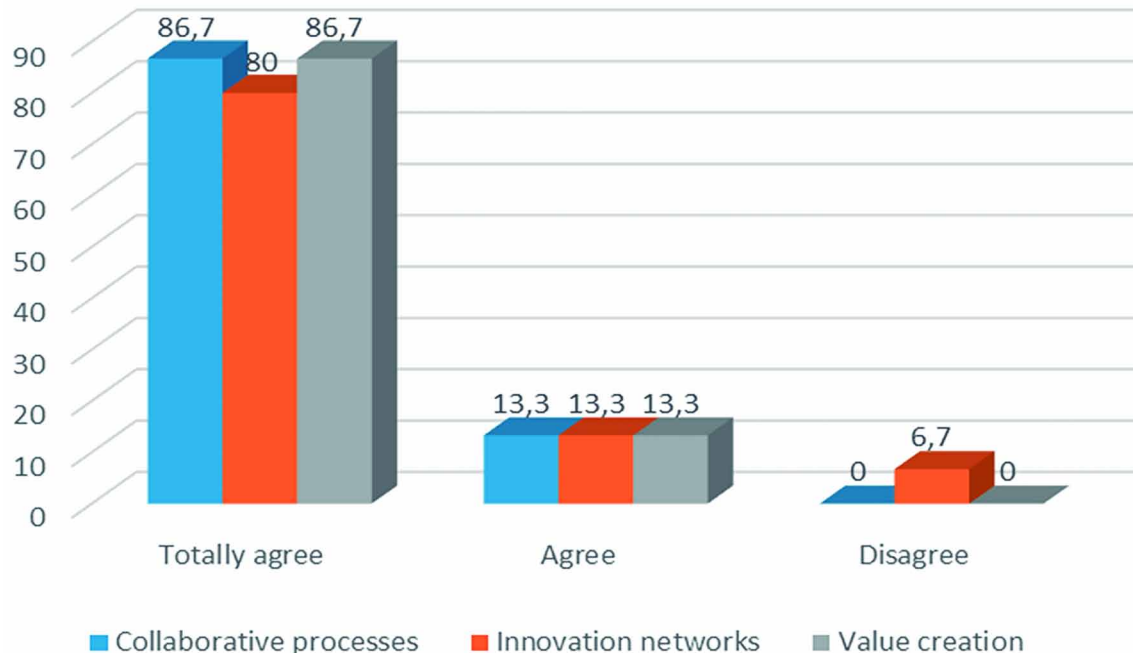
As Figure 4 shows, between 80% and 86.7% of experts considered the three dimensions of the model as pertinent and relevant. In the meeting with the experts, one of them thought innovation networks as irrelevant. Innovation networks boost business development. Therefore, such dimension was kept in the proposed model.

Figure 5 shows how communication and paradigm change where are components with the lowest percentages. However, experience in innovation processes shows that changing the way of doing things is at the core of innovation. Therefore, it is necessary to include paradigm change in the model. Besides, clear communication is essential to avoid misunderstandings when working in interdisciplinary and interinstitutional teams.

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Figure 4. Experts' perceptions about the model dimensions

Source: The authors



In Figure 6, trust has the highest value, showing how this principle is essential for Academy-Industry-Government projects. Along with the experts, it was suggested to include evaluation systems in the model; although they are involved in collaborative processes, it is better to make them more evident.

Consultations With Bancoldex Directors

Three meetings were conducted to test the perceptions about the model. The first meeting was with the leader of the unit of Direction of Innovation. He approved the model under the three dimensions scheme (collaborative processes, innovation networks, and value creation).

Then, the model was explained to the Administrative Vice President (direct boss of the unit of Direction of Innovation). He accepted the general scheme of the model; he also admitted its implementation as the “*Catedra Desafio Bancoldex- Bancoldex Challenge Chair-*” “Tool for the business growth of the country.” He suggested the model be explained before the Commercial Vice-presidency and the Presidency of Bancoldex.

Finally, there was a meeting with the Commercial VP. He expressed his total support for the project. Then, the Administrative V.P and the Director of Innovation went to the Presidency to obtain the approval for its implementation. After the approval was granted, the model was validated with the presidents of the universities that joined the “*Catedra Bancoldex.*”

In order to get strategic allies, the model was explained at many universities. During the conversations, university presidents showed favorable perceptions about the model. Among those who perceived it favorably were the presidents of “*Universidad EAN - EAN University-, Universidad el Bosque- El*

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Figure 5. Experts’ perceptions about the model components
Source: the authors

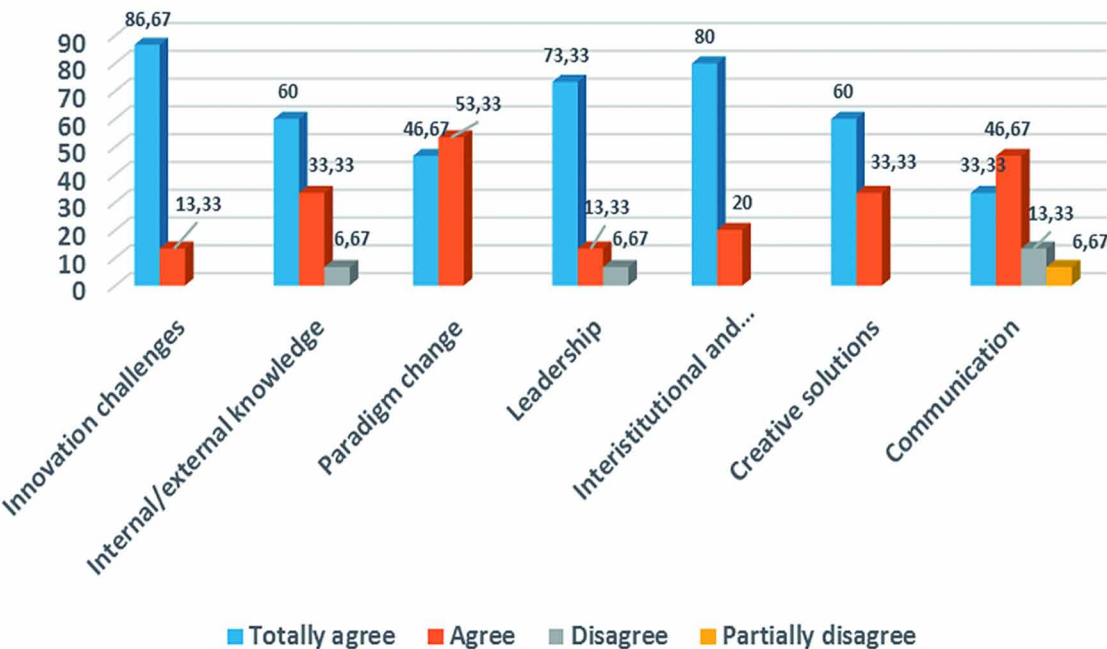
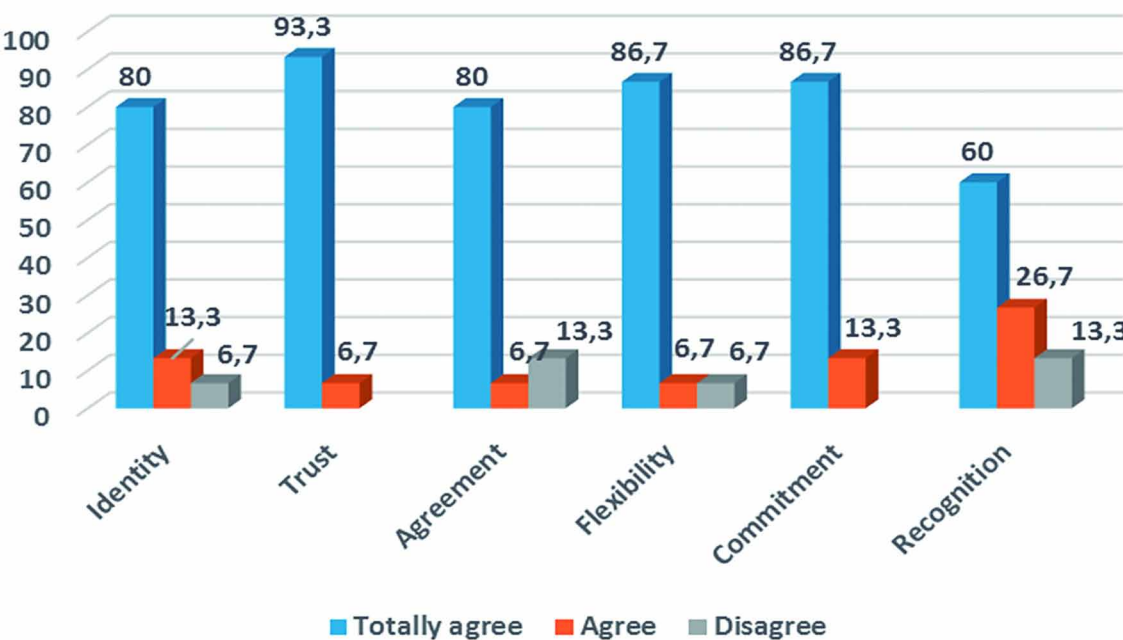


Figure 6. Experts’ perceptions about the model principles
Source: the authors



A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Bosque University, Universidad Uniminuto- Uniminuto University-, and the Escuela Colombiana de Ingenieria -Colombian School of Engineering-.

Model Validation With “Catedra Bancoldex” Students

The Open Collaborative Innovation Model has been successfully used in the “*Cátedra Bancoldex*” (Bancoldex Chair), and the “*Programa Desafío de Intraemprendimiento*” (Intrapreneurship Challenge Program) organized annually by EAN University. However, in order to develop new programs, it is necessary to validate the importance of interinstitutional and transdisciplinary teams due to the knowledge and creativity they bring to the solutions to business challenges.

To manage an open collaborative innovation project, interinstitutional and transdisciplinary teams must be backed up by the following variables: Innovation challenges, external knowledge, paradigm change, leadership, creative solutions, identity, communication, trust, agreements, flexibility, commitment and recognition (Ramírez- Salazar, 2016).

The previous affirmation was validated using “*Statgraphics Centurion*” (Statgraphics, 2017) (Statgraphics Centurion [Version 17.1.02.64-bit] is a statistical tool that allows performing complex procedures in a simple way. Its main advantage, compared to other statistical programs, is that it provides an interpretation of the results, providing users with a detailed idea of the meaning of the results obtained). A factor analysis was performed, concentrated on the most relevant variables with the highest relation with the dependent variable chosen (interinstitutional and transdisciplinary teams for this case). A multiple regression analysis was applied, selecting a dependent variable related to one or more independent metric variables (Hair, Anderson, Tatham & Black, 2007). The method “*Matriz de Impactos Cruzados - Multiplicación Aplicada a una Clasificación*” (Cross Impact Matrix - Multiplication Applied to a Classification) (MICMAC) (Pérez-Uribe & Vargas. 2015; Pérez-Uribe, Nieto, Vargas & Diaz, 2015) was used to collect data. The objective of the MICMAC Structural Analysis was to identify the primary influential and dependent variables.

A pilot testing was performed in four universities, with a total of 167 students participating. Given the fact that the total number of students enrolled was known, the size sample had to be calculated for a finite population, using the following formula (Pérez-Uribe, 2012a, p. 49).

$$n = \frac{NP(1 - P)}{(N - 1)\left(\frac{E}{Z}\right)^2 + P(1 - P)} \text{ .Being:}$$

P= percentage of participants to fulfill the validation of the proposed hypotheses (80%).

E= Error.

Z= Standard deviation of the normal distribution for a 95% confidence level

n= Ideal sample size

N= Sample size

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

$$n = \frac{167(0.8)(0.2)}{166\left(\frac{0.05}{1.96}\right)^2 + (0.8)(0.2)} = 99.737$$

A correlation for the finite population is required when there is non-replacement sampling for a finite population (Pérez-Urbe, 2012, p. 49). The corrector factor for the finite population was applied to the sample size.

Finite factor: $n = no / 1 + (no/N)$

Where:

$$n = 99,737 / (1 + (99,737/167)) = 62.44 \text{ students}$$

The sample needed to be was *62 students*. Finally, 110 students participated. The number of participants surpassed the statistical sample, having then higher levels of confidence.

One of the most relevant components of the Innovation Networks dimension were the interinstitutional and transdisciplinary teams, because of the interaction in open collaborative innovation programs to create solutions that add value to enterprises. Teams come from different organizations and areas of knowledge. Academic teams were proposed for “*Bancoldex*” in order to have undergraduate students collaborating with solutions to real problems related to the country’s business growth.

Hypothesis

Interinstitutional and transdisciplinary teams join open collaborative innovation projects because of their recognition and the creative solutions such projects generate the innovation challenged posed by enterprises.

Information Analysis

Statgraphics Centurion XIV provided 10 analysis. Each one of them determined how convenient was to eliminate variables. Commitment, paradigm change, external knowledge, agreements, identity, communication, leadership, trust, and flexibility were rejected (Tables 1, 2 & 3). Finally, it was found that *innovation networks, creative solutions, and recognition* had a P-value lower than 0.05, obtaining a confidence level of 95%. *Therefore, it was validated that such variables had the highest relation with interinstitutional and transdisciplinary teams.*

$$R^2 = 59.3785\%.$$

$$R^2 \text{ (adjusted for a number of degrees of freedom)} = 58.1954\%.$$

$$\text{Standard Error} = 4.30655.$$

A Triple Helix Model Based on Open Collaborative Innovation in Colombia*Table 1. Dependent variable versus other independent variables in the Innovation networks dimension*

Multiple Regression–Interinstitutional and Transdisciplinary Teams
Dependent Variable: Interinstitutional and transdisciplinary teams
Independent Variables:
Innovation challenges
Creative solutions
Recognition
Number of observations: 107

Source: the authors using STATGRAPHICS Centurion XVI version 16.1.11

Table 2. Parámetros variables en la dimensión de redes de innovación

<i>Parameter</i>	<i>Estimation</i>	<i>Standard Error</i>	<i>T-statistical</i>	<i>P value</i>
CONSTANT	8.24632	3.50308	2.35402	0.0205
Innovation challenges	0.267982	0.0856068	3.13038	0.0023
Creative solutions	0.220505	0.0967371	2.27942	0.0247
Recognition	0.325716	0.0625909	5.2039	0.0000

Source: the authors using STATGRAPHICS Centurion XVI version 16.1.11

Table 3. Variance analysis

<i>Source</i>	<i>Sum of squares</i>	<i>Gl</i>	<i>Mean squared</i>	<i>Statistical F</i>	<i>P value</i>
Model	2792.36	3	930.786	50.19	0.0000
Residue	1910.28	103	18.5464		
Total (Corr.)	4702.64	106			

Source: the authors using STATGRAPHICS Centurion XVI version 16.1.11

Table 4.

Multiple Regression–Interinstitutional and Transdisciplinary Teams
Dependent Variable: Interinstitutional and transdisciplinary teams
Independent Variables:
Innovation challenges
Creative solutions
Recognition
Number of observations: 107

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

Mean absolute error = 3.44939.

Durbin-Watson = 2.04496 (P=0.5913).

Autocorrelation of residuals in $r_1 = -0.0253147$.

Data shows the results of adjusting a multiple linear regression model to describe the relation between interinstitutional and transdisciplinary teams and three independent variables. The equation of the adjusted model was:

Interinstitutional and transdisciplinary teams = $8.24632 + 0.267982 \cdot \text{Innovation challenges} + 0.220505 \cdot \text{Creative solutions} + 0.325716 \cdot \text{Recognition}$

The P-value in the ANOVA table (Table 3) was less than 0.05. Therefore, there is a statistically significant relationship between the variables with a confidence level of 95.0%.

R^2 indicates that the adjusted model explains the variability between interinstitutional and transdisciplinary teams by 59.3785%. The result of the adjusted R^2 , more appropriate to compare models with different numbers of variables, was 58.1954%. The standard error of the residuals was 4.30655. The mean absolute error (MAE) was 3.44939, is the average value of the residuals. The Durbin-Watson (DW) statistic examines residuals to find out if there is any significant correlation based on the order in which data is presented; since the P-value was less than 0.05, such statistic was statistically significant, and there is no indication of serial autocorrelation in the residuals with a confidence level of 95.0%. To find out if the model could be simplified, it was noticed that the highest P-value was 0.0247, corresponding to the independent variable Creative Solutions. *Therefore, no variable was eliminated from the model.*

RESULTS

From the analyses, it is inferred that:

Interinstitutional and transdisciplinary teams = $8.24632 + 0.267982 \cdot \text{Innovation challenges} + 0.220505 \cdot \text{Creative solutions} + 0.325716 \cdot \text{Recognition}$

Interinstitutional and transdisciplinary teams are 58.2% (adjusted R^2 , more appropriate to compare models with different numbers of independent variables, is 58.1954%) explained by innovation challenges, creative solutions, and recognition. By strengthening these variables, it will be possible to keep adequate teams for open collaborative innovation project by such percentage.

CONCLUSION

The open collaborative innovation model is useful for interinstitutional, transdisciplinary teams so they could contribute with their knowledge for the benefit of programs that improve different industries of the economy. To design programs in which interinstitutional and transdisciplinary teams work united to

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

solve specific problems of each region is essential for a government that promotes systems of regional innovation.

It is proved that interinstitutional and transdisciplinary teams get involved in open collaborative innovation programs as long as they find challenges in which they can generate high impact solutions for the enterprises, and as long as their work and contributions are recognized.

Recognition to the work of interinstitutional and transdisciplinary teams must be methodic, systematic and public so that a record and ranking of solutions generated and later of solutions implemented must be kept by protocols institutionalized into the programs of open innovation programs.

The relation Academy-Industry-Government, also called triple helix, is a union of interinstitutional and transdisciplinary teams of the highest relevance for the development of national and regional innovation. It is without a doubt, one of the most valuable instruments that the academy, the industry, and the government have when they want to have collaborative projects. There are eight academy-industry-government committees in Colombia; they put together plans of research, development, and innovation in the regions, and receive funds from “Colciencias” through specific programs designed for such helix.

In concrete terms, this discussion and conclusions are aimed at strengthening the following variables that explain the success of the inter-institutional and transdisciplinary teams: Challenges of innovation, creative solutions, and recognition for the groups and people involved in the innovation process.

Regarding the challenges of innovation, the concept of open innovation in the productive processes of goods and services must be considered. This fact implies visualizing both the internal factors of openness as the work environment, tasks, organizational strategies, R&D capacity, technology, workers’ skills aimed at the development of the core business of each company, knowledge management and internal dynamic capabilities (just to mention a few). These internal variables are complemented with external factors that allow the link with the outer: economic, political, legal, environmental, technological and social (Ramírez and García-Peñalvo, 2018).

In terms of creative solutions, the managers of the organizations must generate the adequate conditions for teamwork, in such a way that the workers can provide solutions both for the resolution of problems that affect their areas and processes and for the continuous improvement of the same. In this sense they could work with the following methodology (López and Mendoza, 2016, Pérez-Urbe, 2012b): 1) Find, formulate or pose a problem (be aware of the issues in their area of work), 2) Generate a large number of ideas (Fluency and flexibility), 3) Provide unusual responses instead of typical or average responses or reactions (originality), 4) Add details to convert a simple premise into a more complex one (elaboration), 5) Analyze, synthesize and produce a response (Problem-solving), 6) Avoid rigidity when categorizing or classifying (Tolerance to ambiguity), 7) Deduct a correct solution to a problem (Convergent thinking) and 8) Produce various solution alternatives (Divergent thinking) .

With respect to recognition, as a third variable resulting from the analyses in this chapter, it can be said that as Kosfeld, Neckermann and Yang (2017) condense, recognitions interact with the meaning of working as a context factor. Their results confirm that providing workers with a greater awareness of the purpose of their work is a powerful tool to increase performance, almost the same as monetary incentives. This has great significance in the sense that managers must frequently talk with their workers and spend time with them communicating the value of their work. However, monetary incentives statistically increase performance and in an economically significant way. Some activities that could be carried out to generate the adequate conditions for workers to take advantage of the recognition could be (Jones, 2015):

A Triple Helix Model Based on Open Collaborative Innovation in Colombia

1. **Be Specific and Be Relevant:** A recognition is meaningful when tied to a specific accomplishment or business goal. Being specific helps employees relate the recognition to their behavior, encouraging continued strong performance.
2. **Be Timely:** Honor that is given months after the fact loses its meaning by degree. The longer it takes for managers to recognize employees, the more likely it is that the actions will be perceived as less authentic.
3. **Recognition Comes in Many Shapes and Sizes:** There is a great deal of research that indicates people are motivated by more than money, but monetary gifts can go a long way when recognizing employees. Beyond a bonus or a raise, consider personal gifts, tickets to events, or other purchases that show employees their reward is personalized to them.
4. **Little Things Go a Long Way:** While it is imperative to recognize significant accomplishments and milestones, every day thanks you can be just as, and sometimes more motivating, to employees. Writing handwritten notes or using the intranet to promote the right behaviors of individuals can help instill a regular culture of recognition. These thank you, and shout-outs do not have to come from managers alone; they can also come from peers, which some employees may find more motivating.
5. **Connect to the Bigger Picture:** Use recognition practices to help employees see that they are valued in the organization and an integral part of the success of their team, their department and the company overall. This is particularly key when organizations grow or change as it helps employees build a sense of security in their value to the company, motivating them to continue high-performance work.

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KEY TERMS AND DEFINITIONS

Bancoldex: Colombian bank focused on business development and foreign trade.

Collaborative Open Innovation: It includes bilateral collaborative relationships between a company and others organizations, groups, or persons who pursue common goals.

Millennials: A generation of people who reached its adult stage after the year 2000. It includes different generations: Y generation (1979-1995), Z generation (1995-2009), and Alpha generation (2010 onwards).

Networks: A group of people interconnected using different technologies, aimed at sharing resources and knowledge.

Open Innovation: It consists of an innovation strategy by which companies receive external organizations or professionals ideas.

Transdisciplinary Teams: Teams that communicate to express and exchange ideas, working together in a group focused on the same problem.

Triple Helix: It deals with the potential for innovation and economic development in a Knowledge Society formed among universities, industry, and government.

Section 2

Entrepreneurship

Chapter 12

Dangerous Liaisons?

Ethical Challenges on Entrepreneurship in Family Business

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ABSTRACT

Entrepreneurship is an essential engine for economic growth and innovation. During the last two decades, there has been a lot of academic interest in this kind of activity but only recently has research attention been devoted to the ethical problems encountered by entrepreneurs and intrapreneurs. In this chapter, the authors highlight the ethical issues inherent to family firms. Intrapreneurs in a family business face uniquely moral problems related to fundamental fairness, succession process, copyright and brand use, and other challenges. For example, younger generations in family firms face a tricky balancing act between their loyalty to their families and finding new ventures or spin-offs based on the current business. This theoretical work aims to present some contemporary research in entrepreneurial ethics, examines the kinds of ethical dilemmas entrepreneurs and intrapreneurs face, identifies significant research topics and methodological approaches, and discusses possible directions for future research.

INTRODUCTION

Today, many entrepreneurs are admired, but some of these business leaders are also often perceived as people who would do almost anything to succeed. Entrepreneurs today encounter uniquely challenging ethical problems. They typically operate in stressful business environments, and they often struggle to find time and perspective to focus on ethical reflections. Entrepreneurs make choices and take actions that affect many people, as suppliers and employees usually without the moral guidance available in established organizations. Their decisions can strengthen or severely weaken a firm's future.

DOI: 10.4018/978-1-5225-5837-8.ch012

Dangerous Liaisons?

Working long hours and sometimes isolated from others, entrepreneurs may not adequately consider the ethical consequences of their own decisions and their firm's activities. Entrepreneurs face complex moral problems related to fundamental fairness, personnel and customer relationships, honesty in communications, distribution dilemmas, and other challenges. However, what about intrapreneurship? Are intrapreneurs facing the same ethical issues? If that is the case, how might they efficiently be understood and addressed?

Because of the nature of intrapreneurship startups, many of these ethical problems are often new to the young organization. During the past twenty years, there has been an explosion of new interest in entrepreneurs and their activities. Scholars and business professionals currently study the entrepreneurial process from many different perspectives. Only recently, has serious research attention been devoted to the ethical problems faced by both entrepreneurs and intrapreneurs (Freeman & Venkataraman, 2002).

Entrepreneurs have begun to voice their own need for practical moral guidance. In recent years, authors have examined whether or not the ethical problems faced by entrepreneurs are notably different from those encountered by other businesspersons. Some researchers had acknowledged substantial uniqueness in entrepreneurial morality. Entrepreneurs can face new ethical dilemmas because of the introduction of new technologies (Hannafey, 2003). In addition, the demands of innovation and competition may complicate moral thinking and behavior in intrapreneurial environments.

There is significant diversity among entrepreneurs and the kinds of businesses they start, and it is often difficult to distinguish between entrepreneurs and small business owner-managers.

Researchers must also deal with the general hesitancy of businesspersons to participate in ethics studies. Nevertheless, since entrepreneurship is vitally important to the world's economy and human welfare, carefully designed and well-executed ethics research is needed to assist economic policymakers and individual entrepreneurs.

This chapter aims to examine contemporary research in entrepreneurial ethics. The objective is to identify and prioritize critical ethical issues and essential patterns in the present investigation and discuss new directions for future study, specifically in the intrapreneurship field. This work focuses more directly on the right situations encountered by entrepreneurs and organizations. First, the authors review the literature that considers the importance of entrepreneurship and family firms. Then, they present a conceptual framework in describing a startup or new venture creation inside a family business. Afterward, this work reviews leading issues and essential research approaches in entrepreneurial ethics. Finally, authors discuss possible directions for future research.

LITERATURE REVIEW

The Importance of Entrepreneurship

Entrepreneurs play an essential role in our world (Baijal, 2016). They carry out economic tasks that increase employment, create new organizations, uncover new production processes and perform other business activities that improve material well-being. Entrepreneurship is a creative and dynamic activity that brings together labor, capital, and businesses know-how (Brenkert, 2002).

Over the last three decades, there has been an increasing interest in entrepreneurship and new business creation because they are seen as determinants of innovation, economic growth and prosperity (Rueda et al., 2014; Joensuu-Salo et al., 2015; Hallam et al., 2016; McNally et al., 2016). During the 1980s and

Dangerous Liaisons?

1990s, many authors studied entrepreneurship as a primary force for economic development. Researchers continue to explore the central role entrepreneurs play in market processes (Davidson & Ekelund, 1994; Osborne, 1994). While entrepreneurship has been acknowledged as one of the most critical factors in global economic development, not surprisingly, there is broad disagreement among economists and business scholars about its precise relationship to such event.

Entrepreneurship and economic advancement in developing regions of the world remains a significant topic in the literature (El-Namaki, 1988; Jarillo, 1989; Harper, 1991). These studies often link discussions of entrepreneurship with moral deliberations about economic justice and the urgent need for development in many regions of the world. Baumol (1986) proposes that it is necessary to distinguish between two primary types of entrepreneurship to understand how economic development occurs. He suggests that “the initiating entrepreneur” was primarily responsible for unprecedented economic growth during the nineteenth and twentieth centuries while “imitative entrepreneurship” holds the key to economic advancement in developing countries today.

In his classic study, Baumol (1986) describes “imitative entrepreneurship” as the diffusion of innovations after they are first introduced by “initiating” entrepreneurs. In this view, initiating entrepreneurship involves the creation of new products, new production techniques, or procedures not previously known or available. This author suggests that true “initiating entrepreneurship is relatively rare. Imitative entrepreneurship occurs after “initiating” entrepreneurs have successfully demonstrated the utility of their innovative product or process. Imitative entrepreneurship is more likely to improve economic life in developing countries.

Some other studies have explored the overall relationship between entrepreneurship and employment growth. Kirchoff (1987) concludes that entrepreneurial firms “create the vast majority of net new jobs” and “may be the source of most economic growth.” As regions of the world continue to forecast future job growth needs to maintain economic health in their societies, entrepreneurs may be called upon to embrace greater moral responsibilities concerning employment issues.

Not only a value-creating process that can lead to positive economic growth and development, but entrepreneurial innovation itself also raises complex moral questions for society. The novelty of entrepreneurs can even bring about significant economic and social harms. Schumpeter (1942) has offered not only the first but also the most popular explanations of this problem. According to this author, entrepreneurship both “creates and destroys” fundamental economic structures in the economy; he describes entrepreneurship as the driving force of market capitalism that “incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.” Successful entrepreneurs change previously existing economic structures. The result may be severe harm to the financial health of established organizations and adverse effects on employment. The social damage that results from entrepreneurial processes is difficult to assess in moral terms but may include economic loss, unemployment, loss of income security, the breaking up of existing organizations, and environmental degradation.

Another pioneer in this field, Etzioni (1987) explores the social functions of entrepreneurship and suggests that entrepreneurs “change existing obsolescent societal patterns.” For this author, entrepreneurship contributes to society and “the economy embedded within it.” The degree of change that entrepreneurs bring about depends upon the levels of legitimation afforded to entrepreneurship in that particular society. This author may provide an essential ethical framework upon which communities can begin to address the practical moral implications of entrepreneurship more directly. Organizations that give high

Dangerous Liaisons?

levels of legitimization to entrepreneurship may also need to find ways to deal with questions of social ethics that will undoubtedly arise.

Although potential social harms may result from entrepreneurial activity, it is still clear that entrepreneurs perform necessary – often essential – business tasks in society. Because of the importance of their economic functions, it is appropriate to ask whether entrepreneurs have particular moral obligations to society. An explicit focus on ethical perspectives or approaches to ethics could potentially enrich our current economic theories of entrepreneurship. For instance, Sarasvathy (2002) suggests that the traditional financial frameworks employed to discuss entrepreneurship are limited in their usefulness, and therefore should be discarded in favor of a new, more imaginative economic context that better incorporates the ethical demands of entrepreneurship within society.

This chapter consistently raises some critical questions: Should society treat entrepreneurs differently because of the essential tasks they carry out in the economy? Should ethical standards of entrepreneurial behavior be different from those guiding businesspersons in established organizations? Do entrepreneurs have unique or unusual moral obligations? What, if anything, is distinctive about the ethical problems encountered by contemporary entrepreneurs? Is there some special consideration for entrepreneurs in family firms? These and related questions are considered in the research literature that focuses more directly on the ethical concerns of individual and family entrepreneurs.

Ethics and Entrepreneurship

One of the first investigations of ethics in smaller firms was conducted by Brown and King (1982), looking at how the ethics of small business people compare to those of managers in larger companies and the general population. Their study suggests that across the board, people view individuals in small business as having the highest ethical standards, with all groups of respondents ranking small business people higher than physicians, corporate employees, and government officials. An exciting aspect of this study involves the fact that respondents rank ordered the ethics of each group based on their perceptions but respondents were not asked about their actual level of knowledge or the basis for their impressions of each group. Misconduct by large corporations and government officials frequently appear in the media so that may account for respondents perceiving these two groups as having lower ethical attitudes. The study also relied on small business people rather than entrepreneurs.

Researchers continue to examine how entrepreneurs reason about the ethical problems they encounter. Teal and Carroll (1999) conclude that independent-thinking entrepreneurs may exhibit slightly higher levels of moral reasoning skill compared to middle-level corporate managers. In this exploratory study, the authors conducted an empirical research on entrepreneurs to measure levels of moral reasoning skill.

Similarly, Hisrich (1998) concludes that while entrepreneurs and managers are in general agreement on many ethical issues, in some areas “entrepreneurs consistently placed a greater emphasis on ethical behavior.” According to him, personal values may strongly influence how entrepreneurs reason about and act upon, the ethical problems they encounter. This author compares the ethical views and perceptions of entrepreneurs with managers when confronted by particular business situations. Finding more similarities than differences between managers and entrepreneurs, Hisrich suggests that entrepreneurs demonstrate “stronger ethical perceptions about their relationship to the businesses in which they were involved.” For example, he finds that a higher percentage of entrepreneurs believe that “it was not ethical to use company services and supplies for personal use.” When asked to decide on the ethics and legality of particular business situations, this author suggests, “entrepreneurs were more critical than

Dangerous Liaisons?

managers, but only slightly.” One interpretation of this finding is that the broad personal engagement of an entrepreneur in his or her firm’s activities may heighten sensitivity to some types of ethical issues.

Direct financial gain is one area where entrepreneurs may be different in their ethical perspectives compared to other businesspersons. Longenecker, McKinney, and Moore (1989) find that entrepreneurs are more likely than others to “approve of actions that maximize personal financial rewards” even in situations when these rewards come at the expense of others.” If entrepreneurs demonstrate different ethical behavior in financial matters, this may be explained by the severe capital and liquidity constraints faced by many new ventures. Startups must often manage very tight cash flows, and this fact may influence an entrepreneur’s moral perceptions and judgments about financial matters. Researchers continue to examine the degree to which independence and autonomy may characterize the moral stance of entrepreneurs when confronted with ethical dilemmas.

Entrepreneurs are required to manage many changing personal relationships essential to their new ventures. Family, friends, employees, former business associates, investors, and others form a crucial social network within which entrepreneurs carry out their work.

Dees and Starr (1992) suggest that entrepreneurs encounter various relationship dilemmas that may lead to complex ethical problems. This may be especially true when “roles and relationships change from their pre-venture to their post venture status.” An entrepreneur’s relationship with a family member or friend will change if these persons become investors in the new venture – and so likely will associated moral. Changes in an entrepreneur’s relationships may also lead to potential conflicts of interest. Furthermore, entrepreneurs tend to face ethical dilemmas involving their values, organizational culture, employee well-being, customer satisfaction, and external accountability (Payne & Joyner, 2006).

Entrepreneurs adopt different social strategies to secure the startup resources. Family members, friends, and former business associates are often early investors in new ventures. There are particular complications, both financial and moral when parents and family members lend money to new startups. Starr and MacMillan (1990) provide evidence that “social transactions” play an essential role in raising resources for new ventures.

Relationship dilemmas that result from entrepreneurial resource development raise difficulties for entrepreneurs who may have a built-in-bias against ongoing relationships they perceive to be constricting. One early study suggests that entrepreneurs tend to enter into “instrumental” or “transactional” relationships. Collins and Moore (1970) proposed that a transactional model best describe the relationships of entrepreneurs with others. These authors found that entrepreneurs learn early in their careers about “the transactional model of interpersonal relations . . . That no relationship need carry with it a continuing commitment. . . [and that] . . . relationships are to be entered into only as long as they are of benefit”.

Collins and Moore (1970) suggest that entrepreneurs proceed through patterns of “severing restrictive and unprofitable relationships.” Entrepreneurs who relate to others in transactional or instrumental ways – regardless of consequences to creditors, investors, employees, and others – will likely face conflicts with the basic principles of ethics that persons should never be treated as a means to an end but must be treated as ends in themselves. Relationship dilemmas represent some of the most challenging and complex ethical problems faced by individual and family entrepreneurs. In the next sections, the focus will be on family firms.

*Dangerous Liaisons?***The Importance of Family Firms**

Nowadays, family owned or managed business “is perhaps the dominant form of enterprise worldwide” (Barnett & Kellermanns 2006: 837). Families control the majority of businesses around the globe and are important contributors to national and local economies. Compared to the U.S., “family influence is even greater in other parts of the world.” (Steier et al. 2004: 295). Families control approximately 80% of businesses over a broad range of industries and sizes (Gomez-Mejia et al. 2003). Even though the majority of FBs are small and medium sized, they constitute 35% of the S&P 500 Industrials and 33% of the Fortune 500 (Anderson & Reeb, 2003). The proportion of family businesses to registered companies exceeds 50% in the EU while comprising more than 95% in the U.S. and ranging between 65–90% in Latin America. In terms of economic significance, “Family businesses generate between 35 and 65% of the gross national product of the EU member states, about 40%–45% of the GNP of North America, between 50% and 70% of the GNP of Latin America, and between 65% and 82% of the GNP of Asia.” (PWC, 2016).

Many authors offer different definitions of “family business”, from the simplest concept in which a company is classified as a family business on the basis of the perception of its owners or managers, to others which consider variables such as ownership, management, involvement of the family in the business, continuity, etc (Cano, Fuentes & Vallejo, 2017).

Family firms are characterized by some degree of family ownership, management, and sustainability, as well as by the controlling vision of a dominant coalition of family members. Family firms are not homogeneous, however, and may differ in a variety of ways, including, but not limited to, their ownership concentration, intergenerational involvement, and stage of business development. The unique interactions among the family unit, the business, and individual family members must be taken into account when studying family firms (Aldrich & Cliff, 2003; Habbershon et al., 2003).

Family-owned firms are the primary and most important form of business organization in Latin American countries (Ramírez, Baños & Rodríguez, 2017). The presence of family groups among owners of such businesses is notable (Santiago & Brown, 2009), with control being exercised through the use of pyramidal structures that enable controlling shareholders to separate their voting and cash flow rights (Mendes & Mazzer, 2005). The family who owns the business usually plays an active role in management, with over 90% of the 33 largest companies in Latin America being family-owned and managed in the early 2000s (La Porta et al., 1999).

Family businesses generate 60% of Latin America’s GDP and employ 70% of the workforce in the region. If the management of these companies is broken down into generations, it can be seen that the first generation manages 47%, 29% of the second generation, 14% are jointly managed by the first and second generations simultaneously, and only 10% are led by the third or fourth generation (E&Y, 2017).

In Latin America, family firms are smaller and younger than their counterparts in the rest of the world; almost half of them are in fact first-generation controlled. Research shows that there is both centralized decision-making and a lack of strategic planning (Durán & San Martín, 2013). This situation implies a significant problem for Latin American entrepreneurs because they need faster and more modern organizational systems to compete globally. However, only 15 years ago, it was unusual for a Latin American family company to have an international presence. Since then, several regional champions have internationalized their businesses in a series of well-planned opportunistic moves. They also experience family conflicts in the course of their day-to-day operations, with the younger generations facing more ethical challenges than the founders (García Fuentes, 2015).

Dangerous Liaisons?

As reported by Castañeda (2000), in most Latin American family firms, the president of the Board of Directors is the principal stockholder and the general manager, who therefore experiences little in the way of opposition from independent board members. This author shows that, on average, only 20% of firms allow a majority of external members on the board, and this fact does not necessarily mean independence since those outer members can also be involved with another company within the same business group. Besides, an average of 35.2% of board members belong to the president's family, while 38.7% are executive managers and around 57% are employees or relatives of the president. 76% of family firms lack policies regarding succession, and in 78% of these kinds of companies, family members do not compete with other candidates for a position in the business (Durán & San Martín, 2013), and that is not an ethical behavior, contradicting their values, as the authors will review in the next section.

Family Firms and Their Values

Some work values are particular to family business such as those associated with succession and performance, mainly because the founder exerts so much influence on the firm, including its values, and performance is one way to evaluate the effect of values on family business.

According to an international family business survey conducted by PricewaterhouseCoopers (PWC, 2016), when asked what one lasting achievement they would like to stand as their legacy, respondents spoke of international expansion, of creating a market leader and even of building a billion-dollar business. Undoubtedly, this increase of family business will further affect global business values.

Family businesses enjoy advantages as research indicates they have higher "profits and valuations and certain values stand out such as quality and loyalty" (Kwak 2003: 12). This is attributable to family management and the family's identification with this active management as well as the business (Ibid.: 12). In fact, shared values such as loyalty, respect, honesty and trust (Haugh & McKee, 2003: 141) as well as the family identification or "belonging" (Ibid.: 141) may define the family business culture. According to Miller et al. (2008), from a "stewardship" perspective of organizations, "the owners and managers of family businesses have an unusual amount at stake because of the deep connections between the family and the business." Also, in many cases, the business is seen as "a vehicle to nurture the family in the future where it may provide careers, security, and a place in the community for several family members" (Miller et al. 2008: 52). There appears to be an essential background of values that unite and guide the family business. However, "there is a dearth of conceptual and empirical research on ethics in family businesses" (Adams et al. 1996: 157).

According to the same survey made in twenty-eight countries (PWC, 2016), when asked what one lasting achievement they would like to stand as their legacy, respondents spoke of wanting to establish companies that will stand the test of time. Other universal values expressed in the study include the importance of behaving in an upright fashion, of developing a culture of honesty, of leaving a company that possesses integrity. The founders interviewed also express they want to be remembered as someone who helped to build an ethical business. Still, others spoke of wanting to make improvements in the existing social and environmental order, whether to reduce the level of crime, support the local cancer clinic, or deal with issues of ecological sustainability. According to the PWC study, what drives most family business owners is the desire to leave something worthwhile for the next generation or to give back to the community.

Indeed, while business must continually adapt to its competitive environment, specific core values remain relatively steady and provide guidance in the process of strategic decision-making. These

Dangerous Liaisons?

unchanging values are the core of the business vision and they are expressed in the company mission statement. For example, six core global values have been identified in Schwartz's comprehensive study of past research that includes a survey of global family businesses and the values in their mission statements. These six values are pervasive across cultures as found in three identified sources of business ethics—business ethics scholarship, corporate and global ethics codes (Schwartz, 2005). Many of these universal values exist among the core values of a worldwide family business: trustworthiness, respect, responsibility, fairness, caring and citizenship.

Family business scholars have identified two critical sets of factors that separate family firms from nonfamily firms and differentiate among family firms. The first, rooted in the resource-based view of the company, suggests that the essence of a family firm is its “familiness” (Habbershon & Williams, 1999), which can be captured by focusing on the idiosyncratic bundle of resources and capabilities that result from the interactions among the family and business systems. The second is concerned with the involvement and influence of the family on the enterprise and its members (Astrachan et al. 2002; Klein et al. 2005), and it is comprised of power, experience, and culture (PEC). Familiness is a concept that deserves a complete section in this work.

The Influence of Family in Business: Families

The involvement of family members in business gives rise to an idiosyncratic resource called familiness, which is widely accepted and studied in academic and non-academic business literature (Pearson et al., 2008; Rutherford et al., 2008; Zellweger & Kellermanns, 2008). Even though familiness helps to differentiate family businesses from other forms of companies, scholars do not fully understand the nature of familiness nor the components of this construct yet (Chrisman, Chua & Steier, 2003; Moores, 2009).

Habbershon and Williams (1999) suggest that family involvement leads to familiness, which can be viewed as a unique, inseparable, and synergistic resource and capability arising from family participation and interactions. Chrisman, Chua, and Litz (2003) later described the concept as the “resources and capabilities related to family involvement and interactions” (468). Familiness is proposed as a source of competitive advantage that generates substantial wealth and creates value. For this work, *familiness describes the positive influence of family involvement in the company* (Pearson et al. 2008).

Different authors called for research to identify the uniqueness of family firms, focusing on how family involvement is an essential element of company distinctiveness (Sharma, 2008). Zellweger et al. (2010) contend that familiness is a multi-dimensional construct that needs to be better understood as it can affect the competitive advantage of family firms. The full specification of the familiness construct remains an active area of research (Pearson et al. 2008).

For our purposes, familiness can be viewed as a continuous concept ranging from firms with very high family involvement having a robust familiness resource set (i.e., many unique family firm resources) to companies with no family involvement and thus having no familiness resources. Characterizing familiness as continuous rather than strictly a dichotomy between family and nonfamily captures the variability of familiness as a resource across family firms (Habbershon et al. 1999). Furthermore, this characterization helps capture the overall unique essence of family firms, in line with other researchers who have employed similar concepts of family involvement, family influence, and family control (Konig et al., 2013). Some scholars have recently proposed that, considering the dynamics of overlapping family and business systems, organizational identity may be a vital source of competitive advantage for family firms (Sundaramurthy & Kreiner, 2008: 416).

Dangerous Liaisons?

The authors agree with Irava and Moores (2010) that familiness is composed of three main dimensions: human resources (reputation and experience), organizational resources (decision-making and learning), and process resources (relationships and networks). The research of these authors attempted to identify what resources or resource category had more relation to familiness. They described a case-study methodology of four family-owned firms with similar characteristics, conducting interviews with family members in those companies using three distinct categories: physical, human and organizational. Irava and Moores employed these specific divisions in accordance with the distinctions made by Barney (1991) who also defined resources as “all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a company that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness” (Irava & Moores, 2010: 102).

Familiness has been found to have positive (Tokarczyk et al. 2007) and negative (Leenders & Waarts 2003; Stewart 2003) effects on company performance. Habbershon et al. (2003) refer to these positive and negative outcomes as arising due to the distinctive and constrictive natures of familiness. However, the field has yet to determine the conditions and factors that cause the specific results (Chrisman, Chua & Steier, 2005).

The authors of this chapter argue that first generation are more apt to result in performance advantages when the family is more involved in the firm. This is probably due to the “founder effect” of first-generation family firms. Founders, by definition, are entrepreneurs (Salvato, 2004). The founder built the business out of nothing, knows the business better than anyone and sees the business as a vehicle to nurture the family in the future (Miller et al., 2008). Also, the founder is looking for more skills or other attributes to increase his own and the firm’s welfare and to enhance the family reputation (Block et al., 2011). Some researchers, such as Adams et al. (2009) and Fahlenbrach (2009) found a positive impact of the family founder CEO on the firm performance. Founder successors may follow the same strategy as they see the firm as a heritage that may be preserved. Although due to less status and power compared to founder, they may be less devoted to the business (Breton-Miller et al., 2011). Family managers may enhance family socio-emotional wealth at the expense of financial performance (Block et al., 2011; Gomez-Mejia et al., 2007). Therefore, the firm valuation may be diminished.

On the other hand, some authors argue that descendant-controlled firms are more efficient and profitable than founder-controlled companies even though founder-controlled businesses tend to grow faster and invest more in capital assets and research and development (McConaughy & Phillips, 1999). However, recent studies have shown that founder-led family firms outperform nonfamily firms as well as family firms led by later generations (Miller et al., 2007). As such, first-generation family firms are unique in that they are headed by entrepreneurial founders who recognized a business opportunity that they were able to exploit through the creation of a new business (Aldrich & Cliff, 2003). In turn, these founders may be most capable of utilizing their firm’s capabilities to further its success. Being entrepreneurs, many founders can create companies that stress the continuous exploitation of core competencies, thus remaining successful, entrepreneurial, and growth-oriented. As such, founding generations may be best able to capitalize on their human, organizational and process resources.

Founders, as well as subsequent generations, will evolve and also the environment in which they are living. This evolution and permanent change may lead to conflicts in the way the company will be run. Usually, this disputes, related to the management style, are linked to the way the family members understand concepts as business ethics, culture, and values.

*Dangerous Liaisons?***Family Intrapreneurship and Ethics**

Intrapreneurship is about a mother-company providing a support system – technical, operational, emotional and financial – to an intrapreneur who starts a new venture (Richoufftz, 2016). Another term for intrapreneurship is corporate entrepreneurship. Corporate entrepreneurship occurs when an existing medium or large sized firm begins a new venture within the context of their current corporation. However, corporate entrepreneurship represents a separate stream of research because of unique characteristics of the phenomenon.

Corporate entrepreneurship differs in several critical ways from an individual starting a venture independent of a corporation. Employees within an existing firm who want to start a new venture must successfully sell their idea to upper-level managers, acquire essential resources within the business, and meet the corporation's goals for the new venture as well as their purposes. They operate within an established organizational structure, a longstanding culture or climate related to ethical behavior and sometimes governed by codes of conduct.

Corporate entrepreneurs often have access to more resources since the corporation has deeper pockets and a more substantial talent pool. A significant distinction involves the fact that a corporate entrepreneur will typically still have a job even if the new venture fails: the employer will find another opportunity or position for the employee. This makes corporate entrepreneurship unique in many ways compared to entrepreneurial ventures started by independent entrepreneurs. Researchers have developed separate models predicting corporate entrepreneurship (Dess & Lumpkin, 2005; Zahra, 1991).

Businesses with an intrapreneurial posture are distinctive because of their efforts to be creative, break down barriers, and develop an ecosystem for innovation. Companies of all types are seeking to become more intrapreneurial. This can be seen in the development of new campus-style workplaces that deliberately encourage people to mingle across disciplines and come up with new projects.

Family businesses often start out as entrepreneurial ventures with a single family member creating the new venture; however, many family businesses operate for some years and move out of the entrepreneurial category when the founder's children, grandchildren or other relatives begin running the business. Some family businesses start out with multiple family members on the new venture team, creating unique issues and dynamics (e.g., family members may share ownership and profits while nonfamily managers do not) relative to entrepreneurial ventures started by a single entrepreneur or by unrelated individuals.

The concept of 'family intrapreneurship' includes the additional element of different generations working hand-in-hand on intrapreneurial ventures, with the next generation being empowered to create and deliver new sources of sustainable growth. The younger people can legitimately feel they are running their venture, with all the risks and benefits of being a first-mover. They are doing this within the context of the family business rather than being completely separate from it.

Nevertheless, it is essential to understand how different generations of the same family behave, sometimes at the same workplace, working together. With that purpose, the Ethics Resource Center (ERC) published a study titled "Generational Differences in Workplace Ethics" (Verschoor, 2013). The research examines the differences in attitudes toward ethical issues among four generational groups. The four generational groups discussed in the survey are Traditionalists, Baby Boomers, Generation X workers (Gen Xers), and Millennials or Generation Y workers (Gen Yers).

Traditionalists, born 1925-1945, are hardworking, respectful of authority, and value loyalty. Baby Boomers, born 1946-1964, are hardworking, idealistic, and committed to harmony. Gen Xers, born 1965-1980, are entrepreneurial, flexible and self-reliant, and comfortable with technology. Millennials, born

Dangerous Liaisons?

1981-1995, are tech-savvy, appreciative of diversity, and skilled in multitasking (Verschoor, 2013). We can add the Generation Z, born between 1996 and 2010, they never knew a world without smartphones and social media, so it is even more ingrained in them than millennials. Finally, Alpha generation, born after 2010. Some of the negative traits and workplace attributes widely assigned to each cohort include:

- **Traditionalists:** Conformers who resist change are disciplined and pragmatic, work and family life never coincide, dress formally.
- **Boomers:** Self-centered with a sense of entitlement, workaholics, self-motivated, do not appreciate the feedback.
- **Gen Xers.** Lazy, skeptical and cynical, question authority figures, desire for a work-life balance and flexible schedule, work dress is at the low end of business casual.
- **Millennials:** Lack basic literacy fundamentals, very short attention spans, not loyal to the organization, demand immediate feedback and recognition, integrate technology into the workplace, expect to have many employers and multiple careers, work dress is whatever feels comfortable.
- **Generation Z (Centennials):** Is less interested in sharing their lives for the public record than Millennials. Anonymous social media platforms like Secret and Snapchat are more appealing to gen Z than Facebook. Gen Z is a more cautious class that steers away from risky behaviors and towards more sensible careers and choices (Scott, 2016). Therefore, this generation could be more conservative taking risks, and that could be an impediment to grow the family business.
- **Alpha Generation:** The oldest member of this generation is only eight years old; that is the reason they are not included in the traits in the workplace like the generations previously mentioned. This new generation has not even established credit, and yet they are impacting the spending behaviors of their millennial parents (Carter, 2016),

According to this research, the differences in attitudes and traits have resulted in a great deal of variability in many of the measures of workplace ethics. The study found that the youngest workers are significantly more likely than their older colleagues to feel pressure from others to break ethical rules because the pressure “eases as workers spend more time in the workforce and learn ways of coping with their work environment.” (Verschoor, 2013).

Another finding in the generational study was that younger workers had observed ethical misconduct in the workplace during the previous 12 months than their older colleagues. This is despite the fact that Millennials found significantly fewer examples of using company time to conduct personal business than did those in older generations. The study explains this last phenomenon is mentioning that younger workers tend to integrate their work and own lives.

While earlier studies have shown that younger workers were less likely to report unethical behavior, the latest report shows a sharp increase in Millennials’ reporting. Millennials observed 49% of workplace misconduct, the highest of all generations. The types of misconduct found include personal business on company time (26%); lying to employees (22%); abusive behavior (21%); company resource abuse (21%); and discrimination (18%). Of those Millennials who observed unethical response, 67% of them reported the misconduct, which included: stealing or theft (74%); falsifying expense reports (71%); goods/ services fail to meet specifications (69%); falsifying time sheets or hours worked (68%), and offering improper payments/bribes to public officials (67%). All age groups tend to inform their supervisors, whom they know well and can trust, about misconduct they observed. Only a small percentage of workers went outside their organizations with their initial complaints. Millennials are the group most likely to report by using the hotline option.

Dangerous Liaisons?

The study found that younger workers were significantly more likely than those in older generations to feel some form of retribution or retaliation. Perhaps the most surprising and disturbing result in the generational analysis is the relatively high percentages of Millennials who consider specific behaviors in the workplace to be ethical. Behaviors like upload personal photos on a company network (26%); keep copies of confidential documents (22%); work less to compensate for cuts in benefits or pay (18%); buy personal items using a company credit card (15%), blog or tweet negatively about a company (14%); take a copy of work software home for personal use (13%).

This description of misbehaviors performed by Millennials are shocking and with a lot of fatal consequences, because they will become the next generation in charge of family firms or could be the founders of new ventures.

Ethics and New Ventures

Depending on the type of enterprise (manufacturing, retail, service, etc.) or the kind of industry, start-ups are usually small, always changing, and their cash flows are limited. Start-ups organizations can be highly stressful and even volatile business environments – and the success or failure of the new venture itself may depend on the market acceptance of a single new product or service. Start-up organizations may also encounter leadership and managerial difficulties when some partners are present. The existing research often considers how the characteristics of entrepreneurial organizations may influence the ways persons in them deal with ethical issues.

The ethical culture in start-ups is usually undeveloped. Founding entrepreneurs can significantly influence a new venture's ethical climate. They set an initial moral tone and a fundamental approach to handling ethical issues in the organization and can introduce sound and creative approaches to ethics from the very start of the new venture. The unique dynamics within startup organizations often require entrepreneurs to handle strictly different viewpoints of a variety of persons and to resolve internal problems.

Some authors have suggested that these kinds of challenging management experiences may strengthen and enhance an entrepreneur's ethical awareness and decision-making skills. A variety of distribution questions is present in start-up organizations. In the case of independently owned ventures, entrepreneurs must arrive at fair methods of distributing profits and losses from business operations (Dees & Starr, 1992). Issues of distributive justice and fundamental fairness in allocating organizational goods and obligations may pose especially tricky ethical problems for new ventures.

An essential task for entrepreneurs is to promote their new venture to different publics, especially to central resource controllers. Dees and Starr (1992) note that entrepreneurs frequently encounter "promoter dilemmas" carrying out these tasks. Entrepreneurs must win the consent of customers, investors and bankers, suppliers, employees, and others to support the risks and uncertainties of the new enterprise. While promoter dilemmas can vary considerably, these are often traced to the newness, small size, dangers of innovation, and limited availability of resources in startup firms (Aldrich & Auster, 1986).

The most common promoter dilemmas involve uncertainty over how much detailed information to convey about the risks of a new venture. Dees and Starr (1992) suggest many helpful questions on this subject: what does honesty mean when promoting innovation? Does fairness require complete disclosure of the risks and uncertainties? What sorts of influence tactics cross the line between encouragement and inducement to manipulation and coercion? Entrepreneurs may often experience "entrepreneurial euphoria" and make skillful use of "impression management" in personal interactions with central resource controllers and others. In some cases, an entrepreneur's great optimism may limit his or her ability to

Dangerous Liaisons?

recognize and make critical judgments about potential ethical problems. Limited resources and small business size may lead entrepreneurs to manage projected promotive appearances jointly.

The very process of business innovation itself raises new and unanticipated ethical dilemmas for entrepreneurs and society. Individual entrepreneurs and community at large may not be prepared or equipped to deal with these problems. Many contemporary economic models recognize the responsibility of participants in business enterprise to protect their interests. However, the new patterns introduced by entrepreneurs can unexpectedly and dramatically change business environments and relationships. One may ask: how responsible, if at all, are entrepreneurs for the effects of these changes? While entrepreneurs are praised for successful innovations, should they be expected to foresee the ethical problems that may result from them? Entrepreneurial innovation can bring with it complex negative externalities that may require society to reconsider certain norms and values.

CONCLUSION AND FUTURE RESEARCH DIRECTIONS

All entrepreneurs are not alike, and neither are the ethical dilemmas they confront. As entrepreneurial activity becomes increasingly important to the global economy, there remains the need for carefully designed and executed research on its moral dimensions. The future research proceeds in some of the following directions.

Researchers must seek creative ways in which to gain access to more significant numbers of entrepreneurs and to earn their trust. Although it is difficult to do well, is needed more empirical research on actual entrepreneurs with larger sample sizes. A new study with a global focus is also required to discover more about how entrepreneurs deal with ethical issues across cultures. Dees and Starr (1992) suggest that “cross-disciplinary work” from the humanities to the social sciences may serve the needs of future entrepreneurial ethics research.

Future studies that explore how the ethical concerns, perspectives, and behaviors of entrepreneurs change over time as their organizations grow and develop will significantly enhance what is already known about the early venture period. Researchers may also examine core values shared by entrepreneurs across different industries. Hisrich (1998) has suggested that core values implanted by family members, teachers, and mentors early in life may influence or even determine an individual entrepreneur’s ethical standards. Such influences, including business school curriculum and external conditions, may be systematically explored.

Research designed to study the frequency with which entrepreneurs confront ethical conflicts is also needed. The new field of entrepreneurial ethics has developed to the stage where careful theory development is now required. Business professionals and ethicists may seek to establish norms of behavior for specific kinds of entrepreneurial moral dilemmas. Hisrich (1998) has suggested that mechanisms may be developed to provide information about the practice and ethical reputation of entrepreneurs. The author further proposes that the creation of a group that “fields complaints” could take the form of a “Better Business Bureau” for entrepreneurs.

Entrepreneurs are usually intensely engaged in their organizations on many levels. Compared to corporate managers, there may be more at stake for them if severe ethical problems arise in their new business ventures. The present work suggests that individual entrepreneurs may possess a more developed instinctual sense of the moral climate inside their organizations.

Dangerous Liaisons?

The research has also indicated that the harsh demands of entrepreneurial environments may seriously complicate ethical perceptions and practices. There is a need for further study of why persons become entrepreneurs and how these motivations affect or influence their relationship to the organizations they create. This kind of research may provide a deeper understanding of the moral perspectives and behaviors of entrepreneurs.

Since vast descriptive literature of the personal characteristics and motivations of entrepreneurs now exists, it will prove fruitful to build upon this knowledge to develop greater normative understanding. The development of a sound normative ethical theory that reflects the distinctive challenges of entrepreneurial activity will contribute to the growing field of business ethics and undoubtedly assist active entrepreneurs. Further, the pursuit of comparative ethical studies of entrepreneurs both inside and outside of established organizations would also shed further light on intrapreneurship – an increasingly crucial corporate business activity.

Exploration of the moral implications of entrepreneurial change and the effects of the related technological development of the human person and on communities are essential subjects for social ethics. Future research may seek to build on the already existing understanding of the role of entrepreneurship in society.

The authors mention some of the misbehaviors of the Millennials and Generation Z, and that is a threat to the future of family business. A possible solution is that founder generations should concentrate more on issues of ethical culture during the orientation of new generations, which should mitigate their feeling of not knowing much about how to act within the culture of their new workplace.

Entrepreneurship will likely become increasingly important in global economic life, and the need for careful study of the ethical dimensions of this complex business activity will remain for years to come.

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KEY TERMS AND DEFINITIONS

Entrepreneur: A person who organizes, operates, and assumes the risk for a business venture.

Ethical Dilemma: A situation in which two or more potential actions appear to be equally justifiable from an ethical point of view (i.e., one must choose between the lesser of two evils or the greater of two goods).

Ethical Reasoning: Making a decision in response to a moral dilemma based a careful and thorough assessment of the different options in light of the facts and circumstances and ethical considerations.

Ethical Theory: A set of statements that attempts to unify, systematize, and explain our moral experience (i.e., our intuitions or judgments about right/wrong, good/bad, etc.).

Intrapreneur: Is an inside entrepreneur, or an entrepreneur within a large firm, who uses entrepreneurial skills without incurring the risks associated with those activities. Intrapreneurs are usually employees within a company who are assigned a special idea or project, and are instructed to develop the project like an entrepreneur would. Intrapreneurs usually have the resources and capabilities of the firm at their disposal.

Dangerous Liaisons?

Startup: A startup is a new business venture/enterprise in its initial or early stages of development. These stages include the concept, seed, early, growth, and mezzanine stages.

Venture: Venture is often used for referring to a risky startup or enterprise company.

Chapter 13

Ethics and Social Entrepreneurship: An Exploration

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ABSTRACT

The authors highlight that it was the personal spiritual experience of the founders which slowly evolved into an ethical-spiritual social organization. The researchers suggest that ethical social entrepreneurship is the result of an intense yearning on the part of the social entrepreneur to serve and advance the wellbeing of people and the environment around them. These personal values of the social entrepreneurs impel a process of help and resource contribution from like-minded people and institutions which result in the formation of a social organization based on ethical intentions. The study proposes a new subdomain of social entrepreneurship which focuses on the subjective, individual, personal values of the social entrepreneur which result in the formation of the social enterprise. The present study is an attempt to highlight the role of own values in the creation and evolution of a social enterprise. It is an attempt to explore the relationship between ethics and social entrepreneurship with the help of three case studies of social enterprises in South Gujarat, India.

INTRODUCTION

Social Entrepreneurship reflects a search for greater social justice and addresses social, and community needs not directly addressed by the commercial sector and the government. Ethics as a field of academic inquiry is also concerned with the questions of good, justice, right and wrong. Existing research has mainly been premised on the assumption that social entrepreneurship is at the service of the common good thereby exhibiting a thoroughly synergistic relationship with ethics (Dey & Steyaert, 2016). The above premise is further explored by arguing that the ethical intent and practice of social enterprises

DOI: 10.4018/978-1-5225-5837-8.ch013

Ethics and Social Entrepreneurship

under study is based on a spiritual experience which results in feelings of compassion, love, friendship towards other beings. In most cases of social entrepreneurship formation, it is the failure of the existing economic, social and political institutions, designed to cater to the basic needs and rights of individuals that give birth to social enterprises for filling this gap. The unmet social needs become an opportunity for the social entrepreneur. Social entrepreneurship combines market-based organizing, where resources are acquired by promising direct financial returns that are achieved by realizing the organizational goal of creating economic value, with charity based organizing, where resources are obtained by promising donors indirect social returns that are achieved by realizing the organizational goal of creating social value. (Miller et al, 2012)

It exists in a specific context of social, economic and political arrangements. The concept *per se* emerged in the nineties in academic literature. Prior to that, it was conceived as nonprofits or the third sector of the economy. In 1993 the Harvard Business School launched social enterprise initiative foundation and started training programmes for social entrepreneurs.

Social entrepreneurship literature implicitly assumes the ethical intention and behavior of the social entrepreneur. Explicitly, the literature is scarce in the domain of ethics and social entrepreneurship. The influence that personality traits play in defining social entrepreneurs has remained controversial and underexplored and under-researched. (Nga & Shamuganathan, 2010)

The authors propose that a spiritual experience resulting in altered personality traits of the social entrepreneur play an important role in conceptualizing, setting up and the running of the social enterprise. Moreover, there is no study which attempts to link the subjective, spiritual experience of the individual and subsequent founding of the social enterprise.

This study proposes that it is the personal spiritual experience of an individual which often results in a feeling of oneness and compassion for their fellow beings. This feeling, in turn, impels a process of formation of an organization well supported by the community which creates social capital in the form of enhanced well being of the community. The authors also explore the presence and relationship of ethical intention and behavior in the formation and practice of social enterprise which is an outcome of the subjective spiritual experience of the individual actors. Adopting a case study method, three crucial social entrepreneurship organizations from South Gujarat, in India, have been studied. The paper contributes to the extant literature and understanding of the phenomenon of social entrepreneurship and creates a new subdomain of spiritual social entrepreneurship.

BACKGROUND

In this section, the aspects covered are understanding ethics, social entrepreneurs, social enterprises, social entrepreneurship and ethics and challenges faced by social entrepreneurs. The literature on ethics and entrepreneurship is equally divided into researchers who argue that entrepreneurship and ethics are inherently incompatible while others like Hisrich (2001) suggest that while entrepreneurs and managers are in general agreement on many ethical issues, in some areas “entrepreneurs consistently placed a greater emphasis on ethical behavior.” He argues that personal values may strongly influence how entrepreneurs reason about and act upon, the ethical problems they encounter. It is proposed that it is the ethical purpose and intention which creates a social enterprise, though some researchers (Dey & Steyaert, 2016) argue to the contrary.

Ethics and Social Entrepreneurship

Understanding Ethics

Ethics, as understood by most of us is the ‘right’ way of doing things. Ethics is an enquiry into the nature of morality and its foundations, particularly the way in which human conduct is ordered, guided and appraised...ways in which human beings ought to act and to describe the sort of actions that are, at any given time, morally permissible to perform (Billimoria et al. 2007).

Essentially when we deliberate about ethics, the central issue is the idea of ‘Man.’ What he is, what he can become, what he ought to become. The western conception of man has been that he is a ‘political animal’ (a term attributed to Aristotle), a ‘naked ape’ (Morris, 1967) who has been bestowed with reason and who by his virtue of being the most evolved of living beings can use the entire lower creation for his own benefit. Nature is like a beast, which has to be controlled and tortured so that it can reveal its secrets to us, said Francis Bacon, one of the founding fathers of the modern age. The Eastern conception of man has been different. Man is *Amrutasya Putrah*, (Tyagishananda, 2000) a son of immortality; He is not the lord of nature but an integral part of nature. Since he is more evolved than other living beings, this high status places him in a position of great responsibility to ensure that all beings are being taken care of by him and he does not exploit or destroy them for his own personal profit. These two different conceptions give rise to two different worldviews about ethics which require greater thought and deliberation.

The Indian conception which comes closest to ethics is ‘*Dharma*.’ *Dharma* is the fixed position of duty and right, in the sense of what is proper and normative...it connotes a general principle or law of nature to which the individual is bound in a twofold sense, both in terms of supporting the cosmic, social and personal orders and deriving from them a corresponding obligation...It also prescribes the acknowledgment of obligations not only towards a higher or supreme being, but also towards lower level beings and, this again, not as a creaturely duty but as a cosmic responsibility (Billimoria et al. 2007).

Dharma, in turn, is formulated on the concept of *Ritam*, an idea unique to the Indian understanding of the cosmos. *Ritam* is the cosmic order of things, an order from which all other orders are born and sustained. Even the Gods are born of *Ritam*; they are *Ritah Jatah*, they do not create this order. The order creates them. This cosmic order into the realm of human being takes the form of *Dharma*. From *Dharma* are derived the principles of day to day ethics which guide and direct human behavior. Indian philosophy has always been intoxicated with this idea of the oneness of all existence which leads human beings to an experience of immortality (Nikam, 1967). This understanding of oneness, of unity with all beings engenders traits like compassion, love, and service towards others. This understanding which results from a spiritual experience slowly leads to a fundamental clarity of one’s purpose in life and compassion towards other beings. As Miller et al. (2012) suggest, compassion is characterized by its other orientation and emotional connection linking an individual to a suffering community.

Social Entrepreneurs, Social Enterprises, Social Entrepreneurship and Ethics

The basic motivation of social entrepreneurs is to “create value for society, not to capture value”. Given the ‘positive externalities,’ the government and the private sector may not venture in neglected areas in which social entrepreneurs operate. This could be due to insufficient knowledge, resources and or motivation on the part of the government and perceived accrual of inadequate economic value on the part of the private sector. The major goal of social enterprises is to deliver “sustainable solutions” not a sustainable advantage for the Organization; and the major logic of action is empowerment. The driving force is “regard for others” rather than self-interest and the approach adopted is to permanently redress

Ethics and Social Entrepreneurship

a social problem by tackling the roots of the problem or institutionalizing a system that takes care of the problem (Santos, 2012). Dey and Steyaert (2016) feel that an ethical fiber is essential in social entrepreneurs; without which it would not be possible for them to bear hardships and sacrifice for the betterment of many who have been otherwise neglected by the government and private sector. According to Mort et al. (2003), a spiritual or virtue dimension in the social enterprises differentiates them from the commercial enterprises where this dimension is by and large put in the back burner. Miller et al. (2012) assert that the “other-oriented emotion of compassion” is a compelling motivation that may give rise to social entrepreneurship. Self-interest and social power may be other motives but on their own are insufficient conditions. Nga and Shamuganathan (2010) studied the influence of personality traits - openness, agreeableness, neuroticism, and conscientiousness on social entrepreneurship. It was found by them that social entrepreneurship is influenced by three personality traits-openness, agreeableness, and conscientiousness.

The critical catalysts that enable the social entrepreneurs to conceptualize, implement and monitor interventions to address complex problems are - effectual logic, legitimacy and information technology. Through effectual logic, unconventional models are conceived that could lead to out of the box solutions. For this, the social entrepreneurs' traits and abilities; their knowledge, training and experiences; and their networks come in handy. The legitimacy of the operations of the organization is established by the performance and the adherence to socially accepted norms, values, and beliefs. Technology (IT) helps explicitly in innovatively tapping resources, building a global community and monitoring costs (VanSandt et al., 2009).

The ethics of social entrepreneurship is not an individual innate capacity according to Dey and Steyaert (2016). They emphasize that it is a critical and a creative way of dealing with relations of power. They argue that the relationship between ethics and the social entrepreneur is not static neither essentialist. Social entrepreneurs, day in and day out face ethical dilemmas. Such ethics of entrepreneurship is in constant need of protection and nourishment.

In a similar vein, Mort et al. (2003) feel that social entrepreneurs rather than possessing an individual trait reflect behavioral characteristic that is manifest in the social organization. They contend that virtuous behavior and judgment capacity are vital dimensions of social entrepreneurship apart from the propensity to take risks, exhibiting proactive behavior and being innovative (behavioral characteristics of an entrepreneur). They point out that social entrepreneurs are motivated by a social mission to provide superior social value than others and in the process display “entrepreneurially virtuous behavior.” They mention morally good values like love, integrity, honesty, and empathy that if acted upon becoming true virtues. Universal and contextual virtues have been differentiated by them. They have identified three criteria for virtue- virtuous action needs to be consciously performed; without any ax to grind; and virtuous action is to be practiced till one becomes habituated. In spite of complexities involved a coherence of purpose and action is evidenced in the behavior of social entrepreneurs. They identify opportunities and exploit them to provide better social value to their target community. When making decisions, they exhibit an innovative and proactive approach coupled with a tendency to take risks.

Challenges Faced by Social Entrepreneurs

Social entrepreneurship is a blend of ‘market-based organizing’ and ‘charity based organizing,’ two contradictory logics, and organizational goals of creating economic value and social value respectively. Combining the two is a significant challenge for social entrepreneurs as in some cases they first need

Ethics and Social Entrepreneurship

to develop institutions to sustain these enterprises as necessary infrastructure is absent Miller (2012). According to Hannafey (2003) entrepreneurs, in general, have to meet complex moral challenges like fundamental fairness, personnel and customer relationships, and distribution dilemmas. Dees and Starr (1992) point out that dilemmas related to relationships may pose ethical challenges for entrepreneurs; this applies more to situations when there is a change in role and relationships before the venture and after the venture status. Some of the challenges to be met by social entrepreneurs relate to unraveling and understanding of the roots of the social problem and its eco-system, scaling up the venture and sustaining positive changes (Trivedi and Misra, 2015).

The three major challenges that social entrepreneurs may face as envisaged by VanSandt et al. (2009) when scaling up are- gathering comprehensive information about the community being targeted, and in monitoring wage labour; garnering additional resources be it manpower or capital; and resulting of the enterprises into 'me-too' Organizations, a phenomenon labeled as "institutional isomorphism" by the authors.

Research Plan

This is an exploratory research study. A case study method was adopted for the study. Secondary data was tapped from the publications of the Organizations and their websites. In-depth interviews with the founders and officials of the Organizations were held. Data was also gathered through observation from personal visits to all the three Organizations. An iterative process was adopted, whereby the write-up and notes written by the researchers were shown to the officials of the Organizations for corrections if any. Three social enterprises in Gujarat have been the units for the study. Two of the Organizations- Muni Sewa Ashram and SEWA Rural were established during the late 1970s and early 1980s. These Organizations are located in Waghodia taluka of Vadodara and Jhagadia taluka in Bharuch district. Both talukas fall under Grade 'C' under the Growth Centre Approach of the Gujarat government adopted in 1977. Grade 'C' are the backward areas in terms of economic, infrastructural, and quality of life indicators. These two Organizations were chosen as they were set up in the socially and economically backward area, worked with individuals from socially and economically disadvantaged communities, area of operation was education-skill development and healthcare, founded/led by women, and where a large part of the surplus goes into furthering the goals of the organizations that is empowering the local community. The third organization, Serve Happiness Foundation was initiated less than five years back and is located in the Bharuch district. The detailed profile of the organizations under study is explained in Table 1.

PROFILE OF THE SOCIAL ORGANIZATIONS**Muni Sewa Ashram, Goraj, Vadodara, India**

People are greedy because they do not know their real needs. Man's real need is a joy. When you lose that joy on the inside, you start looking outside. -Dr, Vikram Patel, Chairman, Muni Sewa Ashram Goraj

It was a rainy day in July when the case writers reached *Muni Sewa Ashram* at Goraj. They were welcomed by Sunilbhai, public relations officer who is one of the 300 residential employees of the total 750, who work for the *Muni Sewa Ashram* Goraj. He works all seven days a week, morning till evening

Ethics and Social Entrepreneurship*Table 1. Profile of the social enterprises under the study*

Profile Of The Social Enterprises Under The Study			
Parameters*	Social Enterprises under the Study		
	Muni Sewa Ashram	SEWA Rural	Serve Happiness.org
1. Social Enterprises in India: Area of Operations			
22% in healthcare	√ Later in health	√	-----
70% of social enterprises working with individuals from socially and economically disadvantaged communities	√	√	√
Skills development (43%) and education (31%) sectors have the highest proportion of youth-led enterprises	√	√ Later into skill development & education	√
2.Profile of Founders/Leaders			
Gender: 24% of women leaders	√	√ Also women	-----
Age: 27% of young leaders under 35 years 31% are in the age bracket 35-44	√ -----	√ -----	√ -----
3.Growth Plans			
Almost 80% reinvest a proportion of the surplus to further their social or environmental goals	√	√	√
4.Goals			
Empowerment of local community	√	√	√

Source: Adapted from British Council Report 2016.

(The parameters and the findings depicted in column 1 are drawn from the Report by British Council "Social Value Economy: A Survey of the Social Enterprise Landscape in India," December 2016. According to the Report, there are an estimated 2 million social enterprises in India. Their survey sample had 248 social enterprises.)

and finds a sense of meaning in his life, and is contributing in some way, he feels, for the betterment of people whose life is touched by the *Ashram* through its various activities.

Muni Sewa Ashram, located at a distance of 30 kilometers from Vadodara is spread into 300 acres and works in the areas of Education, Health, Social Services, Energy, Environment, Organic Agriculture, and Dairying. The place is full of peace and tranquility complete with purity, harmony and natural beauty, justifying its title as an *Ashram*. It epitomizes the ancient Indian ideal of *Satyam* – the truth, *Shivam* – the good and *Sundaram* – the beautiful.

The Founders

Muni Seva Ashram was inspired, founded and is now being lead forward with persons who were imbued with a spiritual outlook towards life. Muni Maharaj in whose name the *Ashram* exists belonged to Ludhiana near Punjab in the northern parts of India. He lived in an *Ashram* near Sanand, Gujarat, and inspired Shri Anuben to start this *Ashram* and used to visit this place during its founding years. Shri Anuben herself was a deeply spiritual person who, after an intense spiritual experience dedicated her life to serving those around her. She always believed that she is just an instrument in the hands of God. It is He who is getting all this work done through her.

Ethics and Social Entrepreneurship

Pujya Shri Anuben Thakkar as she is known here was born at Anjar, in Kutch district of Gujarat on 6th September 1944. Her father was working in the customs department and mother was a housewife. She got trained as a primary school teacher and was influenced by Gandhians working at the Gandhi *Ashram*, Vedchi, Surat like Sri Ravishankar Maharaj, Jugatrambhai Dave and Annapurnaben Mehta. She had a spiritual orientation right from childhood, and Muni Maharaj whom she used to visit along with her father at his *Ashram* near Sanand ignited this tiny spark within her. Events experienced in early childhood often act as catalysts in the development of beliefs of social entrepreneurs (Barendsen and Gardner, 2004), as was the case with Anuben. Table 2 explains the major milestones in the evolution of the organization from 1979.

Unlike her two elder brothers she decided to work for the poor and underprivileged. In 1978, she ‘took on’ saffron robes, renounced her family and aged 34, as directed by her *Guru* Muni Maharaj, chose Goraj as her *karmabhumi* out of the four locations suggested by him and started a small school in this village which was full of poverty and crime. Children in the village, by and large, were left alone by the parents who used to leave their houses in the early morning to go to work as daily wage laborers in the fields. She along with Doliben, a villager would bring these children to the Ashram. She used to bathe the kids, teach them, feed them and return them back to the family in the evening. Slowly the children became her agents, calling more children with them and finally the school got converted into *Sharda Mandir* and Vivekanand *Uttar Buniyadi* and *Uchchatar Uttar Buniyadi Vidyalaya*. Beginning with education,

Table 2. Major milestones- Muni Sewa Ashram (MSA)

Major Milestones – Muni Sewa Ashram			
Year	Branch	Recent Capacity	Sectors
1979	Bal Mandir	50 children	Education
1980	Parivar Mandir	40 Girls	Social
1981	GauShala	500 Cows	Community
1981	Bhagini Mandir	100 Women	Social
1982	AksharPurshottamArogya Mandir With Small OPD	25 Patients	Health
1984	Sharda Mandir Baxipanch Ashram Shala	120 children	Education
1986	Surgical- Medical Center	90 beds	Health
1986	Crèche Programme	450 children	Social
1987	Vanprastha Mandir	110 old age	Social
1988	Uttar Buniyadi Vidhyalaya	400 children	Education
1999	School Of Nursing	250 Students	Education
2000	Cancer Hospital	200 Beds	Health
2004	Atithi Mandir	84 Rooms and Dormitory	Community
2009	Solar Plant		Community
2010	Eklavya Modern Residential school	200-250	Education
2015	Cyclotron Project for Nuclear Medicine	Under Construction	Health
2015	New Vanprastha Mandir Named Govardhan	Inaugurated	Social

Source: Presentation prepared by Haiderali Jangrala, HR Manager, MSA. Reprinted with permission.

Ethics and Social Entrepreneurship

she also worked to reduce alcohol abuse in the village. She located some donors who donated cows to the villagers and also tied up with Baroda Dairy for selling the milk produced.

Being a remote village, medical help was unavailable. With her ingenuity and initiative, she went to the Baroda Medical College (in Vadodara district, in which Goraj village is situated), met the interns and persuaded them to visit the village weekly and get the medical checkup of the villagers done. Dr. Vikram who was to join her later and lead the Ashram was one of the interns who used to come every Sunday for medical checkup of the kids of her school. Later a makeshift dispensary took shape which then evolved into an 11 bedded hospital, and today it has grown into the *Akshar Purushottam Arogya Mandir* and Kailas Cancer Hospital and Research Centre.

All the major work areas of the Ashram evolved from daily situations and not as per a plan made in advance. Usually, charitable institutions first develop a mission and then structure an organization to accomplish that mission. In contrast, *Muni Seva Ashram* started without any formal mission or objectives.

Dr. Vikram Patel who currently leads the Ashram also has this spiritual element within him. When asked by Shri Anuben to join her, he left all the comforts of the city and chose to settle down in the village, deciding where his Spirit was rather than bodily comforts. Figure 1 lists the major work areas of *Muni Sewa Ashram*, Goraj.

Dr. Vikram Patel told the case writers that their cure rate for cancer is 32%, one of the highest in the world. He adds emphatically that unlike other institutions which are founded and grounded in the capital, their institution has been established to serve the needs of society.

“If we find that donations are not coming and we are having difficulties in running the ashram we shall remind our donors. If we do not get any response, we stop doing this activity. We are not running this for our benefit. If society feels that our work has value, it will support us. If not, we do not have a right to exist.”

The *Ashram*, unlike any modern organization, evolved organically as per the needs of the community. There were no targets to be met and goals to be achieved. As problems were faced, solutions that worked were discovered and implemented. One advantage of this kind of evolution is that the members of the organization have very little stress in their organizational life. Each one is supposed to serve to the best of their capabilities even playing multiple roles at times for the benefit of the organization. Spirituality was experienced in the organizational culture, by the case writers when seeing people working in the office, taking care of the inmates, attending to visitors and patients in the hospital.

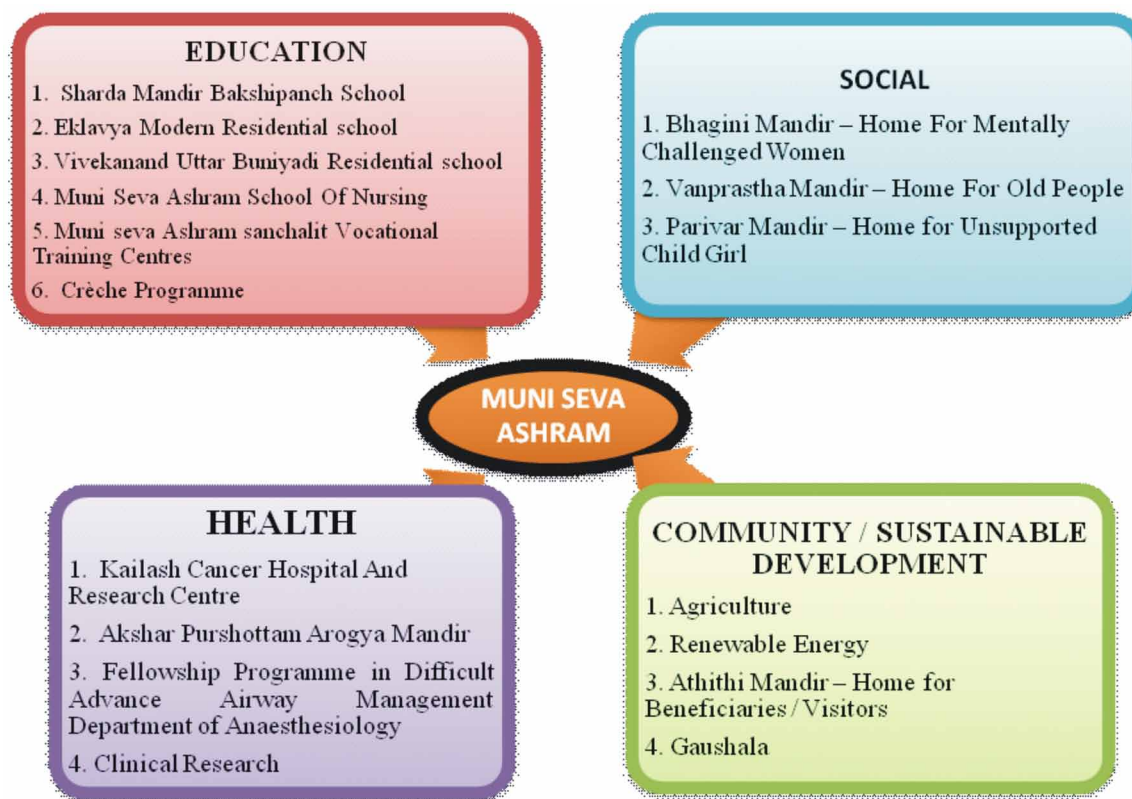
All the departments of the *Ashram* have the term ‘*Mandir*’ attached to them. So a daycare center is *Bal Mandir*, the school is *Sharda Mandir*, the hospital is *Arogya Mandir*, the old age home is *Vanaprastha Mandir*, the orphanage is *Parivar Mandir*, the residential center for mentally challenged girls is *Bhagini Mandir*, and the guest house is *Atithi Mandir*. The intention behind this naming was that people should work with a spirit that all services rendered are nothing but a physical act similar to a prayer in a temple. The feeling of love and oneness towards all is felt strongly as the case writers visited the various departments with Sunilbhai.

The sense of meaning which the employees find in their lives by working here, their interconnectedness with each other and identification with the mission of their organization is apparently visible in their behavior at the Ashram.

The results are there for all to see. The administrative expenses of the Ashram are as low as 1.5 to 2%. Recalls, Dr. Vikram, “When we were marching ahead, some obstacles obviously came into our path, but as I learnt from Anuben, the principles of administration, (“*kaam karo, marga ane sahkar eni*

Ethics and Social Entrepreneurship**Figure 1. Major work areas of Muni Sewa Ashram, Goraj**

Source: Presentation prepared by Haiderali Jangrula, HR Manager, MSA. Reprinted with permission.



mete malase” –meaning “do the work-the path and co-operation will come automatically”) running the Ashram has been easy for me.”

Sustainability and care of the environment have been the fundamental principles on which the Ashram works. They have initiated many alternative energy and farming technologies and have even helped local adopt them for their benefit. Solar energy is being used to run air conditioners, cooking, and even a solar crematorium. Close to 80 percent of the resources the Ashram needs for its functioning are generated in-house. Dr. Vikram wants to make the Ashram entirely self-sustainable in all its energy needs. Alternative energy technologies like Plasma Pyrolysis, BioMass Gasification, and Biodiesel plantations have been taken up at the Ashram.

In agriculture also organic farming is practiced. The Ashram runs a *Gaushala* where cows are reared with a scientific approach. Activities like Greenhouse farming, Vermiculture have also been taken up, and people are taught to grow and prepare Green tea extracts, Palmarosa oil, Nilgiri oil, Chayvanprash, etc.

When the case writers ask him, what if the funds do not come, donations do not occur, Dr. Vikram Patel tells them with a firm conviction in his voice: “I am not running this institution for myself. If the community thinks that we are doing something worthwhile, they will support us. If not, we will close down the next day. I would be happy to close down this institution if support from the community is not forthcoming. Institutions should exist to serve the felt needs (not perceived needs, he specifies clearly) of people.”

Ethics and Social Entrepreneurship

Today the *Ashram* has grown into an organization worth few hundred crore rupees. The Kailas Cancer Hospital and Research Centre were built at the cost of rupees 100 crores. As the *Ashram* grows, there are challenges to be faced and to overcome. With the growth in the activities of the *Ashram* extra hands is required and spirituality to be maintained in every aspect of its functioning. This indeed is a tall order and a significant challenge to be met.-

We will walk our path. People who share our vision and understand our feelings will join us. The money we receive is not for us, we are just facilitators for the community, and the money we earn from donations is for the community. -Pujya Shri Anuben Thakkar, Founder of Muni Sewa Ashram, Goraj, Vadodara, India

SEWA Rural, Jhagadia, Bharuch, India

Sharda Mahila Vikas Society is celebrating thirty years of its inception. The case writers have been invited by Dr. Pankaj Shah, Managing Trustee, SEWA (Society for Education, Welfare, and Action) Rural to be a part of the celebrations. They are welcomed at the gate by somewhat diffident and shy students of *Vivekananda Gramin Takniki Kendra (VGTK)* who lead them to the lawns where the function has been organized. The place is tranquil, peaceful and laced with a silence that is deeply penetrating. The heart of the place is a small temple with photographs of Ramakrishna Paramhansa, Sharda Devi, and Swami Vivekananda. It acts as the spiritual core of the organization radiating its stillness and tranquillity in all the activities of the organization.

Millet et al. (2012) in their research paper argue that compassion, through other-orientation and emotional connection with others, acts as a pro-social motivator of cognitive and affective processes that are considered preconditions for undertaking social entrepreneurship. These processes include (1) increasing integrative thinking, (2) inducing pro-social judgments regarding the costs and benefits of social entrepreneurship, and (3) fostering a commitment to alleviating others' suffering.-

SEWA Rural is a story of young, idealistic women and men in their mid-twenties and their dreams. Along with their family responsibilities and extensive reading of the literature on Swami Vivekananda and Mahatma Gandhi few youngsters studying in different colleges came across the painful reality of poverty, inequality, exploitation, and suffering in society. Coming from a middle class or lower-middle-class background, they did not have any means to do anything themselves. Besides they needed to complete their studies. With dreams in their eyes, determination to work for broader causes, filled with altruistic motive and desire of inward spiritual journey they wanted to do something concrete for the poor and deprived of the rural community.

Their small and straightforward prayers strengthened their resolve. Subsequently, studies and work experience in India and the United States continued. Eventually, this group of friends returned to India in the late 70s to realize their long-held dream of working for the poor as per the tenets of *Karma Yoga* and as expounded and exemplified in the lives of Gandhiji and Swami Vivekananda. The organization exists for 37 years, but the story goes back to about fifty years. The idealism, spiritual experiences with various saints and leaders, Gandhiji and Vivekananda, sowed the seeds of SEWA Rural in the sixties. The founders did not want to live a regular nine to a five-day routine with its attendant chores. Their aspirations to understand the Indian culture and Vedanta; their belief in equality of all religions; and the spirituality of the group motivated them to take the plunge.

The result was Society for Education Welfare & Action – Rural. The group moved to various places of Gujarat to select a site to initiate work. They wanted to work in a backward area primarily populated

Ethics and Social Entrepreneurship

by the poor, and where there were hardly any voluntary groups working. The choice fell on the rural – tribal area around Jhagadia due to several reasons and to top it all; the place was near the holy Narmada River. The group was ecstatic as their two-decade long-held dream was to become a reality. The day was October 26, 1980. Over a period of time, other youngsters also joined the initial group. The foundation of SEWA Rural is based on three pillars:

1. Work with the underprivileged section of society
2. All the activities to be based on substantial ethical values
3. Spiritual development of all associated with the work

Today SEWA Rural employs 275 people and has been certified by the Great Places to Work Institute as one of the ten best places to work in the NGO sector. Table 3 lists the essential milestones of SEWA Rural.

Major Activities of the Organization

The primary activities of the Organization include- a Hospital with complete Healthcare, *Sharda Mahila Vikas* Society, a Training Centre for Community Health, Community Health Project, a Comprehensive Eye Care Project, and Vivekananda *Gramin Tekniki Kendra*.

The 200 bedded Kasturba Hospital is providing services to people from more than 1500 surrounding villages. Presently, the hospital offers round the clock emergency services, specialized care for women and children and people with eye diseases, separate clinics for Tuberculosis, diabetes, and infertility.

Table 3 identifies some crucial milestones in the journey of SEWA Rural.

Recently the hospital has expanded in order to take care of its continually increasing patients from the tribal area. A new ward of 50 beds has been constructed to accommodate the needs of expectant mothers.

A neonatal intensive care unit of 20 beds has been made which is the biggest in Bharuch and Narmada districts. Table 4 describes the performance of Kasturba Hospital.

Sharda Mahila Vikas Society formed in 2002 works in the areas of Adolescent Empowerment, Children Education, Garment Making, Papad and Snacks making, Credit and Savings, Self Defense and Vocational Training.

Some of the accomplishments of SEWA Rural included managing Gujarat Government entrusted primary health centre for more than a decade and achieving all targets of “Health for All by 2000” much before the target date, managing the First Referral Unit granted by UNICEF and Government of Gujarat, providing critical care to delivery patients and new borns covering the entire Jhagadia block; making the Jhagadia and Valia blocks with a population of 2.6 lacs, cataract free as per the norms of WHO in 1998, and opening up employment avenues for economic betterment of some 1200 youth and women.

The organization also believes and works with all the sectors of civil society like local community, other voluntary organizations, Government, the private sector, academic institutions and foreign agencies so that the fruits of development and growth reach the marginalized and underserved sections of society i.e. women, tribal and the poor.

Ethics and Social Entrepreneurship*Table 3. Important milestones- SEWA rural*

Important Milestones – SEWA Rural	
1980	SEWA Rural established in Jhagadia
1980	30 bedded Kasturba hospital begins
1982	The beginning of Community Health Project
1983	Nursing Assistant Course Begins
1984	Given the complete responsibility of Jhagadia Primary Health Centre
1985	Awarded Sasakawa health award by WHO
1985-86	Papad works, Tutorial Programme, Vivekananda Gramin Taknik Kendra
1992	Hospital extended to 75 beds
1996	Jhagadia Taluka declared Cataract free
1998	Garment making started by <i>Sharda Mahila Vikas Society</i>
2000	SEWA Returns the Primary Health Centre back to the Government
2007	MacArthur Award for Creative and Effective Institutions
2013	Vishwa Gujarati Award presented to SEWA Rural
2014	ImTeCHO (Innovative Mobile Phone Technology for Community Health Operation) a joint initiative of SEWA Rural and health department one of the best 20 projects chosen from 10,000 applications all over the country for reducing infant mortality
2015	Public health champion award is given to SEWA Rural by WHO
2016	50-bed new ward at Kasturba Hospital inaugurated
2017	Certified as one of 10 best places in the voluntary sector to work in India by Great places to Work Institute

Source: Prepared by authors

Table 4. Kasturba hospital: the performance (1980 to 2016-17)

Performance of Kasturba Hospital (1980 to 2016-17)	
OPD Patients	20,03,607
OPD by Consultants	12,26,803
Lab Investigations	23,96,812
Indoor Admissions	2,63,083
Deliveries	45,196
Operations	1,58,662

Source: Prepared by authors

Ethico Spiritual Foundations

Preservation and maintenance of moral and ethical values while carrying out all activities has been a critical element of SEWA RURAL's organizational culture. At SEWA-Rural, the founders firmly believe and practice the principle that means are as important as ends. Accordingly, a resolve similar to serving the poor was made right from the beginning of SEWA RURAL, and that was not to compromise in the

Ethics and Social Entrepreneurship

values in all functioning and working of SEWA RURAL even though it may entail delay, greater efforts, minor achievement, and even extra financial resources. Table 5 lists some of the essential ethical practices as SEWA Rural.

Serve Happiness Foundation, Bharuch, India

Nitin Tailor, founder, Serve Happiness Foundation was born and brought up near the banks of the Narmada river in Gujarat. From the spirituality and natural charm of the small town of Bharuch, Tailor eventually found his way into a multi-national company in Bangalore, earning a comfortable salary. He was always ambitious. He had an educational stint in Sweden, bagged the entrepreneur of the year award at IIIT Bangalore, and was a runners-up and winner as well in the Startup weekend, Nasscom Startup 20-20.

Once the charm of the big city faded, the call to return to his roots overwhelmed him. Determined to be a more positive influence in society, Tailor left his cushy job in Bangalore and took the first train to Bharuch. Passing through an intense phase of depression he used to spend time sitting alone in a temple facing the Narmada River. On one such day, in deep depression, and nowhere to go; something happened within. Talking about his experience he says:

I dedicated myself to Maa Narmada. I had a feeling of offering myself in consecration to the river, and after that moment, I had sort of surrendered to her, and after that, it is she who is in charge of my life
-Nitin Tailor, Founder of ServeHappiness.org, Bharuch, India

After this experience, he set up an NGO to address health and educational needs of the poor in Bharuch's rural areas, using the latest technology. Fuelled by the success and honesty of the work, Tailor set up a social venture Serve Happiness Foundation. The aim of this foundation was- supporting grassroots communities and individuals hoping to bring social change to help the rural poor 'convalesce' from their regressive socio-economic status.

Serve Happiness Foundation is a registered not for profit organization under Section (8), of the Company Act 2013. The Organization is trying to create a platform to bring a revolution in the society by making volunteers use their leisure time constructively for the society especially the underprivileged people. It has created a joint system accessible from multiple touch points to serve the-community voluntarily. Collectively, an ecosystem of organizations, places of need, volunteers and human talent

Table 5. Ethical practices at SEWA Rural

Ethical Practices at SEWA Rural
Formal receipt for all donations
No diversion of funds earmarked/received in a donation for a particular project/activity
All account books and correspondence is open to all staff members, donors
Regular annual report with all the financial details is published
Mistakes are admitted openly, and corrective measures are taken to eliminate the root cause
Any violation of respect for women is taken very seriously
Self-development of employees with a strong spiritual outlook towards life, work, and the world

Source: Prepared by the authors

Ethics and Social Entrepreneurship

has been created. Their aim is to foster relationships by building a network along the spectrum of face-to-face and online presence within this ecosystem. It believes that people feel engaged and happy and create strengths when they selectively utilize their talents.

The other approach is taking youth on inspirational journeys called *Prerna Yatra* to different regions and help them not only appreciate the ethereal beauty, culture, and heritage of our country but importantly to imbibe and spread the cultural values and the ensuing happiness onto our persona and the world at large. The *Yatras* are one of its kinds to inspire youth, connect with real-life role models and to dream to bring positive change in society.

After getting success from the *Narmada Prerna Yatra*, Nitin has replicated this yatra in different parts of Gujarat like *Sabarmati Prerna Yatra* in Ahmedabad region and his upcoming *Tapi Prerna Yatra* in the South Gujarat region.

In 2014, Tailor was invited, for his noble efforts to become the founding member of the World Happiness Consortium, The International Happiness Initiative by Dr. T Hamid Al-Bayati, former Ambassador of Iraq to the United Nations and to participate in the International Day of Happiness celebrations on March 20, 2014 at UN Headquarter, New York.

Dr. APJ Abdul Kalam, the then President of India, graced the inauguration of the Social Incubation Centre of the Organization's knowledge partner AASHRAY Foundation (which is into promoting social enterprises) at EDI, Gandhinagar on 20th June 2015. He was pleased to know about *Narmada Prerna Yatra* that emphasized on rural development through entrepreneurship. For the participants of this *Yatra*, one thing was clear: There is no giving up in life, and social entrepreneurship must work around the unique and exciting lifestyles of those living in rural and tribal settlements. These unique environments present new problems that generate interesting and innovative solutions.

I firmly believe that ultimate goal of our life is to be happy. In an era of umpteen negativity and materialism where the happiness quotient has gone down to abysmally low levels, it is this belief which propelled me to start to Serve Happiness Foundation to create and spread happiness globally. Being born and brought up across the Narmada valley was a further impetus to launch it in the lap of Mother Narmada. – Nitin Tailor, Founder

DISCUSSION

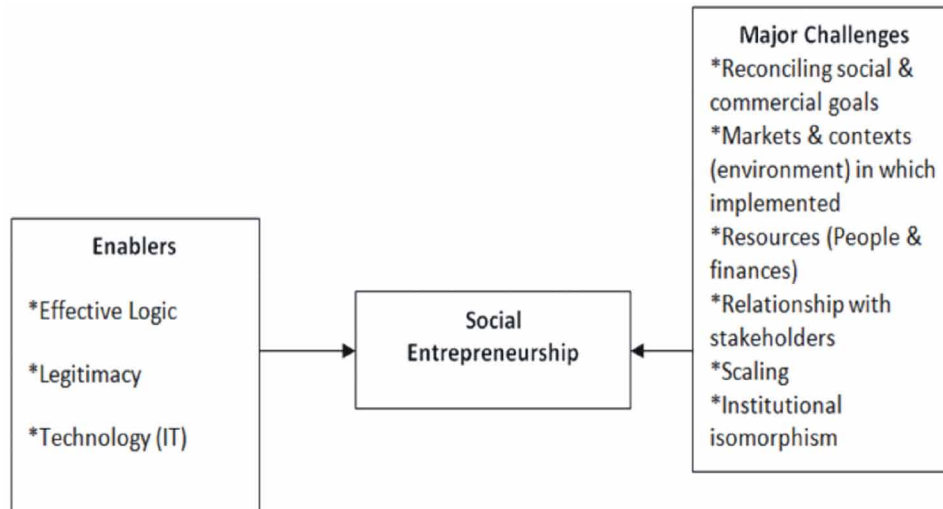
The above cases justify a theoretical framework suggested by VanSandt et al. and adapted by the authors, wherein the enablers of social entrepreneurship are effective logic, legitimacy, and technology. The major challenges facing a social enterprise are reconciling its social and commercial goals, the markets and contexts in which the social value proposition is being implemented, the resources which include people and finances, its relationship with various stakeholders, scaling and institutional isomorphism.

Effectual logic as defined by VanSandt et al. is an effectual mindset that compels social entrepreneurs to challenge conventional mental models, often leading to creative and innovative solutions needed to reform the system. Using this approach social entrepreneurs begin with their means: (1) who they are - their traits and abilities, (2) what they know - their education, training and experience and (3) who they know - their social, professional and family networks. Figure 2 explains social entrepreneurship, its enablers and major challenges.

Ethics and Social Entrepreneurship

Figure 2. Social entrepreneurship- enablers and major challenges

Source: Adapted from VanSandt et al., 2009,



Using human, intellectual, and social capital, they then imagine and implement possible effects. Social entrepreneurs are more likely to develop a solution built on the logic of empowerment than on the logic of control. (Santos, 2012). The background of the founders of all the three case units is a pointer in the direction. They were well educated with a deep interest in Indian ethos and culture. They were deeply impressed by the writings and lives of spiritual leaders and or people with deep spiritual grounding. A common thread that emerges is their commitment to alleviating the conditions of the less fortunate by mobilizing and deploying resources in a creative way.

Another enabler is legitimacy, the means by which organizations obtain and maintain resources. This was achieved successfully by all three social organizations profiled in the study. They gained legitimacy through their work. This is evidenced by the kind of support they have been able to garner from the society be it capital, intellectual capital or hands. A substantial amount of funding from the community and government to establish the legitimacy of the social value proposition offered by the enterprises. The third enabler is technology. With changing times, technology has been harnessed for higher productivity, maintaining the ecological balance (vermiculture for agriculture and solar power being generated at *Muni Sewa Ashram*) or creating an IT platform as in the case of *Serve Happiness.org*. IT-enabled services have substantially reduced monitoring costs is also being used by all the three organizations. SEWA Rural in collaboration with the health department launched *ImTeCHO* an application which can be downloaded on the mobile phone which gives detailed information about health issues to adolescent women. All three have professionally designed websites for sharing information with their stakeholders. Table 6 lists the significant challenges faced by all three organizations.

Effectual thinking leads to more novel outcomes as it is clearly outlined in various initiatives taken *Muni Sewa Ashram* and SEWA Rural. This effectual logic compels social entrepreneurs to challenge existing mental models and create new formats for solving problems. This was done by the founders of all three social enterprises discussed above.

The challenge of balancing economic value with social value did not arise in case of all the three organizations, as the focus and effort of the founders were on providing social value to its beneficiaries.

Ethics and Social Entrepreneurship*Table 6. Major challenges faced*

Major challenges faced		
Muni Sewa Ashram	SEWA Rural	Serve Happiness
• Sourcing of funds • Lengthy registration and legal process • Poor government support • Delay in grants • Human Resource Management • Inability to get competent employees • Failing to apply knowledge up-gradation • Fast rate of technology change	• How to increase the effectiveness of all the programmes • Replicating the success in other rural areas • Creating young 'change-makers' of tomorrow • The useful bridge between the resources available and needy beneficiaries • Maintaining the family feel, cooperation, impartial attitude toward expansion	• Sourcing of funds • Scaling up without losing effectiveness • Isomorphism • Sustaining with values and spirituality

Source: Prepared by authors

The social value so formulated was developed and delivered in settings which helped them to sustain and evolve organically thereby avoiding the usual pitfalls of fast inorganic growth. *Muni Sewa Ashram* began with working for the education of children, evolving into health, community services, and other allied programmes. The same process was observed in case of *SEWA Rural* as well.

The relationship dilemma with other stakeholders is being resolved in having a clear and transparent style of working with them. All the support which comes to these organizations is unconditional with no strings attached on how the utilization of funds will take place. Donations are received only from like-minded organizations and funding agencies. Dealing with government agencies is transparent with no bribes being paid or shortcuts being taken to fasten the process of approvals and grants.

The challenge of scaling up the enterprise is met with an attitude of remaining small and working on improving the effectiveness of their activities than on growing big and compromising on the quality of their work. *Muni Sewa Ashram* and *SEWA Rural* have risen to their current size by a slow organic growth which happened in a very natural way.

Successfully scaling would require additional manpower willing to work for lower compensation than that offered by the for-profit sector, investors willing to accept lower rates of return, or funding agencies willing to nourish them. This crucial dependence on the continued idealism and commitment of key staff members, grant-giving agencies or charities diminishes the long-term chances for effecting real change. (VanSandt et al., 2009). Nicholls and Cho (2006) have expressed concern that isomorphic pressures, inevitable in the scaling process, may hinder the work of social enterprises. Table 7 details the various strategies used by all three organizations for overcoming the challenges faced by them.

Based on the above discussed three case studies a conceptual framework emerges. The Individual with his traits of being entrepreneurially virtuous, having the knack for Social Opportunity Recognition, Risk tolerance, being pro-active, innovative, having judgment capacity and a social vision of fulfilling basic human needs is affected by the environmental forces and the availability of resources when conceptualizing the social value proposition. Through these efforts, it is also able to influence certain aspects of the environment and resources. In the present study, it could be seen that the external environmental forces propelled the founders to work in areas which were virgin or where the public sector or the private sector had inadequately dabbled, and a substantial impact was yet to be created. There has been a social and

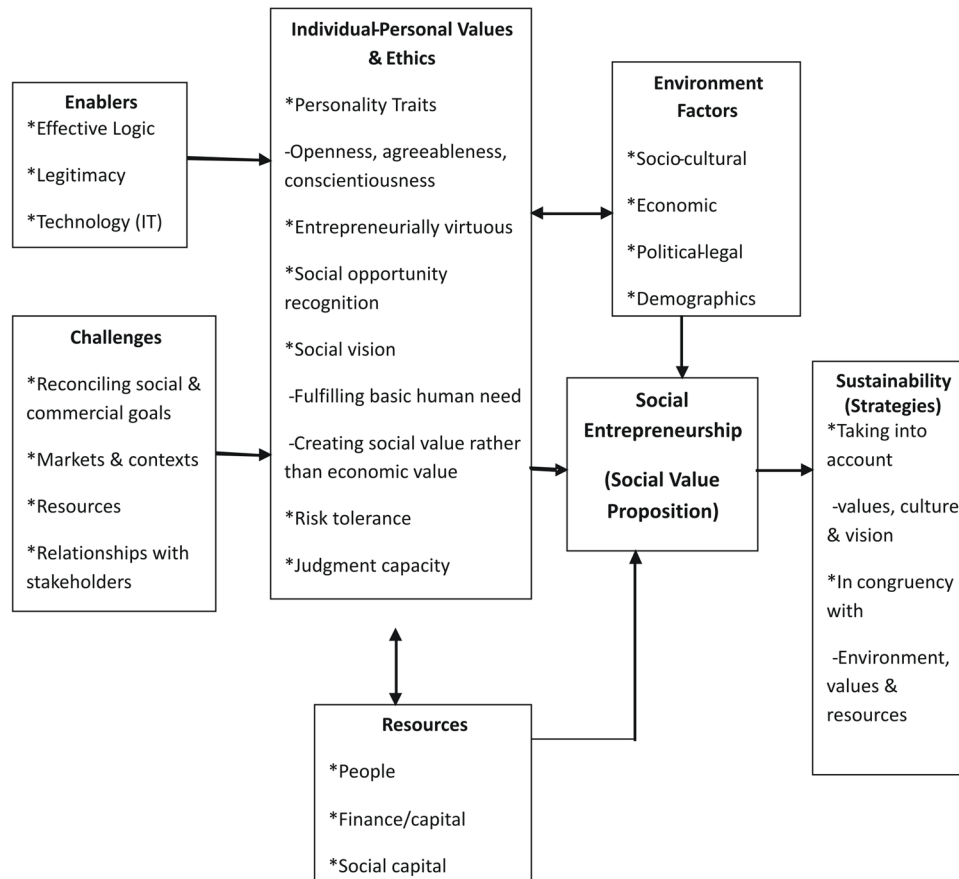
Ethics and Social Entrepreneurship*Table 7. Strategies to overcome challenges faced*

Strategies to overcome challenges faced		
Muni Sewa Ashram	Sewa Rural	Serve Happiness
• No active solicitation of funds • Clear and transparent methods for dealing with government • Recruiting very few employees, ensure they're absorption of values and ideals of the organization • Using latest technology in all areas of operations-civil society on its own provides assistance in conceptualizing and implementing projects • Believe in the natural evolution of the enterprise, no conscious efforts for scaling up	• Taking financial support only from like-minded groups • Strong focus on ethical work culture • Creation of a spiritual workplace which provides employees meaningful work, sense of belongingness and like-minded community • Involving the new generation employees to act as change agents • Efforts made to replicate the experience on need felt basis	• Taking financial support only from like-minded groups • Scaling up slowly without inducting new people • Building a secure network of people with similar values and spiritual outlook • Little efforts to scale up the venture-believes in scaling up in the ordinary course

Source: Prepared by authors

Figure 3. Social entrepreneurship and ethics: The theoretical framework

Source: Developed by the authors



Ethics and Social Entrepreneurship

economic transformation in the target audience due to their endeavors. Figure 3 displays the theoretical framework of social entrepreneurship and ethics.

The Social Entrepreneur utilizes the resources of people, finance/capital for creating his Social Value Proposition (SVP) but has a symbiotic relationship with them. S/he takes their help for creating the SVP but in the process also enriches them. Thus SEWA Rural and *Muni Sewa Ashram* have people who have been enriched by their work with these organizations. They find their work meaningful, have a strong sense of purpose, and they find their work helps them to grow as more humane, virtuous individual thereby increasing the social capital of their community. The organizations through their efforts have developed the mental horizons of the target audience, polished their skills, and empowered them so that they become contributing members of the society.

Strategies for sustainability of the organizations are slowly evolved and getting implemented. *Muni Sewa Ashram* has recruited an MBA in Human Resource Management for designing and institutionalizing practices which form the core of the organization. The people that are contracted, slowly adapt themselves to the organization culture. Dr. Vikram explained this concept to the case writers by giving the analogy of the melting pot in which slow, incremental additions do not disturb it and that due to this they are unable to influence the existing ethical practices of the organization.

Strategies at SEWA Rural include an attempt to replicate the same model in other rural and backward areas of the state and then the country. A vision of creating 100 changemakers – young, energetic leaders, who can contribute to the society, has been discussed and debated by the founders. Attempts are also being made to involve younger people in the running of the organization.

Being a young organization of only five years, Nitin, the founder of Servehappiness.org considers himself driven by the inner inspiration and questions of sustainability of his organization does not perturb him. He actively networks with other similar organizations and individuals which help him to expand the influence of his organization.

IMPLICATIONS FOR PRACTICE

The Beginnings

The social entrepreneurship organizations studied evolved from a personal spiritual experience of the founders which resulted in a feeling of compassion and an urge to share whatever they possess with others. There were and are no fixed vision and mission statements to guide them. The objective and intent were not to create a surplus but meet the needs of local community. Beginning small with whatever was available at hand, they evolved through a natural process into their present shape. The implications of this for social entrepreneurship practitioners is that right intention, unshakeable faith and conviction in one's beliefs is a fundamental pillar of the social enterprise. These institutions have been founded to serve basic human needs and are not based on capital. The knack for recognizing the social opportunity, their judgmental capacity, and steadfast commitment and tenacity have helped them in creating a social enterprise. Each of these enterprises was led by visionaries who were “entrepreneurially virtuous” and innovative in conceptualizing and in execution.

Ethics and Social Entrepreneurship

Growth

All the three organizations are not ambitious about growing big and widespread organizations with a broad set of activities. Since they are based in the local communities and its ecosystem, the primary driver for all of them is serving the needs of local people. In case of *Muni Sewa Ashram*, it began with the education of poor children, grew to health, adult care, infant and child care, ecology, environment and related activities. The resources appeared without any active solicitation. SEWA Rural also began with health, grew into education, women's welfare and related activities. Both were able to access local manpower, technology, financial and other resources. Their success created a demonstration effect which helped them to grow further in their set of activities.

Future

The leaders of all the three Organizations firmly believe in sticking to the values with which they started taking into account the Indian ethos and culture in congruency with the environment and resources available.

CONCLUSION

Ethical imperative witnessed in all three cases of social entrepreneurship has been found to be based on the personal spiritual experiences of the founders. Organizations are a reflection of the values and understanding of the founder/s is also demonstrated by all three case studies. Social Enterprises discussed above have been created through an inside-out process. It is the *Prerana* (Inspiration) from within which created them, and hence objective measurements of success do not put pressure on them to change or modify their working for meeting targets and external expectations from stakeholders. It is an approach that seems well suited to address some of the most pressing problems in modern society and improve capitalism (Santos, 2012)

The above three cases help in creating a new sub-domain in the area of social entrepreneurship which explores the subjective, internal experience of the founders which results in the creation of an enterprise. Thus we have social enterprises of one type which are motivated and driven by external, objective indicators of success and growth and another kind which are motivated and inspired by internal, subjective experiences of the actors. The latter case enterprises create an approach of working where the dividing line between subjective and objective, if not disappears at least gets blurred and this division between personal experience and the outside external world disappears. The growing importance of economic actors that behave as if motivated by a regard for others (creating social enterprises, volunteering in charities, and pursuing social missions in their organizations) seems to negate the validity of this partitioning approach to human behavior (Santos, 2012)

ACKNOWLEDGMENT

The authors acknowledge the valuable time and help given by Dr. Vikram Patel, Chairman, Muni Sewa Ashram, and Shri Sunilbhai Solanki, Public Relations Officer of Muni Sewa Ashram, Goraj, Vadodara,

Ethics and Social Entrepreneurship

Gujarat. We especially thank Shri Haiderali Jangrala, Manager HR at Muni Sewa Ashram for allowing us to use figures and tables prepared by him for presentation. We also acknowledge the help of Dr. Pankaj Shah, Managing Trustee, SEWA Rural, Jhagadia, Bharuch, for making available to us the information related to SEWA Rural, Jhagadia, India. Apart from the personal visit, we have used secondary data from the SEWA Rural website for the write-up and their published booklets in the writing of the case. We thank Shri Nitin Tailor, Founder Servehappiness.org for his time and his frank sharing of his startup experience challenges faced and the road ahead for his organization.

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KEY TERMS AND DEFINITIONS

Aarogya: Health is all aspects – physical, mental, spiritual.

Ethics and Social Entrepreneurship

Amrutasyah Putrah: Son of immortality.

Ashram: A place of learning. Indian tradition differentiates learning at two levels: The lower knowledge is empirical knowledge, knowledge of the world gained by the senses and interpreted by the intellect. Higher knowledge knows oneself in one's essence, understanding the source of one's being. An Ashram is a place of learning where students are taught the former and guided towards the latter.

Atithi: Guest who comes on a not appointed date.

Bapu: An honorific for an elder usually in a fatherly sense.

Bhagini: Sister.

Bhakhri: A thick chapatti made of coarse grain.

Dharma: That which holds together all existence, one's role in life.

Gaushala: A cowshed. The cow is a symbol of Sattva Guna: purity and harmony. Hence cowshed is usually is an essential part of all Ashrams.

Karmabhumi: A physical place of living for an individual which helps in extinguishing his karmic debts incurred in previous existence/s.

Maharaj: An honorific used for great men, the ruling lord.

Mandir: A place of consecration and worship as conceived in the Indian tradition.

Muni: A sage, who usually is silent and non-vocal about her/himself.

Parivar: Family.

Prerna: Inspiration.

Pujya: An honorific for a venerated one, used for both genders.

Ritah Jatah: Born of the cosmic order.

Ritam: A cosmic order which is the basis of all ethics, spirituality, and values.

Sewa: An act of service towards all that exists, done only after understanding and realizing the oneness of all existence.

Sharda: Goddess of learning, named as Saraswati.

Shri: An honorific for males, occasionally used for females as well.

Vanaprastha: The third stage of life as conceived in the Indian scheme of life, a phase of gradual withdrawal from active life.

Yatra: A journey, usually undertaken for self-discovery.

Chapter 14

Corporate Social Entrepreneurship: An Effective Dual Strategy?

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ABSTRACT

Entrepreneurship is a strategic opportunity for human development, on which MNCs play a vital role in the spillover effect. This chapter aims (1) to illustrate corporate social entrepreneurship (CSE) practices to generate social value and (2) to explore their ethical constraint alleviation. Using an internet-mediated research, a sustainability analysis of seventy companies from different countries and sizes evidenced that CSE is a tool for economic growth and good governance. This study brings new insights to the field of CSR and its role in sustainability by incorporating the entrepreneurship discipline. A corporate social innovation business model is proposed as a core business strategy. Also, Ecuadorian CSE practices and their different perspectives can serve as references for future studies.

INTRODUCTION

Corporate Social Responsibility (CSR) and Corporate Social Entrepreneurship (CSE) are applied in Corporate Ethics to generate social value or, in some cases, the constraint alleviation of self-regulation and legal pressure. Corporate Ethics involve transparency, integrity, and authenticity to increase the trust that is warranted by the company sustainable accountability. Traceability plays a vital role in accountability to track the supply chain and assure the pursuit of the three sustainable pillars: people, the planet, and profits. Sustainability aligned with organizational mission and vision scale up competitive differentiation and make businesses create value beyond benefits.

Company's values face an economic-oriented world that is led by consumerism; which impact is driven by the cultural collapse of the Anthropocene (human effect on Earth). This cultural collapse places financial motivations over sustainability. The social support lets companies get involved in specific community's problems. The environmental component enables businesses to change their policies towards

DOI: 10.4018/978-1-5225-5837-8.ch014

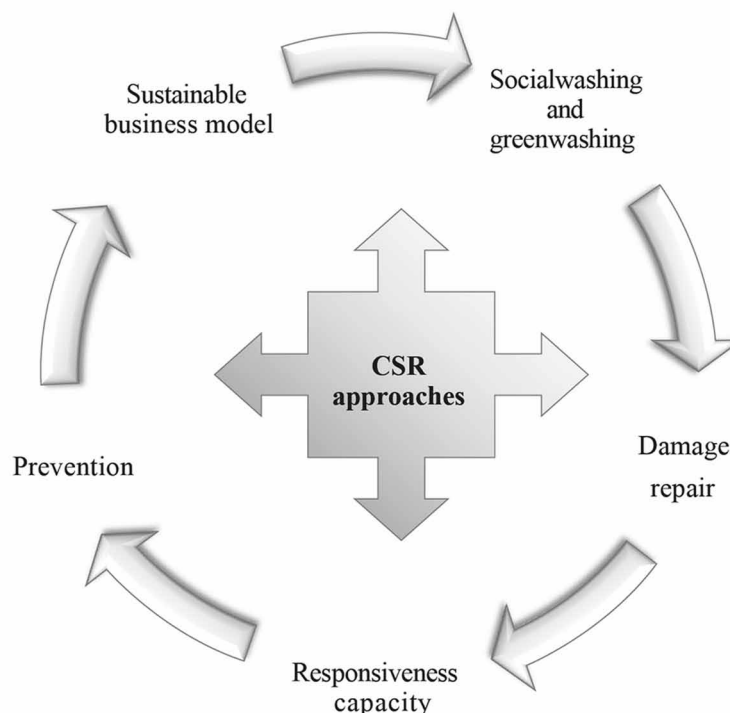
Corporate Social Entrepreneurship

ecological production; most companies focus on reducing waste, but very few of them reincorporate waste to their production processes. The economic factor allows enterprises to foster development through inclusive businesses by getting their input locally or internationally in fair conditions in the value chain, making meaningful this partnership for everybody.

There are a considerable variety of CSR programs, but many of them are a short-term and low impact. Even though some CSR programs are long-term, they are still a small impact. Godet (2007) proposed four attitudes towards the future: passive, reactive, preactive, and proactive; and, an integrated approach, strategic *prospective* or strategic foresight (Godet, 2011). Godet's contributions are used in this chapter to propose a Corporate Social Responsibility Approach Cycle (CSR-Approach Cycle) (Figure 1). This cycle classifies CSR into five categories: social washing and greenwashing as a passive approach to promote through marketing that companies have or aim to have CSR programs; damage repair as a reactive approach to restore the negative impacts of companies' processes that are not intended to be changed; responsiveness capacity as a preactive approach to anticipate to detriment by being ready to respond and mend it; prevention as a proactive approach to take short and middle-term tangible CSR actions to predict injury and provoke change; and, sustainable business model as a strategic *prospective* approach to apply long-term high impact sustainable strategies to change the future and reach Corporate Social Innovation (CSI).

There is an increasing number of companies that are embracing CSE programs, but there is a lack of entrepreneurship culture. Even though some companies are adopting entrepreneurship, these actions are limited to the creation of social incubators as part of their value chain. Social incubators are being created and led to inclusive businesses, either as suppliers, distributors, customers, innovators or as a target of

Figure 1.



Corporate Social Entrepreneurship

their programs to accomplish CSR goals (Mousiolis, Zaridis, Karamanis, & Rontogianni, 2015). The joint strategy between CSR and entrepreneurship, the effectuation of this entrepreneurial virtual circle, is called CSE; which provokes a positive spillover effect that enhances human development. The CSE spillover effect is linked to people's knowledge and willingness for social and environmental actions. The demand for these activities, in terms of society's perspectives, modifies the metrics of sustainable products and services. In the end, entrepreneurship can be the key to success between sustainable (social, environmental, and economic) and financial motivations.

In this chapter, using Internet-Mediated Research (IMR), an unstructured content analysis of seventy companies was used as the primary method to identify recurring patterns that provide general trends (1) to illustrate CSE practices to generate social value, and (2) to explore their ethical constraint alleviation. The CSR section analyzed twenty-nine multinational companies (MNCs) from the top ten of three global recognized rankings (the most significant companies by total revenues, the change world list companies, and the global most respected CSR companies). The Social Value Generation through CSE section analyzed forty-one companies; twenty-four MNCs and micro, small and medium companies (MSMCs) specialized in energy, collaborative supply chain, and innovative solutions; and, seventeen Ecuadorian companies (eleven large companies and six MSMCs) due to Ecuador's entrepreneurial spirit and its nascent interest of encouraging social responsibility. Finally, the ethical constraint alleviation section discussed companies' differences and potentialities.

From this analysis and the literature review, this chapter makes relevant conceptual contributions. First, the CSR-Approach Cycle is proposed in this introduction to remark the sustainable business model as a prospective strategic approach to reach a Corporate Social Innovation Business Model (CSI-Business Model). Then, five vital elements are suggested to foster CSE. In addition, a core business strategy is recommended to implement a CSI-Business Model. The findings of this research bring new insights to the field of CSR and its role in sustainability by incorporating the entrepreneurship discipline. CSE policies and their different perspectives can serve as references for future studies.

CORPORATE SOCIAL RESPONSIBILITY

Intent matters. Integrity matters. Courage matters. If you have the three, nothing else matters. (Sagar, 2015)¹

Carroll's pyramid (1979, 1991, 2016) settled a clear understanding of the economic, legal, ethical, and philanthropic dimensions of CSR. However, Zeitoun (2016) highlights that global demands push companies to go forward from traditional CSR (philanthropy and social investment) to new generation CSR (policy dialogue, advocacy and inclusive business models, and entrepreneurship). Moreover, El-Sayeh (2016) stresses that community engagement activities have moved from compliance to the ultimate creation of shared value (CSR= Philanthropy → Sustainability Management=Social Innovation → Social and Inclusive Business=Shared Value).

Business models are founded to create demonstrable and continued public and economic value (Busenitz, Sharfman, Townsend, & Harkins, 2016). Through values, social groups can help others and themselves to reduce poverty, social exclusion, and unemployment based on the social economy and CSR to make capitalism more democratic (Stanciu & Marchiş, 2016). One way to democratize the world is by formative experiences; which contribute to intentions, core values, and beliefs, where action precedes vision

Corporate Social Entrepreneurship

or vision leads to action (Waddock & Steckler, 2016). Another way of democratization is stakeholders' objectives and interests; which result in indicators and metrics in the social business ecosystem (Bengo, Arena, Azzone, & Mario Calderini, 2016). The social business ecosystem is highly impacted by results on society when CSR is good practices integrated into the company's management model (Anholon, Quelhas, Leal Filho, De Souza Pinto, & Fehér, 2016) based on its socially responsible design (Koo & Cooper, 2016). Systemic CSR promotes the contribution of system participants to achieve systemic objectives based on shareholder value creation, corporate social performance, stakeholder theory, and corporate citizenship (Beal & Neesham, 2016); managing for stockholders and balancing the interests of stakeholders (Clark, Steckler, & Newell, 2016). There is a variety of CSR programs to improve the well-being and quality of life oriented to different groups of people. These CSR programs are organized according to different characteristics, such as age, gender, social context, and specific affinities or problems (Bjärsholm, 2017; Southcott & Joseph, 2017).

How does CSR work? In most companies, CSR reaches three critical areas: the community's specific problems (social level), the ecological impact of the company's activities (environmental standard), and the lack of employment and development in the society (economic level). Twenty-nine MNC websites were reviewed to identify their leading practices in favor of the community, the environment, and the economy. The companies' websites provided CSR information about social, environmental, and economic trends. The qualitative information from the corporate websites was collected in a digital worksheet designed to ensure user data generation. Corporate sites are different; and, the CSR information was presented by using several terms, such as about us, values, public welfare, social impact, community, in society, sustainability, responsibility, corporate responsibility, corporate social responsibility, among others. Corporate websites are very complex; and, the CSR information was presented by a variety of sources, such as text, graphics, pictures, videos, summaries, full reports, interactive tools, different level menus, a lot of links, among others. The information was systematized by a cross-sectional thematic analysis to avoid difficulties due to those limitations, where recurring patterns were coded line by line. The findings were triangulated and cross-referenced with the critical literature review and the context description to be compared and analyzed together.

The MNCs were selected from three global recognized rankings. These rankings correspond to the most significant companies by total revenues, the change world list companies, and the global most respected CSR companies. The top ten of the Fortune World's 500 Largest Companies' CSR programs were analyzed in Table 1. The top ten of the Fortune Change World List Companies' CSR programs were analyzed in Table 2. And, the top ten of 2016 Global CSR RepTrak® 100 companies' programs were analyzed in Table 3.

The twenty-nine MNC-CSR analysis reaches the three sustainable pillars represented by the social level, the environmental level, and the economic level. The cross-sectional thematic study was systematized in Table 1, Table 2, and Table 3. The research shows recurring patterns that provide common trends. First, general and particular pillar practices were determined. Then, similar targets and aims were identified. In addition, complementary activities were documented.

The general CSR social pillar practices include the existence of an institutional foundation, corporate volunteerism, and a depth commitment to improving education, culture, arts and sports, health, human rights, and diversity. A particular practice is the promotion of STEM, creativity, innovation, and entrepreneurship. All these programs have similar targets and aims. The most vulnerable targets are children, women, rural population, refugees, and emergency and disaster victims; which principal objective is to

Corporate Social Entrepreneurship*Table 1. CSR in Fortune Global 500 2017 Top Ten*

MNC	Society	Environment	Economy
Walmart (2017)	Volunteerism, hunger and disaster relief, and education and health programs.	Energy reduction and waste elimination.	Walmart Foundation small business support program, primarily women-owned.
State Grid (2016)	Rural power grid upgrading, farmland irrigation electrification, and rural under voltage problem solutions.	Clean energy, green development, and social energy conservation promotion.	Mass Entrepreneurship and Massive Innovation Policy to offer staff technical innovation platforms and team competitions; 3-in-1 Sustainable Model to feature industries, love, and intelligence; and, Company + Farmers Program to give training and farming technologies.
Sinopec Group (2016)	Culture, education, medical, and health programs.	Blue sky and clear water environmental campaigns for green development.	Infrastructure construction, industrial assistance, and occupational training.
China National Petroleum Corporation (2017)	Disaster relief, cultural and sports events, and educational projects.	Clean operation technologies for climate change prevention, biodiversity help, energy saving, and emission reduction.	Small, medium-sized enterprise (SME) fostering, vocational-technical education, and information platforms for rural development promotion.
Toyota Motor (2017)	Science and technology education, arts, culture and social support, and volunteerism.	Sustainable plants and fuel, reforestation, and environmental education programs.	Agricultural information technologies' management tool to support rice-growing agrarian corporations.
Volkswagen (2017)	Culture and arts, education, science, health, and sports programs.	Climate and environmental protection through vehicle electrification, recycling processes, and the restoration of rivers and moor landscapes.	Together with Strategy intrapreneurship fostering program, a startup launching support in South Africa, and Entrepreneurial Generation Parana state Project in Brazil.
Royal Dutch Shell (2017)	Shell Foundation programs in sustainable entrepreneurship fostering.	Environmental performance to achieve a low-carbon future; and, Shell Game Changer Innovation Challenge to provide support, expertise, and seed funding to early-stage technology ideas.	Shell Live WIRE international entrepreneurship program in 15 countries.
Berkshire Hathaway (2017)	Different companies' programs.	Different companies' programs.	Different companies' programs.
Apple (2017)	Education ConnectED program, and accessibility and social initiatives.	Renewable energy, energy efficiency, and recycling.	Apple Design Awards on innovation and creativity, and supplier and employee empowerment.
Exxon Mobil (2017)	Exxon Mobil Foundation programs in arts, culture, education, and health.	Environmental protection and stewardship operation commitment, and worldwide environment contributions.	Exxon Mobil Foundation Women's Economic Opportunity Initiative.

Note: Royal Dutch Shell has an entrepreneurial focus on its entire CSR program.

Source: Fortune (2017) and corporate authors.

bring hunger relief, social initiatives, inclusion, as well as water and renewable energy accessibility. In addition, MNCs also offer charitable cash giving, donations, and philanthropy activities.

The general CSR environmental pillar practices include sustainable business practices and environmentally responsible production processes through the reduction of energy, water, waste, raw materials, land use, transportation, and CO₂ GHG emissions. A particular practice is the use of conflict-free minerals and elements, renewable energy, eco-packaging, recycling processes, vehicle electrification,

Corporate Social Entrepreneurship*Table 2. CSR in Fortune Change the World List 2016 Top Ten*

MNC	Society	Environment	Economy
Glaxo SmithKline (2017)	Preventive healthcare program in 75 countries, affordable essential vaccines for refugees, and patent and no file patent licenses for generic medicine.	Operational carbon emission cut.	World's first malaria vaccine and Umbipro gel against umbilical cord infection.
IDE Technologies (2017)	Global water solutions, and health and safety in the whole value chain.	Reduction of Greenhouse Gas (GHG) emission, waste, ecological and chemical footprint, and energy use; and, reuse of waste steam, solar energy, and membranes to generate electricity.	Energy- and cost-efficient desalination processes, IDE PROGREEN™ plants, industrial water treatment, and wastewater reuse solutions.
General Electric (2017)	Diversity policies, women in Science, Technology, Engineering, and Mathematics (STEM), and leadership programs.	Ecomagination strategy for GHG emissions, freshwater use, CO2 and fuel transportation reduction; renewable and clean energy investment; and, high productivity and energy reduction by Predix operating management Internet of Things (IoT) platform.	Affordable healthcare device portfolio for rural markets, current intelligent environments, global research, and future Industrial Internet of things (IIoT) productivity.
Gilead Sciences (2017)	Gilead Foundation programs in HIV and hepatitis education, outreach, prevention, and health services; and, supplier inclusion and Employee Stock Purchase Program.	Biodiversity conservation; and, the reduction of energy and water consumption, raw material use, waste generation, land use, transportation, and GHG emission.	Hepatitis C and HIV licensing agreements in the developing world.
Nestlé (2017)	Human rights and decent employment promotion.	Water conservation, waste reduction, eco-packaging, natural capital preservation, and animal welfare.	Rural development based on farmer needs and green supply chain.
Nike (2017)	Active schools, youth sports, music, arts and skate; community impact and school innovation fund; community ambassadors; physical activity programs; girls' support; and, portable water filtration system distribution.	Environmental footprint reduction by waste elimination and renewable energy use.	Green products and green supply chain.
MasterCard (2017)	MasterCard Aid Network, World Beyond Cash™ to foster inclusive economies, and women empowerment.	Energy conservation, recycling, and pollution control.	Entrepreneurs' support.
United Technologies (2017)	STEM education support.	Fuel burn and carbon dioxide emission reduction.	Suppliers' appropriate standards.
Novozymes (2017)	Stakeholder engagement.	Reduction of carbon emissions, raw material, chemicals, and energy use.	Biotechnology for eco-friendly products.
First Solar (2017)	Affordable photovoltaic energy.	GHG emission reduction, lowest water use, and recycling.	Sustainable solar energy.

Source: Fortune (2017) and corporate authors.

and pollution control. All these programs have similar targets and aims. The most vulnerable target is climate change; which primary objective is to reach sustainable development goals. In addition, MNCs also promote natural capital preservation, biodiversity conservation, animal welfare, reforestation, environmental education, restoration of rivers and moor landscapes, clean sky, worldwide environment contributions, conservation funds, and environmental entrepreneurship awards.

Corporate Social Entrepreneurship*Table 3. CSR in RepTrak® 100 2016 Top Ten*

MNC	Society	Environment	Economy
Google (2017)	Google.org programs in economic opportunity, education, inclusion, crisis response, and impact challenge.	Renewable energy global operations.	Google's search and advertising tools, Google for Entrepreneurs, Get your Business Online, Small Business Supplier Diversity, and a responsible supply chain.
Microsoft (2017)	Rural broadband gap elimination, Block by block Minecraft community program, Azure, CityNext, MySkills4Afrika, 4Afrika Initiative, Thinking beyond the limitations, affordable access initiatives, and philanthropies.	Carbon neutral company, sustainable business practices, water stewardship and waste management.	National Entrepreneurship Week (NEW), DreamSpark, Imagine Cup, BizSpark, BizSpark One, Microsoft Innovation Centers, Virtual Academy, and Office 365 Business Essentials.
The Walt Disney Company (2017)	Charitable cash giving, and product contributions, book donations, public service announcements, Hour of Code member (code.org), Star Wars: Force for Change, VoluntEARS, hospital care, musicals in schools, storytelling workshops, and healthy living.	Emission reduction, waste diversion, water conservation, conservation funds and awards; and, the Conserve Nature program.	Disney Startup Accelerator Program.
BMW (2017)	BMW Foundation Herbert Quandt and the BMW AG Eberhard von Kuenheim Foundation; strategic university partnerships; arts, jazz and classical music, architecture and design cultural engagement; Intercultural Innovation Awards; Robots for fun learning; Social and professional integration of refugees; and, health initiatives.	Resource-efficient production with low CO2 emissions.	Rad ^o Hub world creativity platform, much more than a think tank.
LEGO (2017)	LEGO Foundation and LEGO Education, LEGO System in Play, LEGO Play Day, and Employee Play Ambassadors.	CO2 emission reduction, sustainable packaging, and waste management.	LEGO Foundation Centre for creativity, Play and Learning; Play Futures; and, LEGO Ideas for inventors and creators.
Daimler (2017)	Daimler and Benz Foundation, Daimler ProCent, STEM, education, arts and culture promotion, community and charitable giving, volunteerism, emergency relief, and refugee support.	Environmentally responsible product development, climate protection, and nature conservation.	German Future Prize, Genius Daimler's young knowledge community, and Each Girl is a Star.
Rolls-Royce Aerospace (2017)	STEM education and activities, science prize, and philanthropy.	TotalCare® product environmental performance.	Specialist Academy and Rolls-Royce Fellowship.
Rolex (2017)	Rolex Mentor and Protégé Arts Initiative, and sports and culture sponsorships.	Ethical, social and environmental practices.	Rolex Awards for Enterprise and Young Laureates Awards.
Intel (2017)	Intel Foundation, volunteerism, charitable giving, and donations.	Energy-efficient product development, conflict-free minerals and materials, and water conservation.	Intel Software Developer Zone, iQ and IT Peer Network Education, Intel Innovation Generation, Make Tomorrow, Future Skills, She Will Connect, and a responsible supply chain.

Note: Apple is number 7 in this ranking, but it was already analyzed in Table 1.

Source: Reputation Institute (2016) and corporate authors.

The general CSR economic pillar practices include the base of the pyramid products (BoP) such as licensing agreements, vaccines, medicine, and affordable healthcare devices, as well as sustainable products such as green products, eco-friendly biotech products, solar energy, and water solutions. A

Corporate Social Entrepreneurship

particular practice is the endorsement of SME fostering, entrepreneurial generation projects, entrepreneur and small business support, international entrepreneurship programs, small business and farming inclusive business models, as well as green supply chain development. These practices are enhanced through infrastructure construction, technology, information and communication platforms, technical assistance, vocational and occupational training, supplier and employee empowerment, green processes, and appropriate standards, startup launching, and accelerator programs think tank and idea platforms, innovation and creativity centers, knowledge communities, and networks. All these programs have similar targets and aims. The most vulnerable targets are young people, women, rural population, refugees, and victims; which primary objective is to encourage the community economic development. In addition, MNCs also grant awards, prizes, fellowships, competitions, and events based on innovation and creativity.

The three pillars' general factor is entrepreneurship. Entrepreneurship actions involve economic, environmental, and social values in the course of Corporate Sustainability (Vildåsen, Keitsch, & Fet, 2017; Jerónimo Silvestre, Antunes, & Leal Filho, 2016); which represent a long-term competitive advantage (Alberti & Varon Garrido, 2017; Vitolla, Rubino, & Garzoni, 2017). According to Porter and Kramer (2006), there is a link between competitive advantage and corporate social responsibility, the shared value (social value + economic value). It represents scalable solutions principally through product and market innovation, high productivity in the value chain, and supportive industry clusters; and, business environment, redesigned processes, economic efficiency, managerial skill and knowledge, government regulation equilibrium, environmental impact control, and social progress (Porter & Kramer, 2011). At this point, it is very significant to identify the potentialities of entrepreneurship in social value generation through CSE.

SOCIAL VALUE GENERATION THROUGH CORPORATE SOCIAL ENTREPRENEURSHIP

Corporate Social Entrepreneurship is a process aimed at enabling the business to develop more advanced and powerful forms of Corporate Social Responsibility. (Austin & Reficco, 2009)

Corporate Entrepreneurship can be applied in public or private sector to generate new competencies and create value (Kearney & Meynhardt, 2016). Managers' entrepreneurial orientation has important organizational and social effects (Muñoz, Sánchez De Pablo, Peña, & Salinero, 2016), where individuals' moral and ethics is a sustainable practice agent (Wang, Cheney, & Roper, 2016). Social and environmental development and level of entrepreneurship are determinants for the demand and supply for private equity and venture capital funds (Dias & Macedo, 2016). Real strategic entrepreneurship initiatives fully mediate the relationship between entrepreneurial orientation and organizational performance (Kantur, 2016). In fact, Michelini (2012) found that inclusive business strategies are based on five Co-Principles: co-value creation, co-dependency and co-evolution, co-learning, co-invention, and co-existence of local and global.

CSE has a dual scope, reaching social and economic capital development in the course of CSR (Hemingway, 2013), focused on social innovation and social entrepreneurship (Mongelli & Rullani, 2017). Consequently, it generates legitimacy and sustainable profitability through the identification of critical environmental factors and the development of coherent entrepreneurial and marketing strategies that are inspired by social responsibility (Tasavori, Ghauri, & Zaefarian, 2016). From the literature review, five strategic elements are suggested to foster CSE:

Corporate Social Entrepreneurship

- Social license as a result of stakeholders' engagement (Li, 2017; Marom, 2017; Provasnek, Sentic, & Schmid, 2017).
- Investors' interest in socially responsible or environmental sustainable practices (De Lange, 2017).
- Organizational culture intended to create social and financial value (Kuratko, McMullen, Hornsby, & Jackson, 2017).
- Managerial support to empower intrapreneurs' Corporate Social Performance (Calisto & Sarkar, 2017; Duobiene, 2017; Magnanelli & Izzo, 2017; Puech & Durand, 2017; Rothenberg, Hull, & Tang, 2017).
- Corporate citizenship role as customers' engine of interactive relationships (Amiraly & Sawamura, 2016; Rahdari, Sepasi, & Moradi, 2016).

In the Middle East and North Africa (MENA) region and some Asian countries is used the term Corporate Entrepreneurship Responsibility (CER) instead of CSE to refer to private sector development programs through inclusive business models. Some companies that have contributed to seed change by means of CER in MENA and Asian region are Danone, Hindustan Lever Limited (Unilever), Hong Leong Islamic Bank Berhad, IKEA, Mansour Group, Mastercard, Microsoft, Orange Group, PricewaterhouseCoopers, SEKEM Holding, among many others. Ghandour (2013) conceptualizes CER as a movement focused on promoting the private sector towards building region-wide entrepreneurship ecosystems. Ghandour (2017) emphasizes that CER can be the framework for companies to provide education, partnership, and financing to enable entrepreneurship. In addition, INJAZ Egypt (2003), with the support of private companies, promotes the skills of employability and entrepreneurship with training, seed funding and mentorship in Egypt. Zain (2013) established the first CER company division to support and develop startup projects submitted by young entrepreneurs in the Jordanian Kingdom. Qotuf AlRiyadah (2013) directs the private sector CSR efforts toward CER to build Saudi Arabia entrepreneurial ecosystem. MaGIC & Techstars Startup Program (2017) applies CER to help both corporations and entrepreneurs to collaborate together in Malaysia's entrepreneurship ecosystem efficiently. CSE is centered on entrepreneurship to embrace the three sustainable pillars in their core business strategy. Moreover, CSE is mostly accomplished by corporations, as well as CSR, but MSMCs also develop CSE adapted to their capacities.

How does CSE work? Entrepreneurship has gained prominence in CSR; as a result, CSE reaches the three sustainable pillars: the society (Social Entrepreneurship), the environment (Environmental Entrepreneurship), and the economy (Developmental Entrepreneurship). Forty-one MNC and MSMC websites were reviewed to have a general overview of CSE practices. The companies' websites provided CSE information about Social Entrepreneurship, Environmental Entrepreneurship, and Developmental Entrepreneurship trends. The qualitative information from the corporate websites was collected in a digital worksheet designed to ensure user data generation. In addition to general corporate websites' differences and complexities, it was difficult to identify corporate websites that evidence CSE practices, especially in the three sustainable aspects focused on entrepreneurship, but the most challenging activity was to find MSMC websites, particularly with CSE or even CSR information. The information was systematized by a cross-sectional thematic analysis to avoid difficulties due to those limitations, where recurring patterns were coded line by line. The findings were triangulated and cross-referenced with the critical literature review and the context description to be compared and analyzed together.

The companies were selected discretionarily from an exhaustive Google search. Twenty-four MNCs and MSMCs specialized in energy, collaborative supply chain, and innovative solutions were analyzed in Table 4, Table 5, and Table 6 to identify CSE business models and their essential practices. In ad-

Corporate Social Entrepreneurship*Table 4. CSE business models in energy companies*

MNC/MSMC	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
BioLite (2017)	Safe Energy Everywhere™ to those who need it most.	A carbon neutral company.	Affordable solar energy home and camp stoves, and mini power lights in the U.S.A, India, Uganda, and Kenya.
D.light (2017)	Solar energy for people without access to reliable power.	A renewable energy source company.	Affordable solar-powered energy, solar lanterns, solar home and business lighting, and high-power systems in the U.S.A., Africa, China, and South Asia.
M-Kopa Solar (2017)	Solar energy and employment generation in East Africa.	Kerosene-free lighting.	Affordable solar power high-quality solutions in Kenya, Uganda, and Tanzania.
Nizam Energy (2017)	Solar energy and clean drinking water for off-grid areas.	CO2 offset from solar energy.	Affordable solar energy services with integrated design, construction, operation, management, and financing in Pakistan.
Sanergy (2017)	Fresh Life Toilets franchising for local entrepreneurs, residential plots, and community institutions.	Sanitation facilities ,and waste removal, transport, and processing.	Affordable hygienic sanitation, organic fertilizer, insect-based animal feed, and renewable energy in Kenya.
Solarnow (2017)	Solar energy and employment generation in East Africa.	Clean energy.	Affordable solar household; and, small business farming and corporate solutions with flexible credit in Uganda and Kenya.
SRE Solutions (2017)	Solar energy for humanitarian, domestic, commercial, and the public sector.	Clean energy.	Affordable solar energy with integrated sales, financing, design, installation, monitoring, and efficient customer support services in Pakistan.

Source: corporate authors.

dition, seventeen Ecuadorian companies (eleven large companies and six MSMCs) were examined in Table 7, Table 8, and Table 9 due to the nascent interest of encouraging social responsibility in Ecuador and the MSMCs' contribution to 55% of national employment and 20% of the Gross Domestic Product (Villalobos Grzybowski, 2013).

The forty-one MNC/MSMC-CSE analysis reaches the three sustainable pillars represented by Social Entrepreneurship, Environmental Entrepreneurship, and Developmental Entrepreneurship. The cross-sectional thematic study was systematized in Table 4, Table 5, Table 6, Table 7, Table 8, and Table 9. The research shows recurring patterns that provide common trends. First, general and particular pillar practices were determined. Then, similar targets and aims were identified. In addition, complementary activities were documented.

The general CSE social entrepreneurship pillar practices are focused on cooperative societies and integrated networks; and, they are firmly related to environmental practices. A particular method is the generation of disruptive media of employment such as micro-franchising, doorstep entrepreneurship, individual and village entrepreneurship, and virtual marketplace entrepreneurship. They also offer infrastructure, helplines, financial services, input supplies, training, technical support, and logistics. All these programs have similar targets and aims. The most vulnerable targets are poor communities and rural population; which principal objective is to reduce poverty by giving support to women and small farmers to improve their quality of life. In addition, there is the existence of equity and profit participation for stakeholders, corporate volunteerism, and an institutional foundation focused on entrepreneur-

Corporate Social Entrepreneurship*Table 5. CSE business models in collaborative companies*

MNC/MSMC	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
Amul (2017)	Village milk cooperative societies for raw materials, vet medicines, transport, marketing, and sales services.	Tree plantation.	Indian dairy products.
Creative Egypt (2017)	An integrated cultural hub for Egyptian artisans.	High-quality products.	Egyptian stores and trademark.
Ethiochicken (2017)	A country network of entrepreneurial farmers to improve protein consumption, reduce malnutrition, and increase income.	Improved breeds, inputs, and management methods' supply.	Poultry Ethiopian company.
Good Eggs (2017)	Equity and profit participation for employees; and, fair workers' treatment obligations for suppliers.	Quality, flavor, ethical business practices, small carbon footprint commitment, and high standards for the treatment of animals.	American marketplace food system in partnership with local farmers and food makers; and, supply chain transparency policies.
Jaipur Rugs (2017)	Doorstep entrepreneurship by disadvantaged or rejected grassroots artisans' network, primarily for men and women who live in the most remote parts of India.	Sustainable livelihood form of employment, and reduced use of transportation.	Indian rug manufacturers and global distributors.
Siembraviva (2017)	Agro-ecological farmers' network.	A certified B Corporation company for good governance, organic and regenerative agriculture environmental practices, and impacts on the local community.	E-commerce organic food products in Colombia.
Uncommon Cacao (2017)	Smallholder cacao farmers' network.	Sustainable specialty cacao supply chain.	Cacao supply chain in Belize and Guatemala.
Uncommon Goods (2017)	The community of artisans, designers, and creative thinkers; and, relationships with non-profit organizations through Better to Give.	A certified B Corporation company for good governance, environmental practices, and impacts on the local community; and, the use of sustainable or recycled materials, environmentally friendly packing materials, and Forest Stewardship Council certified and recycled paper.	An American company based on the global offering of craftsmanship, innovation, sustainability, and creative design.
Under The Mango Tree (2017)	Honey marginal and tribal farmers for reducing rural poverty.	Natural product without additives and chemical substances through environmentally friendly and sustainable processes.	Beekeeping honey retail network in India.
Wasi Organics (2017)	Small Andean farmers' association supply chain.	Sustainable organic agriculture biotrade principles.	Peruvian biodiversity food products, like snacks, superfoods, and granolas.

Source: corporate authors.

ship, education, education scholarships and subsidies, culture, arts and sports, health, social assistance, charity, donations, and philanthropy.

The general CSE environmental entrepreneurship pillar practices are focused on ecological business models to offer high-quality products through a small carbon footprint commitment and ecological

Corporate Social Entrepreneurship*Table 6. CSE business models in innovative solution companies*

MNC/MSMC	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
BASIX Krishi (2017)	Farmer producer organization of individual and village level entrepreneurs.	Agro-implements, virus free early generation seeds, portable soil testing kit based fertilizer application, and multiple usable solar pumps.	High-quality and low-cost cultivation in the production income for banana, potato, and fisheries in India.
Esoko (2017)	Rural communities' life improvement by input and financial information through the virtual marketplace.	Weather alerts and crop advice to increase productivity.	Mobile technology for African farmers in Uganda.
Farmers' Hope (2017)	Agriculture livelihood improvement and foodstuffs' cost reduction in the Ghanaian market.	Responsible waste disposal.	High-quality organic agricultural inputs at affordable prices for Ghanaian farmers.
Medeem (2017)	Equity and profit participation for partners and employees.	Sustainable impact on human dignity.	Equitable access to land tenure process for women, smallholder farmers, and the economically disadvantaged in Zambia.
My paga (2017)	Financial services to all Africans for airtime credit, bill, and retail payments.	Innovation technology core business.	Innovative and universal access to financial services in Nigeria.
Soko (2017)	Community training and employment; and, discretionary responsibilities like pre-school for employees' children, free medical care, a kitchen and dining room serving tea, and a daily hot meal for employees.	Self-sustaining manufacturing business eco-factory.	A high-quality garment manufacturing company based on social and environmental core principles in Rukinga Wildlife Sanctuary in Kenya.
Ziqitza Health Care (2017)	First responder program and helplines.	Availability and accessibility of standardized emergency medical services.	Emergency medical services and training in India.

Source: corporate authors.

maintenance. A particular method is the use of renewable energy along with carbon neutral and organic production. They also apply ethical business practices, sustainable supply chain, sustainable livelihood forms of employment, right governance for human dignity on the local community, essential services reduction, energy and water optimization, waste removal, responsible waste disposal, waste recycling and reprocessing, innovation technology, ecological or recycled materials, self-sustaining manufacturing business eco-processes, eco-friendly packaging, sanitation facilities, transportation reduction, clean processing management methods, high standards for the treatment of animals, organic and regenerative agriculture, the use of certified and recycled paper, availability and accessibility of standardized products and services, natural products without additives and chemical substances, and eco-friendly products or services. All these programs have similar targets and aims. The most vulnerable goal is the company ecosystem; which the primary objective is to promote the conservation and recovery of the environment as its core business. In addition, there is the existence of different environmental programs such

Corporate Social Entrepreneurship*Table 7. CSE business models in Ecuadorian large companies (Part I)*

ECUADORIAN LARGE COMPANIES	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
Agripac (2017)	Farmers' support; university training and certification by "La Escuelita" program; and, philanthropy.	Responsible agriculture.	<i>Plan Maíz</i> inclusive business model as a backward vertical strategy.
Cerveceria Nacional (2017)	Micro-entrepreneurship support to communities; volunteerism, recreation, and education activities for vulnerable children and adolescents; programs of road safety, moderate alcohol consumption, and non-alcohol consumption among minors; reputation building campaigns associated with the sponsorship of football teams; and, philanthropy.	A carbon neutral company; and, water, energy, and recycling programs.	<i>Siembra Cebada</i> inclusive business model as a backward vertical strategy; and, <i>Siembra Futuro</i> leadership program for little grocery owners as a forward vertical strategy.
Colineal (2017)	Micro-entrepreneurship support to employees' wives; school entrepreneurship training; employees' wellbeing activities; and, philanthropy.	Cultivated forests, eco-friendly materials, eco-friendly packaging, and recycling.	A whole business supply chain.
Consorcio Nobis (2017)	Nobis Foundation, Luis Noboa Naranjo Foundation, and <i>Ecuador Triunfador</i> Program promote health, education, housing, child development, welfare, youth entrepreneurship, microenterprise strengthening, and community and local development.	Eco-friendly production and clean energy creation.	Innobis Coworking and a whole business supply chain.
Difare (2017)	Health promotion to children and older adults.	Energy consumption reduction and eco-packaging.	Fedifare Foundation pharmaceutical training to foster the supply chain development; and, micro-entrepreneurship pharmaceutical franchising.
Farmaenlace (2017)	Social assistance, education scholarships and subsidies, and philanthropy.	Environmental maintenance, reforestation, primary services reduction, and recycling.	<i>Instituto Académico Farmaenlace</i> programs in coaching and pharmaceutical vocational training.

Source: corporate authors.

as cultivated forests, tree plantation, forest protection, reforestation, recovery and preservation of rivers, and the replacement of non-endemic species.

The general CSE developmental entrepreneurship pillar practices are focused on cooperative social economy business models through fair trade and eco-friendly inclusive businesses to offer affordable, high-quality solution products and services. A particular method is the establishment of innovation networks, associative projects, micro franchising, and inclusive business supply chain development. They also offer equitable access to coaching and vocational training, technical support, technology, inputs,

Corporate Social Entrepreneurship*Table 8. CSE business models in Ecuadorian large companies (Part II)*

ECUADORIAN LARGE COMPANIES	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
Industria Lojana de Especerías (2017)	Community development through technical training on soil management, water protection, organic fertilizer preparation, and environmental conservation; and, charity, donations, and philanthropy.	A low carbon footprint company, clean production, waste reprocessing (organic fertilizer and fuel), recycling (glass and inorganic products), and forest protection programs.	Rural farmer inclusive businesses as a backward vertical strategy.
La Fabril (2017)	Healthy and safe production; entrepreneurship and mindfulness training for employees; community development through social and cultural action plans, health protection programs, and education and civic activities; and, philanthropy.	A carbon neutral company; waste and hazardous waste management and co-processing; water optimization and renewable energy use; recovery and preservation of rivers; replacement of non-endemic species; and, the production of organic fertilizer and biofuels produced from waste.	Small farmer inclusive businesses as a backward vertical strategy through an associative project of palm oil and extraction plants.
Novacero (2017)	Innovation cells, Children of the Future, and technical training.	Eco-friendly and clean production and reforestation programs.	Novared for recycling micro entrepreneurs.
Pronaca (2017)	San Luis Foundation partnership programs in industrial chemistry micro-entrepreneurship, health, education, training, and infrastructure.	Eco-friendly production, water consumption and gas emission reduction, and reforestation programs.	Supply chain development.
Supermaxi (2017)	Foundations' partnerships support education and social aspects of vulnerable sectors.	Eco-friendly production, water, and energy consumption reduction, recycling programs, and eco-packaging.	Innovative product challenge for entrepreneurs and micro companies.

Source: corporate authors.

Table 9. CSE business models in Ecuadorian micro, small and medium companies

ECUADORIAN MSMC	Social Entrepreneurship	Environmental Entrepreneurship	Developmental Entrepreneurship
Agrogana (2017)	Employees and their children's well-being, health and education.	Environmentally responsible.	A fair Trade-certified company.
Ecuacafe Gold (2017)	Producers' quality of life improvement.	Organic production.	A fair Trade-certified company.
Hoja Verde Chocolate (2017)	Producers' quality of life improvement.	Organic production.	A fair Trade-certified company.
Pacari Chocolate (2017)	Producers' quality of life improvement.	Organic production.	Small producers support through training and solar energy flash lamps.
Salinerito (2017)	Rural integral development.	Environmentally responsible.	A cooperative social economy.
Organicliffe (2017)	Health promotion.	Organic production.	Eco-friendly business model.

Source: corporate authors.

Corporate Social Entrepreneurship

transportation, and financing. All these programs have similar targets and aims. The most vulnerable targets are small artisans, producers, and farmers; which principal objective is to develop economically disadvantaged through inclusive business models as a backward and forward vertical strategy by making their products accessible to global distributors. In addition, there is the existence of coworking programs and innovative product challenges for entrepreneurs and micro companies.

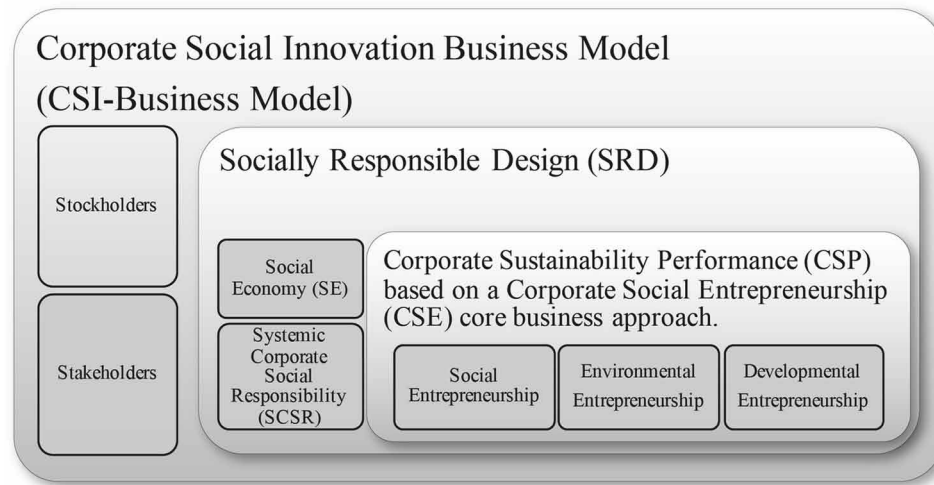
The three pillars' general factor is entrepreneurship. International organizations have developed social innovation summits to encourage governments and companies to use entrepreneurship as a tool to achieve a sustainable business model. CSI is the evolution of CSR that emphasizes innovative entrepreneurship to develop environmentally friendly products and services that improve bottom line communities at the same time that make profits. Mirvis and Googins (2017) have studied the CSI growing trend to explore its nature and practice. In the same line, Popoli (2016) stressed that social questions had become central elements of the business and generators of business opportunities. In fact, Osburg (2013) highlighted social innovation to drive corporate sustainability. On the other hand, Sinkovics, Sinkovics, Ferdou Hoque, and Czaban (2015) proposed a reconceptualization of social value creation as social constraint alleviation. Therefore, CSE builds a core business strategy to develop a CSI-Business Model (Figure 2).

ETHICAL CONSTRAINT ALLEVIATION

The IMR company sustainability analysis and the literature review made possible to detect entrepreneurship as a strategic opportunity for human development beyond the moral constraint alleviation. It was shown that MNCs play a vital role in the spillover effect, but there is not a company size limitation. The proposed CSI-Business Model considers the needs of the stockholders and stakeholders through a Socially Responsible Design. This design involves the Social Economy and the Systemic Corporate Social Responsibility to develop Corporate Sustainability Performance for MNCs and MSMCs. Moreover, CSE is the core business approach to the model that engages Social Entrepreneurship, Environmental Entrepreneurship, and Developmental Entrepreneurship.

On the one hand, several studies suggest that CSR represents a competitive advantage for entrepreneurs which would be linked to CSE as a core business approach. Holm and Our A (2009) found that about 75% of SMEs in Denmark had CSR activities focused on employee well-being and community reputation. Unfortunately, Zafar and Farooq (2014) established that Pakistani entrepreneurs are lack of training in CSR practices. The researchers remarked that Pakistani SMEs do not apply efficient CSR practices, they do not advertise their achievements, and they do not receive the benefits return of their contributions in employees' well-being, charity, donations, and welfare funds for the society. On this topic, Polášek (2010) proposed that CSR is fostered by combining SMEs' long-term profitability and sustainability close with MNCs' supply chain encouragement. Contrarily, he found that SMEs face that reporting and validating a socially responsible approach is tough because of the cost of information management, CSR global reporting, verification frameworks, qualified human resources, and time. Nevertheless, Hodinková and Sadvský (2016) agreed with Polášek's obstacles and limitations on CSR, Hodinková and Sadvský underlined that the ability of entrepreneurs to identify opportunities in the form of CSR in SMEs brings a competitive advantage. They concluded that SMEs' performance and sustainable development are improved due to their close relationship with their employees and customers than in large companies.

On the other hand, there is consistent evidence that entrepreneurship is associated with social innovation that permits human development. Zahra and Wright (2016) determined that entrepreneurial

Corporate Social Entrepreneurship*Figure 2.*

activities engender social value added to society by improving the quality of life, reducing dysfunctional effects, supporting the scholarly arena, catalyzing social multipliers, and stimulating triple bottom line (TBL) blended value. In addition, Stecker (2016) proposed that benefit corporation are a valuable business form of social enterprise that embraces the TBL of people, planet, and profit by balancing social and environmental impact with shareholder returns. More importantly, Tate and Bals (2016) suggested that CSR can ensure shared TBL value creation by means of economic success, a positive environmental and social impact to overcome challenging constraints. Thus, sizeable private organization information and training support to the BoP on entrepreneurship success create development opportunities within the local community (Rahman, Amran, Ahmad, & Taghizadeh, 2016). On the contrary, when business planning does not address social issues, negative corporate social performance is generated, being penalized in the form of reduced company performance (Kumar, Boesso, & Michelon, 2016). Additionally, in emerging economies, employee power is not associated with CSR, while shareholder and customer concentration are negatively associated (Li, Lin, & Yang, 2016).

Those contributions support the findings of this research. There were enormous differences in CSR and CSE performance between developed and developing countries. In most cases, companies from developed countries presented their sustainable accountability reports according to international standards, while companies from developing nations barely sketched their corporate activities and their achievements. Furthermore, there were similar differences between MNCs and MSMCs. For instance, Ecuador serves as a case study of those differences. The proposed CSI-Business Model represents an opportunity to level off those divergences and increase Corporate Sustainability Performance through CSE as a core business approach.

Corporate Social Entrepreneurship

FUTURE RESEARCH DIRECTIONS

This chapter contributed to the understanding of entrepreneurship as a valid dual strategy and its linkages to Corporate Social Innovation, but this approach is just a snapshot of companies' efforts and achievements. Further research should analyze the potentialities of the proposed CSI-Business Model and its implementation methods.

CONCLUSION

CSE has a dual strategic scope; it satisfies CSR, but the most important contribution is that entrepreneurship actions meet social, environmental, and economic development. The objective of large companies is to increase the value of the stock and generate profits; while the aim of micro, small, and medium companies is to recover the invested capital and survive. In both cases, all players are involved in these economic commitments, but not all of them are receiving a return on their efforts. The employees are core players, but in most cases, they are part of modern slavery as another figure in statistics. The customers are essential participants, but their entire satisfaction and rights are not always respected. The suppliers are strategic partners, but in numerous cases, they are not reasonably contracted, punctually paid, and they are subject to in-depth audits to meet larger companies' standards that are out of their capabilities, leaving them in many cases out of the competition. The environment is the source of all resources, but it is exploited and once exhausted, it is merely abandoned. The community is another source of funds, but it is relegated to provide what companies need and to receive what companies are willing to give. Legal and social pressure have forced companies to respect and promote human rights, diversity, customer rights, value chain revaluation, environmental conservation, community development, in general, sustainable goals. The challenge is to make economic performance a result of company stakeholder commitment. CSR has been fundamental to meet this challenge, but today it is observed how more and more companies, regardless of their size, are welcoming CSE as a tool for economic growth and good governance. Therefore, CSE is suggested as a core business strategy to develop a CSI-Business Model for the generation of social value to achieve financial and sustainable goals.

ACKNOWLEDGMENT

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors. In addition, I kindly thank José Manuel Saiz-Álvarez, editor, and reviewers for their extremely constructive feedback on earlier drafts of this chapter.

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KEY TERMS AND DEFINITIONS

Corporate Entrepreneurship Responsibility: An entrepreneurship centered CSR approach.

Corporate Social Innovation: Innovative social value solutions through stakeholder engagement that meet financial and sustainable goals.

Effectuation: Strategy materialization.

Inclusive Business: Development boost of small suppliers through vertical integration.

Shared Value: Corporate and social value creation.

Spillover Effect: Attitudes that constitute global trends.

Strategic Prospective: Present strategies to build future change; strategic foresight.

Sustainability: Social, environmental, and economic concerns in every performed action.

Value Chain: Stakeholder commitments and contributions.

ENDNOTE

- ¹ Sharad Sagar is the founder and CEO of Dexterity Global. He was honored by Forbes *30 under 30* and by Rockefeller Foundation *100 Next Century Innovators*.

Corporate Social Entrepreneurship**APPENDIX**

The following websites provide useful sources of information for sustainability research that disrupts the promotion and encouragement of corporate social innovation culture.

Table 10. Useful Sources of Information for Sustainability Research

International Organizations	
http://acumen.org/	https://www.globalreporting.org
http://b-analytics.net/giirs-funds	http://www.g20challenge.com/
https://ec.europa.eu/	http://www.growinginclusivemarkets.org/
http://foundationcenter.org/	http://www.ifc.org
http://fsg.org/	http://www.irrc.org/
https://home.kpmg.com	https://www.iso.org/
http://integratedreporting.org/	https://www.odi.org
https://iris.thegiin.org/	http://www.oecd.org/
https://nextbillion.net/	https://www.reputationinstitute.com
https://sharedvalue.org/	http://www.robecosam.com/
http://sustainability.com/	https://www.sasb.org/
https://sustainabledevelopment.un.org/	https://www.seed.uno/
https://thegiin.org/	http://www.snv.org/
https://www.accountability.org/	http://www.sustainability-indices.com/
https://www.ashoka.org/en	https://www.unglobalcompact.org/
https://www.bitc.org.uk	https://www.unodc.org/
https://www.businesscalltoaction.org/	http://www.undp.org/
https://www.cdp.net	http://www.unido.org/
https://www.cdp.net/en	http://www.unwomen.org/en
http://www.cdsb.net/	http://www.wbcsd.org/
https://www.giz.de/en/	http://www.worldbank.org/

Source: corporate websites.

Chapter 15

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth: Small and Medium Enterprises in Chile

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ABSTRACT

From a descriptive-functional paradigm, this study explores how universities contribute to the promotion of entrepreneurship and the growth of small and medium enterprises in Chile. This fact constitutes the first approximation to the phenomenon of installing a national network of business development centers driven by the Technical Cooperation Service (SERCOTEC, for its acronym in Spanish), a private law corporation and a body dependent on the Ministry of Economy, Development, and Tourism of Chile. The study uses a qualitative methodology of phenomenological order, and it concludes as of diverse experiences about the achievements evidenced by a group of sixteen business owners advised by these centers from different locations of Chile.

DOI: 10.4018/978-1-5225-5837-8.ch015

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth**INTRODUCTION**

This chapter allows us to understand the role of Universities in the development of small and medium-sized enterprises, through the perspective of a descriptive-functional paradigm by analyzing the experience of several support units that dependent on the Technical Cooperation Service (SERCOTEC), a private law body that is under the Ministry of Economy, Development, and Tourism of Chile. The fundamental objective of this study is to observe how the Chilean Universities contribute to SME development due to knowledge and their diffusion and application in their territory of influence or '*hinterland*.'

It should be noted the relevance that the concept of University Social Responsibility (USR) is acquiring from the stakeholders' approach. In the first part, we will address USR and how USR has been positioned as a strategic relationship with the community. In the second part, we will look at Small and Medium Enterprises (SMEs) in Chile and how the Universities contribute to the SME development in Chile. In the last part, it can be found recommendations, future research lines, and conclusions.

THE CHILEAN UNIVERSITY SYSTEM AND UNIVERSITY SOCIAL RESPONSIBILITY

It is necessary to point out that the Chilean university system is constituted in a sophisticated way by institutions grouped according to their ownership and access to state funding. So, under the aegis of the Council of Rectors of Chilean Universities (CRUCH, for its acronym in Spanish), there are eighteen state universities that belong to the Consortium of Universities of the State of Chile (CUECH, for its acronym in Spanish), and nine private universities with state contribution grouped in the G9 University Network. Thirteen private universities are members of the Private Universities Corporation (CUP, for its acronym in Spanish) and twenty universities are independent actors¹. Although this last set of ten institutions are in a Single Admission System (SUA for its acronym in Spanish) to the Chilean universities of the CRUCH, where also adhere two higher education institutions of the CUP (CUP, 2018; DEMRE, 2018; Ministry of Education of Chile, 2017; Vega, Martinez & Morales, 2017; Martinez & Vega, 2015). Because of the complexity of the system, Muñoz and Blanco (2013) classified the universities into five groups: research universities, elite universities, large universities, accreditation universities and non-elitist universities. These groups even show an internal diversity that expands the types of existing universities, an issue that is enhanced in the last of the mentioned group.

Rothaermel, Agung, and Jiang (2007) point out that in many countries the Universities have contributed as a space for entrepreneurship and innovation. In the USA, for example, universities have increased their entrepreneurial activity in several dimensions such as patents and licenses, creating incubators, science parks, and university spin-outs as well as start-ups. In addition, in the European Union, there are various initiatives and efforts to transfer university technology to industry. However, there is a little record in a specialized study that can contribute to generating lines of action for entrepreneurship and technology transfer between universities and industry.

In Latin America, the concept and use of the USR are still incipient, although its work -especially in public universities- generates public value (Moore, 1995) it is not quantified, documented or evaluated. These are the cases of Mexico (Universidad Nacional Autónoma de México, Benemérita Universidad Autónoma de Puebla, Universidad Autónoma de Sinaloa, and Universidad de Guadalajara), Honduras

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

(Universidad Nacional Autónoma), Argentina (Universidad de Buenos Aires and Universidad de la Plata), and Venezuela (Universidad Central de Venezuela)(Herrera, 2008).

The concept of Social Responsibility is a novel concept that appears at the end of the 90s, during the World Economic Forum - Global Compact (Annan, 1999). According to Fernández de Colombo (2010) in the World Conference on Higher Education (UNESCO, 1998) has been recognized the conceptual beginning of the USR. Although the Universities within their '*raison d'être*' and after the University Reform of the 60s that demanded Democratization, Modernization and Social Commitment (Hunneus, 1972), it has shown constant links of the Universities with their community and the continual concern to keep this in time.

The concept of USR as ethical management, relationship with stakeholders, transparency, and accountability has been inserted into the Chilean universities, and the USR have made significant efforts to establish their links with their stakeholders (Aldeanueva-Fernández, 2013). In the case of Chile, USR must be measured and evaluated to accredit Chilean Universities in the National Accreditation Council (CNA, for its acronym in Spanish, 2016).

In this regard, the Chilean Universities and their institutional accreditation (CNA, 2016) need to be linked to the community, that means to generate constant extension activities that allow contributing to the national development, in addition to dialogue between the society and the University.

The extension is a concept that currently has an impact on the activity of the University. Similar to the USR, its objective should be to contribute to reflective contact with reality, followed by the commitment to transform it (Palomeque, González, & Quinche, 2017). The Model of Integral Articulation of University Functions, whose elements are an extension, teaching as an integral educational process, social actors and the ecology research of knowledge² talks about the institutional commitment of the Universities to their environment, and mostly with the development of the country.

The commitment to the environment is evident in various policies adopted by the own university initiatives or by the need of accreditation³. Trying to conceptualize, we can cite the Extension Policy of Udelar (2009) "*The extension should be conceived as a bidirectional, dialogical, binding pedagogical process of academic and popular knowledge, tending to promote associative and group forms that contribute to overcoming significant problems at the social level.*"

The university pedagogical processes have become a vortex of interactions with technological aspects, telecommunications, access to information, social networks among others, being essential the complexity of both the pedagogical models, as the university functions, the extension processes, and the curricular formative practice. It also implies an assessment of the various social actors, practical knowledge and scientific knowledge, which Boaventura de Sousa Santos (2009) calls the "Ecology of knowledge."

The idea of USR deals with "*the commitment of the institution to spread and put into practice a set of knowledge and values in professional training, in the processes of research, innovation and social projection, functions that should be focused on the solution of social problems*" (Arana et al., 2008, cited in Gaete, 2012). According to Herrera (2008), USR is the knowledge space that links knowledge generated in the context of its application (scientific, technological, humanistic and artistic) to local, national and global needs. Its objective is primarily to promote the social utility of knowledge, to contribute to the improvement of the quality of life; therefore, the USR demand bidirectional perspectives between the university and society and involves the direct multiplication of critical uses that knowledge has in the community and in the economy. The evident interest given in the relationship with relevant actors, the approach adopted for the understanding of USR is the Theory of stakeholders (Larran & Andrades, 2017).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

Although our intention is not to carry out a conceptual discussion between the Extension and the USR, we want to emphasize the importance of the connection of the University with the society, and the impact of the spaces of social construction in all the fields of activity.

The study will demonstrate how universities contribute to the promotion of entrepreneurship and the growth of SMEs in Chile to create a national network of business development centers driven by the Technical Cooperation Service (SERCOTEC), a private law corporation and dependent on the Ministry of Economy, Development, and Tourism of Chile. The study is approached from a qualitative methodology of phenomenological order, and it concludes as of diverse experiences in relation to the achievements evidenced by a group of sixteen business owners advised by these centers from different locations of Chile.

In the first part, it will be made a diagnosis of the situation of entrepreneurship and financing of small and medium businesses in Chile. Subsequently, it will be presented the discussion on the contribution of the Universities to the development of the entrepreneur. The study will end with the conclusions.

ECONOMIC IMPACT OF THE ENTREPRENEURSHIP SUPPORT PROGRAMS

Cornelius, Landström, and Persson (2006) point out that the entrepreneurship and the business innovation flourished through the writings of Irish-born banker Richard Cantillon (1680-1734), whose work *‘Essai Sur la Nature du Commerce en général’* was published posthumously in 1755. The book gave the concept of entrepreneurship an economic meaning, and the entrepreneur played a role in economic development. Stevenson and Jarillo (2007) add that Richard Cantillon affirmed that the entrepreneurial initiative implies to bear the risk of buying at specific prices and selling at uncertain prices.

Reviewing entrepreneurship as a disciplinary field of research, this is not more than twenty-five years old, but it has developed substantially during this short period of time (Cornelius, Landström, & Persson, 2006). According to Salas and Sánchez-Asín (2008), the lines of research have been concentrated in three ways to approach the study of entrepreneurship: business management, business history, and economic policy. In the first one, the study is from the perspective of the management of companies and the accent is placed on the training of future entrepreneurs. The second analyzes the success stories of entrepreneurs from human psychology. Finally, and suggested in the work of these authors, the economic policy studies the relationship between individual decisions and collective results, market failures and public policies, that is entrepreneurship as a factor of economic development.

Regarding to this last line of research, Velasco and Saiz (2007), and Arbolino, Carlucci, Cirà, Yigitcanlar and Ioppolo (2018) said that research in this field shows that the evaluation and subsequent improvement of support programs for new entrepreneurs are two of the most neglected areas and the evaluation methodologies are practically nonexistent. In the economic development literature, the authors Arbolino et al. (2018) point out that the general thesis is that the inadequate regulatory context is the primary factor explaining the untapped potential of the microfinance industry in the developed economies. Despite its importance, this type of research has hardly been addressed in the scientific literature, that has focused mostly on justifying the reasons for the intervention of public authorities in this activity or, sometimes, to argue the opposite (Velasco & Saiz, 2007).

The way to measure the economic impact generated by SMEs that have participated in state support programs requires an in-depth understanding of their meaning. In the field of impact studies, a variety of definitions can be found. For example, “... the final results (impacts) are results at the purpose or end

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

level of the program. They imply a significant improvement and, in some cases, lasting or sustainable over time, in some of the conditions or characteristics of the target population, and that was considered essential in the definition of the problem that gave rise to the program. A result is usually expressed as a medium and long-term benefit obtained by the served population ” (Libera, 2007, p. 10).

In addition, Urbano and Guerrero (2013) indicated that these economic impacts adopt institutional economy approaches, based on resources and endogenous growth by providing a better understanding of the socioeconomic impacts. Furthermore, according to Vivarelli (2013) to know if the measures used to observe whether the enterprise is necessarily right or not, it is a need to carry out microeconomic evidence with respect to the execution of these programs.

According to Memili, Fang, Chrisman and De Massis (2015) the economic growth is one of the measures that allow evaluating this economic impact, which is defined as the increase of the product of an economy and reflects its capacity to produce goods and services. Thus, economic growth theories mostly recognize that recently created small and medium enterprises (SMEs) (that is, companies with less than 500 employees) are the engines of economic growth, because they create jobs, generate competition and promote economic growth, innovation and knowledge, all of which stimulate economic growth in a society.

Other studies include those carried out by Hopp and Martin (2017) who studied entrepreneurship for women and immigrants by assessing the socio-economic impact of business activity in Germany. On the other hand, in the study of Buracas, Zvirblis and Joksiene (2012) they selected three essential primary factors (business infrastructure, familiar economic environment, and macro factors of fiscal and monetary policy) through macroeconomic elements given by the indicators of the global competitiveness index of countries established by the World Economic Forum (WEF). The evaluation of these criteria was the impact on economic competitiveness and macro entrepreneurship.

Regarding to the evaluation of the support programs for the entrepreneurs, we find the study carried out by Santos, Neto, and Serrano (2016) that indicates that studies have shown that public policies to support the investment by private companies have the capacity to promote Entrepreneurship, but the sustainability of subsidized companies has not frequently been analyzed. These authors examined this dimension specifically through the evaluation of long-term funded companies' mortality. The interpretation of the regression model showed that the survival probability increases with a more significant investment, firm age and concentration of regional businesses, whereas the number of applications made by companies has a negative impact on their survival.

Wang (2013) also addresses these performance evaluations through the economic impact of the Special Economic Zones (SEZ). There was evidence from Chinese municipalities by evaluating special economic zones and concluding that districts with multiple special economic zones experience greater effects than those with only an SEZ.

There are also performance studies in 1,700 micro and small enterprises that represent all industrial sectors and geographic regions of the Lao People's Democratic Republic that showed that the impact of business experience is small and insignificant. The differences between urban and rural areas and ethnic minorities are reducing in the younger generation, but they are still enormous, according to Onphanhdala and Suruga (2010).

On the other hand, Solomon, Bryant, May, and Perry (2013) and Guichard, Galli  , and Beslimane (2009) who studied in this context the contribution of the French government in 1999 through a National Competition for the creation of New Technologies Companies. This contribution provided financial and administrative support to start and develop an activity. Then, ten years later, they analyzed the

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

characteristics of the companies that won the competition, and they studied the survival factors of these companies evaluating its economic effects.

For this reason, the presence of entrepreneurs capable of capturing global opportunities and creating innovative companies are fundamental for the creation of wealth and employment (Quatraro & Vivarelli, 2015). In the case of the European Union, policies and resources achieve a more significant economic and social cohesion to reduce disparities in regions where the GDP per capita is below the threshold of 75% of the average of the EU. In this respect, Rodríguez and Fratesi (2004) have studied how these measures have influenced these territories. According to this, Latin America is not far behind implementing public policies and private initiatives for the promotion of new dynamic companies indicated by Echecopar, Angelelli, Galleguillos, and Schorr (2006).

Despite the resources that are used in aid for the product development in the different regions every year, and the different types of financing lines that are given through various institutions, very little is known about the real effect of the projects in the SME segments.

There is generalized evidence on the benefits granted to a country by this type of interventions from the economic growth, the generation of jobs, the improvement of their sectors through nodes, the progress in their processes. However, for a specific program or project, it is unknown if this intervention is producing the expected benefits and what was the effect of causing a real and quantifiable economic impact that allows recognizing the advances in the points mentioned above (Baker, 2000).

The last Chilean Government created the program “*Chile Emprende*” with the aim of contributing to the development of the micro and small enterprises segment (MSEs), through access to markets and business opportunities. In addition, this program tried to generate favorable environments for the development of its competitiveness, according to the regional realities of the territories defined by the “*Chile Emprende*” program. According to this program, within its characteristic was to finance training and/or education alternatives related to the sector in which they perform: studies, courses, internships, exchanges, commercial tours, technological missions, attendance at trade fairs and seminars, business rounds, workshops, consultancies, research, technical assistance and others.

When this kind of initiative within its goals is reviewed, the quantification of the economic impact of its different activities is not found. For that reason, during the last Government arose the idea of creating a network of Business Development Centers.

Specifically, the new model of assistance for the centers includes providing guidance services, diagnosis of the entrepreneur or business owner; technical assistance and training in management skills and business management and technical issues; support for the development of the business plan; mentorships for the implementation of the project and detection of financing opportunities. The result to be measured will be the economic impact of the centers, expressed above all in the increase in sales of the companies served, for which their sales will be recorded at the beginning of the process and after a certain period of time, which also implies the tracking of users (SERCOTEC, 2017).

Therefore, the focus of the Centers is to contribute to the increase of productivity and sustainability of companies, aspiring to be a model of agreed work that is based on the effort, perseverance, and commitment of entrepreneurs and business owner, men and women with the aim of carrying out their business (SERCOTEC, 2017).

In terms of entrepreneurship, Chile is a pioneer, specifically in the creation of new companies, being a leader in Latin America, but the results that have been obtained in the country are not thoroughly studied. Mainly, due to there are currently several programs that have been implemented, through different public and private institutions (Ministry of Economy, Development, and Tourism of Chile, 2012). Among these

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

efforts, we can find the agreement signed between the governments of Chile (through SERCOTEC) and the United States in June 2014, related to the local implementation of ‘Centros de Desarrollo de Negocios’ (CDN), inspired by the Small Business Development Centers (SBDC), a network of more than 1,100 comprehensive service points and the primary source of technical advice for US micro and small businesses (Chile Centers, 2017).

According to the areas in which services are focused in the United States, that are for entrepreneurs we can find Business Training Courses, Feasibility Study, how to start your own business and formalization, Business Plan, Operations, Financial Projections.

On the other hand, we find marketing and sales, accounting, access to capital, how to reduce costs and be more efficient, human resources, cutting-edge technology and growth strategies for incorporated companies, and finally international trade contracts with the government, productive chains, commercialization of technology prevention and recovery disaster, sustainable businesses for enterprises to scale inclusive growth of SMEs.

Within the relevance for the evaluation of the economic impact of the business centers are the projects benefited by the Business Development Center, an estimation of the relationship between the number of the awarded and the postulated projects.

The statistics that are starting from a value from the Institute of Economic Development, the University of Texas at San Antonio are counted to the year 2013, with around 36,000 MSMEs served per year, through 10 regional offices, Team of 180 Professionals, consolidating 523 entrepreneurs and 519 expansions of companies for an amount of \$ 350 M USD in financing.

In Chile, through the report of business incubators indicators supported by CORFO it can be observed that of the total number of projects that raise capital and raise private money, it is equivalent to a 35% of allocation ratio (CORFO, 2013)

This value acquires primary importance according to Echecopar et al. (2006) who said that:

One of the main obstacles to the development of dynamic new companies, particularly in Latin America, is financing. Entrepreneurs in this region have less access to specialized sources of external funding or seed capital, such as public support, private investors and risk capital. As a consequence, fewer companies with high growth potential are created, and those that manage to be born do so with a suboptimal size and technological level. Unlike other more developed countries, such as the United States, Canada, Australia and Ireland, which have a high creation of innovative and high growth businesses, in Latin America, specific seed capital mechanisms such as angel investors and funds of capital do not have a high degree of diffusion.

In figures, in 2013 in the United States, the Small Business Administration (SBM) in Free Consultations and Training managed to access 1.5 million SMEs through 78 SBA regional offices, 1,100 Small Business Development Centers (SBDC), 110 Women’s Business Centers and with the participation of 12,000 Volunteers.

In Chile, it was set up the network of Business Development Centers. This network will be the primary source of technical advice and support for access to financing and management for micro and small companies in the country. During 2015 was announced the location of the first 33 centers. These centers have already assigned operators and are in the process of being inaugurated, in order to complete 35 operational centers by the first quarter of 2016. By 2017, the network of 51 centers will be completed throughout the country.

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth**STATE OF THE MSEs IN CHILE**

According to data reported by the National Institute of Statistics (2017), of the Ministry of Economy, Development and Tourism of Chile, in the report on the Fifth Survey of Micro-entrepreneurship (2017) showed that in Chile, there are 1,992,578 entrepreneurs, of which 83% are self-employed, and the remaining 17% are employers. Within the entrepreneurs, 61% are men, and 39% women, while 52% are formal businesses. Finally, 58% started their business mainly by necessity, and 30% catching a business opportunity.

In Chile, according to CASEN (2011), there are about 1.5 million micro and small enterprises (MSEs), including self-employed workers. The formal MSEs reach 803 thousand productive units in 2012. In addition, it is estimated that there are more than 710 thousand informal microenterprises. Overall, the MSEs concentrate 49.3% of the private sector occupation, they represent the 95.5% of the companies in the formal sector, and they are distributed throughout the national territory. These data give an account of the importance of this segment of businesses. (See tables 1 and 2).

Table 3 shows the situation of the number of formal MSEs by region. As it can be observed, the regions with the highest participation in the Metropolitan Region are the regions of Biobío and Valparaíso. However, in the case of the MSEs, both areas are involved around 10% (Biobío with 10.4% and Valparaíso with 9.9%).

This implies that the MSEs have a better-distributed presence, this characteristic makes the MSEs an exciting subject for the national policies, and it is intended to reach all parts of the territory.

Figure 1 shows that Chilean micro and SMEs present a high heterogeneity in 2015, participating in different sectors of economic activity, operating in urban and rural areas, with varying functions of production.

Table 1. Business size classification related to annual sales

Size	Annual Sales (<i>Unidad de Fomento, UF</i> ⁴)
Microbusiness	From 0.1 to 2,400
Small-sized Business	From 2,401 to 25,000
Medium-sized Business	From 25,001 a 100,000
Large Business	Higher than 100,000

Source: Internal Revenue Service of Chile (2018).

Table 2. Business size classification according to employment

	Employment
Microbusiness	From 1 a 9
Small-sized Business	From 10 to 49
Medium-sized Business	From 50 to 199
Large Business	From 200 and more

Source: SERCOTEC (2013).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth*Table 3. Regional distribution of formal businesses in 2015*

Region	MICRO	SMALL	MSE	% MSE REG
Tarapacá	12880	3459	16339	1.9%
Antofagasta	20363	6257	26620	3.0%
Atacama	11507	2587	14094	1.6%
Coquimbo	28762	5989	34751	4.0%
Valparaíso	69318	17429	86747	9.9%
Libertador General Bernardo O'Higgins	38523	9052	47575	5.4%
Maule	49301	10118	59419	6.8%
Biobío	74379	16977	91356	10.4%
La Araucanía	35267	7741	43008	4.9%
Los Lagos	36732	9022	45754	5.2%
Aysén del General Carlos Ibañez del Campo	5924	1120	7044	0.8%
Magallanes y la Antártica Chilena	7832	2206	10038	1.1%
Metropolitana	265467	94269	359736	41.1%
Los Ríos	15774	3336	19110	2.2%
Arica and Parinacota	10990	1907	12897	1.5%
No Information (1)	185	38	223	0.0%
Total	683204	191507	874711	100%

Source: Internal Revenue Service of Chile, 2018b.

However, there is a concentration of formal MSEs (35%) in wholesale and minor commerce, repair of automotive vehicles and domestic facilities. Then, items like a business and rental activities (11%) which include brokerage and property management activities, subdivision, legal advice, transportation leasing, architecture and engineering activities, advertising, computer services and activities of loaned professionals to companies. It is followed by the agriculture, livestock, hunting and forestry sector (10%) that is associated with small agricultural production, in some cases related to peasant family agriculture and, among others, as a supplier of export agroindustry. In addition, it includes artisanal fishing, suppliers of the domestic market and the export industry. The transport, storage and communication sector (9%) that corresponds for example to buses, taxis, and telecommunications. Finally, the building sector with an 8%. (Internal Revenue Service of Chile, 2018c)

In table 4, we can observe the female participation in the employment structure at the national level. Women represent 38.4% of the employment granted in the microenterprise and 36.4% in the case of the small business. 36.4% of the private job is the responsibility of medium and large companies, while 14.3% corresponds to people who did not know the size of the company in which they work.

The individual technical advice is among the services offered by a center. This advice consists of a training group focused on competitiveness for small businesses, applied business research and market adapted to customer requirements to propose public policies for SME development.

Among the challenges of a Business Development Center is the creation and the measurement of the economic impact on the companies attended by the center; to increase sales, creation or retention of jobs and to increase the obtained financing (SERCOTEC, 2017).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

Figure 1. Sectoral distribution of formal businesses in 2015.

Source: Internal Revenue Service of Chile, 2018c.

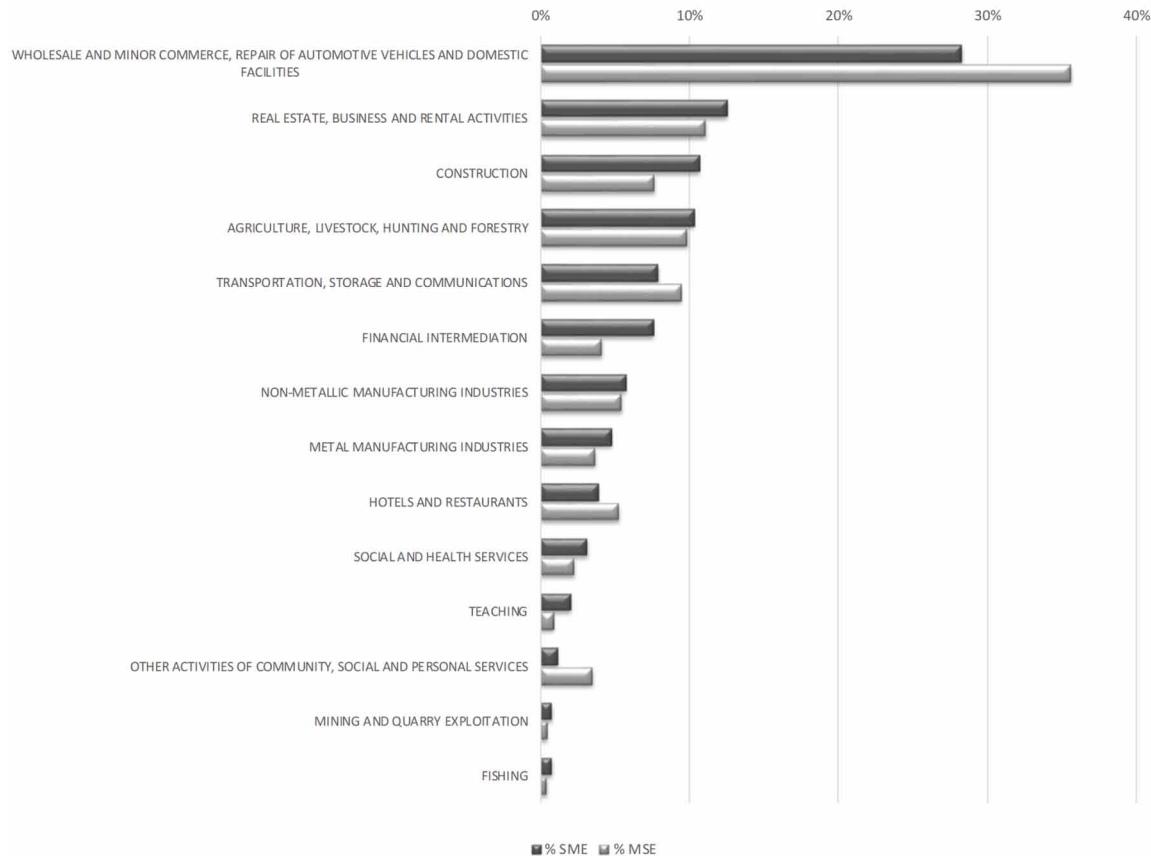


Table 4. Female job participation in 2011

	Self-employed	Employer	Employees	Unpaid family member	Total
Microbusiness	39.0%	39.3%	36.6%	56.4%	38.4%
Small business	0.0%	23.9%	36.8%	58.2%	36.4%
Medium-sized business	0.0%	5.5%	35.3%	100.0%	35.1%
Large business	0.0%	26.9%	35.1%	59.8%	35.1%
No answer	32.6%	34.8%	27.9%	73.2%	28.6%
In Average	38.5%	34.6%	34.5%	57.5%	35.5%

Source: SERCOTEC (2013).

This generation of the economic impact is not only caused by the installation of business development centers, but also by the positive externality generated for people close to the projects that are being created, providing information that reduces the ambiguity of subsequent attempts to start new companies (Chang, Chrisman & Kellermanns, 2011).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

Another important aspect is that within the focus of the business development centers are the companies known as a gazelle; they can generate a more significant number of jobs and income generation compared to the rest of the enterprises. (Aguilera & Trillas, 2012).

Finally, according to Baker (2000), the impact assessment is especially critical in developing countries, where resources are scarce, and every dollar spent must maximize its effect. If the programs are poorly designed, they do not reach the intended beneficiaries or waste resources. It is possible to redesign, improve or eliminate the plans if necessary.

HOW THE UNIVERSITY CONTRIBUTES TO THE DEVELOPMENT OF SMALL AND MEDIUM BUSINESS IN CHILE

Fifty-one of these business development centers and their sixty-three satellites give a total coverage of one hundred fourteen communes of the three hundred and forty-six existing in the country, the 90% of these communes receive academic support from universities, but this type of Higher Education institutions operates only 53% of this group.

This last percentage covers the sampling frame, considered attractive to study; they constitute thirty-one of these centers, which including their satellite units, comprise a 30% of a total of three hundred and forty-seven communes of the country, to dynamize the economy by combining Social Responsibility and higher education institutions.

Thanks to the active transparency of SERCOTEC, testimonies of sixteen representatives of smaller companies, have been analyzed on the website www.centroschile.cl and they are available as public access information. As a result, we identify how from these discourses emerge categories under a methodology of phenomenological design, managing to establish their experiences in contrast with the theory studied, with respect to how universities deploy their social responsibility in business development intervened. Table 5 presents the Business Development Centers incorporated in the study.

Once the testimonies published by SERCOTEC were analyzed, it can be observed that in fourteen cases the actors are defined as entrepreneurs and business owner.

Entrepreneurship is not easy. All entrepreneurship always starts with an attitude, with a decision to undertake and with obvious ideas. If we have attitude, we have everything. We have the technical support, so nothing can go wrong, that's why we give it forward. (cdn04.)

I have my own family business. At first, nobody understood what it was my business about, so people did not believe but I, entrepreneur and persistent said: I will try.(cdn13).

The motivation when the business start is related to the generation of higher income, higher social welfare, and more top labor independence:

The idea arose because...I needed another way to get more money and ... It was my hobby... I started to see that it was a good opportunity and an important business niche here in the city. (cdn03.)

We started in the city... due to the issue of childhood obesity and sedentary lifestyle, because it is one of the regions with the highest rate of 15.4%

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth*Table 5. Business development centers and universities*

	Testimony	Video Case	Micro & SMEs
Pontificia Universidad Católica de Valparaíso			
Quillota	Yes	cdn01 https://youtu.be/14O8gqKNxSk	Picado de la Araña
Aconcagua	No		
Universidad Arturo Prat			
Pozo Almonte	No		
Angol	Yes	cdn02 https://youtu.be/UZjwwe9JzM	Neumáticos Mónica Sáez
Universidad Austral de Chile			
Valdivia	Yes	cdn03 https://youtu.be/0pwc5ylLbE	Paseadores Perrunos
La Unión	No		
Puerto Montt	Yes	cdn04 https://youtu.be/SlhTg7xiwU4	Gran Asador
Universidad Católica del Maule			
Cauquenes	No		
Universidad Central de Chile			
Puente Alto / Pudahuel	No		
Independencia	Yes	cdn05 https://youtu.be/8astAjBhgDg	Arabella
Universidad de Chile			
San Bernardo	Yes	cdn06 https://youtu.be/msz2ZkxUCxo	Percheros cromados
Las Condes / Maipú / Estación Central	No		
Universidad de Concepción			
Los Ángeles	Yes	cdn7 https://youtu.be/3o9h66LeFdo	Desimark Publicidad Aseos Karen Medina Vásquez EIRL
Universidad de La Frontera			
Temuco	Yes	cdn08 https://youtu.be/7atMpor42SEhttps://youtu.be/ldeLUoelASg	Cooperativa Antonio Rapimán Tempero del Sur
Villarica	No		
Universidad de Magallanes			
Punta Arenas	Yes	cdn09 https://youtu.be/nOfAz5YuVUs	Lavandería Anubis
Universidad de Tarapacá			
Arica	Yes	cdn10 https://youtu.be/flyYKUSBho	Arte Andino Pushka
Iquique	Yes	cdn11 https://youtu.be/5TyLyAqtSSk	Central Tecnológica
Universidad de Valparaíso			
San Antonio	No		
Universidad Santo Tomás			
Linares	No		
Universidad Tecnológica de Chile			
Calama/Curicó/Quilicura/San Fernando	No		
Coyhaique	Yes	cdn12 https://youtu.be/xHwzM-OwV7Y	Fit4Kids
Puerto Aysén	Yes	cdn13 https://youtu.be/aotM2HwjJYA	Patagonia Ghee
Puerto Natales	Yes	cdn14 https://youtu.be/113C1yRM2ik	Le Mouton Vert

Source: Chile Centers (2017b).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

in comparison to the rest of Chile. (cdn12.)

I used to work for a long time for other people, and I had the idea of becoming independent and having something of my own, so I invited two friends, and we decided to launch this project of having our own office to project an image that also allows us to opt for better benefits, better jobs. (cdn11.)

The assessment of the technical advice received by the Business Development Centers:

The big problem that had my company was the administrative issue, it was a little messy because I took, paid, received, bought, and there was not a good money administration. I found a way to be able to jump all those barriers and problems that arise; the technical advice guided me the way. The good thing about being advised is that it helped me in the legal party a lot. The work activity is also important, but I used to know it only as an employee now I know as an entrepreneur. I also had to study and to know the work activity. (cdn01.)

The technical advice gave me many tools to start solving all the problems I had. For example, I had few contact networks, I did not have enough marketing knowledge, and I needed to get some finance. (cdn03.)

The support and motivation provided by the executives of these Centers:

In your city, the executives support you and give you all the facilities to extend the business and to be able to communicate in a better way with other people. (cdn14.)

Executives constantly call me on the phone and ask me 'how things have been with you?' 'Is something missing you?' 'Do you need something?' (cdn02.)

It does not mean that once executives make a diagnosed they forget you. There is a frequent call from the person who advises us; the executive even asks how is the business going. (cdn04.)

I value the support, it is clear, it is simple, it is understandable, and it does not matter if the person has a lot or little education. I can understand when the executive and this is significant. (cdn02.)

Finally, the economic impact of the advice received:

I have achieved formalized contracting, and I am complying with all legal regulations. (cdn07.)

We have already hired five new people; the advice allowed us to go slowly but surely and not so slowly. Since 2 years ago, we have been growing and have been getting double sales. Then, all these will allow us to aim for growing steadily. (cdn11.)

We came selling on average 900 thousand pesos, in May we sold five (millions), and the numbers are real, they are in the Internal Revenue Service.(cdn06.)

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

RECOMMENDATIONS

Recently, SERCOTEC, Universities and other public operators promote assistance to smaller companies in Chile. The concentration in the major urban centers of higher development and their still low communal coverage (30%), should be a point to be strengthened in subsequent years. The high concentration of around 45% of MSEs in the trade, restaurants and hotel sector, leads to recommend a specific thematic orientation on this matter, to generate from the local identity the development on this set that encompasses companies with a lower level of administration.

FUTURE RESEARCH DIRECTIONS

Undoubtedly, this study is constituted as '*primus omnium*', because of the recent implementation of this initiative at a country level, opening for a qualitative first phase to expand the interested parties to be consulted, such as municipal productive development offices, trade associations of entrepreneurs and development corporations deployed in the territories of interest. Another line of interest is coverage, both territorial, and that provided to lower-income social sectors: young people, women, and descendants of indigenous ethnic groups, migrants from countries that are more fragile, elderly people, inhabitants of backward territories and all the possible combinations that arise between these interest groups. In addition, it is possible to pick up the study again, as soon as the results of this initiative reach to define a trend, extending it to a longitudinal temporal cut and a quantitative approach that allows revealing the real impact on the companies advised.

CONCLUSION

Due to the low frequency of studies that analyze the long-term financial sustainability of the companies supported in incentive programs for entrepreneurs (Santos et al., 2016) and due to the lack of adequately accepted methodologies to measure the impact of this kind of applications (Arbolino et al., 2018) we are motivated to introduce the present study. It is intended to show evidence of the impact that universities are beginning to generate in Chilean entrepreneurs, through the operation of the Business Development Centers of Chile, which have been implemented since 2015 under the SBDC model of the United States of America.

Fifty-one of these business development centers and their sixty-three satellites provide total coverage of one hundred and fourteen communes of the three hundred and forty-six existing in the country. From the full coverage, a 90% receive the academic support of the universities. Nevertheless, this type of Higher Education Institutions operates only the 53% of these Centers. In this way, Higher Education Institutions are giving coverage to the community that surrounds them and contributing to the development of their surrounding territory and thus giving an account of the relationship they establish with their stakeholders (Aldeanueva-Fernández, 2013).

It can also be observed that there are directly only thirteen institutions of higher university education that cover 30.3% of the three hundred and forty-seven communes of the country. Therefore, it is essential to inspect the current conditions, to contribute to the development of a public policy that allows increasing the impact of universities, in support, advice and possibly in financing, for the development of

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

small and medium enterprises in the country. What should also be essential for universities, given their current requirements of linkage with the environment to achieve a better result of their own processes of institutional accreditation (CNA, 2016)?

From the analysis of the reviewed testimonies, we can distinguish the categories that reach the saturation. In the set of the analyzed discourses are the self-definition of the actors, the motivation to start the business, the evaluation of the technical advice received, and the support and motivation provided by the CDN. This implies that the centers achieve a professionalization of the administration of the advised companies, as well as an acceleration of the business processes for their beneficiaries, to obtain an economic impact in the territory, but not only producing results in terms of the execution of budgeted public expenditure, also according to the requirements of the population served (Libera, 2007).

ACKNOWLEDGMENT

The researchers of this study are grateful to both Corporación Programa Interdisciplinario de Investigación en Educación and Fundación Escuela de Asuntos Internacionales for the provided institutional sponsorship in the field of educational studies and entrepreneurship studies.

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KEY TERMS AND DEFINITIONS

Business Development: To promote and improve SMEs by using consultancies, market research, and financial support.

Business Growth: The combination of income, employees, and capital to offer products and services increased in the market.

Economic Impact: Positive economic effect formed by the combination of income generated by firms, employment, wages, and taxes.

Micro and Small Enterprises (MSEs): Firms with 1 to 49 people working in the company, as well as companies with annual revenue from 0.002 to 675 million Chilean pesos.

Micro, Small, and Medium Enterprises (MSMEs): Firms with 1 to 199 employees, as well as companies that generate annual revenue between 0.002 and 2,697 million Chilean pesos.

Promotion of Entrepreneurship: To foster business initiatives to generate employment and economic growth.

Small and Medium Enterprises (SMEs): Businesses that have from 10 to 199 employees, as well as the companies that generate annual revenue between 65 to 2,697 million Chilean pesos.

ENDNOTES

Including three universities in closing process and one in licensing process (with potential closing in 2018).

² Boaventura de Sousa Santos talks about “the ecology of knowledge,” understood as “... a set of practices that promote a new active coexistence of knowledge with the assumption that all of them, including scientific knowledge, can be enriched in that dialogue. It involves a wide range of assessment actions, both scientific knowledge and other practical knowledge considered useful, shared by researchers, students, and citizen groups. This fact serves as the basis for the creation of larger epistemic communities that make the University a space public of knowledge where citizens and social groups can intervene without the exclusive position of apprentices” (2006: 67-68, cited in Cano & Castro 2016).

³ In the Chilean case, the Universities when going through an accreditation process, evaluate their extension policy or link with the environment (CNA, 2016).

University Social Responsibility and Its Effects on the Promotion of Entrepreneurship and Growth

- ⁴ The Unidad de Fomento (UF, for its acronym in Spanish) is a Unit of account used in Chile. The exchange rate between the UF and the Chilean peso is now adjusted continuously to the inflation rate so that the value of the Unidad de Fomento remains constant on a daily basis during periods of low inflation.

Chapter 16

The Role and Contribution of Higher Education in Family Entrepreneurship: Evidence From the USA and Spain

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ABSTRACT

Driven by increasing awareness of the importance of family firms in most countries, the interest in family business studies is growing at a rapid pace. The entrepreneurial potential of family-owned businesses has been gaining even more attention among scholars and institutions since the 1980s and 90s. This fact joined to the fact that family firms are the most extended type of businesses all around the world has pushed a growing number of higher education institutions to introduce family business education programs in their curricula. Family business education at prominent universities provides high-level support for family SMEs due to such complexities of a family and their needs to the dynamics of a competitive business which can be quite challenging. It is therefore attractive to investigate and compare what characterizes the family business education programs in USA and Spain, including an overview of the most recent offerings among the most prominent higher education institutions.

INTRODUCTION

Driven by increasing awareness of the importance of family firms in most countries, the interest in family business studies is growing at a rapid pace (Hoy & Sharma, 2006). The entrepreneurial potential of family-owned businesses has been gaining even more interest among scholars and institutions since the 1980s and 90s (Betinelli & Randerson, 2016). This, joined to the fact that small and medium-sized family firms (family SMEs) are the most extended type of businesses all around the world (Villalonga & Amit,

DOI: 10.4018/978-1-5225-5837-8.ch016

The Role and Contribution of Higher Education in Family Entrepreneurship

2009; De Massis, Di Minin, & Frattini, 2015), has pushed a growing number of higher education institutions, such as universities and business and management schools, to introduce family business education programmes in their curricula (De Massis & Kotlar, 2015; Sharma, Hoy, Astrachan, & Koiranen, 2007). Family business education at prominent universities provides high-level support for family SMEs due to such complexities of a family and their needs to the dynamics of a competitive business which can be quite challenging (Woodfield, Woods, & Shepherd, 2017).

The development and the transmission of entrepreneurial attitudes and activities are often regarded as major challenges for businesses in order to compete and survive in fast-changing market environments (Menguc & Auh, 2010). These entrepreneurial attitudes and activities are especially important in the case of family SMEs as they promote the continuity and success of these businesses by contributing to growth in employment and wealth (Kellermanns & Eddleston, 2006). Moreover, family-owned companies have distinctive vulnerabilities that need to be addressed, facing unique challenges threatening the businesses' continuity through generations due to the family and the business complex dynamics. Thus, these businesses are in need of specialized support sensitive to this inherent tension, in addition to seeking the management expertise needed to scale and grow their businesses.

Nowadays, family business education is especially attractive to senior managers and new generation members that will run the business in the future (Sciascia, Mazzola, & Chirico, 2013), as they will have to provide support for entrepreneurial initiatives (Heavey & Simsek, 2013), as well as to design a consistent corporate strategy that can facilitate turning the entrepreneurial orientation of the organization into firm performance (Van Doorn, Jansen, Van den Bosch, & Volberda, 2013). Indeed, family business education is critical to fill one of the leading issues of today's family businesses: the need to develop a professionalized process in order to compete in a more global and fast-moving market (Stewart & Hitt, 2012). This need has also increased the interest of higher education institutions to improve their offerings of family business programmes, especially in contexts with big potential markets where family businesses play a significant role in the economy (De Massis & Kotlar, 2015). This is the case of the United States of America (USA), a country where family businesses are a majority (Amit & Villalonga, 2014), and where both internal and external potential markets in terms of cultural and language proximity such as the Anglo-Saxon one are enormous. In this sense, the case of Spain is noteworthy as well. A country with well-settled family business education programmes and natural, easy access to the whole Latin American market (Pérez & Lluch, 2015).

The growing offering of family business education in these two countries has placed business owners and managers in particular need to analyze, compare, and select the most suitable programmes. Furthermore, higher education institutions are also pushed to benchmark their family business programmes in order to improve their portfolio and to be able to compete in a globalized education market. Nevertheless, the structure and the content of the aforementioned programmes depend on the cultural, academic, and institutional setting of each country (De Massis & Kotlar, 2015). It is therefore interesting to investigate and compare what characterizes the family business education programmes in USA and Spain, including an overview of the most recent offerings among the most prominent higher education institutions, which represent the aim of this chapter. By doing it, the authors pursue shedding light on the current overview of family business education programmes in both contexts.

This chapter is structured in four sections. The first section presents a brief introduction to the significance of the new family entrepreneurship education phenomenon. The second and third section respectively contains a review of the reality of family business education in two different geographical contexts: USA and Spain. In addition, it provides an overview of the various family business programmes

The Role and Contribution of Higher Education in Family Entrepreneurship

to identify critical offerings, and more importantly to provide a current overview of family business education at prominent universities in both countries. Following the method used by Katz (2003), and Hoy and Sharma (2006), the authors reviewed the official websites of top higher education institutions in USA and Spain in order to gather information about the different family business programmes. In the USA, the study considers both, the top 24 ranked entrepreneurial universities and colleges, as well as the top 10 ranked by popularity universities and colleges based on the 2017 Princeton Review. In Spain, the study is based on a comprehensive review of the different programmes in the field considering the network of 37 Family Business Chairs located at various universities all around this country. This information provides a useful starting point to overview the different practices, and characteristics of top-ranked universities. The fourth section presents the general findings of the study in order to provide an up-to-date comparative angle to contextualize the family business education offerings. Finally, the authors conclude the chapter outlining main characteristics of these two family entrepreneurship education contexts.

FAMILY ENTREPRENEURSHIP AND HIGHER EDUCATION

Family businesses have been regarded as a unique context to analyze entrepreneurship (Garcés-Galdeano, Larraza-Kintana, García-Olaverri, & Makri, 2016). Indeed, family entrepreneurship has been considered by Heck and colleagues (2008: 324) as “the underpinnings and interactions of two systems, namely, the family system and the business system” and show how promising could be studying these fields as well as the overlap between them. In this regard, some scholars claim that family businesses are inherently predisposed to entrepreneurship (Randerson, Bettinelli, Fayolle, & Anderson, 2015; Randolph, Li, & Daspit, 2017), as a consequence of their long-term strategic orientation, their strong collective identity with their family values, and the interaction between family and business goals in decision-making (Arzubiaga, Maseda, & Iturralde, 2017). On the other hand, other researchers consider family firms as being conservative and stagnant organizations (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007), which hinders all kind of entrepreneurial initiatives (Cucculeli & Storai, 2015) and innovation (López-Fernández, Serrano-Bedia, & Pérez-Pérez, 2016).

Nevertheless, entrepreneurship is not only dependent on the attitude toward risk but also related to the diversity in knowledge and expertise in order to design the new entrepreneurial initiatives as well as turn them into tangible outcomes (Shirokova, Tsukanova, & Morris, 2018; Zattoni, Gnan, & Huse, 2015). In this sense, family business contexts usually offer resources such as knowledge, capital, and labor (Miller, Steier, & Breton-Miller, 2016). Family businesses, however, typically lack variety in their knowledge, perspectives, and expertise due to their common educational and functional backgrounds (Kraiczy, Hack, & Kellermanns, 2015). This variety is crucial to scan the business sector and to impulse the debate about entrepreneurial initiatives (Pugliese & Wenstøp, 2007). Moreover, the variety of cognitive frames and expertise may enhance creativity in designing and implementing entrepreneurial activities (Arzubiaga, Iturralde, Maseda, & Kotlar, 2017).

In view of these higher education necessities, some business schools are expanding their offering of family business courses and programmes (De Massis & Kotlar, 2015). Indeed, many business schools that have historically been focused on general management education and have overlooked the specificities of family business education are nowadays introducing family business studies in their curricula

The Role and Contribution of Higher Education in Family Entrepreneurship

(Sharma et al., 2007). In this regard, the significance of this phenomenon and its rapid growth makes particularly interesting its analysis. Thus, in the following section, two different but equally significant family business education realities are presented and analyzed: the case of USA and Spain.

THE CASE OF THE USA

The importance of family-owned businesses is clearly recognized and supported, accounting for most of the world's economic impact, employment, and wealth. Some statistics show that family-controlled firms represent up to 19 percent of the companies in the Fortune Global 500, which tracks the world's largest firms by sales (Björnberg, Elstrodt, & Pandit, 2015). Moreover, family-owned businesses are expected to represent nearly 40 percent of the world's large enterprises by 2025, according to McKinsey & Company.

In the USA, about 35 percent of Fortune 500 companies are family-controlled firms, and over half of the USA public companies are family-controlled. Indeed, family businesses account for up to 24.2 million in the USA (Astrachan & Shanker, 2006). In addition, they contribute a 64 percent of USA gross domestic product, employ 62 percent of the workforce, and are responsible for 78 percent of all new job creation (Astrachan & Shanker, 2006; Singal, 2015). However, family-owned businesses are characterized by high mortality and low survival rate (Stamm & Lubinski, 2011).

In his article "A chronology and intellectual trajectory of American entrepreneurship education 1876-1999" (2003), Katz uses a chronology of three domains: courses, supplemental infrastructures, and publications in order to highlight the development of the family business education programmes linked to universities. His results emphasized critical occurrences for family business studies, such as the first family business-specific casebook: *Cases in the Management of Small, Family-Controlled Manufacturing Businesses* was published at Indiana University in 1954. Years later in 1970, interdisciplinary seminars on family businesses took place offered by Dr. Leon Danco. In 1984, Yale University established the first program for the study of family firms; and in 1985, Oregon State University started the second family business program in the USA. Years later, in 1996, the first family business major was offered at Texas Tech University. As a result of this study, the emphasis on family business education began spreading during the 1980s and 90s with an initial offering of academic programs in the USA.

Following Katz, a chronology of family business studies was further developed by Hoy and Sharma (2006) deepening into the evolution of the field, highlighting the steady growth from the 1980s on. For example, a series of dissertations on family firms during the 1980s was completed by John Davis at Harvard University, Karen Vinton at the University of Utah, Gibb Dyer at Massachusetts Institute of Technology and Wendy Handler at Boston University. The first and second family business education programmes were established at Yale University in 1984 and Oregon State University in 1985, respectively. The first Family Business Research Conference was held at the University of Southern California in 1985. In 1987, the Institute for Family Enterprise was established at Baylor University. During the 1990s, the interest and growth of family business education programmes continued to expand. As a result, other institutions offered academic programs and conferences, such as Northeastern University, University of San Diego, Northwestern University, and Texas Tech University.

The continuing interest and growth of family business education has also demonstrated significant advances, not only in terms of quantity and quality, but in the establishment of prominent bodies, such as the Family Firm Institute, Family Business Network, and International Family Enterprise Research Academy, among others (Hoy & Sharma, 2006; Poutziouris, Smyrniotis, & Klein, 2006). In this regard,

The Role and Contribution of Higher Education in Family Entrepreneurship

there has been substantial growth in university-based family-business programs in the USA during the past few years. Nowadays, higher education institutions are launching, growing, and even more, are considering family business as a significant subject of study. Family business centers are promoted and taking part of initiatives to provide valuable solutions for students with a family business background, their families, and their communities. Given this context and seeking to promote the entrepreneurial spirit, family business centers are encouraged across universities all over the USA. More than 100 family-business centers and programs are offering from a full range of courses, resources, certifications, seminars, forums, conferences, and advisory support. In addition, other well-respected institutions sponsor educational programs and consulting initiatives such as the Family Firm Institute, Family Business Network, Family Business Alliance, the Business Family Foundation, Boston's Family Firm Institute, and Chicago Family Business Council, among others.

The applicability of rankings of institutions based on their contributions to scientific fields has been established in various disciplines and areas including entrepreneurship (Shane, 1997; Martens, Lacerda, Belfort, & Freitas, 2016), and family business (Debicki, Matherne, Kellermanns, & Chrisman, 2009). Following the method used by Katz (2003), and Hoy and Sharma (2006), the authors reviewed the official websites of top higher education institutions in the USA in order to gather information about the different family business programmes. Thus, this study comprised a secondary data analysis of the Top 24 Entrepreneurial Universities according to the 2017 Princeton Review to become familiar with their different family firm educational programmes, activities, and overall portfolio. Table 1 provides a summary description of the most relevant family firm program characteristics at each university. This information provides a useful starting point to compare the different offerings from top-ranked universities.

A great variety of family business programs are available at most of the Top 24 Entrepreneurial Universities in the USA. All the family business programs are associated to a greater extent to the Entrepreneurial Center and/or the School of Business and Management programs at the corresponding universities. But, in many cases, a Family Firm Center is in places such as the Michigan Family Business Center, the Northeastern Center for Family Business, Institute for Family Business at Baylor University, the Family Enterprise Center at the University of North Carolina at Chapel Hill, or Family Business 360 at University of Oregon. Other alternatives to Family Business Centers are the Family Business Clubs and Forums such as those at Harvard, Washington University in Saint Louis, and Syracuse University. Some of these universities are part of the Family Business Alliance where the family business education and support offering seems more diverse than in other institutions. In the case of the Chicago Family Business Council at DePaul University is associated with the Business Family Foundation, offering a full array of options as well.

What appears now a common practice among universities is the family business coursework offer to complement undergraduate and graduate degrees, mainly in those related to entrepreneurship. There are some universities that offer a family business certification program such as the Institute for Veterans and Military Families at Syracuse University, Global Emerging Leaders for Family Enterprise (GEL) at Cornell University and a certification program at the University of Miami available in English and Spanish. Besides the coursework and certification options, the family business initiatives seem developing toward forums, workshops, and annual conferences, in all cases promoting networking opportunities. What may appear as a unique characteristic is a Family Business Award program in place, such as the one at Baylor University, or a Family Office program at USC Marshall University?

Unusually, the authors also found institutions with limited or no family business coursework offering such as University of Washington, Texas Christian University, Clarkson University and Loyola

The Role and Contribution of Higher Education in Family Entrepreneurship

Marymount University. In three of these four cases, such universities appeared not ranked at the QS Top Business and Management Studies Schools, with the exception of the University of Washington. Due to the entrepreneurial nature of many of these programs and the different practices held in each of them, this secondary analysis might show some differences in terms of the precise classification of such program as being entrepreneurial or family business related, so an additional screening and more in-depth analysis may prove valuable.

After analyzing the Top 24 Entrepreneurial Universities in the USA, the authors also thought relevant to include the Top 10 Universities by popularity in the USA based on the 2017 Princeton Review. Table 2 provides a summary description of the most relevant family firm program characteristics at each university. Some of the universities on this list also made the Top 24 Entrepreneurial Universities, such as Harvard College and Cornell University. Based on this ranking, four universities of this list have limited or no family business related coursework offerings, such as Brown University, Boston University, Princeton University, and Duke University; although, all of these are ranked in the Top Business and Management Studies Schools based on the QS Top Universities ranking. Family business programmes are associated with the School of Business and Management as well as the Entrepreneurial centers at the corresponding universities, such as Cornell University, New York University, Stanford University and Yale University. In the case of Stanford, the family business programme belongs to the Graduate School of Business. Related characteristics amongst these family business programmes are the coursework offerings, academic resources, conferences, and networking opportunities. Distinctive attributes in these family business programmes may be the Stern Family Office Council and the family business summer camps offerings at New York University, or the roundtables and webinars offerings at Boston College.

THE CASE OF SPAIN

European business schools have historically distinguished from their USA counterparts because of the former's multicultural approach (Kedia & Harveston, 1998). Politically, Europe is composed of 51 states, where approximately 117 different languages are spoken, although only 24 of them are considered as official ones by the European Union. From the beginning, the primary purpose of European Union has been achieving high levels of economic, legal, and political integration but fostering the idea of the diversity of cultures and languages (Gabel, 1998).

In his article "European management and European Business Schools: Insights from the history of business schools" (2014), Kaplan divides the history of business schools in Europe into two different periods. The first period, ranging 1819-1944, is considered as the Founding Period, where two types of business school models emerged all around Europe: the "Southern" model, led by France and Belgium, and the "Northern" model, led by Germany. Regarding the "Southern" model, the pioneering business school was the L'École Supérieure de Commerce de Paris (ESCP) Europe, established in Paris in 1819 (Blanchard, 2009). After it, many other business schools emerged in France, although they were founded outside the French public university system. Some years later, in 1852, the Belgium Higher Institute of Commerce in Antwerp was founded, which although followed a similar teaching model, it was state owned (Kipping, Üsdiken, & Puig, 2004). In Italy, the first business school was independently established in Venice in 1868; although, by 1935, most of these schools were integrated into the university system (Fauri, 1998). With regards to the "Northern" model, the pioneering business school, a private one, was founded by the Chamber of Commerce of Leipzig in 1898, namely Handelshochschule Leipzig.

The Role and Contribution of Higher Education in Family Entrepreneurship*Table 1. Top 24 entrepreneurial universities in the USA based on the 2017 Princeton Review and the top business and management studies schools based on 2017 QS Top Universities*

Princeton Review 2017 Ranking	QS University Ranking	University	Program	Characteristics, resources available and activities
1	101-150	Babson College	Institute for Family Entrepreneurship part of Arthur M. Blank Center for Entrepreneurship.	Academic resources and advising to students, expert mentors, workshops, family business clubs.
2	251-300	Brigham Young University	Marriott School.	Family Business (FB) coursework, FB scholarly research.
3	25	University of Michigan	Michigan Family Business Center (MFBC) working in conjunction with the Michigan Center for Entrepreneurial Leadership.	Experimental learning, networking opportunities, guest conferences, and mini-forums on specific topics at the request of MFBC members, promoting the growth and success of FB.
4	14	Northeastern University	Center for Family Business.	Academic resources, FB coursework, networking opportunities and individual business counseling, Family Business Alliance.
5	NA	Baylor University	Institute for Family Business.	Academic resources, FB coursework, FB forums, and an FB of the year award program, scholarly research, business counseling. Support for business to survive the generational change.
6	1	Harvard College	Family Business Club.	Academic resources, FB coursework, networking opportunities, guest conferences, forums, workshops.
7	NA	University of Oregon	Family Business 360.	Academic resources, breakfast events, networking opportunities, Family Business Alliance.
8	201-250	Temple University	Entrepreneurship Program.	Academic resources, FB coursework.
9	NA	USC Marshall University	Family Business Program.	Workshops, FB programs, executive educational programs, family office program, networking opportunities, peer sessions.
10	201-250	Washington University in St. Louis	Olin Family Business Club.	Workshops, symposium, academic research, network opportunities.
11	101-150	University of Washington	School of Law. Foster School of Business.	Limited FB coursework.
12	NA	University of Oklahoma	OU Entrepreneurship Program.	Academic resources, networking opportunities.

continued on following page

The Role and Contribution of Higher Education in Family Entrepreneurship*Table 1. Continued*

Princeton Review 2017 Ranking	QS University Ranking	University	Program	Characteristics, resources available and activities
13	201-250	Syracuse University	Family Business Club at Whitman School of Management. Institute for Veterans and Military Families.	Academic resources, FB coursework, networking opportunities, exclusive focus programs and resources for the community.
14	51-100	The University of North Carolina at Chapel Hill	Family Enterprise Center at the Kenan-Flagler Business School. Family Business Club.	FB coursework, next-generation leadership roundtables, the annual Family Business Forum, workshops, mentoring, and advising Family Business Alliance.
15	NA	University of Dayton	Family Business Forum.	FB coursework, conferences, networking opportunities.
16	NA	Miami University	Family Business Certificate Program at the School of Business Administration.	FB coursework, FB certificate program (English and Spanish), networking opportunities.
17	34	Cornell University	Smith Family Business Initiative at SC Johnson College of Business. Global Emerging Leaders for Family Enterprise (GEL).	FB coursework, networking opportunities, Family in the Annual Business Conference, Leadership and Internationalization and Inter-generational Programs, Family Business Alliance.
18	19	Columbia University	Family Business Program at the Business School.	FB coursework, academic resources, networking opportunities with the Alumni Circle program.
19	51-100	Texas A&M University	May Business School. Managing Your Family Business Program.	FB coursework, academic resources, networking opportunities.
20	NA	Texas Christian University	Neely Entrepreneurship Center.	No family business related coursework or information found.
21	NA	Clarkson University	David D. Reh School of Business.	No family business related coursework or information found.
22	NA	Belmont University	Center for Entrepreneurship at Massey College of Business.	FB coursework, academic resources, research.
23	NA	Loyola Marymount University	College of Business Administration.	Drollinger family entrepreneurial award. No family business related coursework or information found.
24	NA	DePaul University	Chicago Family Business Council.	Roundtables, forums, academic resources, research, networking opportunities, mentoring, advising, Business Families Foundation.

Sources: <http://princetonreview.com> and <http://www.topuniversities.com>

The Role and Contribution of Higher Education in Family Entrepreneurship***Table 2. Top Ten Universities in the USA based on the 2017 Princeton Review and the top business and management studies schools based on 2017 QS Top Universities***

Princeton Review 2017 Ranking	QS University Ranking	University	Programs	Characteristics, resources available and activities
1	1	Harvard College	Family Business Club.	Academic resources, FB coursework, networking opportunities, conferences, forums, workshops.
2	34	Cornell University	Smith Family Business Initiative at SC Johnson College of Business. Global Emerging Leaders for Family Enterprise (GEL).	FB coursework, networking opportunities, Family in the Annual Business conference, leadership and internationalization and inter-generational programs, Family Business Alliance.
3	201-250	Brown University	No family business related coursework or information found.	
4	51-100	Boston University	No family business related coursework or information found.	
5	17	New York University	Entrepreneurship and Family Business. Stern Family Office Council.	FB graduate coursework, academic resources, networking opportunities, summer camps, a family office.
6	6	Stanford University	Family Business at Graduate School of Business.	FB coursework, academic resources, conferences.
7	51-100	Princeton University	No family business related coursework or information found.	
8	101-150	Boston College	Boston College Center for Work and Family.	Academic resources, roundtables, webinars, research.
9	23	Yale University	Yale Innovation and Entrepreneurship Bazaar.	Guest speakers, networking opportunities, academic resources, research.
10	43	Duke University	No family business related coursework or information found.	

Sources: <http://princetonreview.com> and <http://www.topuniversities.com>

The second period, named by Kaplan (2014) as the Assimilation Period, started after the II World War in 1945 and its main characteristic is the Americanization of European Business Schools. This process was not homogeneous in all the European countries, being exceptionally strong in Great Britain and Spain (Engwall & Zamagni, 1998). In this latter country, the Americanization process helped to establish very well-known USA-style business schools during the mid-1950s, such as Escuela de Organización Industrial (EOI), Escuela Superior de Administración y Dirección de Empresas (ESADE), and Instituto de Estudios Superiores de Empresa (IESE) (Mosson, 1965).

Such Americanization process, however, was somehow slowed down in 1999 due to two different phenomena. On the one hand, European Union established the Bologna process, which pursues ensuring comparability in terms of standards and quality of higher education in all European countries (Keeling, 2006). On the other hand, the increasing globalization pushed business schools to comply with specific criteria in order to achieve a higher position in international rankings, thus moving them toward one particular global direction. These two different circumstances led European business schools to more standardization and caused an essential decrease of the influence of American business schools (Kaplan, 2014).

The Role and Contribution of Higher Education in Family Entrepreneurship

One of the main aspects to take into account by European business schools is the type of businesses set within Europe. In this sense, family businesses form the backbone of many European economies, making up more than 60 percent of all European companies in 2015, both small and large enterprises, and employ between 40 percent and 50 percent of all employees (European Commission, 2015). This importance it is not homogenous in all European countries, although only in Lithuania (38%), Latvia (58%), Norway (65%), Romania (65%), Sweden (55%), The Netherlands (61%), and UK (65%) did not reach the threshold of 70% (see Table 3).

In Spain, family businesses represent almost 90 percent of all companies, contribute with 57 percent of GDP and are responsible for 67 percent of private employment (Pérez & Lluch, 2015). Regarding the education, in Spain, the family business education is highly centralized by The Spanish Family Firm Institute. This organization plays a prominent role in the field of family business education as it organizes courses, seminars, and conferences through its well-known network of Family Business Chairs throughout the country. Table 4 shows the Family Business Chairs form a system of 37 chairs located in the different universities all around Spain and contributes to the spread of family business knowledge among more than 2,000 students in undergraduate, master and executive level, and almost 200 professors and lecturers (Spanish Family Firm Institute, 2015).

The Family Business Chairs are independent organizations belonging to different universities, but their activities are usually coordinated by The Family Business Institute. This institute focuses on the main issues that family businesses have to face, including fostering entrepreneurship among students, and promoting applied research as shown in conferences and seminars with family business owners.

On the one hand, the incorporation of the family business as a theme in university curricula has meant a significant advance in the process of bringing universities closer to the reality of companies in Spain. In this sense, many Spanish universities have included family business related subjects in Master Administration degrees, in order to help future professionals and business owners to raise the awareness and knowledge about this type of organizations. Furthermore, at postgraduate level, some other courses are offered about different issues that family businesses have to deal with, such as the succession process. In this regard, one of the primary objectives of Family Business Chairs is encouraging entrepreneurship in both undergraduate and postgraduate levels (Spanish Family Firm Institute, 2015).

The different programs developed by each of the 37 Family Business Chairs are directed to:

- **Undergraduate Students:** First and second cycle Business Administration, Economy, and Law students.
- Postgraduate students.
- Relatives involved or not in family businesses.
- Directors or non-family professionals who work or plan to work in the family business.

More in particular, the University of Salamanca, the University of Valladolid, the University of Jaen, the University of Murcia, and the University of Abat Oliba offer different Master degrees focused exclusively on family businesses. These programs pursue some different objectives. One of them is related to the fact that family business owners learn how to build and preserve their legacies and connect them to specific programmes. Relatedly, participants are offered tools to improve the competitiveness and long-term performance in their businesses to overcome different issues and increase effectiveness. In these programs, family business owners and managers develop skills like leadership, while being encouraged to innovate in their family businesses.

The Role and Contribution of Higher Education in Family Entrepreneurship***Table 3. Percentage of family-owned businesses per country in Europe in 2015***

Country	Percentage of family businesses
Austria	80
Belgium	70
Bulgaria	70
Cyprus	90
Czech Republic	87
Denmark	77
Estonia	90
Finland	80
France	75
Germany	75
Greece	80
Hungary	70
Iceland	75
Ireland	75
Italy	75
Lithuania	38
Latvia	58
Luxembourg	70
Malta	70
Norway	65
Poland	75
Portugal	75
Romania	65
Spain	85
Slovakia	90
Slovenia	70
Sweden	55
The Netherlands	61
UK	65

Source: <http://www.europeanfamilybusinesses.eu>

On the other hand, other Family Business Chairs belonging to different universities also offer family business programmes. Nevertheless, these family-related educational initiatives are most of the times included in broader management programs. In fact, almost all of them teach family business-related subjects such as “Internationalization processes in the family business” offered by the University of Seville, and “Family business management” taught by more than twenty Family Business Chairs, being part of Business Management undergraduate and postgraduate (MBA) programs. In these programmes, students are encouraged to initiate business with their families, but also, they help existing family busi-

The Role and Contribution of Higher Education in Family Entrepreneurship***Table 4. Family Business Chairs, province/county, foundation year and main supporters***

Family Business Chair/ University	Province/County	Year	Supporter
University of Cadiz	Andalusia	2004	Banco Santander
University of Huelva	Andalusia	2007	Caja Rural del Sur
University of Seville	Andalusia	2001	Banco Santander
University of Almeria	Andalusia	2009	Banco Santander
University of Granada	Andalusia	2006	Banco Santander
University of Malaga	Andalusia	2001	Banco Santander
University of Cordoba	Andalusia	2000	Fundación Prasa
University of Jaen	Andalusia	2001	Banco Santander
University of Zaragoza	Aragon	2002	La Caixa
University of Oviedo	Asturias	2002	Banco Santander
University of the Balearic Islands	Balearic Islands	2004	Banca March
University of Las Palmas de Gran Canaria	Canary Islands	1999	Asociación de la Empresa Familiar en Canarias (AEFCA)
University of Cantabria	Cantabria	2008	Banco Santander
European University Miguel de Cervantes	Castile and Leon	2009	Banco Santander
University of Burgos	Castile and Leon	2003	Caja Burgos
University of Leon	Castile and Leon	2000	Caja España
University of Valladolid	Castile and Leon	2001	Banco Santander
University of Salamanca	Castile and Leon	1999	Banco Santander
University of Castilla-La Mancha	Castilla La Mancha	2004	Caja Castilla La Mancha
University of Girona	Catalonia	2006	Chamber of Commerce of Girona
University of Barcelona	Catalonia	1998	Cuatrecasas abogados; Laboratorios Almirall
University of Abat Oliba	Catalonia	2004	-
International University of Barcelona	Catalonia	2004	-
IESE	Catalonia	1987	IESE
University of Vigo	Galicia	2005	Abanca; Inditex
University of A Coruña	Galicia	2005	Abanca; Inditex
University of Santiago de Compostela	Galicia	2005	Abanca; Inditex
University of Valencia	Valencia	2006	Broseta abogados; Porcelanosa
University of Miguel Hernandez (Elx)	Valencia	2004	Pikolinos; Vissum
University of Alicante	Valencia	2003	Caja Mediterráneo; Mercadona
University of Extremadura	Extremadura	2005	Caja de Badajoz
University Carlos III	Madrid	1999	-
University Antonio de Nebrija	Madrid	1999	-
Complutense University of Madrid	Madrid	1999	Acciona; Grupo Pascual
University of Murcia and University of Cartagena	Murcia	2006	Caja Murcia
University of the Basque Country	Basque Country	2007	Diputación Foral de Bizkaia
University Deusto	Basque Country	2000	Fundación Aranzabal
University of La Rioja	Rioja	2000	La Caixa

Source: Spanish Family Firm Institute at <http://www.iefamiliar.com>

The Role and Contribution of Higher Education in Family Entrepreneurship

nesses. For that purpose, these Family Business Chairs connect experts with students, and students make connections with business owners. Moreover, these subjects also guide students to manage a business, connecting academic information with real-life problems, and sharing information about innovation and how family businesses could benefit from this. Probably, the main weakness of this type of family business education is that, in most cases, these subjects are not compulsory but optional subjects.

Finally, apart from teaching family business-related programs and subjects, Family Business Chairs also organize conferences where peers and experts talk about problems that they've faced and how they managed to solve them. Indeed, some universities such as the University of the Basque Country and the University of Cantabria also connect family business owners to share their experiences and practical knowledge. Some other Family Business Chairs such as the ones in Cadiz and Rioja have mentors to advice family business owners when facing specific situations while running their enterprises. Moreover, the University of the Basque Country also helps family business managers with meetings given by experts and offers workshops where family business managers can develop and implement new products, processes, technologies, and others.

On the other hand, the authors have also conducted a review of the different family business programs at the top 10 Spanish business schools ranked by the well-known Top Universities 2017 review (refer to Table 5).

This review is relevant in order to provide an overview of the different family business programmes in Spain. However, one of the most important general findings is that only three of the best ten business schools in Spain offer family business specific undergraduate and/or postgraduate programmes. Indeed, most of these top business schools provide general management and executive (MBA) programs where business planning, financial modeling, strategy assistance, competitive assessments, market sizing, business model creation, and marketing plan development are taught. However, IE, IESE, and ESADE business schools are the only ones where family business education programmes are offered.

On the one hand, IE Business School offers a one-week leadership program aimed at members of business families with participation and responsibility in their organizations. Additionally, this program

Table 5. Top ten business and management studies schools in Spain based on QS Top Universities

Spain Ranking	QS University Ranking	University
1	44	Instituto de Empresa (IE) Business School
2	21	Escuela Superior de Administración y Dirección de Empresas (ESADE) Business School
3	27	University of Navarra IESE Business School
4	NA	Escuela de Organización Industrial (EOI) Business School
5	NA	ESIC Business & Marketing School
6	NA	Barcelona Graduate School of Economics (GSE)
7	NA	Centro de Estudios Financieros (CEF) Business School
8	NA	Escuela de Alta Dirección y Administración (Business School)
9	NA	Innovation and Entrepreneurship Business School
10	NA	Fundesem Business School

Source: <http://www.topuniversities.com>

The Role and Contribution of Higher Education in Family Entrepreneurship

targets non-family senior executives, and members of the board of directors, as well as inactive members of the family business. The five subjects of this program are family business governance, family cohesion management, leadership skills and entrepreneurial culture, intangible assets management, and transformation management of the family business.

The First Family Business Chair launched in Europe was at IESE Business School in 1987 (Hoy & Sharma, 2006). Nowadays, the IESE Family Business Chair and alumni association offer a continuing education program with the objective of expanding knowledge and understanding of an increasingly complex global business environment affecting the family business and the business family. Likewise, it seeks to establish relationships within the international scientific community and to continue working on the development of the family business. Additionally, based on the vast experience of its leader Josep Tápies, IESE also offers different practice-based activities and have an enormous family business video library.

Finally, ESADE also offers an interesting family business specific “Family business governance program.” This program, whose co-directors are Alberto Gimeno and María José Parada, is aimed at business families either establishing or have the desire to build family business groups with the capacity to develop and endure in time as leading business groups. The program aims to help participating families to define, agree and implement their own strategy as a family business. Moreover, the program has a fully applied approach. In particular, according to its organizers, it combines all kinds of methodologies (presentation and discussion of concepts, discussion of cases with protagonists, presentations of experts, videos, readings, group work, specialized software, and others). The guiding principle of the program is the “pedagogy of discovery,” so that the participants take a tour that will allow them to discover their own reality as a family group and build their own family strategy.

CONCLUSION

This study has underlined the strong presence and assortment of family business educational resources in prominent universities in two contexts: USA and Spain. University programmes have developed in response to market demand (Wadee & Padayachee, 2017) and the acknowledgment of the economic impact that family-owned businesses have in each country regardless cultural differences. Contrary to what many could have expected in the 1980s and 90s, nowadays, family business education has grown to offer more diverse coursework and academic resources. Family business education has become an important topic specifically in entrepreneurship, and business and management related minors, majors and master’s degrees.

In addition, the proliferation of family business centers, family business professorship and both undergraduate and graduate programs in universities is more common than ever. Family business centers in USA and family business Chairs in Spain are being promoted and taking part of initiatives providing valuable educational solutions in the classroom, fostering scholarly research, and finding solutions, counseling and mentorship for family business in their communities. Given this context and seeking to endorse the entrepreneurial spirit, family business centers and Chairs are well recognized and positioned across universities all over USA and Spain offering an assortment of courses, resources, certifications, seminars, forums, conferences, counseling, and mentorship support. In addition, more than ever, the presence of other well-respected institutions sponsoring educational programs and consulting initiatives such as the Family Firm Institute, Family Business Network, Family Business Alliance, Business Family

The Role and Contribution of Higher Education in Family Entrepreneurship

Foundation, among many others provide validity, association, and support needed for the development of the family business field. In Spain, banks seem at this point to be making the largest investments in the family business Chairs. However, donations and endowments from private companies and governmental entities are also playing an important role both in USA and Spain, adding another important stakeholder group into the mix of family business centers or Chairs in USA and Spain.

The competitive arena is set for universities to dominate the family business education. The growth, development, and up-to-a-point similar offering programmes call for universities to innovate in active, experiential learning programmes, and more specialized training to really stand out their competitors (Jabeen, Faisal, & Katsioloudes, 2017; Shamsudin, Al Mamun, Nawi, Nasir, & Zakaria, 2017). The institutionalization of family business programs into curricula is becoming more standardized at prominent universities with entrepreneurial programs, and business and management schools. In addition to undergraduate minors and majors, as well as specific programs at master's degrees. In addition, many universities are significantly expanding their family business portfolio, including but not limited to family business certifications, high specializations, such as Family Business Global Emerging Leaders for Family Enterprise (GEL) at Cornell University, leadership programs, such as the one at Instituto de Empresa tailored to executive members of the business family, and family office programmes, such as the ones at University of Southern California Marshall and New York University. All of which are valuable attempts to extend the impact and differentiation of family business education in a highly competitive and globalized arena and represent as well groundbreaking efforts to stand out from the competition.

ACKNOWLEDGMENT

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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KEY TERMS AND DEFINITIONS

Family Business Alliance: Approximately 50 university-based family business programs throughout the United States and Canada are part of this alliance.

Family Business Chairs: Autonomous organizations belonging to different universities but their activities are usually coordinated by The Family Business Institute, which focuses on the main issues that family businesses have to face, on boosting the business creation and entrepreneurship among students and on promoting applied research shown in conferences and seminars with business owners.

Family Business Programs: It refers to all types of undergraduate, master or executive courses offerings at universities, which depend on the cultural, academic and institutional setting of each country.

Family Firm Institute: This organization plays a prominent role in the field of family business education in Spain as it organizes courses, seminars, and conferences through its well-known network of family business chairs.

Princeton Review: A college admission services company that provides a university ranking based not only on statistical data but on students' opinions.

QS Top Universities Ranking: An annual publication of university rankings by Quacquarelli Symonds (QS).

Universities: Higher education institutions with undergraduate, master, and executive education offerings.

Chapter 17

Synergic Individual Entrepreneurial Orientation of University Students: A New Measurement Model

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ABSTRACT

While innovation is the sharp implement of entrepreneurs, knowledge is the critical element of the innovation system. The collaboration and synergy between the participants of these innovation systems are vital as they become a “laboratory for knowledge based economic development.” On the other side, entrepreneurship has been widely recognized as the engine of job creation and economic prosperity. Albania as a developing country facing high unemployment rates promotes among young adults the continuous development of entrepreneurial activities, which can partially provide a solution to the increasing unemployment. The purpose of this research is to assess a new measurement model of specific entrepreneurial orientation which would contribute to increasing the university students’ intention of becoming entrepreneurs. The study demonstrated that increasing the collaboration of students with industry and governmental institutions in supporting their innovative ideas will increase their intention towards entrepreneurship.

INTRODUCTION

Many studies have confirmed that entrepreneurship is an engine of economic growth in developed and especially in developing countries. Fostering entrepreneurship has become a topic of the highest priority in public policy (Lüthje & Franke, 2003) since it has come up with advancements in the entrepreneurship process. The research conducted in many different countries have resulted in a positive relationship between entrepreneurial orientation (EO) and company performance. In other analyses, EO construct has been used on an individual level to measure its influence on entrepreneurial intention (EI). Understanding

DOI: 10.4018/978-1-5225-5837-8.ch017

Synergic Individual Entrepreneurial Orientation of University Students

EO at the personal level is very important and would be valuable to future business owners, to business incubators and to potential investors who are considering supporting business proposals (Bolton & Lane, 2012). For this reason, studying individual entrepreneurial orientation (IEO) of university students and measuring the impact it has on their intention of becoming entrepreneurs would be of importance.

Albania is a post-communist country located in South Eastern Europe, in Balkans. Its open market and private property experience started in the 1990s after the communism collapse. INSTAT (2017a) reports that 160,679 enterprises were active at the end of the year 2016, 98.9% of which were small and medium enterprises (SMEs) contributing by 51.7% to the total country employment. Schwab (2016), in the Global Competitiveness Report for 2016-2017, classifies Albania as an efficiency-driven economy, which needs to invest in business sophistication and innovation to become an innovation-driven one. As Acs, Szerb, & Lloyd (2017) emphasize, the Global Entrepreneurship Index (GEI) presents a sophisticated measure of the national-level entrepreneurship ecosystem that reflects the multifaceted nature of entrepreneurship. The GEI ranks Albania 83rd out of 137 countries in its last report, where the country's most active area is "startup skills," and weakest one is "risk acceptance." The report shows that even though Albanian people have the necessary skills to start a business based on their own perceptions and availability of tertiary education, their main barrier towards entrepreneurship the institutional instability that adds additional risk to starting a business. An individual score is higher than the institutional one. Entrepreneurial qualities of the people in the ecosystem score 57%, while the quality of the institutions that support entrepreneurship score 38%.

As the other developing countries, Albania is facing high unemployment rates. According to INSTAT (2017b), in the first quarter of 2017, the unemployment rate was 14.2%, so orienting students towards entrepreneurship would provide employment solutions as well as employment opportunities for the graduates. Economies need to enable people to start a business when it is necessary; but they also need to encourage those attracted by the opportunity to venture into entrepreneurship, even when they have other work options (Kelley, Bosma, & Amoros, 2011). Business college students and graduates often see the founding of a company as an attractive alternative to wage or salary employment (Lüthje & Franke, 2003).

In particular, entrepreneurship education has been considered one of the key instruments to increase the entrepreneurial attitudes of both potential and nascent entrepreneurs (Liñán et al., 2011). Henderson & Robertson (1999) classify different education and programs for entrepreneurs as programs for a small business start-up; continuing (adult) small business education, and small business education. According to Fayolle & Gailly (2015) study results, entrepreneurship education programs have positive effects only when previous entrepreneurial exposure has been weak or inexistent on the students. Similar results have also been found in earlier studies of Peterman & Kennedy (2003), Fayolle et al. (2007) and Cooper & Lucas (2007). In Albania, there exist a few programs for small business start-ups with the aim to promote entrepreneurship and increase young generations awareness. In higher education, the focus is on general business administration and business management programs.

Higher education is facing unprecedented challenges in the definition of its purpose, role, organization, and scope of society and the economy (OECD, 2012). Epoka University is an international higher education institution located in Tirana, the capital of Albania. All institutional strategies of the University are built on the "Education, Research and Contribution to Society" triangle. Epoka offers education in three study cycles. The language of instruction is English, and it comprises three faculties: the Faculty of Architecture and Engineering; the Faculty of Economics and Administrative Sciences; and the Faculty of Law and Social Sciences (Epoka University, 2018a). Epoka University has "an overall reported employ-

Synergic Individual Entrepreneurial Orientation of University Students

ment rate of 90.4%” (Turan et al., 2018). Through the several cooperation agreements with international and national institutions, the University shows efforts to integrate students into the market. Apart from curricular activities, EPOKA develops students through students’ clubs. Students clubs are established on academic bases, make possible and improve interpersonal relationships between students, and build leadership skills (Epoka University, 2018b).

In a previous study Zenelaj & Kruja (2017) applied the scale developed by Lüthje & Franke (2003) on a sample of 88 business informatics and computer-engineering students of Epoka University to measure and compare their perception towards entrepreneurship and the effect on entrepreneurship intention. The study found that there were no significant differences on the entrepreneurial intention among business informatics and computer engineering students.

This study is concentrated on the analysis of Faculty of Economics and Administrative Sciences (FEAS) students’ entrepreneurial orientation, and intention since their program studies are concentrated on contributing to the country’s development in the businesses, organizational and management arena. This study aims to present a new model of IEO that would contribute to increasing students’ intent on becoming entrepreneurs. A comparative study of students enrolled in the faculty programs is undertaken to test whether there exist differences between their orientation and propensity to become an entrepreneur. This would provide feedback for entrepreneurship course evaluations and arrangements. As the pursuit of entrepreneurial ventures continues to grow, so do the research-based educational and training programs that are directed towards this growth (Bolton & Lane, 2012).

This research after providing a literature review of the concepts and studies related to IEO and EI makes an assessment and validation of their constructs on the sample study. Next, it is tested, whether different study programs and different gender students’ scores differ. The last but not least important test is related to testing whether there is a correlation between students’ IEO scores and EI scores. Based on the findings of the study it is presented the synergic individual entrepreneurial model that is expected to further foster entrepreneurship by increasing students’ entrepreneurial intention.

THEORETICAL BACKGROUND

Introduction

The research on entrepreneurial orientation and its dimensions is increasing day by day to measure its role in the performance of business organizations. As in other entrepreneurship studies, where the focus was on measuring whether the entrepreneurial orientation of businesses positively affected their performance, this research’s focus will be shifted on whether students’ individual entrepreneurial orientation has a positive effect on their entrepreneurial intention. Bird (1988), views a person showing a certain level of entrepreneurial intention as the initial stage in becoming an entrepreneur. The individual will embark on entrepreneurship only when they demonstrate sufficient level of intention towards entrepreneurship (Koe, 2016), so analyzing the relationship between IEO and EI and searching for a model to increase students’ EI is of primary importance. This study will not only contribute to the IEO and EI literature by providing empirical research in a developing country but also on a new measurement model of IEO which will further foster students’ EI.

Bolton & Lane (2012) were the first to assess and validate the EO construct at the individual level. In this study, the three dimensions of IEO, risk-taking, innovativeness, proactiveness, evaluated by Bolton

Synergic Individual Entrepreneurial Orientation of University Students

& Lane (2012) and the new size of Entrepreneurial Orientation (EO), collaborativeness, assessed and validated by Kruja (2015), will be tested in the sample of FEAS university students.

Through the research, it is aimed to answer the following questions: What are the dimensions and their respective items by which can be measured the individual entrepreneurial orientation of the students enrolled in the FEAS? Can collaboration be a dimension of IEO? What are the elements to measure the students' individual entrepreneurial intention? Does there exist any significant differences of IEO and EI between the male and female students? Does there exist any significant differences of IEO and EI between the students of different study programs? Does family have an impact on the students' choices? Can EI be stimulated by increasing IEO?

Entrepreneurship, Entrepreneurial Orientation, and Synergy

Since the publication of Shane and Venkataraman's (2000) article "The promise of entrepreneurship as a field of research" in the *Academy of Management Review*, entrepreneurship scholars have moved toward a process-based definition of entrepreneurship (Fayolle, 2013). Most policymakers and academics agree that entrepreneurship is critical to the development and well-being of society (Kelley, Bosma, & Amoros, 2011). Hisrich & Peters (2002) define entrepreneurship as "the process of creating something new with values by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risk, and receiving the resulting rewards of monetary and personal satisfaction and independence." The difference between entrepreneurs and other people relies on that entrepreneurs take difficult and complex decisions while the others do not want to take responsibility. At the same time, the work values usually connected with self-employment such as independence, challenge, and self-realization, have become more desirable in the work environment (Lüthje & Franke, 2003). According to Lumpkin & Dess (1996), entrepreneurship is focused on new entries, which can be accomplished by entering new or established markets with new or existing goods or services. They emphasize the role of entrepreneurship as it spurs business expansion, technological progress, and wealth creation (1996). Entrepreneurship and its role in the growth of the country was one of the leading discussed topics during the first half of 20th century (Kruja, 2014a). Nevertheless, the second half's focus would be moved on identifying the factors that promote entrepreneurship, and it will be only after the 1980s that the identification of EO dimensions from the research occurs (Kruja, 2014b).

Entrepreneurial orientation as a concept is related to business organizations performing entrepreneurial actions and activities, so it is engaged in the way entrepreneurs to implement entrepreneurship. The phenomenon of an EO as a driving force behind the organizational pursuit of entrepreneurial events has become a central focus of the entrepreneurship literature and the subject of more than 30 years of research (Covin & Wales, 2012). Miller (1983) has identified three dimensions of EO to measure entrepreneurship such as innovativeness; proactiveness; and risk-taking. He defined the entrepreneurial firm as the one who "engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations" (Miller, 1983). Many researchers (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005, etc.) have used these three aspects. The methodological sophistication of these studies and the complexity of the models developed and tested have tended to grow considerably over time (Miller, 2011).

According to Drucker (1985), "innovation is the specific tool of entrepreneurs, the means by which they exploit changes as an opportunity for a different business or service." Lewrick et al. (2010), see innovation as "the production, diffusion, and use of new and economically useful knowledge, a key factor

Synergic Individual Entrepreneurial Orientation of University Students

for competitiveness and growth while entrepreneurship the process of business start-up, business creation and growth, the entrepreneurial dynamism is key to economic renewal and growth.” Knowledge is the key element of the innovation systems and the institutions, which have an important role in its development, can be stated as: universities and academic institutions (develop and transfer knowledge); government organizations; innovative enterprises (Kruja, 2013). During the past few decades, the configuration of new knowledge-intensive environments has required fertile settings for innovative and entrepreneurial activities (Guerrero, 2016). Leydesdorff et al. (2017) emphasize “the Triple Helix of university-industry-government relations emerged as a research program from a confluence of Henry Etzkowitz’s longer-term interest in the entrepreneurial university (Etzkowitz, 1983, 1998, and 2002a; cf. Clark, 1998) with Loet Leydesdorff’s interest in the evolutionary dynamics of science, technology, and innovation”. The “triple helix” is a spiral model of innovation that captures multiple reciprocal relationships at different points in the process of knowledge capitalization (Etzkowitz, 2002b). Etzkowitz & Leydersdorff (1995), called the university-industry-government relations a “laboratory for knowledge based economic development.” The triple helix denotes the university-industry-government relationship as one of relatively equal, yet interdependent, institutional spheres which overlap and take the role of the other (Etzkowitz, 2002b).

Castell et al. (2007) explain “synergy comes from the Greek word *synergos* which means working together.” This demands a platform for participation through the development of dialogues, between disciplines and people, the very stuff of systems thinking. As Benecke et al. (2007) emphasize “the literature on synergy suggests that synergy is systemic and hence should be viewed in the context of processes.” It is important to note that the probability of developing interrelationships for synergy is not merely a matter of paper and pencil calculations but is heavily dependent on implementation concerns (Ensign, 1998).

While Lumpkin & Dess (1996) added autonomy and competitive aggressiveness as two other dimensions to the EO construct assessed by Miller (1983), on the other side, Kruja (2015) inspired by the triple helix model of innovation, added collaborativeness as another dimension to the EO construct.

Individual Entrepreneurial Orientation, Entrepreneurial Intention and IEO - EI Relationship

Individual Entrepreneurial Orientation as a concept is related to individuals performing entrepreneurial actions and activities. A validated scale to assess an individual’s EO would be valuable to faculty in teaching entrepreneurship as well as in structuring teaching methods, in making team selection decisions and in project assessment. At the same time, it could also be valuable to future business owners, to business incubators and to potential investors who are considering supporting business proposals. Bolton & Lane (2012) were the first to assess and validate the EO construct at the individual level, which consisted on three dimensions: (1) risk-taking, (2) innovativeness and (3) proactiveness.

The entrepreneurial intention is focused on individuals’ intent on becoming entrepreneurs and performing entrepreneurial activities. Just like entrepreneurship the concept of entrepreneurial intention has been defined by several authors (Ibrahim & Lucky, 2014). Bird (1988), defines entrepreneurial intentions as “entrepreneurs’ states of mind that direct attention, experience, and action toward a business concept, set the form and direction of organizations at their inception.” According to Krueger & Carsrud (1993), “planned behaviors such as starting a business are intentional and thus are best predicted by intentions toward the behavior, not by attitudes, beliefs, personality or demographics.” Thompson (2009), views

Synergic Individual Entrepreneurial Orientation of University Students

sole entrepreneurial intent “as a self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future.”

In many entrepreneurship studies, individuals' intention towards establishing a new business has revealed to be essential. EI is a consolidated area of research within the field of entrepreneurship (Liñán & Fayolle, 2015). Palich & Bagby (1995) emphasize the importance of individual entrepreneurial intent construct in research relating to enterprising individuals, their cognitions of business opportunities, and their decisions of whether or not to risk exploiting them by creating new ventures. According to Thompson (2009), this construct is a “legitimate and useful one in its own right that can be used as not just a dependent, but as an independent and a control variable.” While deciding to start a new business, intention plays a fundamental role. Intentionality is a state of mind directing a person's attention (and therefore experience and action) toward a specific object (goal) or a path in order to achieve something (means) (Bird, 1988). Zhao, Seibert, & Lumpkin (2010), in their meta-analytic review, found the intention to become an entrepreneur to correlate with actually becoming one.

Using EO as a construct that influenced entrepreneurial intention was done by several researchers (Koe, 2016). Bolton & Lane (2012), while validating the EO construct, also assessed the correlation between IEO construct and students' EI at a regional US university. Ekpe & Mat (2012) focus was on female students at Nigerian universities. They examined the moderating effect of social environment on the relationship between entrepreneurial orientation and entrepreneurial intention, which resulted in having a significant positive impact. Ibrahim & Lucky (2014), found entrepreneurial orientation and entrepreneurial skills to be essential factors required to realize entrepreneurial intention by the Nigerian students, while environmental factor resulted not significantly related.

METHODS

Sample and Data Collection

A total of 211 usable surveys were completed by the bachelor students of four different study programs at the Faculty of Economics and Administrative Sciences of Epoka University in Albania. The survey was conducted during April - May 2017, by being directly distributed to the students in the English language. The questionnaire was structured in four sections. Section one included questions related to the collection of demographic information of the respondents such as study program, gender, age, owning a business or having worked for the business. In sections two and three, students were asked to respond to the statements related to IEO and EI. The statements were measured by using the five-point Likert scale, evaluated such as: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; and 5 = strongly agree.

Variables

In this study, individual entrepreneurial orientation is the independent variable, while the entrepreneurial intention is the dependent one. As in other entrepreneurship studies, where the focus was on measuring whether the entrepreneurial orientation of businesses positively affected their performance, this research's focus is shifted on whether students' individual entrepreneurial orientation has a positive effect on their entrepreneurial intention. The personal entrepreneurial orientation of students was measured

Synergic Individual Entrepreneurial Orientation of University Students

by attaching to the scale developed by Bolton & Lane (2012) the dimension of collaborativeness, which was adopted from Kruja (2015).

From the five tested dimensions of individual entrepreneurial orientation by Bolton & Lane (2012) such as (1) risk-taking; (2) innovativeness; (3) proactiveness; (4) autonomy; and (5) competitive aggressiveness; only the first three ones demonstrated reliability and validity. These three dimensions are directly measured in this study by using the same statements, as shown in Table 1 below. Based on the Kruja (2015) survey on entrepreneurial orientation, was developed the new dimension of collaborativeness. This aspect was measured by using the four statements related to students' preference and willingness to collaborate with other students; governmental institutions; university; and other businesses. Collaborativeness is tested in this sample to check whether students' orientation towards entrepreneurship is positively affected by the collaboration opportunities with government, university, industry and even with each other.

Students' entrepreneurial intention is the dependent variable of the study and is measured by using eight items, which are statements measuring different aspects of students' intention to become an entrepreneur. Different authors have used a different number of items in their developed EI scale. Chen et al. (1998) used five items, Zhao et al. (2005) used four, Liñán & Chen (2006) used six, Zampetakis & Moustakis (2006) used two. The eight statements used in this research (Table 2) are based on the study of Wu (2009), which increased the number of items used to get a better measurement and higher reliability.

Table 1. Dimensions and statements used to measure IEO

Dimension	Statement
Risk-taking	I like to take bold action by venturing into the unknown.
	I am willing to invest a lot of time and/or money on something that might yield a high return.
	I tend to act 'boldly' in situations where risk is involved.
Innovativeness	I often like to try new and unusual activities that are not typical but not necessarily risky.
	In general, I prefer a strong emphasis on projects on unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before
	I prefer to try my own unique way when learning new things rather than doing it as everyone else does
Proactiveness	I favor experimentation, and original approaches to problem-solving rather than using methods others generally use for solving their problems
	I usually act in anticipation of future problems, needs or changes
	I tend to plan ahead for projects
Collaborativeness	I prefer to "step-up" and get things going on projects rather than sit and wait for someone else to do it
	I prefer to work on a team rather than individually
	I need to collaborate with governmental institutions to achieve my goals
	I am willing to collaborate with my university to further develop my business idea
	I am willing to collaborate with other businesses to build up my business

*Synergic Individual Entrepreneurial Orientation of University Students***Hypothesis and Conceptual Framework**

This research aims to assess a new measurement model of individual entrepreneurial orientation, which is expected to foster students' intent towards entrepreneurship. The study's conceptual framework is reported below (Figure 1), and in order to test the proposed model, the following set of hypotheses were formulated:

- **Hypothesis One:** Risk-taking, innovativeness, proactiveness, and collaborativeness are dimensions of IEO.
- **Hypothesis Two:** IEO has a unidimensional construct.
- **Hypothesis Three:** IEO, EI scores differ between study programs (SP).
- **Hypothesis Four:** IEO, EI scores differ between genders (G).
- **Hypothesis Five:** IEO, EI scores differ between students owning a business (OB) and those not.
- **Hypothesis Six:** IEO, EI scores differ between students having a family business (FB) and those not.
- **Hypothesis Seven:** IEO, EI scores differ between students working for a business (WB) and those not.
- **Hypothesis Eight:** A higher IEO score indicates a higher entrepreneurial intention.

Results

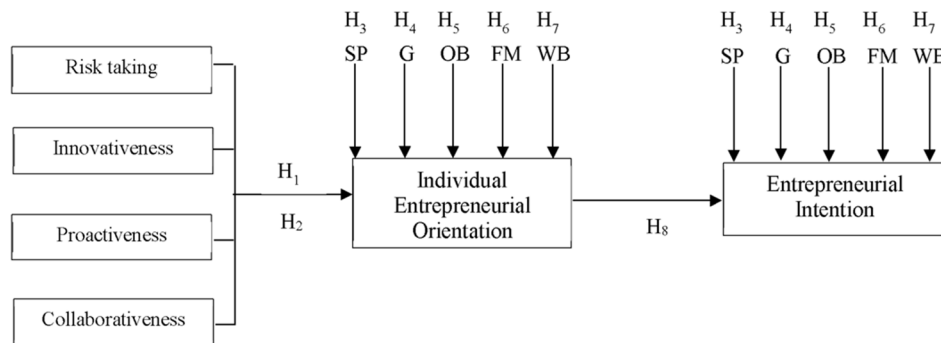
The data gathered through the questionnaire was analyzed by using IBM SPSS Statistics 20. To test the proposed model and to answer the raised hypothesis statistical methods such as descriptive analysis, Cronbach's alpha, exploratory factor analysis, variance and covariance analysis were used.

DESCRIPTIVE ANALYSIS

The investigation conducted by this research was based on the answers of the 211 bachelor students. From the total sample, 155 of participants were females, and 56 of them were males. Even though they are students, 16 of the participants own business, 123 have a family business, and 115 are working for a

Table 2. Statements used to measure EI

	Statement
1	I will start my own business in the near future.
2	It has been my intent to start my own business.
3	Starting my own business is an attractive idea to me.
4	I am enthusiastic about starting my own business.
5	It is desirable for me to start my own business.
6	I spent a lot of time thinking about owning my own business.
7	Owning my own business is the best alternative for me.

Synergic Individual Entrepreneurial Orientation of University Students*Figure 1. The conceptual framework of the study*

company. 41.7% of participants are students of banking and finance (BAF) program, 22.7% from business informatics (BIF), 13.7% from the business administration (BUS), 15.2% from economics (ECO) and 6.6% from international marketing and logistics (IML) program.

The participants in this study evaluated by using a five-point Likert scale all the items used to measure the independent (IEO) and dependent (EI) research variables. All items' means range from 3.14 (the lowest one) up to 4.35 (the highest one) (Table 3 and Table 4). From the first look, it can be suggested that students are oriented and have an intent towards entrepreneurship, but further analysis and tests need to be conducted to conclude.

Scale Reliability

Cronbach's alpha analysis was applied to measure for each of the dimensions to estimate the reliability of the scale used for each of the model variables since more than one item is used to measure them. The scale used for measuring the four dimensions of IEO resulted acceptable, for IEO good and for EI excellent.

Scale Validity

While Cronbach's alpha analysis results showed an internal consistency of the scale items, Exploratory Factor Analysis (EFA) was applied to determine the scale. Kaiser-Meyer-Olkin (KMO) measure was tested to verify the sampling adequacy for the factor analysis. KMO results for IEO was 0.77 and for EI was 0.89, higher than 0.5 the minimum acceptable value, while the Barlett Test of Sphericity resulted significant ($p < 0.01$) for both variables. KMO values close to 1 indicates that from the factor analysis distinct and reliable factors will be provided.

1. EFA Results for Individual Entrepreneurial Orientation

EFA for IEO resulted in four factors. The factors were extracted by using Principal Component Analysis on the 13 items with the direct oblimin rotation method. Direct oblimin rotation is applied when the factors are interrelated with each other, which was also confirmed by the component correlation matrix showing their relationship. The assessed new IEO model has a unidimensional construct; its

Synergic Individual Entrepreneurial Orientation of University Students*Table 3. Descriptive statistics for individual entrepreneurial orientation*

Dimension	Item	Mean	Std. Deviation
Risk-taking	Like bold action	3.26	.901
	Invest a lot	4.00	.870
	Act boldly in risk	3.22	.874
Innovativeness	Try new and unusual	3.60	.807
	Emphasis in unique projects	3.80	.872
	Own unique way	4.08	.821
Proactiveness	Original approaches	3.81	.814
	Act in anticipation	3.63	.860
	Plan ahead	3.85	.932
Collaborativeness	Step-up	4.19	.896
	Work on a team	3.34	1.031
	Collaborate with government	3.14	1.014
	Collaborate with university	3.40	1.101
	Collaborate with business	3.83	.920

Source: Author's own calculations

Table 4. Descriptive statistics for entrepreneurial intention

Item	Mean	Std. Deviation
Start business	3.82	.967
Intent to start a business	3.67	1.070
Attractive idea	4.35	.844
Enthusiastic	4.08	.948
Desirable	4.09	.898
Thinking a lot	3.39	1.109
Best alternative	3.64	1.080

Source: Author's own calculations

four dimensions move together and should be considered collectively. The derived four factors, which had eigenvalues above 1 and in combination explained 56.46% of the variance are:

Factor 1: Risk-taking, which has retained all its three tested items, with a scale reliability $\alpha = 0.69$ and explained 27.5% of the variance in IEO.

Factor 2: Collaborativeness, is the new assessed dimension and explains 12.8% of the total variance in IEO with a scale reliability $\alpha = 0.63$. Only three of the tested four items loaded on this second component. The items that clustered in this dimension represent the students' willingness of collaboration with the triple-helix of university-industry-government.

Synergic Individual Entrepreneurial Orientation of University Students

Factor 3: Proactiveness explains 9% of the total variance in IEO with a scale reliability $\alpha = 0.63$. Besides the three tested items of this component, a new item too loaded on. The statement, “I prefer to work on a team rather than individually,” was tested at the beginning to check whether it would load on collaborativeness factor, but resulted in loading on proactiveness, showing that students need to collaborate with each other to be more proactive.

Factor 4: Innovativeness that explains 7.2% of the total variance, with a scale reliability $\alpha = 0.63$, is the last dimension of IEO constructs. From the four tested items, “I often like to try new and unusual activities that are not typical but not necessarily risky” did not load on this component and is the only excluded item from the total 13 tested items.

2. EFA results for Entrepreneurial Intention

The EFA test for EI resulted in a consistent scale. The items used to measure EI explained 59.8% of the variance.

Variance Analysis

Through the analysis of variance, a comparison of sample means by analyzing their variances is conducted. This method tests if the current difference between means is statistically significant or not is. Variance analysis was applied to test hypothesis three and four. Through this analysis was investigated whether students' IEO or EI scored significantly different between the study programs or gender. Since each factor, IEO and EI were separately examined, the one-way ANOVA test was applied. In one-way ANOVA, group means are compared by comparing the variability between groups with that of variability within the groups (Verma, 2013).

1. Study Program Variance Analysis

One-way ANOVA examines equality of population means for a quantitative outcome and a single categorical explanatory variable with any number of levels (Seltman, 2015). The analysis of one-factor between the groups resulted insignificant ($p > 0.05$) for all the factors (entrepreneurial intent; individual entrepreneurial orientation), showing that there are no any significant differences in the scores reported from the students of the different study programs. The same can be concluded by analyzing the F-test results, which are low. The higher the F-value, the higher would be the difference between groups.

2. Gender Variance Analysis

One-way analysis of variance was also applied to test whether there exist significant differences between the scores of males (56) and female (155) students. The analysis resulted insignificant ($p > 0.05$) for entrepreneurial intent and significant ($p < 0.05$) for individual entrepreneurial orientation. The same can be concluded by analyzing the F-test results which are higher for IEO factor ($F = 6.6$). Thus, a higher ratio (F-value) indicates that the samples were drawn from different populations (Verma, 2013), so male students are more entrepreneurially oriented than female students. The one-way ANOVA analysis of

Synergic Individual Entrepreneurial Orientation of University Students

variance for each dimension of IEO provided a better understanding of the situation. The results showed that there are no significant differences in the risk-taking and collaborativeness scores ($p > 0.05$). The only significant difference is the students' score of proactiveness and innovativeness ($p < 0.05$). It can be stated that male students are more proactive and innovative than female students, and since the IEO has a unidimensional construct, these differences impacted it too.

3. Own a Business Variance Analysis

Only 7.6% of the sample (16 students), had already established his or her business, at the time when the survey was conducted. For both factors, EI and IEO, the variance analysis resulted insignificant ($p < 0.05$), showing no differences in the entrepreneurial intent and entrepreneurial orientation of the students. Students who have not already established business have been oriented entrepreneurially and have the intention of developing it, same as the students who have already the business.

4. Family Business Variance Analysis

Having already a family business (123 students, 58.3% of the sample) does not impact on students' orientation and intention of establishing a new one. Variance analysis resulted insignificant ($p < 0.05$) for both factors, entrepreneurial intent, and individual entrepreneurial orientation.

5. Work for a Business Variance Analysis

Even though some of the students are working for a company (115 students, 54.5% of the sample), their entrepreneurial orientation and intent, did not result significantly different ($p < 0.05$) from that of the students without a job position.

IEO – EI Univariate Analysis of Variance

To examine the relationship between the assessed model of individual entrepreneurial orientation and entrepreneurial intent, univariate analysis of variance test was applied. Levene's test of equality of error variances resulted insignificant ($p = 0.122 > 0.05$) showing that the error variance of the dependent variable is not equal across groups. At the same time, the significance test results ($p = 0 < 0.05$ for "corrected model" and IEO), indicates that specific entrepreneurial orientation is a significant predictor of scores on entrepreneurial intention. The direction of this effect is positive, meaning that if students with higher scores of IEO will have more top ratings of EI too.

To check whether the study's demographic variables (students' study program (SP); gender (G); owning a business (OB); having a family business (FB); and working for a business (WB)) have a significant influence on IEO – EI relationship, the model is retested with the covariate variables included in. Again, Levene's test of equality of error variances resulted insignificant ($p = 0.215 > 0.05$) showing that the error variance of the dependent variable is not equal across groups. The model continued to be significant ($p = 0 < 0.05$ for "corrected model and IEO), with the effect of covariates (G, OB, FB, WB) not significant, by not affecting the IEO – EI relationship. The only significant covariate is studied program ($p = 0.018 > 0.05$), showing that for different study programs, the effect of students' IEO on EI vary. Examining students' IEO and EI mean scores across the different study programs, provides a

Synergic Individual Entrepreneurial Orientation of University Students

more detailed picture. BIF students had the highest scores of IEO and EI, followed by BUS students. Even though IML students had the same EI mean score of EI (3.69) with BUS students, their IEO score is lower, showing that IML students for a higher IEO score, would have a higher EI than BUS students. On the other side, IML students have the same mean score of IEO (3.89) with BAF students, but BAF students EI intent score is lower. It can be concluded that IML students' IEO – EI relationship is higher than that of BUS and BAF students. ECO students are the program with the lower IEO and EI scores.

Study Results Summary

A summary of the study results and hypothesis raised is reported in Table 5.

DISCUSSION AND CONCLUSION

This study attempted to contribute to the entrepreneurship research by presenting a new model of synergic individual entrepreneurial orientation, which would have a positive impact on fostering students' entrepreneurial intention. The analysis was limited to a specific country and few study programs. Future studies should target a broader category of study programs, especially technical ones, as well as other universities and countries.

Albania is an efficiency-driven economy, facing high unemployment, needing more investments in business sophistication and innovation, which would push it to an innovation-driven one. As reported by GEI, even though Albanian people have the necessary skills to start a business based on their own perceptions and availability of tertiary education, their main barrier towards entrepreneurship is the institutional instability, which adds additional risk to starting a business. As a developing country, entrepreneurship needs to be stimulated, since it is an essential mechanism of job creation, innovation, and increased competitiveness to become a knowledge-based economy. Entrepreneurship should become a priority and should be promoted and in all instances. The research recommends that universities, government,

Table 5. Study results summary

Hypothesis	Results
H1: Risk-taking, innovativeness, proactiveness, and collaborativeness are dimensions of IEO.	The hypothesis is supported.
H2: IEO has a unidimensional construct.	The hypothesis is supported.
H3: IEO, EI scores differ between study programs (SP).	The hypothesis is not supported.
H4: IEO, EI scores differ between genders (G).	The hypothesis is supported for IEO. The hypothesis is not supported for EI.
H5: IEO, EI scores differ between students owning a business (OB) and those not.	The hypothesis is not supported.
H6: IEO, EI scores differ between students having a family business (FB) and those not.	The hypothesis is not supported.
H7: IEO, EI scores differ between students working for a business (WB) and those not.	The hypothesis is not supported.
H8: A higher IEO score indicates a higher entrepreneurial intention.	The hypothesis is supported.

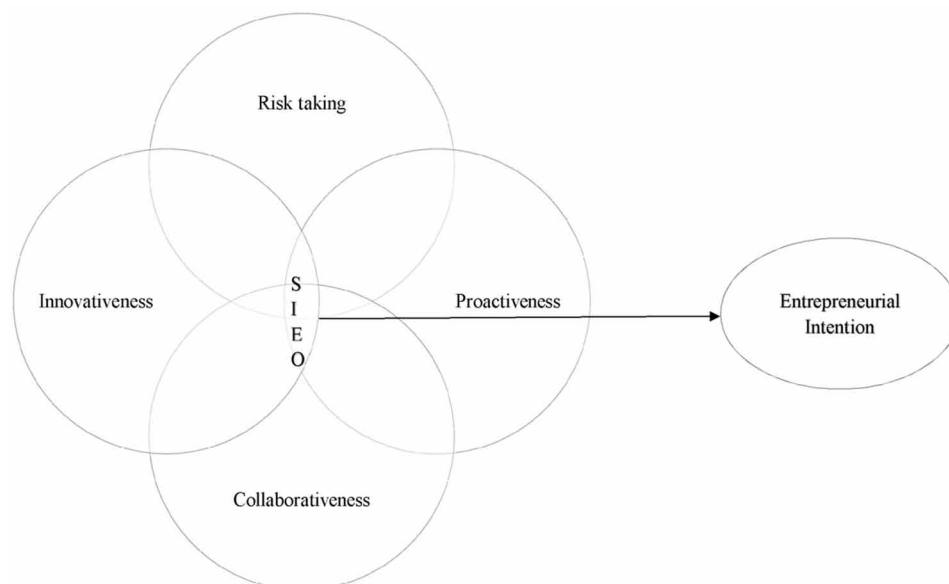
Synergic Individual Entrepreneurial Orientation of University Students

and industry should provide a system of synergy to support students in developing their innovative ideas and converting these ideas into effective and efficient enterprises.

Measuring students' individual orientation and desire to become entrepreneurs provided variables for the current research. The study was conducted in a sample of FEAS university students. FEAS study programs' focus is on contributing to the country's development in the businesses, organizational and management arena. Through Exploratory Factor Analysis, was assessed the IEO construct. One-way ANOVA and Univariate Analysis of Variance were used to measure the individual entrepreneurial orientation - entrepreneurial intention relationship and the effect of demographic variables on the model.

The assessed scale for IEO resulted in a unidimensional construct with four factors. Three of the elements (risk-taking, innovativeness, and proactiveness) are the dimensions that have been widely used in the research of EO. The new assessed dimension, collaborativeness, is a necessity of nowadays for a sustainable entrepreneurship process. Innovation is the sharp implement of entrepreneurs, knowledge is the crucial element of the innovation system, and the synergy between the participants of these innovation systems is vital to becoming a "laboratory for knowledge based economic development." As Kruja (2015), in the EO study conducted named the resulted model Synergic Entrepreneurial Orientation, in this study too, the found unidimensional construct is titled Synergic Individual Entrepreneurial Orientation, since students' orientation is affected by collaboration. Students tendency towards being proactive increases when they work on a team. So even though the investigated topic is related to own orientation, synergy with is a crucial component. The performed investigation demonstrated that the model of synergic proper entrepreneurial orientation positively affected students' entrepreneurial intent (Figure 2). Students did not differ in IEO and EI. The only difference was based on gender, where males resulted in being more innovative and proactive than females. A positive relationship resulted between students' IEO and EI, which was found to be stronger in Business Informatics and International Marketing & Logistics study programs. Different studies have shown that there exists a correlation between the intention and actu-

Figure 2. Synergic individual entrepreneurial orientation model



Synergic Individual Entrepreneurial Orientation of University Students

ally becoming an entrepreneur. So, measurement of students' perceptions of their behaviors especially willing to take risks, innovativeness, collaborativeness, and proactiveness provides an indicator of how successful these individuals may be as an entrepreneur. Albania is rated as a country in which starting, doing business is easy, and entrepreneurial qualities of the people in the ecosystem are relatively high but need an increase in the quality of the institutions that support entrepreneurship. This empirical study contributed by proposing a new model of synergic individual entrepreneurial orientation, which would foster on students' EI.

A detailed description of data and the analyses made is shown from Table 6 to Table 20 in Appendix 2.

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KEY TERMS AND DEFINITIONS

Collaborativeness: The quality of being collaborative with the others and put efforts to work together for a particular purpose jointly.

Entrepreneurial Intention: Individuals' intent on becoming entrepreneurs and performing entrepreneurial activities.

Entrepreneurial Orientation: Business organizations performing entrepreneurial actions and activities.

Entrepreneurship: Performing new entries accomplished by entering new or established markets with new or existing goods or services.

Individual Entrepreneurial Orientation: Individuals performing entrepreneurial actions and activities.

Innovativeness: The production and use of new and economically useful knowledge.

Proactiveness: To act in anticipation of future demand and shape the environment.

Risk Taking: Doing things that involve risk to achieve an objective.

Synergy: A process of working together through the development of dialogues, between disciplines, people, institutions.

Synergic Individual Entrepreneurial Orientation of University Students**APPENDIX 1****Survey Questionnaire**

Dear Students!

This questionnaire is prepared for the purpose of measuring students' orientation and tendency to become an entrepreneur.

Your participation in this survey is voluntary. The reported information is confidential and will only be used for generalization purposes.

Thank you for your collaboration!

General Information

- 1) Study Program
a) BAF b) BIF c) BUS d) ECO e) IML
- 2) Gender
a) Female b) Male
- 3) Do you own a small business?
a) Yes b) No
- 4) Do your family members own business?
a) Yes b) No
- 5) Have you ever worked in business?
a) Yes b) No

Questionnaire for the Survey

Read each of the following items carefully and try to decide how true the statement is in describing you.

Check only one box for each statement.

Strongly Disagree=**1**, Disagree=**2**, Neutral=**3**, Agree=**4**, Strongly Agree=**5**.

1. Individual Entrepreneurial Intention
2. Individual Entrepreneurial Orientation

Synergic Individual Entrepreneurial Orientation of University Students*Table 6. Individual entrepreneurial intention*

Statement	1	2	3	4	5
I will start my own business in the near future.					
It has been my intent to start my own business.					
Starting my own business is an attractive idea to me.					
I am enthusiastic about starting my own business.					
It is desirable for me to start my own business.					
I spent a lot of time thinking about owning my own business.					
Owning my own business is the best alternative for me.					

Synergic Individual Entrepreneurial Orientation of University Students**APPENDIX 2****Study Results***Table 7. Individual entrepreneurial orientation*

Statement	1	2	3	4	5
I like to take bold action by venturing into the unknown.					
I am willing to invest a lot of time and/or money on something that might yield a high return.					
I tend to act 'boldly' in situations where risk is involved.					
I often like to try new and unusual activities that are not typical but not necessarily risky.					
In general, I prefer a strong emphasis on projects on unique, one-of-a-kind approaches rather than revisiting tried and true approaches used before					
I prefer to try my own unique way when learning new things rather than doing it as everyone else does					
I favor experimentation, and original approaches to problem-solving rather than using methods others generally use for solving their problems					
I usually act in anticipation of future problems, needs or changes					
I tend to plan ahead for projects					
I prefer to "step-up" and get things going on projects rather than sit and wait for someone else to do it					
I prefer to work on a team rather than individually					
I need to collaborate with governmental institutions to achieve my goals					
I am willing to collaborate with my university to further develop my business idea					
I am willing to collaborate with other businesses to build up my business					

Table 8. Sample characteristics (n=211)

Variable	Item	Frequency	Percentage
Gender	Female	155	73.5
	Male	56	26.5
Study Program	Banking & Finance	88	41.7
	Business Informatics	48	22.7
	Business Administration	29	13.7
	Economics	32	15.2
	International Marketing & Logistics	14	6.6
Business Relation	Own a Business	16	7.6
	Have a Family Business	123	58.3
	Work for Business	115	54.5

Source: Author's own calculations

Synergic Individual Entrepreneurial Orientation of University Students*Table 9. Cronbach's alpha analysis results*

Variables	Items No.	Cronbach's Alpha	Scale Reliability
IEO	14	.782	Good
Risk-taking	3	.694	Acceptable
Innovativeness	4	.667	Acceptable
Proactiveness	3	.696	Acceptable
Collaborativeness	4	.604	Acceptable
EI	7	.882	Excellent

Source: Author's own calculations

Table 10. EFA results for IEO

	Component			
	Risk Taking	Collaborativeness	Proactiveness	Innovativeness
Act boldly in risk	.780			
Like bold action	.777			
Invest a lot	.662			
Collaborate with university		.803		
Collaborate with business		.787		
Collaborate with government		.560		
Plan ahead			-.811	
Step-up			-.723	
Act in anticipation			-.441	
Work on a team			-.416	
Original approaches				.823
Own unique way				.699
The emphasis in unique projects				.611
Try new and unusual				
Eigenvalues	3.85	1.79	1.26	1.01
% of Variance Explained	27.532	12.755	8.973	7.198
α	.694	.628	.632	.653

Source: Author's own calculations

Synergic Individual Entrepreneurial Orientation of University Students*Table 11. EFA results for EI*

	Entrepreneurial Intention
Enthusiastic	.837
Attractive idea	.831
Desirable	.788
Start business	.777
Intent to start a business	.762
Thinking a lot	.705
Best alternative	.701
Eigenvalue	4.18
% of Variance Explained	59.77
α	.882

Source: Author's own calculations

Table 12. EI and IEO one-way ANOVA results for study programs

		Sum of Squares	df	Mean Square	F	Sig.
Entrepreneurial intention	Between groups	3.690	4	.922	1.617	.171
	Within groups	117.509	206	.570		
	Total	121.199	210			
Individual entrepreneurial orientation	Between groups	.372	4	.093	.409	.802
	Within groups	46.788	206	.227		
	Total	47.160	210			

Source: Author's own calculations

Table 13. EI and IEO one-way ANOVA results for gender

		Sum of Squares	df	Mean Square	F	Sig.
Entrepreneurial intention	Between Groups	.536	1	.536	.928	.337
	Within Groups	120.664	209	.577		
	Total	121.199	210			
Individual entrepreneurial orientation	Between groups	1.448	1	1.448	6.618	.011
	Within groups	45.712	209	.219		
	Total	47.160	210			

Source: Author's own calculations

Synergic Individual Entrepreneurial Orientation of University Students*Table 14. IEO dimensions one-way anova results for gender*

Risk taking	Between groups	.079	1	.079	.079	.779
	Within groups	209.921	209	1.004		
	Total	210.000	210			
Collaborativeness	Between groups	2.221	1	2.221	2.234	.137
	Within groups	207.779	209	.994		
	Total	210.000	210			
Proactiveness	Between groups	7.977	1	7.977	8.253	.004
	Within groups	202.023	209	.967		
	Total	210.000	210			
Innovativeness	Between groups	7.960	1	7.960	8.235	.005
	Within groups	202.040	209	.967		
	Total	210.000	210			

Source: Author's own calculations

Table 15. EI and IEO one-way ANOVA results for owning a business

		Sum of Squares	df	Mean Square	F	Sig.
Entrepreneurial intention	Between Groups	.041	1	.041	.071	.790
	Within Groups	121.158	209	.577		
	Total	121.199	210			
Individual entrepreneurial orientation	Between groups	.057	1	.057	.253	.615
	Within groups	47.103	209	.219		
	Total	47.160	210			

Source: Author's own calculations

Table 16. EI and IEO one-way ANOVA results for family business

		Sum of Squares	df	Mean Square	F	Sig.
Entrepreneurial intention	Between Groups	1.244	1	1.244	2.167	.142
	Within Groups	119.955	209	.574		
	Total	121.199	210			
Individual entrepreneurial orientation	Between groups	.057	1	.057	.253	.616
	Within groups	47.103	209	.219		
	Total	47.160	210			

Source: Author's own calculations

Synergic Individual Entrepreneurial Orientation of University Students*Table 17. EI and IEO one-way ANOVA results for working in a business*

		Sum of Squares	df	Mean Square	F	Sig.
Entrepreneurial intention	Between Groups	1.320	1	1.320	2.302	.131
	Within Groups	119.879	209	.574		
	Total	121.199	210			
Individual entrepreneurial orientation	Between groups	.009	1	.009	.038	.846
	Within groups	47.151	209	.219		
	Total	47.160	210			

Source: Author's own calculations

Table 18. Levene's Test of Equality of Error Variances^a

F	df1	df2	Sig.
1.345	30	180	.122
Dependent Variable: Entrepreneurial Intention			
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + IEO			

Source: Author's own calculations

Table 19. Univariate analysis of variance results

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	39.133a	30	1.304	2.861	.000
Intercept	1052.561	1	1052.561	2308.627	.000
IEO	39.133	30	1.304	2.861	.000
Error	82.067	180	.456		
Total	3268.082	211			
Corrected Total	121.199	210			
Dependent Variable: Entrepreneurial Intention					
a. R Squared = .323 (Adjusted R Squared = .210)					

Source: Author's own calculations

Table 20. Levene's test of equality of error variances^a with covariate variables included

F	df1	df2	Sig.
1.218	30	180	.215
Dependent Variable: Entrepreneurial Intention			
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + SP + G + OB + FB + WB + IEO			

Source: Author's own calculations

Synergic Individual Entrepreneurial Orientation of University Students*Table 21. Univariate analysis of variance results with covariate variables included*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	43.713a	35	1.249	2.821	.000
Intercept	230.537	1	230.537	520.661	.000
SP	2.509	1	2.509	5.666	.018
G	.270	1	.270	.609	.436
OB	.004	1	.004	.008	.929
FB	.435	1	.435	.983	.323
WB	1.114	1	1.114	2.515	.115
IEO	38.023	30	1.267	2.862	.000
Error	77.486	175	.443		
Total	3268.082	211			
Corrected Total	121.199	210			
Dependent Variable: Entrepreneurial Intention					
a. R Squared = .361 (Adjusted R Squared = .233)					

Source: Author's own calculations

Table 22. IEO, EI means for each study program

Study Program	IEO	EI
Business Informatics	3.99	3.71
Business Administration	3.94	3.69
International Marketing & Logistics	3.89	3.69
Banking & Finance	3.89	3.64
Economics	3.66	3.59

Source: Author's own calculations

Chapter 18

Entrepreneurial Spirit in Family Business Successors: The Case of Mexico

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ABSTRACT

The objective of the work is to provide a panoramic view of the latest advances in the line of research that analyzes entrepreneurship spirit and succession in the family business. For this purpose, a systemic review of the literature contained in the Web of Science database has been carried out between 2011 and 2016. Getting an initial sample of eight for entrepreneurial spirit and 13 for succession in the family business, a review of this type is necessary to evaluate and contribute to the most recent contributions, the gaps existing in the literature for future research lines.

INTRODUCTION

The entrepreneurial culture is related to initiative and action. Entrepreneurs take risks to start new businesses, where they believe that would contribute to economic growth (Kilby, 1971; Stewart, 1996). There are several ways in which entrepreneurs are related to their families, including: (1) early experiences in the entrepreneur's family of origin; (2) family involvement and support of early start-up activities; (3) employment of family members in the new venture; and (4) participation of family members in ownership and management succession (Dyer, & Handler, 1994). The knowledge, skills, and attitudes required in the training of entrepreneurs enjoy increasing attention among academics, researchers and political agendas both in developed economies and emerging economies (West et al., 2008).

Entrepreneurial families have to develop renewal capabilities in line with the inevitable need to shed or redeploy assets once their value-creating properties are exhausted (Habbershon & Pistrui 2002). In short, entrepreneurial families need to have an entrepreneurial orientation towards their business activi-

DOI: 10.4018/978-1-5225-5837-8.ch018

Entrepreneurial Spirit in Family Business Successors

ties. It is relevant to explore how leaders from different generations exhibit leadership characteristics differently. Entrepreneurs possess psychological and sociological skills that differentiate them from current managers.

Much of the literature on generational cohorts have described general characteristics from sociological and behavioral perspectives (Mannheim, 1923, 1958; Smith & Clurman, 1997; Strauss & Howe, 1991; Zemke et al., 2000). The entrepreneurial spirit can be described not only in terms of personality characteristics but also in terms of motivational factors.

This chapter will begin with a background and context of the Entrepreneurial spirit concept and characteristics. Next, the importance of succession in a family business will be discussed. Finally, the chapter will end with the challenges and perspectives of this study.

This study is in the spirit of entrepreneurship, such as personality and motivational characteristics that influence entrepreneurial spirit, no economic factors. Another important topic for analyzing is the succession process in the family companies, which according to different authors represents one of the most critical events in the family business life cycle (Bizri, 2016), so it is essential to consider the spirit Entrepreneurial as one of the characteristics that are triggered in the family companies when it is used as a model of suitable succession among the members of the Business family (Bizri, 2016).

In general terms, the road to entrepreneurship is understood as a change in role identity (Ibarra, 1999). Ireland and Webb (2007) propose that at the individual level, entrepreneurship is a process that builds identity since entrepreneurs establish businesses generally under the influence of self-identities (Farmer et al., 2011). The subjects, make use of idealized perspectives of ways of behaving and distinctive of a specific role that affects their motivation and behavior (Hoyle and Sherrill, 2006). Taking into account this background, Ibarra (1999) argues that the subjects have characteristics and behaviors like successful models, identify it as part of their profession in the future.

The social appreciation of entrepreneurs in starting new businesses is a fundamental factor because it can determine the attitude and perception towards entrepreneurship (Krueger, 2007, Ruiz Navarro et al., 2008, Shapero and Sokol, 2002). For the formation of identity, knowledge, and understanding of the role of the entrepreneur is needed (Hoang and Gimeno, 2010).

On the other hand, the exogenous factors, which constitute cultural influences, such as personal contact in the creation of new businesses or being in contact with education in entrepreneurship, the beliefs and values of the individual, the social and cultural environment, among them the family, socioeconomic status, racial and professional group, affect the perception of the positive or negative that can be the role of the entrepreneur (Kuehn, 2008, Shapero and Sokol, 2002).

Therefore, it is important to mention that the succession is defined as the set of actions and events that allow the transition from the leadership of one family member to another (Sharma, Chrisman, Paul, & Chua, 2001). The article by Sharma, et al. (2001), indicates that only about 30% of family businesses survive in the second generation, 10-15% remain viable in the third generation, and only 3% operate in the fourth generation, according to initial studies of authors such as Beckhard and Dyer (1983); Ward (1987).

However, these statistics are not different from today, so it remains of particular interest to researchers to delve into studies focused on the succession process in family businesses. This analysis will show which lines of research have been derived from the interest that exists to analyze this topic.

Entrepreneurship Spirit Concept and Characteristics

The entrepreneurial spirit is one of the critical factors that will be able to find a solution to development and employment problems of countries (Örnek & Danyal, 2015). The entrepreneurship is a statement of different, extraordinary abilities and talents, and which includes many different ways. (Kohlert, Fadaï, & Sachs, 2013). At the same time, 'entrepreneurial activity is a practice of creating a new organization or rehabilitating, recovering, upgrading and/or restructuring an existing organization, especially in business' (Zamanet al., 2009).

Entrepreneurship is a sociological concept that provides idle resources to participate in society and economy. People endowed with an entrepreneurial spirit have the capacity to innovate; they are willing to try new things or do them differently. Further, is a critical factor on (1) Economic Growth and Development of countries; (2) Providing employment and job opportunity; (3) Enhancing productivity and production capabilities; (4) Contributing to the high levels of creativity and innovation, and (5) Creating wealth and providing education welfare.

The concept of humane entrepreneurship is composed of various disciplines of management studies: general entrepreneurship (Stevenson 1984), corporate entrepreneurship (Kuratko 2007), strategic entrepreneurship (Ireland, et al. 2003), social entrepreneurship (Austin, et al. 2006), stakeholder theory (Donaldson, and Preston 1995), transformational leadership and servant leadership (Stone, Russell, and Patterson 2004), and motivation theory (Locke and Latham 2004).

Gray and Lawrence (2001) feel entrepreneurship must be fostered as a team rather than individualistic attitude. Teamwork in business means even more than a good business idea, a reliable and motivated working team is the secret of business success (Lieberman, 2010). Austin et al. (2006) point out that entrepreneurship is the combination of responsibility, voluntary and initiative, and business is only an independent activity that provides benefit.

Studies on entrepreneurship mostly associate entrepreneurs' success with their behavior patterns or personal characteristics. In order to be a successful entrepreneur, in addition to essential features like risk-taking, tolerance to uncertainties, independence tendency, need for success, some crucial personal features like innovation, creativity, self-commitment, flexibility, leadership, ambition, and self-confidence should also exist (Basar et al., 2013). Apart from all those features, being a successful entrepreneur requires having information and experience in the sector. Marketing skills, communication, and management talents can also be mentioned among those features (Aykan, 2002).

Spirit of entrepreneurship may exist genetically, but factors like family, education, income level, social structure, economy play essential roles in the improvement of this spirit and decisions (Erbatu, 2008). In short, entrepreneurship activities have inseparable relations with the social-cultural environment. As stated by Bygrave-Minniti, the social-cultural environment directly affects entrepreneurs' attitudes. Hence, entrepreneurship may exist in different forms in different cultures, and it may have various features across countries and regions (Aytac & Ilhan, 2007).

The motivation for entrepreneurship is a highly debated topic. For classical economists, maximizing benefits is the primary motivation for entrepreneurship. Reasons for entrepreneurship can be listed as inheritance-desire to sustain family tradition, desire to have a high income, increasing economic status, acquiring social status and desire for independence (Bozkurt, 2011).

Ahmadi et al. (2012) in a study conducted at the University of Kurdistan concluded that individual factors had the highest impact on business characteristics and therefore business behavior. Djankov, Qian, Yingyi, Ronald, and Zhuraskaya (2007) conducted a study conducted in Brazil and observed that parental

Entrepreneurial Spirit in Family Business Successors

traits had the highest impact on the willingness of individual people to become entrepreneurs. According to the writers, the entrepreneurs are mainly those who have autonomous friends and family, and 81% of the entrepreneurs have relatives who are entrepreneurs (Djankov, Qian, Yingyi, Ronald, & Zhuraskaya 2007).

Talas, Celik, and Orkan Oral (2013) investigated the factors influencing business intentions among MA students in Turkey and concluded that college, high school type, and family income had a significant effect on business intentions. Dorkas (2013) studied the impact of the social environment on female entrepreneurs and came to the conclusion that friends and family had a significant effect on women's entrepreneurial capacity (Dorkas 2013).

Rasli, Rehman Khan, and Malekifard (2013) discovered that a person's life cycle would affect the student's entrepreneurial ability.

Probhu and Tomas (2014) conducted a study to determine the business attitudes of parents about children and concluded that students whose parents were entrepreneurs showed a greater tendency to entrepreneurship.

Boze and Ergenli (2013), in their study, found that female entrepreneurs and non-entrepreneurs were different in relation to personality. It was also found that parenting styles affected children's entrepreneurship orientation. The results of a study conducted by Murdi and Okafor (2010) showed that environmental factors played an important role in entrepreneurship.

Messay Sata (2013) led a study to determine student intentions "Entrepreneurs and concluded that there is an important safe correlation between the dimensions of entrepreneurship and students' business attitudes. In addition, family and identity-effectiveness company records can predict the business intentions of students to predict. The family has a stronger power in forecasting business intentions and can forecast 37% of discrepancies in business intentions (Messay and Sata, 2013). According to Tabibzadeh and Lashkarara (2013), the studies conducted in Australia have shown that family background and individual position have an essential role in business orientation.

Many other factors influence entrepreneurship culture. Education is one of those elements. Training provided at schools may encourage or discourage people's entrepreneurship features (Durak, 2011). Gender is another factor, which influences entrepreneurship culture. Masculine cultures are more efficient than others, during the formation of entrepreneurship personality (Hofstede, 1980). Apart from those factors, political factors and technological advancements also play a role in the creation of entrepreneurship culture (Cabbar, 2006; Kuvan, 2007).

Empirical studies on influencing factors of entrepreneurial intention central to different results due to various study objects and scenarios. Kristiansen & Indarti (2004) verified changing factors like self-efficacy, need for achievement, locus of control and entrepreneurial preparation of Indonesian as well as Norwegian undergraduates, and the results showed that individual background, entrepreneurial training, and entrepreneurial self-efficacy could well explain entrepreneurial intention as influencing factors, while need for achievement and locus of control do not have significant relevance to entrepreneurial intention. Autio (2001) explored changing elements of undergraduates' entrepreneurial intention targeting at Finnish, Swedish, American and English students basing on the theory of planned behavior.

Shi, J., & Sewell, P. J. (2011) believe that employability and entrepreneurship education should be divided into the following dimensions:

- **Technical dimension:** Business awareness and how to set up and run a business (information, regulations, and procedures);
- **Skills dimension:** A range of employability and enterprise skills;

Entrepreneurial Spirit in Family Business Successors

- **Motivation dimension:** *Entrepreneurial spirit* and attributes;
- **Cultural dimension:** Creativity, innovation and entrepreneurial environment.

Several studies have clearly demonstrated that entrepreneurial behavior is strongly influenced by people's values, attitudes and beliefs (Krueger, 1993; Krueger and Brazeal, 1994; Krueger and Carsrud, 1993).

More importantly, beliefs are influenced by the national culture and social context. However, even though it might be reasonable to believe that the microeconomic and cultural environments of some countries favor entrepreneurial behavior whereas others discourage it, further investigation is needed (Arenius and Minniti, 2005).

Through international analysis, it was found that cognitive behavioral control is the most critical determining factors which contribute to the intensity of entrepreneurial intention. Besides, Evan (2013) holds that self-efficacy and personal attitude will affect the strength of entrepreneurial intention.

Entrepreneurial behavior is necessarily based on a propensity to act, this is directly influenced by the perceived desirability and feasibility of a behaviour, which is both explained by a person's beliefs and perceptions about the surrounding world (Boissin and Emin, 2006); these beliefs and perceptions include perceived opportunity, confidence in one's abilities, fear of failure, and knowing another entrepreneur (Arenius and Minniti, 2005). Also, the characteristics (personality traits and demographic variables) known to be specific to creators (Gasse and D'Amours, 2000) are only thought to influence intentions when they affect these beliefs and perceptions.

More specifically, perceived desirability refers to how attractive the idea of starting up a business is to people (Shapero and Sokol, 1982). People are mainly influenced by role models in their circle of family and friends (Audet, 2004). Likewise, cultural and social factors directly affect the perceived desirability of entrepreneurial behavior (OECD, 1998); social pressure is illustrated, for example, by accepted and respected occupational characteristics.

Entrepreneurship can develop easily where legal regulations, economic policies, and bureaucratic mechanisms encourage entrepreneurship (Özdemir & Mazgal, 2012). In Mexico, various direct and indirect incentives are provided by private and public organizations to develop and spread entrepreneurship culture. The promotion of the entrepreneurial spirit was imposed in Mexico before the inability to promote employment in an increasingly subject to the imperatives of the world economic field imposing the insecurity (material and symbolic) as a principle of economic organizations that would form more efficient and productive individuals (Bourdieu, 2000; García Garza, 2006).

The most crucial element of entrepreneurial spirit is the entrepreneurs' desire to work independently and establish their own enterprises. Entrepreneurs support the economy by creating new companies (Börü, 2006). Entrepreneurial spirit entails a much broader aspect of positive attitudes. It means wanting to develop change capacities, experiment with your own ideas and react with greater openness and flexibility.

A critical gap in the scientific literature in this area involves research on the evaluation of such education (Schelfhout et al., 2016). Entrepreneurship education is related to knowledge, skills -especially with the ability to solve problems-, discipline, motivation, and self-confidence. Igniting entrepreneurial spirit and arranging the circumstances by which it can flourish is not the same as management education (Green, & Patel, 2013). Reinventing Enterprise education involves taking a fresh approach to understanding how entrepreneurs learn and practice their skill.

Consequently, innovation and entrepreneurial research need to investigate new organizational frameworks that rely on open source (Steinberg, 2010) and connected, collaborative processes (Mulgan, 1997). New entrepreneurial leadership methods are the catalyst to create dynamic strategic models for innovative

Entrepreneurial Spirit in Family Business Successors

venturing through effectuation, (Read et al., 2011). The promotion of entrepreneurship has become a topic accepted and included in the decisions of economic management and of government. As a result, many universities and business schools have initiated courses and programs in the past decades (Katz, 2003; Matlay, 2005).

Actually, it is estimated that at least six hundred thousand university students receive entrepreneurial spirit classes each year in the United States (Schramm, 2012). At the same time, many governments and institutions, both public and private, have also launched initiatives to raise awareness of the “entrepreneurship spirit” and to train potential entrepreneurs. The following Table 1 shows the encountered factors affecting the entrepreneurial spirit.

THE IMPORTANCE OF SUCCESSION IN FAMILY BUSINESS

Family businesses contribute significantly to the economy of all countries (Tan-Artichat & Aiyeku, 2013). According to Smyrnios, Tanewski, and Romano (1998), family businesses have a significant impact on the growth of economies as employers, producers, and innovators. Despite this importance, most hardly last beyond the founder and do not survive beyond the third generation.

The emotional factors of succession processes (Duh, Tominc, & Rebernik, 2009, Van der Merwe, Venter, and Ellis, 2009), especially in the presence of conflict or indecision. However, one of the most critical challenges for enduring family businesses is the process of passing the management and ownership of a company from one generation to another (Blumentritt, Mathews, & Marchisio, 2012).

Tagiuri and Davis (1982) introduced the model of three circles in which they explained how family, property and commercial notions have an influence superimposed on the family business. Gersick et al. (1997) extended this model by adding the time factor, thus exploring the generational transitions of the controlling owner to the association of siblings with the consortium of cousins (Hoy, 2012).

His review of the succession of family businesses, Handler (1994) directed future research into the influence of family culture and dynamics on the inheritance of family businesses. The need to plan the succession was underlined by numerous contemporary studies (Axelrod, 2002, Negrea, 2008, Rothwell, 2010, Spanier, 2010).

However, Bizri (2016) indicates that in a study of family businesses in the Philippines, Santiago (2000) found that a trouble-free succession did not depend entirely on succession planning, but that the succession process was consistent with the values Family. Later, Distelberg and Blow (2010) support him in his in-depth study of family businesses from an ecosystem perspective that shows how unified values play an essential role in the proper functioning of the family business.

Because research on the family business reflects the primary concerns of the company and its members (Chua et al., 2003a), and since succession remains a significant problem for the family business, it is essential to investigate the inheritance from a perspective that allows the most profound understanding of its factors and pathways for proper succession (Chua et al., 2003b). In its beginnings, the literature on the inheritance of family enterprises described it as a long-term process of socialization in the business through “a life of learning experiences” (Longenecker and Schoen, 1978), a posterior vision imposed by Ward (1987) In his work called “maintaining the Healthy Family business” (Bizri, 2016).

As a result, researchers have identified a variety of factors that are important in achieving a successful succession process, and have devoted a great deal of effort to understanding their inherent challenges

Entrepreneurial Spirit in Family Business Successors*Table 1. Analysis of the factors of the entrepreneur spirit*

Entrepreneurial Spirit	
Factors	Author(s)
<i>Personal Characteristics</i>	
The propensity to take the risk	Hornaday (1982); Jackson (1976); Ang & Hong (2000); Basar et al., (2013)
Tolerance for ambiguity	Hornaday (1982); Bajaro (1981); Ang & Hong (2000)
Internal control	Hornaday (1982); Rotter (1966); Ang & Hong (2000); Au et al., (2011)
Achievement orientation	Hornaday (1982); Jackson (1976); Ang & Hong (2000)
Innovativeness	Hornaday (1982); Jackson (1976); Ang & Hong (2000)
Independence	Hornaday (1982); Bajaro (1981); Ang & Hong (2000)
Persistence	Hornaday (1982); Bajaro (1981); Ang & Hong (2000)
Trust	Chabaud & Ngijol (2005); Bhagavatula et al. (2010); Audretsch et al. (2011)
Trust Facilities	Mueller (2006); Davidsson & Honig (2003); Rodríguez & Santos (2007); Clarke & Chandra (2011); Deakins et al. (2007)
Trust promotes access to other resources	Baron & Markmann (2003); Runyan et al. (2006); Honig et al. (2006); Aarstad et al. (2010)
Marketing skills	Aykan (2002)
Communication talents	Aykan (2002)
Management talents	Aykan (2002); Marion (2012); Perez & Colli, 2013)
<i>Business Motivation</i>	
Earn money	Rumelt (1987); Ang & Hong (2000)
Gain security	Bajaro (1981); Ang & Hong (2000)
Gain status	Bajaro (1981); Ang & Hong (2000)
<i>Contextual</i>	
Individual	Shirokova et al. (2016)
Family entrepreneur background	Shirokova et al. (2016)
Age	Shirokova et al. (2016)
Gender	Shirokova et al. (2016)
<i>Environmental Characteristics</i>	
University environment, ie. entrepreneurship education	Shirokova et al. (2016)
Uncertainty avoidance	Shirokova et al. (2016)
Family social capital	Edelman et al. (2016)
Family financial capital	Edelman et al. (2016)
Family cohesiveness	Edelman et al. (2016)
Prevalence of fellow students	Bergmann et al. (2016)
Higher quality public regulation	Cebula et al. (2016)
Higher economic freedom	Cebula et al. (2016)

Entrepreneurial Spirit in Family Business Successors

(e.g., Chrisman, Chua, and Sharma, 1998; Dunn, 1999; Ibrahim, Soufani, & Lam, 2001; Le Breton-Miller, Miller, and Steier, 2004; Shepherd & Zacharakis, 2000). However this literature is scarcely developing.

One of the most convincing issues in the study of family businesses is the succession of leadership and ownership from one generation to another (Blumentritt et al., 2012). Succession represents a period of survival risk for a family business (Royer, Simons, Boyd, & Rafferty, 2008; Shepherd & Zacharakis, 2000). The succession of ownership implies the distribution of actions or other measures of property (i.e., units of association) of a generation superior to the minor generations, which often take place around the events of the planning of inheritances and of retirement. The succession of leadership involves the transfer of responsibility for the continuous management of a family business, from members of a higher generation to members of younger generations, especially the replacement of a CEO who retires for one more member Young of the family (Blumentritt et al., 2012).

Up to these days, the literature on succession has examined the characteristics of the successors and founders, the succession processes, and the influence of other family members in succession. But each of these elements, talented in their own way, are treated to a large extent individually, in the absence of other factors that influence the success of the succession events (Blumentritt et al., 2012). In another sense according to the article (Blumentritt et al., 2012), no study has been found to explore specific decision-making procedures for succession management, which may include decisions of the holder to choose whether to stay or Leave, keep the company in the leadership of the family or designate non-family leaders, and the successor's decisions on whether to work in the family business or choose a different career.

An important point to be analyzed are the requirements that family successors must meet in order to be regarded as the right successors from different perspectives (Schlepphorst & Moog, 2014). It is possible to identify attributes and demands suggested by the family successors in the literature. However, there are authors that generate profiles of general requirements by compared the expectations of the predecessors and the perceptions of the successors of Agreement A (Schlepphorst & Moog, 2014).

According to Gersick, Lansberg, Desjardins and Dunn (1999), research on the succession of family businesses generally describes the complexity of the rare occurrence in business families in which a family successor assumes the position of high Address in a family business. Considering the foregoing, this process is understood as a chronology involving multiple stages, beginning with the pre-succession step, considering the progressive introduction of the successor in the family business to full-time employment, Continuing with the continuous obtaining of authority and concluding with the complete transfer of the holder of the executive post to the following generations (Schlepphorst & Moog, 2014).

For example, Cadieux, Lorrain, and Hugron, 2002; Cater & Justis, 2009; Churchill and Hatten, 1987; Handler, 1990; Keating and Little, 1997; Le Breton-Miller, Miller, and Steier, 2004; McGivern, 1978, in analyzing these processes, the examined literature focuses on the peculiarities of family businesses that can affect the recruitment and selection of an appropriate family successor, such as shared family values, objectives, culture, commitment and loyalty to the company (Cabrera-Suárez, Saa-Perez, and Garcila-Almeida, 2001; Kets de Vries, 1993; Lansberg and Astrachan, 1994), Emotions (Howorth and Ali, 2001; Lansberg, 1988), Family Ties (Miller, Steier, & Le Breton-Miller, 2003; Pérez-Gonzales, 2006), nepotism (Kets de Vries, 1993; Perez-Gonzales, 2006) and the limited group of candidates (Bennedsen, Nielsen, Perez-Gonzalez, and Wolfenzon, 2007; Dyer, 2006; Perez-Gonzalez, 2006). However, these contributions have only superficially addressed the question of how a family successor is recruited and selected, so it is necessary to understand how the espíritu of entrepreneurship influences this process of family succession.

Entrepreneurial Spirit in Family Business Successors

Because articles on the family succession process have primarily neglected the use of specific selection criteria, several more questions remain unanswered (Schlepphorst & Moog, 2014). Another point to consider is that both generations are at different stages of their lives (Churchill and Hatten, 1987), the perceptions of the succession process probably differ between predecessors and successors (Keating and Little, 1997; Sharma, Chua and Chrisman, 2000). However, it has been identified in the previous investigation that this topic remains unclear regarding the intergenerational differences in perceptions of the attributes of the successor required. In addition, the peculiarities of family businesses can influence the decision in favor of a family successor, such as nepotism, emotions, and links can lead to assuming that the process of selecting family successors is somewhat “non-professional.” It has been seen that family businesses may also have less experience in occupying management positions, as they tend to replace higher executive posts less frequently than the “average companies” (Martin and Lumpkin, 2003).

A search was carried out in the database “Web of Science” to carry out the analysis of this topic indicating the following keywords: Succession, Family & business, meaning that only articles related to business magazines will be shown having a result of 16 articles. It is important to mention that at the time of revising them and analyzing their contents, the decision was made to select only 13 of the foundation.

Many studies have long insisted on the importance of succession planning to ensure a company’s continuity and prosperity. In many of these cases, they have asserted that effective succession planning is the most lasting gift a generation can bestow on the next (Tan-Artichat & Aiyeku, 2013). Therefore, one of the most significant challenges for a family business is to transfer the company successfully to the next generation (Avloniti, Iatridou, Kaloupsis, & Vozikis, 2013).

Different studies focused on the succession of the family business can be classified into three categories (Lam, 2011): The first line of research focuses on issues related to stakeholders, including the founders of companies, their Successors and other stakeholders, such as family members and professional managers (Janjuha-Jivraj and Woods (2002); Sharma e Irving (2005); Shepherd and Zacharakis (2000); Stavrou (1999)).

A second line of research focuses on the succession process examining the interdependence between the stakeholders and the external environment of the family business (Churchill and Hatten, 1987; Malinen, 2001; Au et al., 2011; Royer et al., 2008; Scholes et al., 2010; Sharma et al., 2003; Tatoglu et al., 2008; Westhead, 2003). Finally, the third line of research focuses on the problems related to succession planning (Bigliardi and Dormo, 2009) Parrish, 2009; Sharma et al., 2003).

In several studies, it is possible to observe that they show the topic of the conductors and pathways of the succession process (Bizri, 2016), and in other cases, they focus on the analysis of motives and results of the succession process (Gilding, Gregory, & Cosson, 2015). However, this type of study has its limitations, considering from the sample that it is selected for analysis, geographical regions, sector, size, etc. Therefore the results obtained in these studies should be treated with caution because to get more generalizable results it is advisable to select a more diverse sample.

The critical role that members of the family play in each of the processes of the company and considering all the levels, influences in such a way that it is imperative to take care of the intimate connection between the family and the business, since speaking in the context of the succession Through generations it can be a complicated process, however, in spite of this, it often happens that for family businesses the planning of this succession process becomes a prohibited issue (Davis & Harveston, 1998).

Given this, it is observed in Table 2 that the analysis of the process, as well as the elements, indicators, motivations, and results of the succession process, has been analyzed by different authors in their research, such as those carried out by (Avloniti, Iatridou, Kaloupsis, & Vozikis, 2013; Bizri, 2016;

Entrepreneurial Spirit in Family Business Successors*Table 2. The importance of succession in family business*

Title	Author(s)
Motives and Outcomes in Family Business Succession Planning	Gilding et al. (2015)
Determinants of Initial Satisfaction with the Succession Process in Family Firms: A Conceptual Model.	Sharma et al. (2001)
Succession in the family business: drivers and pathways	Bizri (2016)
Strategies for Sustainable Succession Planning in Family Business	Tan-Artichat & Aiyeku (2013)
Sibling rivalry: implications for the family business succession process	Avloniti et al. (2013)
Left in the dark: Family successors' requirement profiles in the family business succession process	Schlepphorst & Moog (2014)
Game Theory and Family Business Succession	Blumentritt et al., (2012)
Family business succession in dialogue: The case of differing backgrounds and views	Helin & Jabri (2016)
Dancing to two tunes: Multi-entity roles in the family business succession process	Lam (2011)
A sequential choice model of family business succession	Mathews & Blumentritt (2015)
Trusted advisors in a family business's succession-planning process-An agency perspective	Michel & Kammerlander(2015)
Succession Narratives in Family Business: The Case of Alessi	Dalpiaz, Tracey, & Phillips(2014)
Succession Management Challenges: The Case of a Family Business in the UAE	Spraggon, Bodolica, & Manoussifar(2012)

Gilding et al., 2015; Sharma,Chrisman, Paul, & Chua, 2001; Tan-Artichat & Aiyeku, 2013), however, does not show an article that elaborates a thorough analysis on the combination of the topics of succession of family business in conjunction with the entrepreneurial spirit that indicates from the factors, the causes and the interpretations of each of the critical elements involved in the development of this competition by family members in charge of continuing the family business.

Another constraint observed in the studies found is that a part focuses on case analysis, which shows that an official record or a public list of family businesses is necessary.It is not surprising that the literature of family businesses is not uniform in economists, humans, or cultural issues related to succession planning. This shows that the research on family business should achieve a better understanding and practical more nuanced aspects such as the motivation and its effects in the preparation of succession of the family business (Gilding et al., 2015).

CONCLUSION: CHALLENGES AND PERSPECTIVES

The findings of this document are useful for entrepreneurs, policymakers, and entrepreneurs interested in creating a collaborative business climate in developing countries.

Entrepreneurship is a process directly influenced by the economic and political state environment, mostly developed with the help of innovations, and its chief executors are natural persons or legal entities, including educational institutions and other public sector entities, which have a direct impact on the economic and social well-being of the country.

To develop the entrepreneurial spirit, an individual needs to perform a series of tasks such as identifying opportunities, developing a plan to take advantage of them, executing the project, and continuously

Entrepreneurial Spirit in Family Business Successors

monitoring to make adjustments. The own sense generated by a person who has decided to follow the entrepreneurial path represents a powerful motivation that has the potential to help explain why some individuals choose and continue to commit to entrepreneurial activity and why not others.

The need to deepen the analysis of the figure of the individual and their behavior, which we believe can be benefited by the literature and conceptual tools offered by cognitive psychology, has been pointed out. It has been very recently integrated into the study of personal characteristics of the entrepreneur by combining the value system of the individual with the formation of intentions and cognitive mechanisms under a social environment (Katz, 1992).

Recent conceptual models of entrepreneurial identity propose a healthy relationship between the self-concept of entrepreneurs and subsequent results (Cardon et al., 2009, Hoang & Gimeno, in press, Shepherd & Haynie, 2009). From an empirical point of view, however, relatively little is known about how self-identity motivates entrepreneurial action (Ireland & Webb, 2007). However, studies suggest that entrepreneurs have a strong sense of self (Hemingway, 2005, Hytti, 2005, Kets de Vries, 1996, Au, K., Craig, J., and Ramachandran, K. 2011, Verheul, Uhlaner, & Thurik, 2005) and who have a tendency to see themselves as a different group of non-entrepreneurs (McGrath & MacMillan, 1992).

After the review of literature carried out in entrepreneurial spirit, we must recognize that there is no optimal path based on behavior and that the study of the different factors contains various questionable elements, coupled with the problematic of the creation of companies. However, we believe that the research of entrepreneurial spirit in family business' successors can contribute to improving the way in which it is promoted, teaches trains and advises entrepreneurs. Education affects the entrepreneurial spirit and succession in the family business, for example, the curricula (Chirau, 2014). Then one of the crucial gaps in the scientific literature in this area involves research on the evaluation of such education (Schelfhout et al. 2016).

There is a lot of work to be done in research on the succession process of the family business. One of these lines of research can be focused on the succession of family business management, considering the scenarios in which the objectives of founders and successors differ, including how other members of the family can influence the results of the succession. Additional research has shown different factors affecting this process of inheritance, but it would be fascinating to develop a model based on game theory to illustrate how different siblings could actually point out what position want more.

There is much more work to be done in this area of succession in the family business, both in terms of depth and breadth. Future work could deepen the themes of the inheritance of family business management and the entrepreneurial spirit. For example, we could explore scenarios in which the objectives of founders and successors differ under an enterprising profile, how other family members can influence the results of the succession under a profile analysis approach of their Members or cases where there are pressures (for example, financial) that can cause the founders to explore the sale of the family business instead of passing it on to the interested successors and who have demonstrated an entrepreneurial profile.

On the other hand, recognizing that there are often multiple executive posts within a family business, a model could be developed to illustrate how different siblings could efficiently point out what position they want more and/or have an advantage Comparative for the appropriate development of the succession or if it is considered pertinent to the family business, that these members of new generations develop new lines of business in the near future. It is believed that such an analysis could facilitate the results of harmonious succession and long-term relationships among family members, together with an efficient realization of the specific competencies of the family.

Entrepreneurial Spirit in Family Business Successors

In practice, it has been observed that other members of the family business, long-term non-family members, as advisers and trusted colleagues, can influence the decisions made by both the founders and potential successors, without considering the of the entrepreneur spirit in the members of the family. It is important to recognize that time, and history will play a role.

Beyond the management of the succession of the family business, there are many other ways in which the entrepreneurial spirit of family members participating in the company could be a useful tool to understand family businesses. For example, the transfer of property is another form of succession in family businesses. We could model the impact of financial transfers on heirs based on their personal and professional behavior and examine how entrepreneurial and entrepreneurial spirits of next-generation family members interact with the stories of family businesses.

In addition, and as indicated above, the contributions made in this research should be used as a starting point for future research on the analysis of the entrepreneurial spirit of the members of the family business as one of the factors that influence the process of succession of the family business. family business. In many cases, family business succession events are characterized by higher complexity, wherein the absence of planning and organization of agreements by its members can have undesirable results for both the company and the family.

With the above, it is expected that this document will add structure and nuances to complicated management succession processes in family businesses considering a new factor of analysis, and we hope that this work will be a boost for future work. Any contribution that improves the longevity of family businesses is valuable.

Finally, it has been considered that this contribution shows a brief structure of what is the complicated process of succession in family businesses, hoping that this research is an impulse for future empirical work that contributes to the Permanence of family businesses.

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Entrepreneurial Spirit in Family Business Successors

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KEY TERMS AND DEFINITIONS

Contextual Factors: The circumstances that may favor or inhibit entrepreneurship in family members who are within the family business.

Drivers: They are indicators that allow measuring a specific, observable and measurable characteristic with the purpose that is implemented to identify variations, changes, and progress.

Entrepreneurial Spirit: It is defined as the process involving facing difficulties and risks under constant uncertainty. There are elements such as passion, positivism, ambition, leadership, and adaptability.

Entrepreneurship: The term entrepreneurship is attributed to the attitude and aptitude that an individual takes to start a new project through ideas and opportunities, generating new business units or companies.

Family Business: A family business can be defined as that created and controlled by related members through links of blood, marriage or adoption, and that in groups or owners of this, with or without profit, who work and develop initiatives to grow The family patrimony (financial, intellectual, and social), and they intend to preserve the company through several generations.

Succession Planning: The plan of succession is that plan of the company to consider the processes to follow so that the employees who occupy vital positions are withdrawn or leave the company in a

Entrepreneurial Spirit in Family Business Successors

harmonious way, and that they are replaced by the more qualified candidates, having a process Transparent and hassle-free for the company.

Successors: It is a person or group of people who join the family business in order to provide continuity to professional business management. The successor(s) must be the most qualified and prepared candidates to fulfill their new roles.

Chapter 19

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

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ABSTRACT

Most of the nations forming the Eurozone are hoping to boost entrepreneurship as one of the leading elements for job creation, innovation, and wealth to overcome the economic crisis. However, the quality of the entrepreneurial activity changes when qualified initiatives tend to impact on the economic development, while non-vocational-driven entrepreneurship has a null or little impact on the economy. This research analyzes the average quality of the Eurozone entrepreneurial activity driven by innovation before and after an economic crisis. The primary results of this chapter are (1) the quality of the entrepreneurial activity increases when there is a public-private collaboration to foster entrepreneurship, and (2) long-term unemployment generates necessity entrepreneurship and diminishes entrepreneurial quality.

INTRODUCTION

Is there a relationship between the level of economic activity and the nature of the entrepreneurship action developed? More specifically, does the existence of a low level of economic activity in a particular economy or geographical zone induce a weakening of the quality of the entrepreneurial activity developed within it?

It seems that both answers to these questions will be affirmative, as a healthy, growing economic climate should lead to the appearance of more and more varied opportunities likely to be applied by a host of entrepreneurs ready to profit from the opportunity being offered. On the other hand, a growing economy is more likely to promote attitudes of self-employment entrepreneurship since it reduces the perceived risks and improves the general ambience of opportunity.

DOI: 10.4018/978-1-5225-5837-8.ch019

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

However, an economy in recession with rising unemployment would reduce the number and range of the opportunities offered to entrepreneurs and increases the perceived level of risk, while widespread unemployment could lead to an increase in the so-called necessity entrepreneurship (Sutter et al., 2017). As a result, the quality of entrepreneurial activity weakens in this economy (Slobodenyuk, 2017; Sánchez-Sellero et al., 2017).

This paper does not address these problems directly but starts a path that could very well lead to a general answer to the relationships they propose. Instead, the purpose of this paper centers into the link that exists between unemployment as a proxy for an economy in the downturn, and the increase in the necessity-driven kind of entrepreneurship, that we take as a crucial component in the lowering of the quality of the general entrepreneurial activity of that economy.

The quality of the entrepreneurial activity is one of the factors that influence the level of development and competitiveness of the nations (Acs et al., 2004, 2006, 2008). In short, we pretend to analyze the impact of the crisis, as expressed by the variation of the unemployment rate during the relevant years on the average quality of the entrepreneurial activity of a selected sample of Eurozone countries driven by innovation. Exactly, those that regularly participate in the Global Entrepreneurship Monitor (GEM), the most massive observatory on entrepreneurship worldwide.

The concrete research question is, do the Eurozone countries driven by innovation show worse average indicators of entrepreneurship quality after the economic crisis compared with signs before the crisis?

The research is relevant since several Eurozone countries affected by the crisis are considering entrepreneurship as a critical element for economic recovering to create employment and wealth. If the average quality of the entrepreneurial activity changes due to the crisis, then it could not contribute to the economy improving as expected, so measures to foster qualified entrepreneurship must be urgently designed and implemented. Quality of the entrepreneurial activity that also influences on late-career individuals, who are starting a business is positively associated with a change in the quality of life and negatively associated with variation in income (Kautonen, Kibler, & Minniti, 2017).

In this work, we present a brief literature review on entrepreneurial quality indicators and its theoretical model. We describe the impact of the crisis on the long-term unemployment rates of the selected sample of countries -as the variable that –presumably- has a higher influence in promoting less qualified entrepreneurial activity- and a discussion on its impact on the theoretical model of entrepreneurial quality. After that, we pose some research questions, we develop a methodological section, and we show the results for the change in the average quality of the entrepreneurial activity between the year 2007 (before the crisis) and the year 2016 (after the crisis). Finally, we show results' discussion, comments, recommendations, limitations, and future research lines.

Entrepreneurial Activity Quality Indicators

The entrepreneurial quality refers to the initiatives and behaviors of entrepreneurs to energize their business, which depends on their merits and the factors that influence them (Guzmán, 1995a). Among the entrepreneurial quality indicators, it stacks as one of the simplest the willingness to become an entrepreneur. The explanation is clear: it is well-known that one of the more specific and more in-depth psychological features of entrepreneurs is their desire and need for independence (Collins & Moore, 1964). Apparently, it would be necessary to point out that this preference for working as self-employed would have to be permanent among consolidated entrepreneurs since entrepreneurs working as autonomous without wanting would be a paradox. Nevertheless, Guzmán et al. (1995) show that high percentages

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

(40% or more) of entrepreneurs interviewed in some European countries preferred to work for someone else, -so it seems that they came to be entrepreneurs by lack of a better alternative. These results show that, in practice, there is a problem of entrepreneurial quality (non-vocational driven entrepreneurship), which can be influenced by unemployment rates, capital investment, and income level, and that also affects the real economic indicators such as those of economic development and competitiveness.

The Global Entrepreneurship Monitor (GEM, the most comprehensive research program on entrepreneurship worldwide), was the first source of information providing an estimation of the scope of this entrepreneurial quality problem when their measurements of the total entrepreneurial activity of participating countries began to distinguish between necessity and opportunity entrepreneurship.

Roughly defined, necessity-push entrepreneurship is the act of starting up or developing new business or self-employment motivated by the lack of alternatives to find dependent jobs (Reynolds, Bygrave, Autio, Cox, & Hay, 2002). It is legitimate to assume the existence of a relationship between necessity entrepreneurship and unemployment, and about the influence of this factor in leading part of the populations to develop an activity that is not a professional preference. Besides, opportunity entrepreneurship is an active choice to start a new enterprise based on the perception that an unexploited or underexploited business opportunity exists (Acs & Varga, 2006).

Related to the previous types of entrepreneurship presented, and according to Psychology, entrepreneurial motivation can be intrinsic or extrinsic. Intrinsic motivation is the pleasure of carrying out a particular activity so that this type of motivation belongs to the internal sphere of the individual. By contrast, extrinsic motivation is the achievement of goals and belongs to the outer area of the individual (Dorsh, 1996). In fact, external entrepreneurial motivation has a stronger relationship with material factors such as unemployment, whereas in the case of intrinsic entrepreneurial motivation the individual tries to fulfill his aims in life (Guzmán, 1995).

Business opportunities motivate higher entrepreneurial quality of the activity. In the 1990s, the preference for working as self-employed as a manifestation of the desire for independence was a necessary condition to be a good entrepreneur or a quality entrepreneur. Exponents of entrepreneurial quality were qualitative aspects that configured their energizer subfunction as vocation-driven entrepreneurs and which lead them to develop the innovative capacity, the ambition, the spirit of collaboration, the planning and other energizer behaviors (Chell, 1986; Herron & Robinson, 1993, Krueger & Casrud, 1993). These energizer behaviors appear as more prevalent among vocation-driven entrepreneurs, while it is less frequent to find innovation, market expansion expectation, internationalization, use of very late technologies and other quality characteristics among necessity entrepreneurs. In fact, entrepreneurs with extrinsic motivation usually look for tasks more comfortable to carry out and reach a lower level of conceptual learning. However, they weaken their creativity, tend to maintain their behavior only for a short time after having obtained their extrinsic goals, and are usually more inclined to negative emotions (Córdoba & Caracuel, 1996). In conclusion, qualitative and quantitative research of the nineties on motivation and entrepreneurial quality, lead to consider that entrepreneurs with motives of the intrinsic type will have higher possibilities to carry out the energizer sub-function properly and, therefore, to achieve more top entrepreneurial quality and success.

Besides the primary motivation to start up an enterprise or business, quality of entrepreneurship also determines the ambition or capacity to grow, the innovation capacity, the spirit of collaboration, planning, exporting, training of employees and other behaviors. The literature about ambition and innovation primarily relates to the initial concept of achievement motivation and their great importance for entrepreneurial activity has been demonstrated since the middle of the last century (Schumpeter, 1944;

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

McClelland, 1961; Hagen, 1962; Hoselitz, 1962; Baumol, 1990). Nowadays, thanks to these studies, the quality of entrepreneurial activity increases, as it presents elements of growing expectations, treats of innovation, treats of competitiveness, job creation, internationalization, technological basis, use of new technologies and other energizer elements.

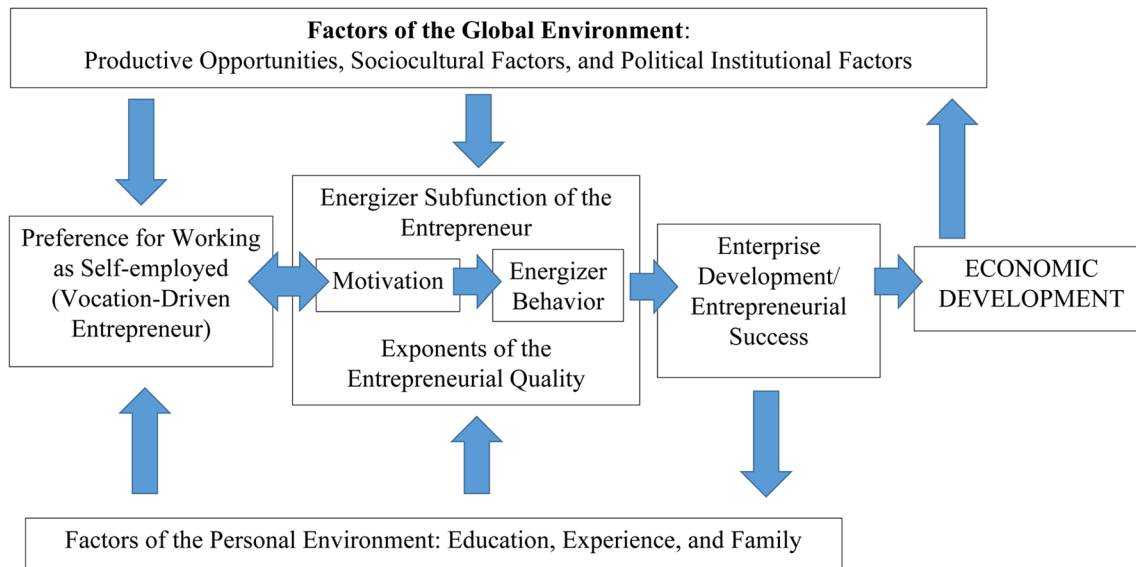
Regarding the “spirit of collaboration,” a topic just starting to have the importance it deserves, but there is much to do in this field, and GEM just began to provide international data on this topic the year 2012. This psychological feature manifests through those behaviors that undertake with the objective of collaborating with other companies, organizations, and individuals so that the enterprise can reach a higher level of growth and development. These behaviors would be, for instance, the establishment of formal agreements with other companies in the same sector (Costa, Campi and Callejón, 1992), or the creation of cooperation networks (Monsted, 1995, Schott, 2006-2012), including the participation of the entrepreneur in professional associations. These cooperative behaviors reinforce the competitive position of firms and allow them to pursue higher degrees of growth.

Finally, other energizer behaviors, which include essential initiatives to make sure that the company survives or is successful, will be considered. These practices are difficult to frame in a specific group since they refer to a particular kind of “spirit” that should impregnate any decision that the entrepreneur makes inside the company when pursuing the primary objective: to energize it (Gerber, 1997). Among these, we could cite the establishment of a formal planning system, the creation of a method for the continuous development of employees, or the application for special finance from public institutions. These initiatives can be better dealt with as energizer tasks since they imply a dynamic, non-routine, behavior.

Another influential group of variables to consider as determinants of the entrepreneurial quality are those factors of the personal environment of the entrepreneur, factors that interact with each other having a fundamental characteristic their influence on the appearance of entrepreneurial abilities and attitudes. The entrepreneurial skills include the capacity to identify new products and opportunities, to know how to evaluate opportunities and to think critically, persuasive communication, negotiation skills, listening capacity, evaluation of information and problem-solving (Dimova & Pela, 2017). Among the personal environment factors that create these entrepreneurial abilities and attitudes, the first one is the education that the individual receives (Gibb, 1993). In fact, people that are more educated enhance entrepreneurial energizer behaviors. A second variable is a professional experience (Ray, 1993). When expertise becomes greater, the quality of action will also be higher, since this knowledge involves learning processes helping the entrepreneur to reduce inefficiencies and to improve their energizer capacity.

Finally, the influence of the family is also considered to be a variable in the entrepreneur’s environment. Parents exert a strong influence, and entrepreneurs descending from other entrepreneurs possess some advantages over those others who do not (Hoy & Verser, 1994): the more significant the help that entrepreneurs obtain from their families, the more they will be able to adopt specific energizer behaviors.

Based on sociological and cultural models and those of the infrastructure of the entrepreneurial environment (Wilken, 1979, Shane, 1994), factors of the global working environment, which would be part of the theoretical configuration of the entrepreneurial quality group into three categories: productive opportunities, sociocultural factors, and political-institutional factors. Contrary to the personal variables, these factors affect all entrepreneurs regardless of their education, experience or family support. These elements provide opportunities and information and have an impact on society where entrepreneurs live. For this reason, they exert a direct influence on the preference for working as self-employed driven by vocation to develop entrepreneurial energizer behaviors.

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation*Figure 1. A Model to assess the entrepreneurial quality**Source: Guzmán and Santos, 2001*

Guzmán and Santos (2001) synthesized the literature on entrepreneurial quality and built the theoretical model showed in Figure 1 that displays the relationships among most of the commented variables. The model articulates the influence of the factors of the global environment and of the personal background on the preference for working as self-employed understood as vocation driven entrepreneurship and their impact on the exponents of entrepreneurial quality. Also, there are some essential relationships for the present research purposes. The first is the one that shows that the enterprise success or growth derived from the entrepreneur's behavior determines economic development. The second is the incidence of a specific level of economic development on the factors of the global environment. Economic growth would cause changes in the quantity and quality of the productive opportunities, changes in the social and cultural aspects defining a particular population and changes in the mode of operation of the institutions involved in support of the private initiative.

Finally, it is imperative to point out that the elements included in this theoretical model of the configuration of the entrepreneurial quality, follow a circular relationship where there is a wide range of interdependences among all of the variables and, therefore, the change in the value of any variable will influence the rest. The main argument that we develop in the following sections is that the crisis has changed the values of some variables within this circle, concretely increasing the prevalence of non-vocation driven entrepreneurs in several economies. This increment reduces the number of entrepreneurs developing the energizer sub-functions and, consequently, the average quality of entrepreneurship and its impact on the economic development.

In short, unemployment is one of the leading factors to push necessity entrepreneurship, which is the part of the entrepreneurial activity mainly developed by non-vocational driven entrepreneurs and, as it usually does not quite get to establish the complete entrepreneurial quality cycle, has null or reduce the impact on economic development.

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

In the next section, we present descriptive information to illustrate how the crisis is increasing the long-term unemployment rates in the GEM innovation-driven countries of the Eurozone, and how this fact is conditioning the development of their entrepreneurial quality cycles.

Unemployment and Entrepreneurial Activity of Less Quality

The global financial crisis is an ongoing problem that has put some countries into a recession and the major stock indexes into a downward spiral. It came to the forefront of the business world in September 2008, with the failure and merging of some American financial companies. Several business journals anticipated the risk position of the leading European and American financial firms involved in the sub-prime mortgages two years before, pointing out that much of the American and European economic structure build on credit with companies borrowing money from other firms and the general consumer borrowing money for homes and cars. When the housing bubble bursts, countries entered into crisis leaving both investors and mortgage companies in trouble.

Because of the crisis, the governments of the United States, the European Union, and Switzerland, among others, intervened dramatically to prevent the financial crisis from becoming a systemic economic collapse. These governments are active through, among other things, interest rate cuts, massive liquidity infusions, capital injections, guarantees, and asset purchases. These actions, while sufficient to prevent the collapse of the global financial system and most domestic financial systems (Iceland being the exception), were not adequate to avoid significant adverse economic consequences, albeit less severe to date than those of the 1930s. Also, the systemic financial crisis has highlighted the need for substantial changes in both domestic and international economic regulations (Arner, 2009).

As elsewhere in the world, the current crisis is having a substantial impact on the economy, the labor market and the incomes of workers and their families in several countries of the most developed Eurozone. The economy has been shrinking and is characterized by a high level of uncertainty while the banking sector is in a profound crisis. Also, the rate of bankruptcies has been increasing rapidly, and many companies are forced into processes of restructuring, particularly in the manufacturing sector, which has provoked strongly adverse labor market effects.

While policymakers plan and implement the measures they consider adequate to resolve this problem, part of the unemployed population reacts to confront the economic adversity. This reaction appears as a result of the natural human instinct of survival manifested in different types of actions. Thus, some people –especially youth—migrate seeking better work opportunities; others attempt to convert their knowledge and skills to shift to a different work; others anticipate their retirement; others resist while it is possible thanks to unemployment benefits or social assistance, and others adopt entrepreneurship as an option.

The unemployment rate is a variable that is part of the general environmental conditions of a country, so that, according to the model of the entrepreneurial quality cycle (see Figure 1), directly affects the entrepreneurial motivation. The expected effect of sustained growth in unemployment is an increment of necessity entrepreneurship.

Respecting the Eurozone, questions related to the crisis' impact on the entrepreneurial quality if recession changes in the unemployment rates are causing a loss of entrepreneurial quality, and if this damage is of the same scope in all countries and, what could be the consequences of this failure for the economic development of the zone. To illustrate these questions, we present some descriptive data.

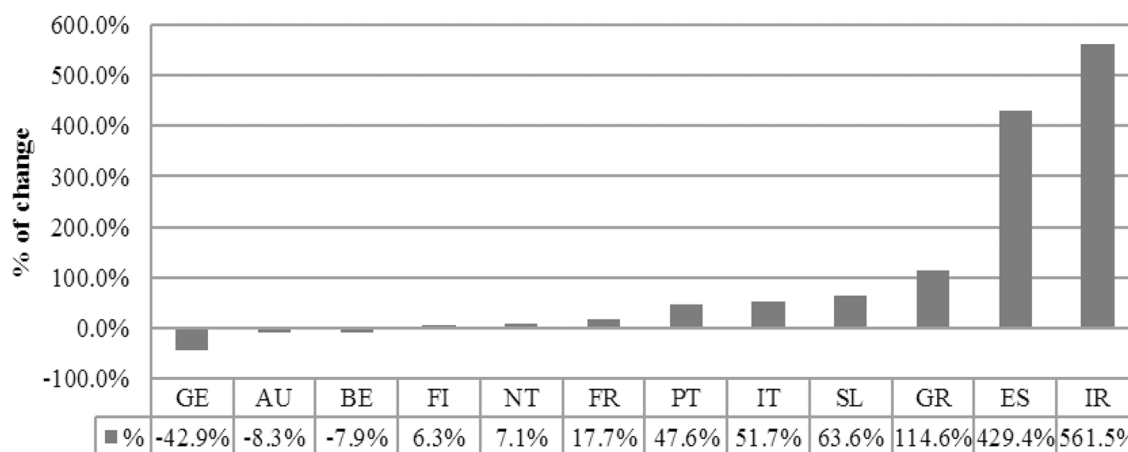
Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation*Figure 2. Change in the long-term unemployment rate between 2007 and 2016 in a sample of European countries driven by innovation (%)**Source: Adapted from Eurostat (ec.europa.eu/eurostat/)*

Figure 2 shows the change experienced by the long-term unemployment rate in a selected group of countries of the Eurozone between the year 2007 (before the crisis) and the year 2016 (after the crisis). Among the nations of the selected group, Germany, Austria, and Belgium long-term unemployment rate decreased. On the contrary, Ireland, Spain and Greece, show very significant increments, Slovenia, Italy and Portugal significant increments, and the Netherlands, France, and Finland more moderate increments. The consequences of the crisis on long-term unemployment have not been of the same magnitude within this group of countries, as conditions to encourage necessity entrepreneurship and decrease the average entrepreneurial quality should not be uniform for the whole sample.

Despite these differences, the GEM countries of the developed Eurozone are immersed in a worrying situation, because they all share a shared financial structure and contribute to the sustainability of an economic area in which different speeds of development, in an integrated group, formed only by countries driven by innovation, causes significant troubles. Since 2001, GEM scholars have demonstrated that necessity entrepreneurial activity is more extended in the developing nations (GEM 2001; Stenberg et al. 2006; Acs, 2006; Khanin, Ogilvie, & Leibsohn, 2012). So, it is worrying to see this kind of entrepreneurial activity growing in some countries with implications for the whole group.

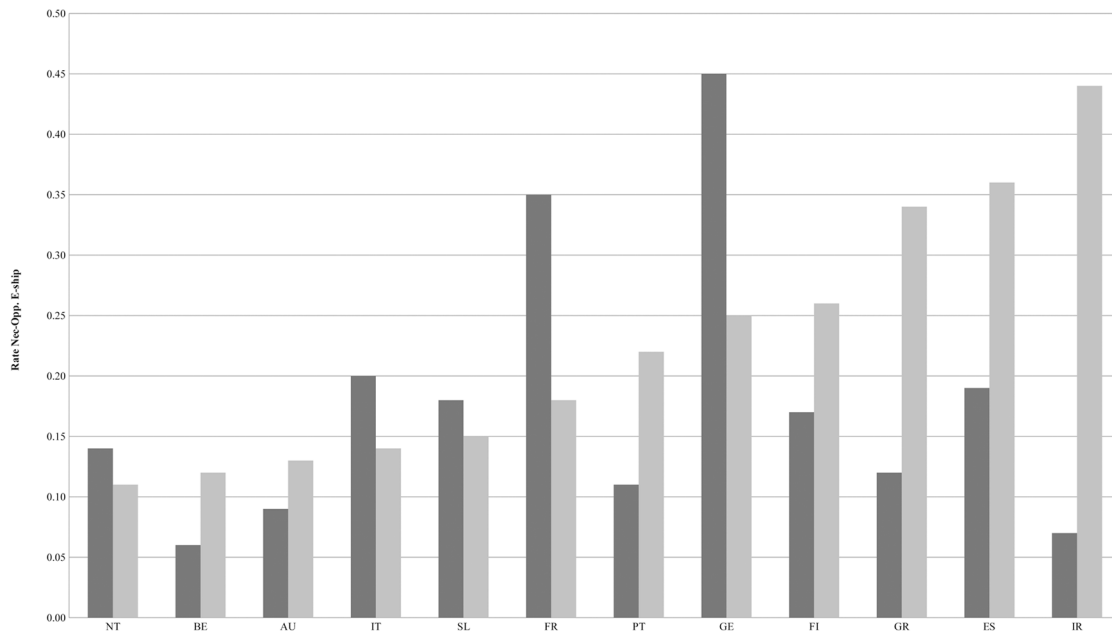
Related to this issue, the composition of the total entrepreneurial activity (TEA) rate that is the scope of the ratio between opportunity and necessity entrepreneurial activity determines in a significant part the stage of economic development and competitiveness of countries (Acs & Varga, 2006). While all nations have some level of both opportunity and necessity entrepreneurship, Acs and Varga demonstrated that the ratio of opportunity-to-necessity entrepreneurship is a useful indicator of economic development, which can be a guide for development policy. In fact, in their studies, they found a positive relationship between the opportunity ratio and the GDP per capita and suggested that public policies in less developed countries should focus on strengthening general national framework conditions, whereas in developed economies policy should focus on increasing the entrepreneurial framework conditions.

In Figure 3, we present the inverse ratio (that is the ratio of necessity-to-opportunity entrepreneurship) for the GEM innovation-driven countries of the Eurozone to stress the significant changes that

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

Figure 3. The rate of necessity-to-opportunity entrepreneurial activity for 2007 and 2016 in the GEM European countries driven by innovation

Source: own elaboration using GEM data



increasing necessity entrepreneurship has produced between the years 2007 and 2016. Higher ratios incentive necessity entrepreneurship in the total entrepreneurial activity of a country. Germany, France, Slovenia, Italy and notably the Netherlands report negative variations which imply a favorable change of entrepreneurial quality, and Ireland, Spain, Greece, Finland, Portugal, Austria, and Belgium report desirable modifications and consequently unfavorable variations of entrepreneurial quality, some of them of significant magnitude.

After describing the impact the crisis is having on employment and the entrepreneurial activity composition in most of the Eurozone countries driven by innovation, we formulate our objectives and a research hypothesis.

RESEARCH HYPOTHESES

The literature on entrepreneurship states that the unemployment rate is a factor that fosters necessity entrepreneurship. Considering this, we put forward a first research objective that consists of test a hypothesis about the changes in the relationship between necessity entrepreneurial activity and long-term unemployment for the years 2007 and 2016, and compare both situations:

H01: The relationship between necessity entrepreneurship and long-term unemployment has significantly changed for the Eurozone countries driven by innovation between the years 2007 and 2016.

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

Whether this particular hypothesis shows that the necessity-to-opportunity ratio relation with long-term unemployment rates has significantly changed between the years 2007 and 2016, then there is a base to assert that the average quality of entrepreneurship in the selected Eurozone countries driven by innovation has suffered a particular loss between the years 2007 and 2016. Thus, a second research objective has been to build a methodological line useful to evidence differences among countries about the average quality of entrepreneurial activity due to an economic crisis. As our interest concentrates on the Eurozone countries driven by innovation, we test the following hypothesis:

Ho2: The average quality of entrepreneurship has suffered loss between the years 2007 and 2016 in the Eurozone countries driven by innovation.

Methodology

The primary source of information to validate our research hypotheses is the Global Entrepreneurship Monitor. We used selected aggregated data of the years 2007 and 2016, and complemented them with the long-term unemployment rates provided by Eurostat.

The GEM aggregated data available for Eurozone countries driven by innovation include those from Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Slovenia and Spain. These countries represent almost the whole population of Eurozone countries driven by innovation because the two remaining to complete the region -Luxembourg and Malta- did not participate the years 2007 and 2016 in the monitor. Rigorously talking, to use the available data represents to work with little samples. In consequence, to test the first hypothesis, we calculated the Spearman correlation coefficient, which is a non-parametric statistic. The variables are the percentage of necessity entrepreneurial activity in the total entrepreneurial activity index in 2007 and 2016, and the rate of long-term unemployment in 2007 and 2016.

We use a part of the theoretical model developed by Guzmán and Santos (see Figure 1) to test the second hypothesis that states a reciprocal relationship between the scope of vocation driven entrepreneurship and the exponents of the entrepreneurial quality. The idea has been to establish profiles of groups of countries on variables representative of these concepts and to compare their average characteristics between the years 2007 and 2016. The cluster analysis is the most suitable methodology to get comparative results and configurations of countries grouped related to their characteristics, applying several variables simultaneously, so we use this method to get groups of countries by exponents of entrepreneurial quality and vocation drove entrepreneurship. The selected variables among those provided by GEM to represent these two concepts are included in Table 1.

Finally, in any research on the European Union, it is essential to take into account for differences among countries. Thus, changes in long-term unemployment rates and the necessity-to-opportunity ratio described before are the results of historical inheritances and the previous development of democratic systems. To introduce such country-specific effects in the theoretical model, we considered the use of the Esping-Andersen (1999) institutional systems categorization, as it has proven its effectiveness in several investigations (Stam, Thurik, & Grilo, 2006, and others). Applying this classification to our sample, we obtain a variable to categorize the countries in:

1. Southern Europe: Greece, Portugal, and Spain
2. Post-communist: Slovenia

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation*Table 1. Selected variables to build comparative cluster analyses for the years 2007 and 2016*

Entrepreneurial quality: original variables that represent the exponents of entrepreneurial quality	
teaYYcs1	% of TEA: product new to all customers (innovation)
teaYYcm3	% of TEA: None businesses offer same product (new market)
teaYYnt1	% of TEA: Uses very latest technology (new technologies applied to the activity)
teaYYhjg	TEA expects more than 19 jobs in 5 years (high growth expectation)
teaYYhix	TEA exports: more than 50% customers outside the country (internationalization)
Vocation driven entrepreneurship	
rationeop	The ratio between necessity and opportunity entrepreneurial activity (as a proxy for vocation driven entrepreneurship)
General environment	
typeec	Type of economy: countries classified following the Esping-Andersen (1999) institutional systems categorization, following the scheme presented

3. Social democratic: none
4. Corporatist: Belgium, Finland, France, Germany, Italy and the Netherlands
5. Liberal: Ireland

This qualitative variable can help to interpret the results better and to include some component representative of the general context that influences both the scope of vocation driven entrepreneurship and the quality exponents as can be seen in the Guzmán-Santos theoretical model. The two-step cluster analysis lets the simultaneous use of quantitative and qualitative variables to illustrate the quantitative results better.

RESULTS

The results of the calculation of the Spearman correlation coefficient to illustrate the change in the relationship between the percent of entrepreneurial activity by necessity and the long-term unemployment rates between the years 2007 and 2016 are shown in Table 2.

The correlation analysis states that there is a significant difference between the relationship of the percent of necessity-pushed entrepreneurship over the whole entrepreneurial activity (TEA) and the long-term unemployment rates between the years 2007 and 2016 in the Eurozone innovation-driven countries. The coefficient for the year 2007 is not significant while the ratio for the year 2016 is significant. This result leads to accepting the first hypothesis. In the discussion section, we expose the interpretation of this result.

Furthermore, the results of the two cluster analyses that compare the scope of the vocation driven entrepreneurship and the exponents of the entrepreneurial quality the years 2007 and 2016 in the economically most developed Eurozone are shown in Table 4.

The analysis results in two groups for each year. In the first column of the table, we present the concepts represented by the variables that built these two groups of countries or clusters. In the next columns, we show the average values and standard deviations within each cluster and year. In the middle

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation*Table 2. Spearman correlation coefficient between the percent of entrepreneurial activity by necessity and the rate of long-term unemployment the years 2007 and 2016 for the Eurozone innovation-driven countries*

Initial Impact	Long-Term Unemployment Rate 2007	Long-Term Unemployment Rate 2016
TEA 2007 by necessity as % of the total TEA	Rho = 0.294 Sig. (bilateral) = 0.354 N = 12	
TEA 2016 by necessity as % of the total TEA		Rho = 0.678* Sig. (bilateral) = 0.015 N = 12

*Significant at 0.05 level

Table 3. Two-step cluster analyses that compare the scope of the vocation driven entrepreneurship and the exponents of the entrepreneurial quality the years 2007 and 2016

	The Year 2007				The Year 2016			
	Cluster 1		Cluster 2		Cluster 1		Cluster 2	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Rate necessity/opportunity (vocation driven entrepreneurship)	0.21	0.14	0.13	0.05	0.17**	0.06	0.34**	0.09
Product new to all customers (innovation)	14.67	4.05	14.06	4.67	16.08*	10.25	13.98*	3.43
None offer the same product/service (new market)	6.24	2.87	9.78	2.84	6.25*	3.56	12.29*	4.25
Use very latest technology (technological readiness)	11.08**	6.35	9.23**	3.05	10.60**	4.85	12.32**	4.70
High exportation (international vocation)	0.50	0.17	0.88	0.41	0.80	0.47	0.82	0.43
High job expectation (growth vocation)	11.64	3.99	12.66	6.69	13.24**	6.10	14.88**	10.09
Significance	*: significant variables at 90% of confidence to differentiate the two groups of countries **: significant variables at 95% of confidence to distinguish the two groups of countries							
Countries in each cluster determined by the qualitative variable	7 (58.3%)		5 (41.7%)		8 (66.7%)		4 (33.3%)	
	Seven corporatist economies: Austria, Belgium, Germany, Italy, Finland, France, Netherlands		Three southern Europe, one liberal and one post-communist economy: Greece, Portugal, Spain Ireland, Slovenia		Seven corporatists and one post-communist economy: Austria, Belgium, Germany, Italy, Finland, France, Netherlands, Slovenia		Three southern Europe and one liberal economy: Greece, Portugal, Spain Ireland	

of the table, there appear the keys to identifying the variables that are significant each year to classify countries into two groups.

In 2007, only one variable statistically justified the existence of two groups; while in 2016, five variables explain the presence of two groups of countries, regarding the ratio of necessity/opportunity entrepreneurship. Finally, at the bottom of the table, thanks to the classification provided by the qualita-

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

tive variable on types of economies in the analysis, one can see the composition of the clusters regarding countries and types of economic systems. In 2007 (the year before the crisis) the cluster is formed by seven corporatist economies (Austria, Belgium, Germany, Italy, Finland, France and the Netherlands), while three Southern European economies (Greece, Portugal, and Spain), one liberal economy (Ireland) and one post-communist economy (Slovenia) form the second cluster. The year 2016 the clusters' composition changes as expected and the post-communist economy, Slovenia, appears as aligned with the corporatists while Southern Europe and the liberal economies remain together in the second group. We explain this fact in the following paragraph.

DISCUSSION

The primary purpose of the study has been to analyze the changes generated by the economic crisis in the quality of the entrepreneurial activity in the Eurozone countries developed by innovation that regularly participates in the GEM observatory. The results of the correlation analysis indicate that in the year 2007 (before the crisis) there was not a significant relationship between the long-term unemployment rates and the entrepreneurial activity motivated by necessity in the sample countries (see Figure 3). The average percent of necessity entrepreneurial activity over the total activity (TEA) was around a 13% and the countries' differences on this variable were not especially significant about long-term unemployment rates. As showed in Figure 3, Germany was the country with the highest percentage of necessity entrepreneurship over the total (29.7%), and Belgium and Ireland were the countries with the lowest proportions (around 5.4%) of this variable.

We assume that in 2007 the combination of necessity and vocation drove entrepreneurship in the Eurozone countries developed by innovation were compatible with their respective increase in long-term unemployment rates, without any particular influence on the average quality of the entrepreneurial activity.

Results of the cluster analysis corroborate this assumption, where there are no significant differences due to the indicator of vocation-driven entrepreneurship in the two clusters. The only exponent of the entrepreneurial quality that gives a significant difference for the year before the crisis is the use of very latest technology, with a higher value for corporatist economies compared to the Southern Europe, post-communist and liberal economies.

Concerning the quality of entrepreneurial activity, the long-term unemployment rate of some economies has growth to unthinkable limits four years ago, while in others it has been achieved a critical decrease. The change experienced by this variable between the years 2007 and 2016 can be seen comparing Figures 3 and 4.

Countries like Ireland and Spain that showed rates under 2 percent of the population the year 2007, reached rates of long-term unemployment around 9 percent the year 2016. Greece, Portugal, Italy, France, Slovenia, and Belgium also accused increments of this rate, but they remain much lower than those of Ireland and Spain are. On the contrary, Germany reduced the long-term unemployment rate very significantly, and Austria, Finland, and the Netherlands remained at almost the same levels they had the year 2007. As it appears, this tendency has continued in the year 2016.

The effect of these changes in the necessity entrepreneurship results in two types of scenarios in which, in some countries (Ireland, Spain, Greece, and Portugal) there appeared exceptional conditions to extra promoting necessity entrepreneurship in the innovation-driven economies, while in others the progress towards opportunity and better-qualified entrepreneurship has continued usually. The differ-

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

Figure 4. Descriptive scatterplot of the relationship between the entrepreneurial activity by necessity and the long-term unemployment rates in the Eurozone countries driven by innovation in 2007

Source: own elaboration using GEM data

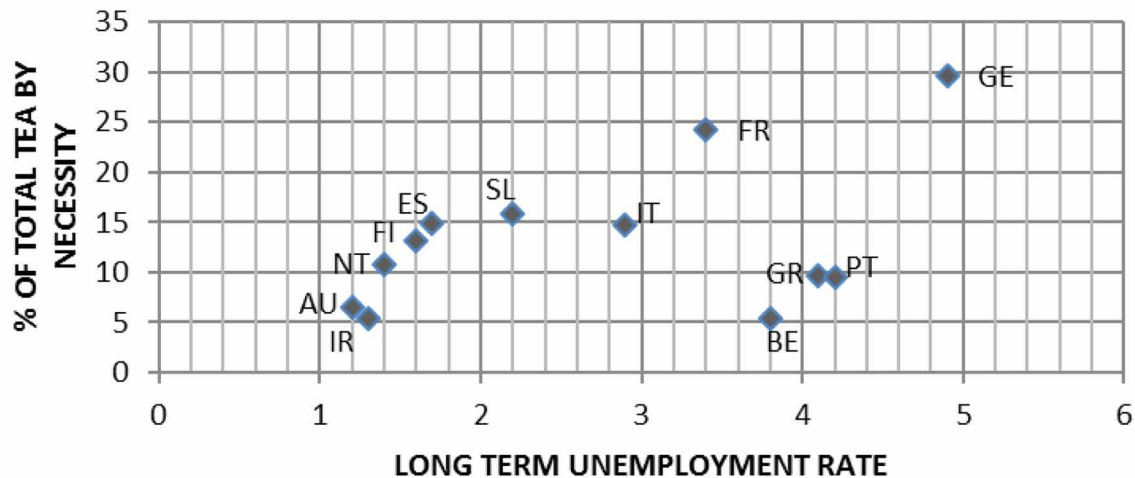
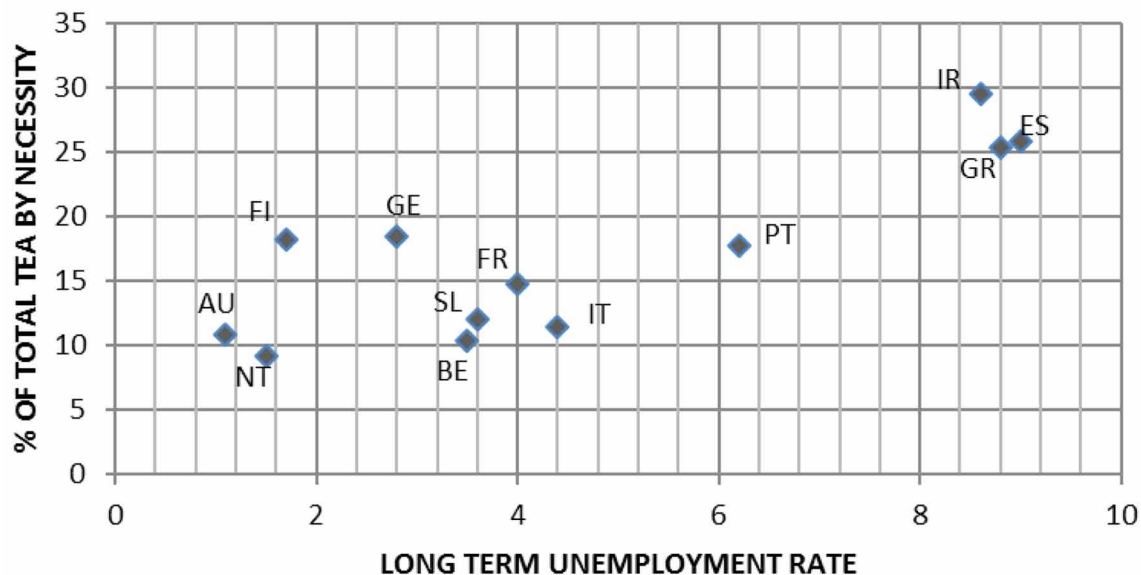


Figure 5. Descriptive scatterplot of the relationship between the entrepreneurial activity by necessity and the long-term unemployment rates in the Eurozone countries driven by innovation in 2016

Source: own elaboration using GEM data



ences captured thanks to the 2016 cluster analysis are especially relevant regarding both vocation and innovation-driven entrepreneurship. Thus, Ireland, Spain, Greece, and Portugal suffered some decrement of quality of the entrepreneurial activity motivated by the increase of non-vocational driven entrepreneurship in the average TEA of this group, and by a decrement of their innovative activity. But not all the

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

entrepreneurial quality indicators show the same decreasing evolution; for instance, entrepreneurs show the significant prevalence of commitment to look for new market niches to create jobs and to keep the considerable exportation at the same level it was before the crisis. In short, the evolution of the quality entrepreneurship in these countries is not quite a structural phenomenon, but instead, it is a time-limited consequence of the highly damaging increase of unemployment in these economies.

A particular case worth mentioning is the case of Slovenia. In 2016, this country was classified with corporatists' economies, regarding entrepreneurial quality. In 2007, however, before the crisis was set in, Greece, Portugal, and especially Ireland and Spain, were closer to corporatist economies positions regarding vocation driven entrepreneurship and long-term unemployment and that is why Spain and Slovenia showed very similar values for these variables. However, as the crisis worsened, the governments of Ireland, Greece, Portugal, and Spain have been implementing more economic policy measures to regularize the debt than to stimulate the internal market and to promote high-quality entrepreneurship, which explains the perceived difference with Slovenia in 2016.

On the other hand, in post-communist countries –like Slovenia- the economy comes from a centrally-planned regime where entrepreneurial activity was limited (or absent). The emphasis of these systems was on economies of scale, and business culture did not support innovation and entrepreneurship (Roman, 1990; Mugler, 2000). Taking this into consideration, the transition from a planned to a market economy implied in these countries a radical reallocation of labor, capital and R&D resources, and an essential change in the production and market structures (Krelle, 2000). As a result, education and entrepreneurship were affected. The transition of Slovenia into a market economy is one of the most efficient of the Central and Eastern European Countries (CEECs), and its assimilation to the corporatist model due to its geographical position.

CONCLUSION

The Eurozone innovation-driven economies included in the research sample show that, under a crisis context, in general, and under the 2007 Great Depression in particular, unemployment rates are more controlled in corporatist economies and, consequently, they maintain more discrete levels of necessity entrepreneurship, while most of the Southern European countries tend to generate higher unemployment rates enhancing the necessity entrepreneurship. Slovenia is the only post-communist economy in the sample, and its present behavior aligns with corporatist philosophy.

An increment of necessity entrepreneurship caused by long-term unemployment implies that the total entrepreneurial activity rate becomes affected and that a significant part of it losses quality. The quality loss is especially relevant regarding less prevalence of vocation driven entrepreneurs and terms of innovativeness of the initiatives, a sensible factor in a group of countries classified as innovation-driven by the Global Competitiveness Report. The loss of competitiveness of the entrepreneurial activity of some nations of this team can accentuate their social and economic differences and hinder nominal and real convergence in the Eurozone.

The governments of the countries more affected by the loss of entrepreneurial quality should take into consideration of the entrepreneurial activity as a critical element to resolve the crisis. It is not enough to push the population to startup businesses to extract the most from the entrepreneurial activity. It is necessary to design a strategy to motivate vocation-driven entrepreneurs to develop their ideas and to translate them into business realities. The necessity entrepreneurship is of less quality, has a small ex-

Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation

pectancy of survival, of job creation, internationalization, innovation and the rest of attributes identified as necessary to add value and contribute to economic development and competitiveness.

Because of the reasons mentioned above, the primary utility of this research is to document and evidence the need for policymakers to listen to the associations of experienced and potential vocation driven entrepreneurs that are asking for measures needed to activate their initiatives taking into account the regulatory framework. If the developed Eurozone governments want entrepreneurship to be a pivotal element to resolve the crisis and create employment, they must take measures to improve an entrepreneurial ecosystem defined by the entrepreneurial framework conditions to ease the vocational involvement existing in the labor market. An additional package of steps must be devoted to implement and reinforce entrepreneurial education and training for children, young people, and unemployed people to try to convert necessity-pushed into vocation-driven entrepreneurs.

LIMITATIONS AND FUTURE RESEARCH

To observe and document the quality of entrepreneurship has become a critical issue for public policy design, as well as to control the impact of this activity on the economic development and national efficiency. The primary constraint to carry out research and analyses on this topic is the availability of information. In our case, we confronted different issues. The first was that not all the countries of the sample participated in the GEM observatory during all the analysis period, that is, between the years 2007-2016. The lack of data from Germany for the year 2007 pushed us to recover the needed indicators using time series forecasts that fortunately resulted in high statistical quality. However, this circumstance made us discard the possibility to include the annual evolution of the entrepreneurial quality for the Eurozone countries driven by innovation and to abandon the use of individual data instead of aggregated data. The personal data could bring more analyses detailed on entrepreneurial quality and would allow our research team to test the complete model of Guzmán and Santos (2001) to include variables such as those based on personal environment. Also, individual data offer better possibilities to compare the detailed characteristics of opportunity-and-necessity-based activities and to better assess what variables are more critical for entrepreneurial quality. This fact is essential to design educational programs.

For all these reasons, we consider that this topic has outstanding potential as a research line to apply GEM data into multilevel analyses to test the Guzmán-Santos model to calculate entrepreneurial quality in whatever zone of the globe it can be needed.

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*Entrepreneurial Quality and Economic Crisis in the Eurozone Countries Driven by Innovation***KEY TERMS AND DEFINITIONS**

Entrepreneurial Quality: Entrepreneurial effort aimed at giving the highest quality to society in order to improve their quality of life, as well as that of entrepreneurs and their families.

Innovation-Driven Entrepreneurship: Type of entrepreneurship guided by innovation to keep the company in positions of sustainable leadership over time.

Necessity Entrepreneurship: Sort of entrepreneurship driven by the need for survival that occurs mainly in developing countries.

Necessity-to-Opportunity Entrepreneurship: Situation that occurs when an economy goes from a stage of underdevelopment characterized by subsistence undertakings to another level of development defined by an increase in opportunities to undertake.

Opportunity Entrepreneurship: Type of entrepreneurship defined by the search and implementation of business opportunities to benefit the company's stakeholders.

Unemployment Rate: Percentage of the total workforce who are unemployed and looking actively for a paid job.

Vocational-Driven Entrepreneurship: Type of entrepreneurs defined by guiding his or her entrepreneurial efforts guided for vocation and not by a mere desire of earning money.

Chapter 20

Impact of Cultural Factors on Entrepreneurship: Evidence From GEM Model and the Singularity of Japan

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ABSTRACT

Since the 1990s there has been extensive literature about the main factors impacting on entrepreneurship activity, and therefore on the genesis and development of entrepreneurship ecosystems. Among these factors, cultural ones are of the most interest because they are specific to every community and may become essential to boost or break the entrepreneurship activity. A lot has been written about these cultural factors, especially at reaching conclusions from specific cases. However, any kind of cross-country analysis of these cultural factors has been much less widely published, with some rare exceptions. Indeed, this chapter aims to fill this gap, enhancing knowledge about entrepreneurship with a cross-country analysis on the impact of cultural factors, using models and data from Global Entrepreneurship Monitor (GEM). Moreover, particular focus has been done on Japan because of its nature as an hapax legomenon country that lets us better appreciate the impact of these factors.

INTRODUCTION

The Conceptual Model

Since the 1990s there has been extensive literature about main factors affecting Entrepreneurship activity, and therefore on the genesis and development of Entrepreneurship Ecosystems. Research activity on these topics has been reinforced over the last few years after the economic downturn of 2008-2013, especially in Europe, the US and Eastern Asia countries.

From the author's own experience dealing with entrepreneurs at some of the leading worldwide start-up hot spots, the critical impact of some environmental factors on Entrepreneurship activity has been

DOI: 10.4018/978-1-5225-5837-8.ch020

Impact of Cultural Factors on Entrepreneurship

clearly evidenced. In this regard, cultural elements are of the most interest, because they are specific to every community and may become essential boosters or brakes on Entrepreneurship activity.

A lot has been written about these cultural factors, especially at reaching conclusions from specific cases, (see Kneller, 2007, and Aoyama, 2009). However, any kind of cross-country analysis of these cultural factors has been much less widely published, with some rare exceptions (see Suzuki, Hoonkim, & TaeBae, 2002; Sagie & Elizur, 2003).

Indeed, the aim of this paper is to fill this gap, enhancing knowledge about Entrepreneurship with a cross-country analysis on the impact of cultural factors, using models and data from Global Entrepreneurship Monitor (GEM), for 2016 and 2017. Suitability to use the GEM framework is based on previous works, such as those by Bygrave, Hay, Ng, & Reynolds (2003) and Sternberg & Wennekers (2005).

Based on the GEM model, this chapter develops a cross-country analysis of GEM metrics onto its six areas, showing some evidence that could seem paradoxical. In more detail, it is seen that the US leads most of the indicators, and China has become an emerging star, but it is not easy to understand some of Japan's indicators unless some non-explicit factors are taken into consideration. Furthermore: what is behind such low rates in Japan regarding Self-Perceptions and Societal Values towards Entrepreneurship? What is different in Japan with regards to others that impact so dramatically on these indicators, pointing out a singular path regarding Entrepreneurship among the rest of the most developed countries, and consequently leading to a very different ecosystem?

An attempt to answer to above questions is developed in the last epigraph of this paper, which explains why metrics in Japan show such low values, proposing answers based on Japan's own geographic, historical and mind-set features.

GEM Model: Methodology

The GEM model is a potent tool with a comprehensive set of data about features of entrepreneur attitudes and ecosystems, which gives data and metrics on the following six areas, getting information from experts in every country: Self-perceptions of entrepreneurs, Activity of entrepreneurship, Motivation, Impact, Social values, and Ecosystem. Furthermore, research carried out in this paper has focused on cultural factors among several relevant countries, Western and Eastern, setting up a benchmark among them. Particular focus has been placed on Japan, because of its own nature as an *hapax legomenon*¹ country, that lets us better appreciate the impact of these factors. Other relevant nations have also been chosen according to three criteria: firstly belonging to the Eastern Asia block (Japan, China and Korea), secondly being generally regarded as a first comer industrial nation (UK, US and Germany), and finally Spain, because of its position as amid income country in the Western area. This selection is consistent with previous works since the seminal paper of Barro and Sala-I Martín (1992).

As is explained in GEM (2017: p. 13), it highlights: “the diverse profile of entrepreneurship around the world, revealing areas that can be addressed through policy and practice.” Based on the findings of the Report, it is possible to make a number of broad, globally relevant recommendations, which recognize that a variety of stakeholders play a critical role in facilitating the creation of enabling entrepreneurial ecosystems—including among them Policy-Makers, Private Sector, Educators, and Researchers. Therefore, a Quadruple Helix of stakeholders at National level (Academia, Business Sector, Government and Civil Society) plays an essential role, and recommendations for them highlight the ways in which educational institutions can equip individuals with the skill-sets to make use of entrepreneurial opportunities, as

Impact of Cultural Factors on Entrepreneurship

well as noting the importance of efficient IT infrastructures in reducing the cost of business, increasing market reach, improving access to information and allowing for innovation.

Regarding how the GEM model calculates Entrepreneurship metrics, this is shown as under, throughout this paper. Nevertheless, the following is set out:

- **Perceived Opportunities Rate:** The GEM Report estimates this indicator as a percentage of the population between the ages of 18 and 64 years who see excellent opportunities to start a firm in the area where they live;
- **Perceived Capabilities Rate:** It is calculated as a percentage of the population between the ages of 18 and 64 years who believe they have the required skills and knowledge to start a business;
- **Fear of Failure:** It is calculated as a percentage of the population aged 18 – 64 years perceiving good opportunities who indicate that fear of failure would prevent them from setting up a business;
- **Entrepreneurial Intentions Rate:** This indicator is calculated as a percentage of the population aged 18 – 64 years (individuals involved in any stage of entrepreneurial activity excluded) who are latent entrepreneurs and who intend to start a business within three years;
- **Established Business Ownership Rate:** GEM Report calculates this indicator as a percentage of the adult population between the ages of 18 and 64 years who are currently an owner-manager of an established business, i.e., owning and managing a running company that has paid salaries, wages, or any other payments to the owners for more than 42 months;
- **Entrepreneurial Employee Activity Rate:** This indicator is calculated as a percentage of the adult population aged between 18 and 64 years who as employees have been involved in entrepreneurial activities such as developing or launching new goods or services, or setting up a new business unit, a new establishment or subsidiary;
- **Entrepreneurial Ecosystem:** The GEM Report calculates this set of indicators as an average value of experts' perceptions, using a Likert scale of 1 (highly insufficient) to 9 (highly sufficient), for the nine entrepreneurial framework components.

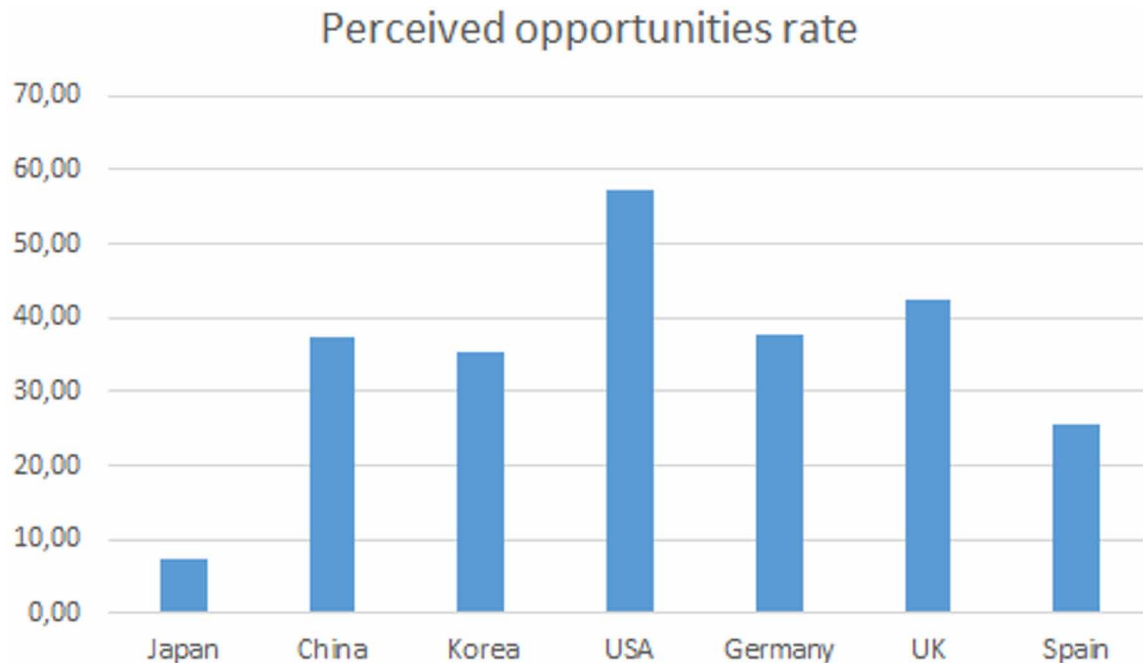
Moreover, GEM's conceptual framework (2017: p. 13) depicts the multifaceted features of Entrepreneurship, recognizing the proactive, innovative and risk responsive behavior of individuals, always in interaction with the environment. The GEM survey was, therefore, conceptualized looking for the interdependency between entrepreneurship and economic development. Its conceptual framework derives from the underlying assumption that national economic growth is the result of the personal capabilities of individuals to identify and seize opportunities and that this process is affected by environmental factors, which influence individuals', decisions to pursue entrepreneurial initiatives.

EVIDENCE FROM THE MODEL

Cross-section analysis has been done using data from the GEM report, the year 2015 for the GEM average and Japan, and year 2016 for the rest, shown in Table 1. Additionally, in Table 2, an alternative model for measuring ecosystem vibrancy is shown, highly dependent on density and quality of entrepreneurship networks among all stakeholders. Significant results follow, shown according to the GEM break down of areas.

Impact of Cultural Factors on Entrepreneurship**Figure 1. Perceived opportunities rate**

Source: Own elaboration with GEM data

**Self-Perception**

Regarding the first indicator analyzed, the Perceived Opportunities rate² (Figure 1), a pattern of entrepreneurship behavior appears which will repeat through this area, i.e., leadership by the US and right performance by the UK, China, Germany, and Korea. It is easy to recognize the *hapax* behavior of Japan, which shows an extraordinarily low value for this metric: “since the productive years thereof the 1980s, and a brief dotcom boom that began in the late 1990s, Japan as a whole has fared badly in encouraging similar start-ups. Indeed, just 31% of Japanese perceive any kind of opportunity and think being an entrepreneur is not a good career choice, beating only Puerto Rico at the bottom of a study carried out in 2014 by GEM” (The Economist, Nov. 5th, 2016).

Moreover, regarding the Perceived Capabilities rate³, a similar pattern is found, although this time Korea shows a rather good performance, and the UK, Spain, and Korea follow the USA closely. Again, concerning Japan, the *hapax* behavior is seen, in the sense that, consistently, the indicator about Fear of Failure⁴ (Figure 2) is very high in Japan (above 50 as opposed to something above 30 for the US). In this regard, Masuda (2006) states there is evidence that most Japanese are afraid of failure, and moreover, regarding this issue, there is an anecdote included in The Economist (5th November, 2016), which recounts that “Tamako Mitarai, a young entrepreneur who set up a firm selling knitwear made by people affected by the 2011 earthquake and tsunami in Tohoku, says she wanted to inspire people who had lost their livelihoods with the hope that they would follow suit. Yet, six years later, few have done so”.

After this data and testimonial, it could be wondered what is behind this, and a possible answer is that it has to be with social structures deployed in Japan from the Meiji Restoration, and especially after the Second World War (which will be discussed in more detail later).

Impact of Cultural Factors on Entrepreneurship

Figure 2. Fear of failure rate

Source: Own elaboration with GEM data



Finally, for this area, the Entrepreneurial Intentions rate⁵ follows the same pattern as former indicators, and some possible reasons for this will be suggested later.

Activity

Because of former indicators on the Self-Perception of entrepreneurs, the Total Activity rate of start-ups' launching (TEA rate) is apparently successful in the US, China, UK and even Korea, while it is oddly weak in Japan. However, concerning the indicator about Established Business Ownership rate⁶, i.e., number of SMEs over a total number of companies, it is pretty well deployed in Japan, (The Economist Intelligence Unit, 2010). To explain this apparent contradiction, it is reasonable to think that high scores of the Established Business Ownership rate in Japan are not in opposition to the reduced values of other indicators. This fact has to do with the existence of networks of small commercial businesses well widespread across Japan and thus has nothing to do with a real phenomenon of the rollout of start-ups.

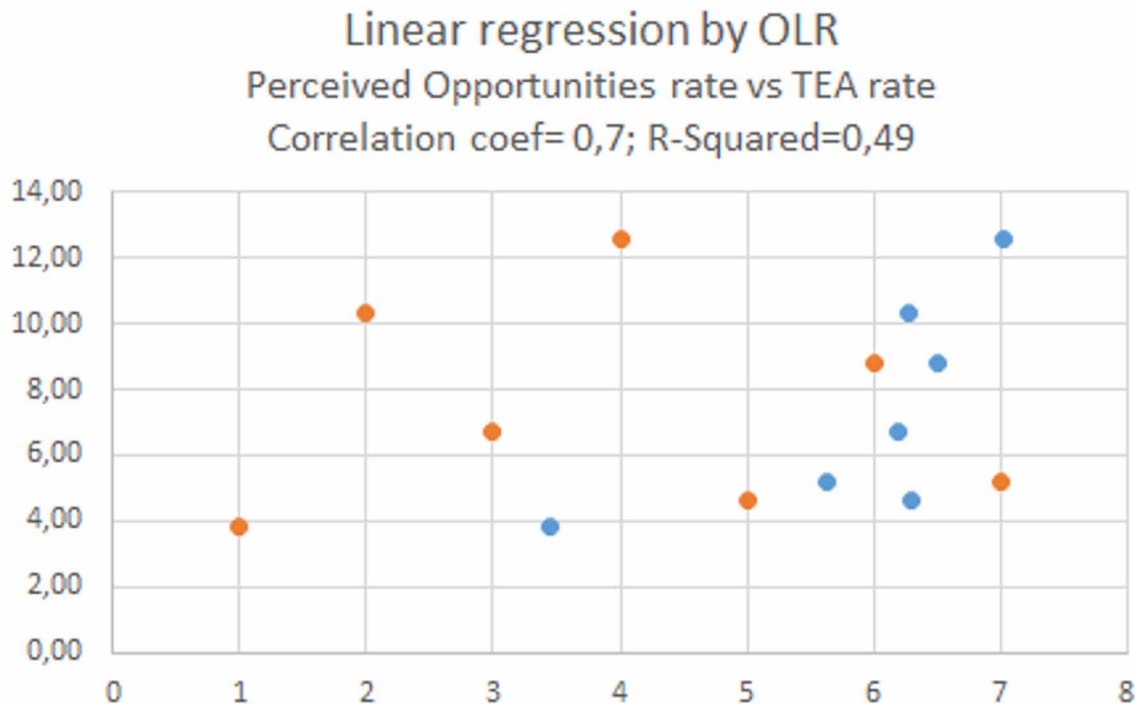
Furthermore, on speculating about a possible correlation between the Perceived Opportunities rate and TEA rate, shown next in Figure 3, from the econometric analysis it is shown that there is not a significant relationship, evidenced by low values of both coefficients: Correlation and R-Squared.

Moreover, regarding the Entrepreneurial Employee Activity rate⁷, a similar pattern is already seen in recent indicators, with clear leadership by the US, closely followed by the UK.

Impact of Cultural Factors on Entrepreneurship

Figure 3. Linear regression by ordinary least squares, between perceived opportunities rate and TEA rate. Correlation coefficient= 0,7; R-Squared=0,49.

Source: Own estimation from GEM data, Perceived Opportunities data logarithmic



Motivations

As regards Motivation for Entrepreneurship in the seven countries analyzed, once more leadership is shown by the US and the UK. However, this time Japan stands in the third position, and this result is astonishing at first, because it might seem contradictory to brake indicators already seen; however, it is not actually the case. Indeed, the most suggested interpretation, shared by Suzuki et al. (2002), is that which argues the co-existence of high motivation with entrepreneurship but with poor performance in other related indicators (such as TEA and others), and this should be the case in Japan, because (as will be explained later in the last epigraph) there are cultural factors that act as a brake towards Entrepreneurship (most of them) and some others which boost it, but in the final balance the brake factors win.

Furthermore, in seeking motivation sources in Japan for any target or task, Entrepreneurship included, this is something learned at school by Japanese and derived from the education system implanted in Japan during the Meiji period. The concept of Risshin Shusse that means Japanese success orientation, is apparently a consequence of the combination of several historical factors. In this sense, it is commonly accepted that this concept includes Japanese self-image as a superior group of people, as well as the fact that ambition among ordinary people was, for the most part, sternly suppressed from earliest times to the beginning of the modern Industrial Era during the Meiji period.

As is explained in De Mente (2012), during Japan's long Feudal Age (1192-1867), including the Edo-Tokugawa period, social class and occupations were generally hereditary. Therefore, the only values that

Impact of Cultural Factors on Entrepreneurship

were approved and rewarded during that extended period were a dedication to hard work and loyalty to superiors within the rigid family, clan and *Shogunate* system. However, with the fall of the Feudal system in 1867, the new government began an intensive campaign to bring the country up to the industrial level of the most advanced Western nations. Part of this campaign was an intense effort to imbue every child in the country with a concept of success, known as *Risshin Shusse*. This concept is distinctive, in the sense that it places significant emphasis on the group instead of the individual (Benedict, 2009), so that the success of the individual depends on the success of the group, beginning with the immediate work group, and by extension going all the way up to include the whole country.

Impact

At the time of talking about Impact of Entrepreneurship, the GEM Model refers to three indicators: High Job Creation Expectations rate, Innovation rate and Business Services Sector rate, which show consistent patterns with former indicators. Regarding the second, the Innovation rate, this is a crucial indicator in which Japan is reasonably well positioned among lead countries as a whole. However, it shows an odd behavior when compared with the countries of reference analyzed since it is lagging behind not just US, but also China and Korea. This value might be wrongly interpreted, in the sense that how can Japan, with such high amounts of expenditure on R&D, show non-outstanding values of the Innovation rate in the GEM report. Answer to this question may be found bearing in mind that R&D carried out in Japan is mainly done by large conglomerates of companies (*Keiretsus*), while the Innovation rate refers to those developed by single entrepreneurs and emerging start-ups, developing products and services very close to market needs, and hence leaping over the commonly called Death Valley stage. Precisely, this kind of innovation fails in Japan, as it is exemplified in Aoyama (2009).

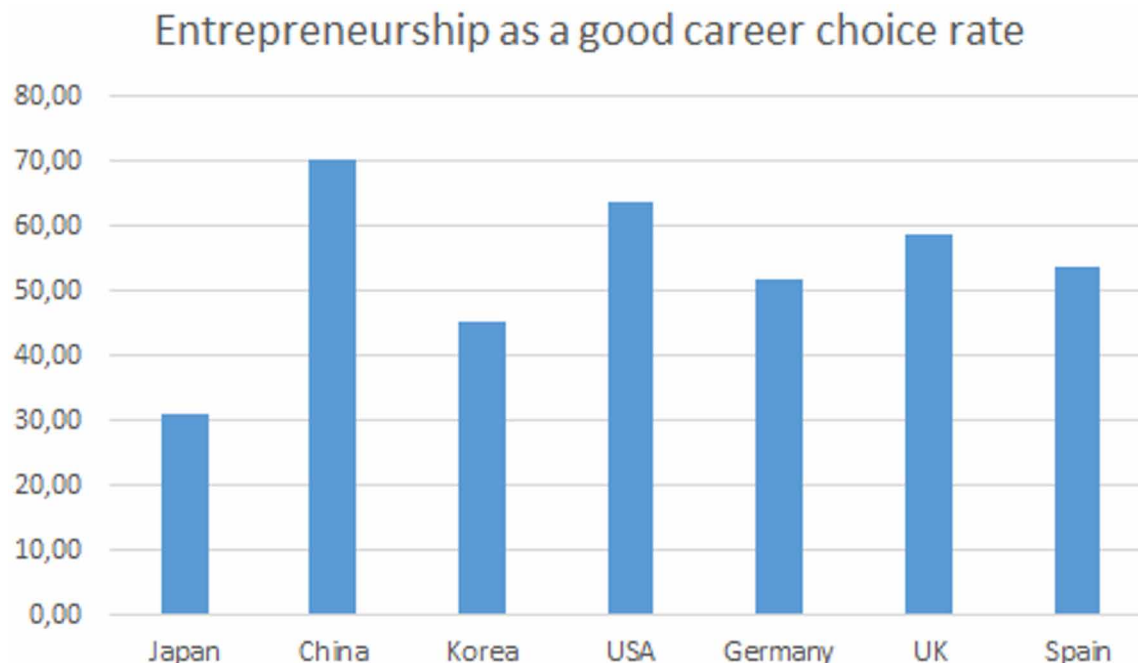
Social Values

Concerning the Social Values indicators, Japan again shows the *hapax* behavior as previously mentioned, as can be appreciated in Figure 4. Reasons to explain why Entrepreneurship is still considered in Japan a wrong choice, while, according to the GEM report, this view is increasingly changing mostly in OECD countries, could be related to cultural factors extensively explained in the next epigraph.

Furthermore, in this context, it is also constructive to take into account that Japan, apart from its own features as *hapax*, has a Confucius-Buddhism-Shinto based culture, partly shared with China and Korea. This cultural framework emphasizes the group over the individual, so that, it is easily understandable that any risky individual initiative should have inertias to be taken. Concerning to this point, in Kase, Slocum, & Zhang (2011: p. 36) it is cited that “an important legacy of Confucian philosophy in modern Japanese history derives from a Confucian understanding of the philosophy of history. This is evident in the transition from the Tokugawa period, dominated politically by a samurai regime led by the Shogun, to the Meiji period (1868-1912), which took restoration of imperial rule. Rather than assuming that history was progressing ever forward to incrementally better levels, Confucians tended to see ideals in the past.... The political transformation giving rise to the Meiji imperial regime, at least in terms of its philosophical presentation as a return to an ancient, supposedly more ideal model, was characteristically Confucian”. Furthermore (*op. cit.* 2011: p. 91): “the ancient Chinese centered on Harmony. This implies collective behavior rather than the individual behavior of the Greeks. (...) For the early Confucians, there can be no me in isolation. (...) Self-control was important in Chinese culture to minimize friction with

Impact of Cultural Factors on Entrepreneurship**Figure 4. Entrepreneurship as a reasonable career choice rate**

Source: Own elaboration with GEM data



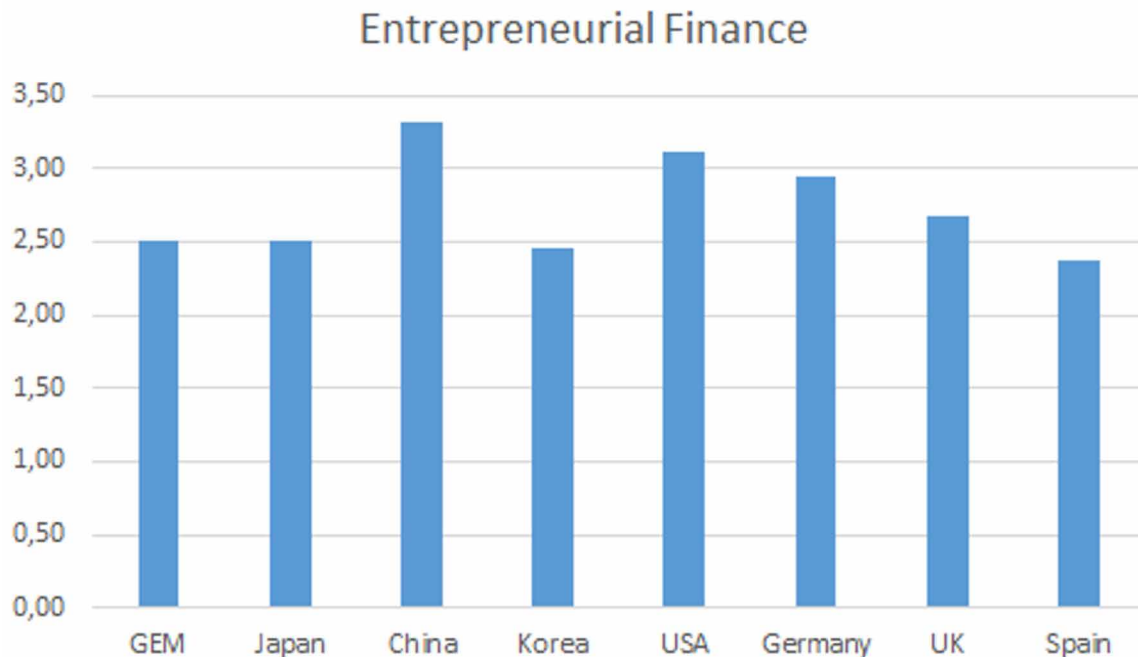
others and make it easier to abide by other people's requirements. From the Tao as the main philosophy for harmonious society as a whole to the system of government built on Confucianism, the Chinese had a sense of collective agency”.

Nevertheless, it does not seem that this same original cultural framework impacts nowadays on the Middle Kingdom Entrepreneurship Ecosystem, at least not such as to be a detriment to its current boost, which has come to be popularly regarded as the new *Entrepreneurship Heaven*. What about China's momentum? What are its causes? Concerning these questions, it is commonly argued that there are three main reasons to explain why determined Chinese entrepreneurs can expand their businesses rapidly. Firstly, its economy, the world's second-largest, is big enough to let firms attain colossal scale just by succeeding at home. It is also helped by the fact that Chinese language and culture are more homogeneous than in Europe, and physical infrastructure (such as roads and wireless broadband) is new and excellent, unlike in America. Secondly, Chinese shoppers are voracious and venturesome, an advantage to innovators with ingenious products but unfamiliar brands. The Chinese are also unusually eager to embrace technology. In this regard, China's penetration rates for mobile phones and broadband internet are high, making it easy for start-ups to reach a vast market cheaply. In addition, China is rapidly becoming cashless. The volume of mobile payments shot up almost fourfold last year, to \$8.6trn, compared with just \$112bn in America. This is why China breeds financial-technology start-ups so quickly and is home to many of the world's most valuable *fintech* firms (i.e., Ant Financial, spun out of Alibaba, may be worth more than \$60bn). Thirdly, state-dominated industries, ranging from telecommunications and banking to health care, are woefully inefficient and even hostile to consumers. This allows agile newcomers, with business models that put the customer first and deploy the latest technologies, to jump ahead of incumbents more efficiently in China than their counterparts in developed markets.

Impact of Cultural Factors on Entrepreneurship

Figure 5. Entrepreneurial Finance

Source: Own elaboration with GEM data



Entrepreneurial Ecosystem⁸

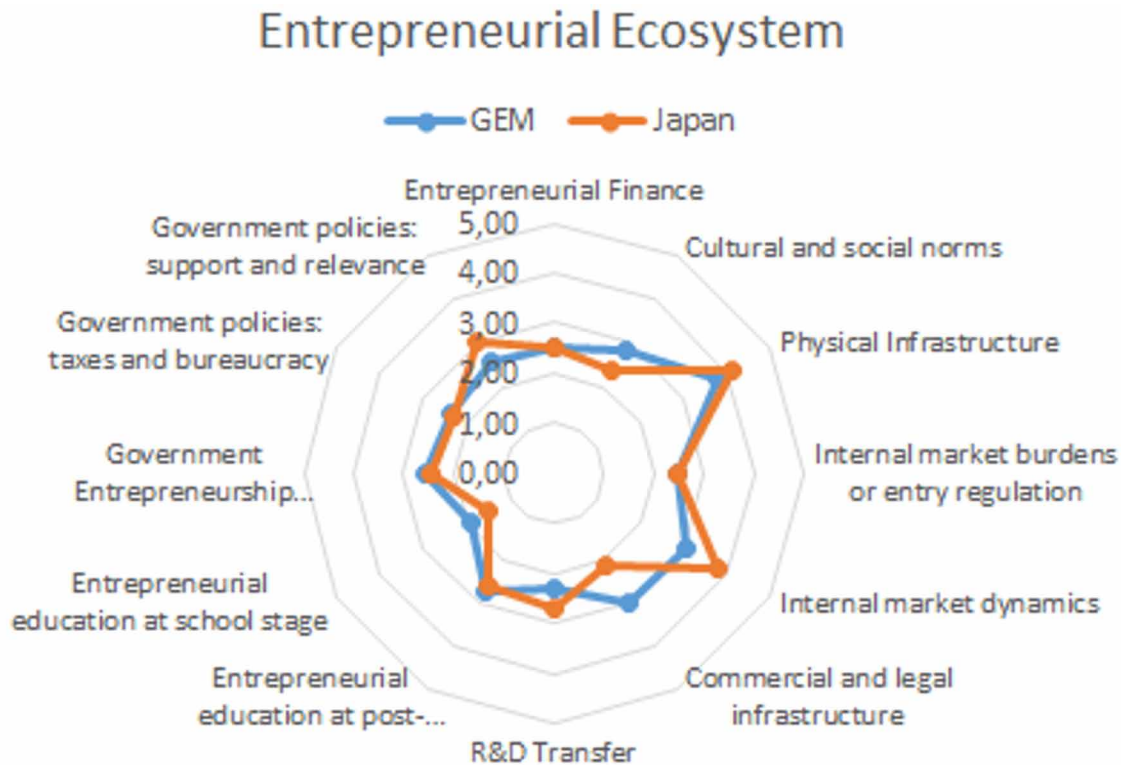
Furthermore, concerning Evidence, there are set out below some significant results of a cross-country analysis of entrepreneurial ecosystems in the seventh reference countries. It can be seen from it that Japan shows poor indicators as a whole since it gets worse results than the GEM's average in 50% of cases (see for example Figure 5). On the other hand, and regarding its neighbors, China is worse in just two cases and Korea in three (see Figures 6 and 7).

DISCUSSION

The previous epigraph showed evidence from the GEM model, about the singularity of the Japanese *hapax* way as regards Entrepreneurship, and hoped to find some possible causes. It is not possible to resist adding now an extract from the first chapter of the celebrated book by Benedict (2009), *The Chrysanthemum and the Sword*, very relevant to understand Japan's singular way (p. 19): "Virtue and vice as the Occident understand them had undergone a sea-change. The system was singular. It was not Buddhism, and it was not Confucianism. It was Japanese, the strength and the weakness of Japan". Going forward with this same idea, there is also a nice description of Japan as an *hapax* on Kerr's best-known work, *Lost Japan* (2015: p. 97): "Japan is an *hapax*. You can try to approach it by comparing it to China and South East Asia, (...), but in the end, you cannot understand an *hapax*, you will never really know

Impact of Cultural Factors on Entrepreneurship**Figure 6. Entrepreneurial Ecosystem: GEM vs. Japan**

Source: Own elaboration with GEM data



what it means". However, the primary goal of this paper is indeed to reach some conclusions about this specific behavior.

Probably, the first fundamental and underlying characteristic of Japan, which has to be taken into account in any analysis, is its insularity, Kissinger (2015). Precisely, in talking about the multiplicity of Asia from a geopolitical point of view, this author describes Japan in the following way (p.180): "Situ-ated on an archipelago some one hundred miles off the Asian mainland at the closest crossing, Japan long cultivated its traditions and distinctive culture in isolation. Possessed of ethnic and linguistic near homogeneity and an official ideology that stressed the Japanese people's divine ancestry, Japan turned conviction of its unique identity into a kind of near-religious commitment".

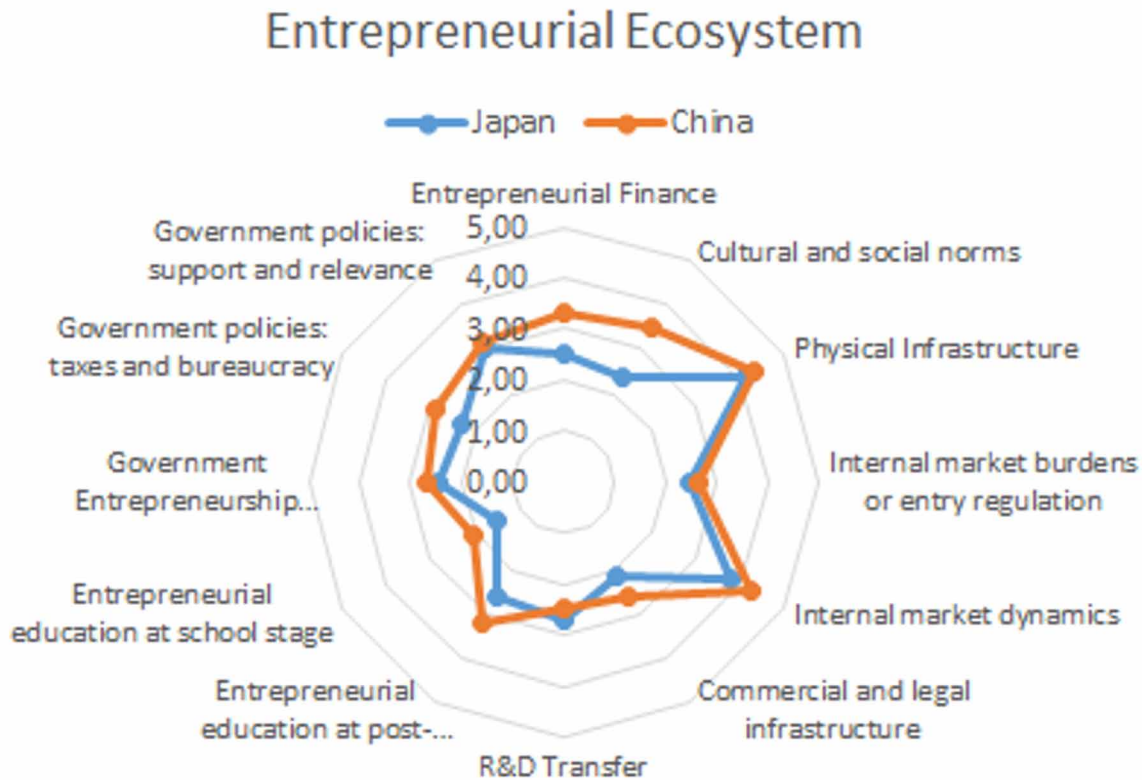
Starting to look for reasons in the first area of the GEM Model, *Self-Perception of Entrepreneurship*, there is a significant area of literature that emphasizes the role of cultural factors to explain this abnormally low behavior (i.e., Masuda, 2006 and Kase et al., 2011), see Table 3. According to these authors, it should be related to social structures and ways of acting that were implanted in the past in Japan, especially in Edo and Meiji times, or even earlier. Specifically, low values of *Perceived Opportunities and Capabilities* would be related to the Japanese Family System, which has existed from the Tokugawa-Shogunate era (Edo), calls *Ie* System, in Japanese.

Although the formal *Ie* System indeed disappeared after the Second World War, because of revision of the Civil Code at that time, nowadays the number of nuclear families is growing as well as penetration of individualism in Japanese society, nevertheless it is evident that the *de-facto Ie* System still remains

Impact of Cultural Factors on Entrepreneurship

Figure 7. Entrepreneurial Ecosystem: Japan vs. China

Source: Own elaboration with GEM data



strong among families in many parts of Japan, as a long-standing custom or as a moral value, with diminished but still has significant social force (Davies & Ikeno, 2001).

This author explains that the foundations of *Ie* were based on the worship of ancestors. These ancestors were perceived and still are, as a unity of the souls of all ancestors who had been part of the family line since the time *Ie* was founded. Hence, in this system, people worshiped their ancestors because it was believed that they provided the foundations of the existence of *Ie*, and looked after the family and guaranteed its welfare, so if people did not honor their ancestors, it was thought that they would be cursed.

Related with the latter, Patriarchy is also a critical characteristic of *Ie*, in the sense that the head of the household, who was generally the senior male in the past, decided on the action of its members and had the absolute power of control over the family. People were trained to accept the system and were taught their position in the hierarchy of *Ie*, right from childhood. Therefore, under this system, initiatives of entrepreneurship are unlikely to be developed out of the permanent places and hierarchy, which in some manner would challenge the order, (Hawkins, 1993).

However, low values of Perceived and Capabilities Opportunities might also have something to do with a fundamental dichotomy in the Japanese way of thinking, known as *uchi* and *soto*, related to *Ie* system as well. In this sense, *Uchi* can be defined as (1) inside, (2) my house and home, (3) the group that we belong to and (4) my wife or husband; in contrast, *soto* distinguishes insiders from outsiders in daily life depending on whether the others belong to an *uchi* or *soto* group. Although this distinction can

Impact of Cultural Factors on Entrepreneurship

be seen to some degree everywhere in the world, it is fundamental and widespread in Japan, where this dual concept has had a significant influence on society, especially in terms of human relations (Davies & Ikeno, 2001). Because of this dichotomy, it is understandable that any initiative that expels someone from a group (the company) will not be well received.

Finally, there is the fact that the Japanese still consider their companies as some kind of social club, a concept called *Shakai no Kurabu* in Japanese (De Mente, 2012), referring not only to the junior-senior, parent-child vertical structure of Japanese companies, but also to the extended paternalism of the larger ones, in the way of a hierarchical-Confucian style. In this sense, to understand and work with a Japanese company, it is indeed helpful to think of it in terms of a combination of an exclusive club, a sort of cooperative union and of course a business enterprise, because it incorporates attributes of all three. This structure often reaches to the set of providers that depend on the more important firms for their day-to-day existence and affects extraordinarily the perception of opportunities and capabilities by Japanese professionals.

Moreover, regarding the *Fear of Failure and Entrepreneurial Intentions rate*, it is already mentioned to what extent most Japanese are afraid of failure. In this sense, an important reason commonly given to explain it is the inflexibility of the labor market, that even though the system is loosening a little, Japanese companies still value and reward lifetime service. Therefore, the typical employee slowly working his way up the company ladder remains an alluring role-model for graduates, and people are unlikely to hop from company to company, and even less so to make an entrepreneurial start-up. “This makes it hard for start-ups to attract mid-level people—hence, says Ms. Naka, founder of Wantedly, all her fresh-faced employees,” (The Economist, Nov. 5th, 2016). Highly related to lifetime employment from school/university (however not the only factor) is the fact of extended frugality in Japan regarding the salaries of managers, clearly shown by lower CEO’s pay to workers’ compensation at listed firms in Japan, compared to Western and some Eastern countries. Evidently, this lower financial ambition in Japan provokes less motivation to become an entrepreneur.

So it is the lifetime employment system in Japan (*Shu-Shin Koyo* is called), which is one of the most talked about facets of its traditional family-style company system, even though it is never applied as a whole to the majority of the nation’s workers, and nowadays it has been phased down if not out in many companies. De Mente (2012) explains that, although a direct descendant of feudal times in Japan when peasants and artisans were attached to a particular clan by birth, the lifetime employment system did not become characteristic of large-scale modern Japanese industry until the 1950s. In fact, in the immediate post-war period, losing one’s job was regarded as being sentenced to starvation. Consequently, to prevent employees from being fired or arbitrarily laid off, national federation union leaders took advantage of their new freedom and the still weak position of the industry to force adoption of the lifetime employment system by the country’s major enterprises. Under the lifetime employment system, all permanent employees of larger companies and government bureaus were, in practice, hired for life. These organizations generally appointed once a year, directly from schools, so well before the end of the school year, each company and government ministry or agency decided on how many new people it wanted to bring in.

Furthermore, concerning self-perception of Entrepreneurs in Japan, the importance of reaching harmony everywhere in business is well accepted in Japan, and because of this feature, it is common to hear the Japanese calling themselves the *Wa* Nation.

Wa, the ancient word for the concept of peace and harmony, literally means circle, and in relation to this some authors such as De Mente (2012), is of the opinion that this is indeed the secret of Japan’s economic success, based on employees and managers functioning in human-oriented circles, instead

Impact of Cultural Factors on Entrepreneurship

of the series of horizontal layers favoured by Western management. Moreover, the *Wa* concept was also said to be responsible for such things in business context as the almost total lack of joking, horse-playing, complaining, drinking on duty¹⁰ and another non-productive behavior in Japanese companies. Nevertheless, seeking a genuinely harmonious environment is likely to prevent anyone from hazardous and risky entrepreneurial ventures.

On the other hand, *Social values* in Japan also show underlying cultural restraining factors to Entrepreneurship, and this is the same for the indicators of High Status through to the Successful Entrepreneurs rate and the Entrepreneurship as a Good Career Choice rate. Concerning the latter, which has been discussed in the previous epigraph, one should add that behind this lays the Japanese virtue of modesty, called *Kenkyo* in Japanese. In this regard, modesty and humility are one of the most critical aspects of proper behavior in Japan. In Japanese society, people are expected to be modest regardless of their social position; that is, they must learn to modulate the personal display of talent, knowledge or wealth in an appropriate manner (Debroux, 2003). Self-assertiveness is more or less discouraged, while consideration for others is encouraged. Indeed, there are several proverbs in Japanese that insist on this idea (Galef, 2009), and the spirit of them is useful in maintaining the group ideology of the Japanese people, as well as the fact that the attitude they represent will remain in society as long as honorific and humble forms of speech exist in the Japanese language (*Keigo* style). As can be seen, this mindset does not support any entrepreneur initiative.

Moreover, concerning the *Entrepreneurial Ecosystem* and starting with Entrepreneurial Finance, is accepted that Japan is on the GEM average, however, below most of the countries of reference. The likely reason is the low level of personal/family savings in Japan devoted to funding start-ups, while, according to Rob & Morelix (2016), this is the most important source of start-up capital in the US. Paradoxically, Asian people in the US is the group, which relies most on personal/family savings to fund start-ups. This is not the case, however in Japan.

Concerning the next indicator, Cultural and Social Norms, the *hapax* behavior of Japan is the most evident, since behind this metric are some of the cultural factors which hold back entrepreneurship initiative¹¹.

Moreover, regarding the indicator of R&D Transfer and, as already referred to in the previous epigraph, Japan reaches the highest position among countries, and again, it is not reasonable to think that this fair value of R&D dissemination might be in contradiction to the other poor indicators. On the contrary, this value for R&D confirms the others, since this R&D is chiefly developed and implemented in the larger companies, and then disseminated to SMEs. Nevertheless, China, the US, and Korea also come out very well regarding R&D, measured, not exclusively, by the number of International Patent Applications.

At the time of analyzing the entrepreneurship ecosystem, it is considered of the highest importance also to review its vibrancy, measured by indicators defined in Stangler and Bell-Masterson (2015), (Table 2). Among these indicators, there is a group referred to “Diversity and Immigrants,” which is the percentage of immigrants launching start-ups, and in Japan, this value is extraordinarily low. There are several reasons to explain this, from cultural to legal, but there is a fundamental fact affecting all of them that it has to be borne in mind. Japan is still a closed country with very few immigrants, really active on launching new ventures in other places such as the US, where “newcomers fund as much as 35% of start-ups on Semiconductors, and more than 30% on Computers/Communications” (The Economist, May 12th, 2009). The increased openness of the Japanese labor market to foreigners is widely agreed to be a necessary reform also included in *Abenomics* to reverse this situation, as well as other reforms related to promoting Entrepreneurship, which has been until now nearly non-existent. In this sense, “Prime Minister

Impact of Cultural Factors on Entrepreneurship

Shinzo Abe is Japan's first leader to treat entrepreneurs as something more than greedy hustlers" (The Economist, August, 31st, 2013). Mr. Abe's three-step plan to revive the economy, known as *Abenomics*, is designed to help start-ups as well as significant business. First came monetary loosening from the Bank of Japan, then a fiscal stimulus, and the third step, the most difficult, is a series of reforms to boost long-term growth rates, including radical deregulation in new special economic zones spread across the country. If this pledge is honored, many new opportunities could emerge for entrepreneurs in industries ranging from medical care to agriculture. The reforms also involve pressing banks to stop demanding onerous personal guarantees when entrepreneurs seek loans for their businesses. Furthermore, the outlook for creating new companies could begin to improve if Mr. Abe succeeds in leaning on the banks to stop demanding great debt guarantees, as is indeed happening. Now, many would-be entrepreneurs faced with the risk of losing their homes give up before they start. In the short term, the reform may make the capital a little scarcer as bank tread cautiously. Nevertheless, in the long run, it could also transform Japan's attitude to Entrepreneurship.

Finally, it is not possible nowadays to write about Entrepreneurship without referring to China's successful performance over last decade. There is general agreement about China's behavior from the time of openness in the 70s under Deng Xiaoping, along with the path to development and international relationships, in the sense that it plays the game with different rules regarding International Trade, Human Rights, Democracy standards, Environmental regulation, Corporate Laws and non-transparent Forex market. Nevertheless, its whole performance has been extraordinary, and so it has been with regard to Entrepreneurship, becoming a new promised land nowadays for entrepreneurs, especially in some new hot spots such as the area along the Pearl River, often known as the new Silicon Delta. Between 1980 and 2016, Shenzhen's GDP in real terms grew at an average annual rate of 22% and today stands at 2trn yuan. The city's Nanshan district, home to about 125 listed firms with a combined market value of nearly \$400bn, has a higher income per person than Hong Kong. Unlike Beijing, which has many top-flight universities, Shenzhen has only a handful of lackluster higher education institutions; but so many graduates from all over China flock to the city that they make up a more significant share of its population than do graduates in Beijing. Shenzhen spends over 4% of its GDP on research and development (R&D), double the mainland average; in Nanshan, the share is over 6%. Most of the money comes from private firms. Companies in Shenzhen file more international patents (which are mostly high quality, unlike many of the domestic Chinese ones) than those in France or Britain.

The official story attributes Shenzhen's success to brave party leaders and farsighted policies. Deng Xiaoping is lauded for liberalizing the region's economy, and later political leaders receive praise for investments in infrastructure that enabled rapid growth. That is an incomplete version of history. In fact, many of the advances seen since the city was opened up in 1980 came disruptively from below. For example, early reformers pushed ahead with unauthorized investment deals with non-mainland companies and retrospectively developed the legal framework needed to protect foreign firms. Repeatedly, grassroots innovators hit on better ways of doing things, even though, strictly speaking, they were not permitted. When their risk-taking proved successful, communist leaders typically took the credit. Therefore, the best way to study innovation in Shenzhen is to examine it through the eyes of its entrepreneurial firms. Indeed, the common perception that China is incapable of innovation needs re-examining, and in order to change this vision it is merely necessary to look at statistics of the Unicorns' deals in China, as well as at statistics of Chinese venture capital invested in new technology areas (The Economist, Sept. 23rd, 2017).

Impact of Cultural Factors on Entrepreneurship

CONCLUSION

It has been seen that the GEM Model is handy for carrying out a cross-country analysis of features of Entrepreneurial Ecosystems and the impact of cultural factors on them. In this analysis, it is most interesting to highlight the singularity of Japan, which follows a different pattern with regard to its neighboring countries and other leading developed countries. Moreover, in this paper evidence has been shown from the GEM Model of this singularity of Japan, and has proposed as reasons, a set of cultural factors highly integrated into Japanese history and traditions.

In this sense, the critical impact of some environmental factors on Entrepreneurship activity has been clearly evidenced. Concerning these, Cultural Factors are of the most interest, because they are specific to every community and may become essential boosters or brakes for Entrepreneurship activity. In this paper, an explanation has been given to the vast extent of what has been written about these cultural factors, especially at reaching conclusions from specific cases, (see Kneller, 2007, and Aoyama, 2009). However, any kind of cross-country analysis of these cultural factors has been much less well published, with some rare exceptions, (see Suzuki *et al.*, 2002, and Sagie *et al.*, 2003).

Furthermore, the aim of this paper is precise to fill up this gap, enhancing the Entrepreneurship body of knowledge with a cross-country analysis on the impact of cultural factors, using the model and data from GEM. The main reason to use the GEM framework is because it is widely regarded worldwide as a potent tool, collecting a comprehensive set of data about features of entrepreneurial attitudes and ecosystems, which gives data and metrics on the following six areas, getting information from experts from every country: Self- perceptions of entrepreneurs, Activity of entrepreneurship, Motivations, Impact, Social values and Ecosystem.

Research carried out and presented in this paper has focused on cultural factors among seven relevant countries, Western and Eastern, according to three criteria, setting up a kind of benchmark. Particular focus has been made on Japan, because of its own nature as an *hapax legomenon* country, which allows a better appreciation of the impact of these factors.

As is explained in GEM (2017: p. 13), it highlights “the diverse profile of entrepreneurship around the world, revealing areas that can be addressed through policy and practice.” Based on the findings of the Report, it is possible to make a number of broad, globally relevant recommendations. The recommendations recognize that a variety of stakeholders play a critical role in facilitating the creation of enabling entrepreneurial ecosystems – including policymakers, the private sector, educators, and researchers. Quadruple Helix stakeholders at National level (Academia, Business Sector, Government and Civil Society) play an essential role, and recommendations for this sector highlight the ways in which educational institutions can equip individuals with the skill sets to make use of entrepreneurial opportunities, as well as the importance of efficient IT infrastructures in reducing the cost of business, increasing market reach, improving access to information and allowing for innovation.

Moreover, the GEM’s conceptual framework (2017: p. 13) depicts the multifaceted features of entrepreneurship, recognizing the proactive, innovative and risk responsive behavior of individuals, always in interaction with the environment. The GEM survey was thereby conceptualized with regard to the interdependency between entrepreneurship and economic development. Its conceptual framework derives from the underlying assumption that national economic growth is the result of the personal capabilities of individuals to identify and seize opportunities and that this process is affected by environmental factors that influence individuals’ decisions to pursue entrepreneurial initiatives.

Impact of Cultural Factors on Entrepreneurship

Based on the GEM model, this paper has developed a cross-country analysis of GEM metrics onto its six areas, showing some evidence that could seem paradoxical. In more detail, it is seen that the US leads in most of the indicators, and China has become an emerging star, but it is not easy to understand some of Japan's indicators unless some non-explicit factors are taken into consideration. Furthermore, what is behind of such low rates in Japan regarding Self-Perceptions and Social Values towards Entrepreneurship? What is it that is different in Japan with regard to others, which impacts so dramatically on these indicators, pointing out an individual path regarding entrepreneurship compared to the rest of the most developed countries, and consequently leading to a very different ecosystem? An attempt to answer the above questions is developed in the last epigraph, which explains why metrics in Japan show such low values, proposing answers based on Japan's own geographic, historical and mind-set features.

Moreover, reflexion is given on China, new emerging star, not just in East Asia's arena, but world-wide, also setting an individual path, neither capitalist nor full communist, neither Western nor really Confucian-Eastern.

To conclude, Entrepreneurship is a definitive source of development in a society. However, there is not a unique path to deploy, neither an Entrepreneurship Ecosystem nor a model of Entrepreneurship, as Japan's specific status as *hapax* shows us. Concerning the latter, this paper has discussed the critical impact of the cultural framework as a whole. Furthermore, this impact apparently has to be taken into account at the time of designing of the Entrepreneurship Strategies by policymakers, because any strategy and further measures adopted will have significantly different results, according to the context of the Entrepreneurial Ecosystem, profoundly influenced by the cultural framework. Forthcoming research should focus on these relationships and impacts¹².

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ENDNOTES

This term is borrowed from Alex Kerr's famous book *Lost Japan* (Kerr, 2015: p. 86), in which he calls Japan as a *hapax legomenon*, that is, "Japan would be like a word that occurs only once within a context, either in the written record of an entire language, in the works of an author or in a single text".

² The GEM Report calculates this indicator as a percentage of the population between the ages of 18 and 64 years who see excellent opportunities to start a firm in the area where they live

³ The GEM Report calculates this indicator as a percentage of the population between the ages of 18 and 64 years who believe they have the required skills and knowledge to start a business

⁴ The GEM Report calculates this indicator as a percentage of the population aged 18 – 64 years perceiving good opportunities who indicate that fear of failure would prevent them from setting up a business

⁵ The GEM Report calculates this indicator as a percentage of the population aged 18 – 64 years (individuals involved in any stage of entrepreneurial activity excluded) who are latent entrepreneurs and who intend to start a business within three years

⁶ The GEM Report calculates this indicator as a percentage of the adult population between the ages of 18 and 64 years who are currently an owner-manager of an established business, i.e., owning and managing a running company that has paid salaries, wages, or any other payments to the owners for more than 42 months

⁷ The GEM Report calculates this indicator as a percentage of the adult population aged between 18 and 64 years who as employees have been involved in entrepreneurial activities such as developing or launching new goods or services or setting up a new business unit, a new establishment or subsidiary

⁸ The GEM Report calculates this set of indicators as an average value of experts' perceptions, using a Likert scale of 1 (highly insufficient) to 9 (highly sufficient), for the nine entrepreneurial framework components.

⁹ In this text, it is referred to Japanese words using *Romanji* expression, that is, words written in Latin alphabet as they sound in Japanese.

¹⁰ However, as anyone can experiment when working in Japan, *Wa* does not prevent to drink by evening after work.

¹¹ As already explained. It constitutes the main idea of this book chapter.

Impact of Cultural Factors on Entrepreneurship

- ¹² In this sense, it is currently being carried out by the author of this paper research on Spanish Entrepreneurship Ecosystem and its cultural factors, which will be published in next September 2018. In this book, it will be widely developed the impact of these factors on management models, showing business cases of Japanese companies in Spain.

Impact of Cultural Factors on Entrepreneurship**APPENDIX***Table 1. GEM Model Data Master (2016)*

	GEM¹	Japan¹	China	Korea	USA	Germany	UK	Spain
Self-perceptions								
Perceived OpportunitiesRate		7,30	37,30	35,30	57,30	37,60	42,30	25,6
Perceived CapabilitiesRate		12,20	29,80	45,10	55,00	37,40	48,00	46,7
Fear of Failure Rate		54,50	49,10	31,50	33,30	41,00	35,20	38,9
Entrepreneurial Intentions Rate		2,50	21,30	27,50	11,70	6,20	9,10	5,1
Activity								
Total early-stage Entrepreneurial Activity (TEA) Rate		3,80	10,30	6,70	12,60	4,60	8,80	5,2
Established Business Ownership Rate		7,20	7,50	6,60	9,20	7,00	6,10	6,2
Entrepreneurial Employee Activity Rate		1,10	1,20	2,30	7,00	5,10	7,00	2,7
Motivations								
Motivational Index		3,60	1,50	2,70	6,40	2,70	3,80	1,9
Impact								
High Job Creation Expectation Rate		27,10	26,70	21,60	34,20	21,50	28,40	9,7
Innovation Rate		25,30	28,80	32,80	37,10	24,70	33,00	23,7
Business Services Sector Rate		25,00	12,50	17,20	33,60	25,00	34,70	25,1
Societal values								
High Status of Successful Entrepreneurs Rate		55,80	77,80	60,20	74,40	78,90	77,20	50,7
Entrepreneurship as a Good Career Choice Rate		31,00	70,30	45,30	63,70	51,80	58,80	53,7
Entrepreneurial Ecosystem								
Entrepreneurial Finance	2,51	2,51	3,32	2,45	3,11	2,94	2,67	2,37
Cultural and social norms	2,83	2,35	3,47	2,97	4,07	2,59	2,83	2,71
Physical Infrastructure	3,75	4,08	4,33	3,97	4,11	3,76	3,61	3,48
Internal market burdens or entry regulation	2,49	2,49	2,66	2,30	2,85	3,08	3,05	2,83
Internal market dynamics	3,04	3,79	4,24	4,24	3,03	3,13	2,45	2,73
Commercial and legal infrastructure	2,96	2,12	2,58	2,60	3,30	3,34	2,87	3,25
R&D Transfer	2,31	2,70	2,49	2,54	2,46	2,49	2,27	2,69
Entrepreneurial education at post-school stage	2,74	2,58	3,17	2,42	2,78	2,59	2,50	2,15
Entrepreneurial education at school stage	1,94	1,48	2,04	1,99	1,92	1,70	1,77	1,92
Government Entrepreneurship programs	2,58	2,47	2,66	3,21	2,75	3,43	2,39	3,09
Government policies: taxes and bureaucracy	2,38	2,30	2,89	2,79	2,50	2,48	2,78	2
Government policies: support and relevance	2,55	3,05	3,14	3,56	2,46	2,37	2,22	1,9

¹Data for GEM average and Japan from 2015

Source: Own elaboration with GEM data

Impact of Cultural Factors on Entrepreneurship*Table 2. Model for measuring entrepreneurial ecosystem vibrancy*

Density	New and young firms per 1000 people
	The share of employment in new and young firms
	Sector density, especially high tech
Fluidity	Population flux
	Labor market reallocation
	High-growth firms
Connectivity	Program connectivity
	Spin-off rate
	Dealmaker networks
Diversity	Multiple economic specializations
	Mobility
	Immigrants

Source: Stangler and Bell-Masterson (2015)

Impact of Cultural Factors on Entrepreneurship*Table 3. Cultural factors of entrepreneurship attitudes in Japan*

Historic Period	Japanese Circumstances	Cultural Factors	Impact on Entrepreneurship Indicators
Kofun, Nara, Heian, Kamakura and Muromachi (c. 600-1603)	Insularity		
	Confucianism	<i>Sempai-Kohai</i> : seniority rules in Japanese relations	
	Shinto	<i>Itoko Dori</i> : Adopting elements of foreign culture <i>Wa</i> : Harmony, the foundation of Japanese behavior <i>Shu-Shin Koyo</i> : Lifetime employment	Fear of failure Lower entrepreneurial intentions
	Buddhism (Zen)	<i>Chinmoku</i> : silences in Japanese communication The <i>Do</i> spirit of Japan <i>Haragei</i> : an implicit way of communicating in Japan <i>Wabi-Sabi</i> : simplicity and elegance	
	Feudal times	<i>Giri</i> : subordinate feeling on towards their superiors <i>Kenkyo</i> : Japanese virtue of modesty <i>Nenkajoretsu</i> : the merit of years	Lower entrepreneurial employee activity The worse sense of entrepreneurship as a good career choice
	Agro-society	<i>Nemawashi</i> : laying the groundwork	
	Chinese Influence	<i>Kaizen</i> : Continuous improvement	
Edo-Tokugawa Shogunate (1603-1868)	Baku-Han System	<i>Sabisu</i> : Japanese version of service	
	Closure of the country		
	Bureaucratization and the changing role of the samurai	<i>Bushido</i> : the way of the warrior	
	Monetization and market economy		
	Family system	<i>Ie</i> System <i>Ikuji</i> : childrearing practices <i>Uchi to soto</i> : dual meanings in human relations	Less perceived opportunities
Meiji (1868-1912)	Restoration	<i>Gambari</i> : Japanese patience and determination	
	Foreign Policy		
	Economic policies and the beginnings of Industrialization	<i>Gyosei Shido</i> : Government guidance <i>Shakai no Kurabu</i> : The company as a social club	Less perceived capabilities
	The Constitution and the ideology of Kokutai		
	Education System	<i>Risshin Shusse</i> : success orientation	
	Meiji Society		
Showa (1926-1989)	War in China		
	The Pacific War		
	The Occupation	<i>Shu-Shin Koyo</i> : Lifetime employment	Less entrepreneurial intentions

Source: Own Elaboration

Chapter 21

University–Based Entrepreneurial Ecosystems: Evidence From Technology Transfer Policies and Infrastructure

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ABSTRACT

Embedding entrepreneurship into the university mission and culture in developing countries is key to national economic growth and social development. Therefore, having a better understanding of university-based entrepreneurial ecosystems considered as benchmark cases is a good start to introduce to the topic. For such reason, the objective of this chapter is to describe the situation of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara, Mexico, its leading actors and roles, and how they have been relevant to promote entrepreneurial initiatives among higher education students, alumni, and faculty members. Along with the case description and based on a previous study, the authors present a comparison of Tecnológico de Monterrey case with four universities' entrepreneurial ecosystems. Findings suggest that the strategy followed to promote university-based entrepreneurship depends on the internal capabilities of each institution and the capacity of the region to support it.

INTRODUCTION

Universities have a crucial role in the regional entrepreneurial environment. Traditionally, universities have focused on forming students but also in research that derives in the creation of knowledge that can be used to develop new technological products and services. Therefore, universities are prompt to become seedlings of new companies (Edmondson & McManus, 2007). Etzkowitz (2001) suggest that

DOI: 10.4018/978-1-5225-5837-8.ch021

University-Based Entrepreneurial Ecosystems

there is a second academic revolution: the first one added research as a mandate next to the education of students, today entrepreneurship has become the third mandate of universities.

In this sense, universities have created new approaches to teach and to encourage entrepreneurship among their students, faculty, and staff. According to Mandel et al. (2015), regardless of the way in which experiential entrepreneurship education is delivered, the center of these programs is the student and its interaction with the complexity of entrepreneurial teams. As such, students face different situations in which they learn to deal with uncertainty and real entrepreneurial scenarios. Consequently, students not only develop disciplinary capabilities like designing strategy, or identifying entrepreneurial opportunities, but individual competencies such as critical thinking and decision making in complex environments, complemented with cognitive capabilities (Saiz-Alvarez, Cuervo-Arango, & Coduras, 2013).

In this chapter, our objective is to contribute to the discussion of what are the initiatives that have proved to be successful during new venture formation. We do so by exploring the case of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara, located in an emerging country, its primary purpose, actors and strategy, as well as how it integrates the academic and practical approaches, in order to promote students, alumni, faculty and staff participation in the process of creating a new business. In the opinion of the authors, the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara is thriving in terms of its impact on the community (internal and external). In addition, this chapter presents a comparison between five universities in terms of their technology transfer strategy and its infrastructure available to promote entrepreneurship.

The chapter goes from the general to the particular. It describes first the definition of an entrepreneurial ecosystem and two approaches that emphasize the importance of the context. Later on, the authors introduce the universities as critical actors in promoting entrepreneurship and describe how such institutions have adopted the entrepreneurial approach based on two models. Afterward, the chapter presents a case and explains thoroughly the main features of Tecnológico de Monterrey in Guadalajara, as well as the actors and areas that bring to life the entrepreneurial ecosystem. Then, the authors present the results of a comparison of five universities in terms of their technology transfer strategy and the infrastructure dedicated to supporting entrepreneurship. Finally, in the conclusions section, authors make some recommendations to people leading universities.

ENTREPRENEURIAL ECOSYSTEMS

Some authors consider the concept of entrepreneurial ecosystems as an emerging approach (Napier & Hansen, 2011; Malecki, 2011; Kantis & Federico, 2012). Moore (1993), who claimed that businesses do not evolve in a ‘vacuum,’ and noted the relationally embedded nature of how firms interact, initially coined the term ecosystem with suppliers, customers, and financiers. Moore was one of the pioneers setting the basis for research emphasizing the businesses context. In this line of thought, Rosted (2012) recently suggested that in dynamic ecosystems new firms have better opportunities to grow and create employment, compared with firms established in other locations.

In this chapter, the authors agree with Mason and Brown (2014) and their entrepreneurial ecosystem definition as a “set of interconnected entrepreneurial actors, entrepreneurial organizations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition)

University-Based Entrepreneurial Ecosystems

which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment”. In Mason and Brown’s definition, there is a balance between the actors, their actions, and interactions, but also how the society’s mindset and culture influence on such actors’ decisions. Due to the importance of the topic, in terms of the economic and social impact that an entrepreneurial ecosystem can generate locally and regionally, new models have emerged.

Isenberg (2011) developed an approach in which six domains within entrepreneurial systems were identified: a conducive culture, enabling policies and leadership, availability of appropriate finance, quality human capital, venture friendly markets for products, and a range of institutional supports. Another approach is the one proposed by the Global Entrepreneurship Monitor (GEM), which emphasizes that the entrepreneurship process is a complicated endeavor carried out by people living in specific cultural and social conditions. Therefore, particularly environmental factors (social, political and economic) are influential in creating unique business and entrepreneurial contexts, contributing to individuals’ willingness to engage in entrepreneurial activity. As a result, the entrepreneurial framework conditions (EFCs), assessed by GEM, consist of nine essential factors to promote entrepreneurship: financing, government policies, taxes and bureaucracy, government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, domestic market burdens, access to physical and services support, and social and cultural norms (GEM Global Report, 2016/2017).

Both Isenberg and GEM approaches, are commonly used as a reference to better understand the actors and their interrelations in local or regional entrepreneurial ecosystems. However, both models also can be used as a point of reference to recognize the efforts that some universities have placed in developing their own internal ecosystems, aiming to promote and shape entrepreneurship within the communities and regions where they operate. In the next section, the university-based entrepreneurship ecosystem is described.

UNIVERSITY-BASED ENTREPRENEURIAL ECOSYSTEMS

University-based entrepreneurship has been around since the 1980’s, although its early stages have focused more on the technology transfer process through patents and licensing (Siegel & Wright, 2015). Over the years, it has been evolving, as research and economic emergence has increased. Consequently, academic foundations have proven to be successful regarding the process of consolidating such patents and licensing into formal and dynamic corporations. Today, universities invest large amounts of resources in analyzing and improving their entrepreneurial ecosystems, which Jansen van de Zande, Brinkkemper, Stam, and Varma (2015) define as “the organizations and climate that support students to build a successful enterprise.”

The growth rate of entrepreneurial activity has increased rapidly, to the benefit of economic development, especially in emerging economies. Nonetheless, the theory that explains how this phenomenon works is still in its infancy. Nowadays, more universities are incorporating entrepreneurship programs (Jansen et al., 2015; Siegel & Wright, 2015). Entrepreneurial education initiatives can employ the relatively traditional small business management approach as well as a more recent high-growth venture creation approach (Rideout & Gray, 2013). In terms of pedagogy, the conventional method includes lectures and case studies within the classroom. However, it appears to be a growing consensus that high-growth venture creation education must have an andragogical teaching and experiential learning via

University-Based Entrepreneurial Ecosystems

games, simulations, or even actual venture creation, which may improve learning outcomes (Forest and Peterson 2006, Neck and Greene 2011). In sum, some programs focus exclusively on the forming stages of young entrepreneurs through traditional classes, and simple startup creation challenges. However, other applications establish a network of actors with specific and clear roles; whose shared objective is to form, grow, and strengthen entrepreneurs of different levels and at various stages.

Hence, Universities have also shifted their approach to entrepreneurship education. According to Siegel and Wright (2015), universities have evolved from a traditional perspective that focused merely on the commercialization of ideas and research through spin-offs, licensing and patents. In this sense, the role universities played was that of facilitating the transfer of technology and knowledge with an agency and resource-based focus. As some cases proved to be successful, such as Stanford and MIT, other universities tried to follow by adopting their models. However, the result was not always as successful, because of the interaction of different variables, including the internal culture of each university, the entrepreneurial intention from students, interest, and participation of third-party organizations (i.e., industry and government), among others.

Hence, some approaches have emerged in order to have a better understanding of the critical elements influencing the success of a University-based entrepreneurial ecosystem. One of such procedures was proposed by Siegel and Wright (2015), which includes: (1) the creation of incubators/accelerators and science/technology/research parks, to support technology transfer and entrepreneurship (2) substantial growth in the number of entrepreneurship academic courses and programs on campus, (3) the establishment and growth of entrepreneurship centers, (4) a rise in the number of “surrogate” entrepreneurs on campus to stimulate commercialization and start-up creation, and (5) a rapid increase in alumni support of various aspects of this entrepreneurial ecosystem, including alumni commercialization funds and student business plan competitions.

As stated by Mandel and Noyes (2015) in their study of the top 25 undergraduate schools of entrepreneurship in the USA, the most prominent universities in terms of entrepreneurial education are located in environments enabling innovation and entrepreneurship. But also they encourage students to create new ventures with a technological component; provide students with mentors that are or have been entrepreneurs (relational capital); accompany students in the protection process of intellectual property; create conducive spaces for funding; and give the students open and innovative areas, as well as with equipment for prototyping (e.g. makerspaces with 3D printers).

A similar study by Graham (2014), which was also appointed by MIT Skoltech Initiative, found that the number of universities within challenging environments that are becoming leaders in entrepreneurship and innovation programs is increasing. The author denominates such universities as being part of an *emerging leaders group or ELG*. Graham’s two-phase study is case based, and includes a series of 190 interviews including entrepreneurship and innovation leaders and technology transfer scholars. A total of 200 universities around the globe were recognized nationally and globally. Additionally, such universities followed one of two paths towards development.

Model A: *‘bottom-up’ and community-led, catalyzed by students, alumni and entrepreneurs in the regional economy.* Model A focuses on driving regional economic growth, including creating jobs, stimulating research and finding innovative avenues in which universities develop an internal ecosystem of entrepreneurial and innovation activity. Actors of such ecosystems include current students, as well as alumni, community entrepreneurs, and third-party investors. Intellectual property, spinoffs, and startups are essential, only to the extent that they serve a larger purpose of growing regional economy.

University-Based Entrepreneurial Ecosystems

Model B: *‘top-down’ and university-led, working through established university structures.* In the case of Model B, the focus is more on the university’s desire to generate additional income through research. Thus, the office of technology transfer usually plays a more significant role, because it drives the entrepreneurship initiatives. The main advantage of this model is that it promotes a robust institutionalization of research practice and approach. Nonetheless, flexibility and adaptability can be lost in the way, which can cause that the university focuses solely on technology transfer, rather than taking a more integrative approach that obviates both economic and societal challenges. As a result, other prominent actors of the ecosystem are alienated.

Regarding the internal capabilities that universities should develop in order to create a sustainable entrepreneurial ecosystem, a study done in the University of Texas (UT) suggests that it is essential to have at least six internal capabilities (Hallam, Novick, Gilbert, Frankwick, & Zanella, 2017). First, faculty buy-in and campus capacity for commercialization, which is related to the individual’s propensity to engage in innovative, proactive and risk-taking behavior to start new ventures or commercialize technology (Miller, 1983). Second, institutional culture, especially where hierarchy can impede entrepreneurship (Fogel, 2006) due to the mismatch between both approaches. Third, time commitment from university faculty to be involved in the commercialization process and work with business experts. Fourth, an office of technology commercialization (OTCs) and its interaction with the different actors in the entrepreneurial ecosystem in order to foster the process from research discovery to start-up, licensing, and incubation, while informing the re-write of university policies that encourage the process. Fifth, to develop relations with venture capital firms and other incubator and accelerator outlets as part of the project selection and review process. Sixth, critical mass in the number of innovative startups looking for funding in order to make it attractive in the region (Hallam et al., 2017).

So far, this chapter has described the main elements of a university-based entrepreneurial ecosystem, and some approaches followed by different universities as well as the organizational capabilities needed to support entrepreneurship. In the following section, the case of Tecnológico de Monterrey in Guadalajara is presented.

CASE DEVELOPMENT

Tecnológico de Monterrey: Key Features

Tecnológico de Monterrey was founded in 1943 in Monterrey (Mexico) and is a comprehensive, multi-campus and non-profit private university that offers academic programs in high school, undergraduate and graduate levels. In order to contextualize the size and importance of the institution in the Mexican territory, it must be said that in 2016, 89,641 students were registered in the 31 campuses. From those, 26,114 were at high school, 55,565 attended to one of the 54 undergraduate academic programs, and 7,962 were affiliated to one of the 43 programs at the graduate level. In addition, the Institution accounts for numerous national and international accreditations that position it among the top 200 universities around the globe, such as SACCS (Southern Association of Colleges and Schools), CACEI (Council for Accreditation of Engineering Education), ABET (Accreditation Board for Engineering and Technology), CACECA (Accreditation Council on the Teaching of Accounting and Administration), AACSB, AMBA, EQUIS, among others.

University-Based Entrepreneurial Ecosystems

As it was previously stated, the authors selected one of the 31 campuses in order to study its entrepreneurial ecosystem. Founded in 1991, Guadalajara Campus is the third biggest with more than 8,000 students at different academic levels. The Campus is located in the central region of Jalisco in the Western-Pacific area of Mexico. The contest of study is exciting because Guadalajara Campus has earned national and international prestige due to the quality of its academic programs and facilities.

Tecnológico de Monterrey: Entrepreneurship Approach

Towards the end of the 1970s, Tecnológico de Monterrey wanted its graduates to have an entrepreneurial attitude and not only fill positions that had already been established. To do so, it needed to provide students with specialized training that would not only introduce them to this concept but would equip them with the tools necessary to make it a reality. As a result, the University inaugurated the Businessman Program in 1978 with a small group of professors and businessmen who acted as a committee to guide a group of students in starting a company. This program then became the “Entrepreneurship Program,” which later on led to the establishment of several support projects, including business incubators and accelerators, which continue the Tecnológico de Monterrey community’s entrepreneurial spirit to this day¹.

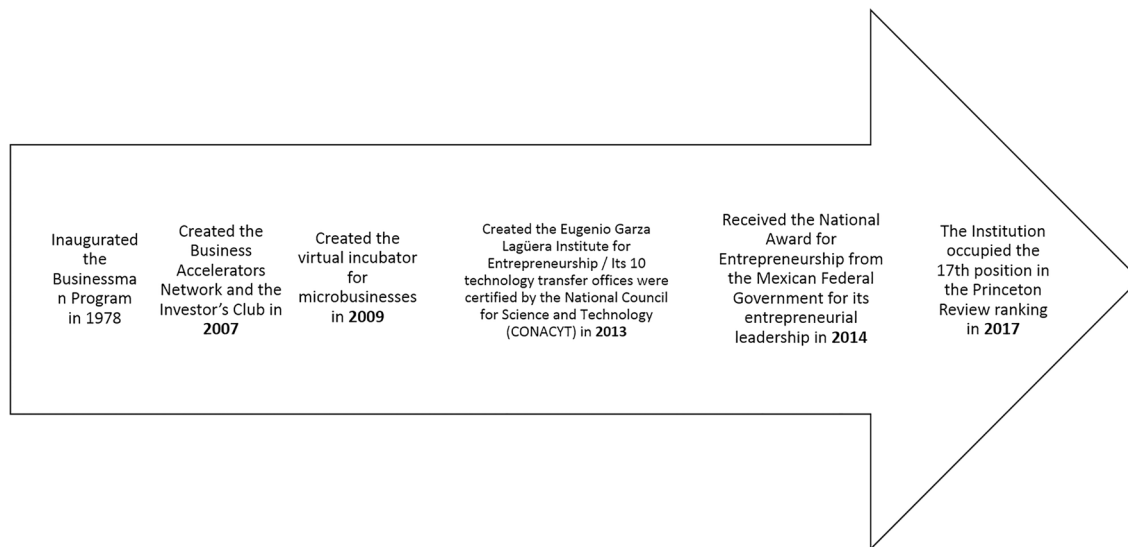
Related to entrepreneurship, in the past 10 years, Tecnológico de Monterrey has reached a number of achievements. The Institution inaugurated the Center for Innovation and Technology Transfer (for the development of technology-based companies) in 2006; created the Business Accelerators Network and the Investor’s Club in 2007; launched the Enlace E+E Mentor Network in 2008, where senior executives and successful business owners become mentors of gazelle companies; created the virtual incubator for microbusinesses in 2009; reached a total of 16 technological parks established in 2013, and created the Eugenio Garza Lagüera Institute for Entrepreneurship in 2013. Its 10 technology transfer offices were certified by the National Council for Science and Technology (CONACYT) in 2013 and received the National Award for Entrepreneurship from the Mexican Federal Government for its entrepreneurial leadership in 2014². All these achievements have contributed to the prestige and recognition of the Institution. In fact, Tecnológico de Monterrey is the only Latin American university included in “The Princeton Review: Top Schools for Entrepreneurship Ranking 2017” which is published by The Princeton Review and the Entrepreneur Magazine. The Institution occupied the 17th position in 2017 and shared the top 20 with universities like Babson College and Syracuse University³. Figure 1 presents the chronological order of the first Institution’s entrepreneurship achievements.

Regarding the Campus Guadalajara, the Eugenio Garza Lagüera Entrepreneurship Institute (IEEGL from its name in Spanish) has the objective to detonate high-impact learning challenging experiences among the students, through a number of initiatives that develop and strengthen their competencies. Such competencies are related to opportunity identification, resilience, uncertainty management, learning through failure, relational capital development, among others.

The university-based entrepreneurial ecosystem at Campus Guadalajara is unique in the region and is integrated by recognized entities supporting entrepreneurial initiatives, such as a Technology transfer office, an incubator, an academic program focused on creating and developing businesses with more than 250 students, and academic department with more than 40 professors (full-time and part-time) specialized in various entrepreneurial topics, as well as a department in charge of all the social entrepreneurship and innovation projects. Figure 2 presents a graphic representation of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara.

University-Based Entrepreneurial Ecosystems

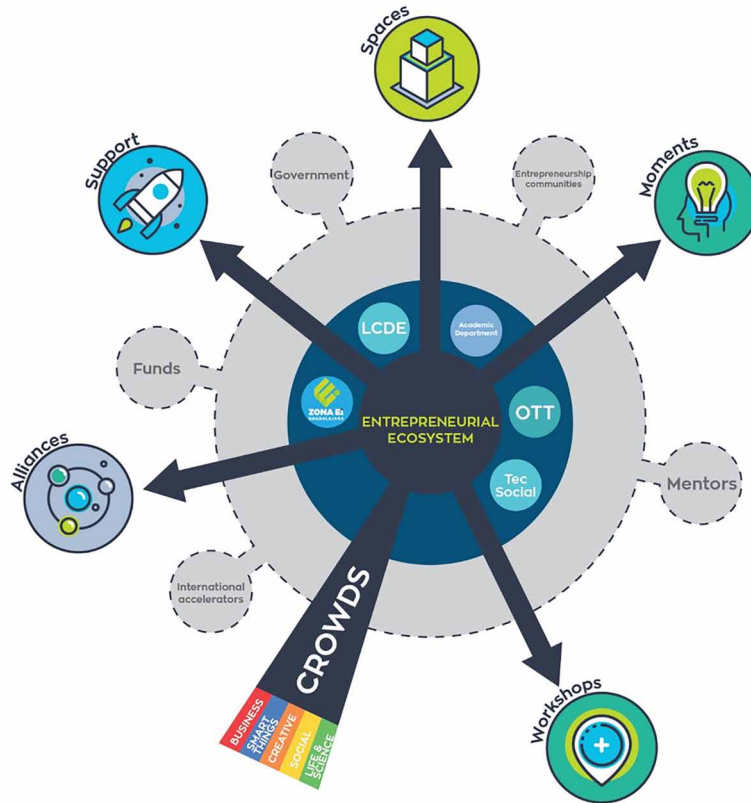
Figure 1. The chronological order of the primary Institutional entrepreneurship achievements



In the following paragraphs, the leading actors of the entrepreneurial ecosystem and their roles in the development of entrepreneurial initiatives among students are thoroughly described.

- Technology Transfer Office:** This area coordinates the efforts to support different projects regarding intellectual property (e.g., patents, brands, copyrights), and the processing of applications towards requesting different types of government funding programs. From 2010 and until today (August 2017), essential results from this office include 14 patent applications and 2 of them granted; 5 utility models applications; 1 industrial design granted; 2 registered software, and; one copyright, twelve brands, and 4 patent application filed under the PCT. These outcomes are the result of numerous advising hours in which entrepreneurs receive detailed information about the legal implications, in terms of obligations and rights, related to the registration of their intellectual property. Regarding government funding, in 2015 the office obtained more than USD 130,000 (2,389,441 MXN) to support two projects on intellectual property, three on app development, eight on prototype development, one for invention strengthening (a batch of five inventions), and three that focused on the dissemination of science, innovation and technology. Overall, the Consejo Estatal de Ciencia y Tecnología del Estado de Jalisco (COECYTJAL), which is the governmental institution that promotes science and technology in the region, was the organization who issued the majority of the funds received during this year.
- Innovative Entrepreneurship Zone (Zone Ei):** This area integrates the combined efforts of the incubator, the E+E linking program, the innovation center, the funding and continuous education, as well as the organization of events to increase entrepreneurship awareness, together in the space of the Innovative Entrepreneurship Park. The objective of the Ei Zone is to consolidate the entrepreneurial ecosystem, as well as to become the center of internal and external bridging to enhance the Park, through space, moments, programs and alliances that help to detonate and consolidate entrepreneurship and innovative initiatives among the entire campus and the community. In sum,

Figure 2. Graphic representation of the entrepreneurial ecosystem in Campus Guadalajara
Source: Provided by the leader of Zona Ei in Guadalajara's entrepreneurial ecosystem.



- Innovative Entrepreneurship Park:** This area provides physical space for technology companies (i.e., five companies in 2015), the Office of Technology Transfer, the Funding, and Continuous Education area, the Academic Program of business creation and development, the Innovation Center, the Social Hub⁴, as well as the Incubator and Accelerator in Campus Guadalajara. Additionally, the park also includes the innovation gym, several rooms where courses, workshops, and seminars take place, all of them focused on shaping future entrepreneurs and strengthening the competencies and skills of executive professionals and current entrepreneurs. Other types of events that encourage networking among students and principal actors of the community and the entrepreneurship ecosystem also take place in the park. Tuesday Launch is such an example; during this event, participants encounter and experience different ideas, which they may take from the projects that regional entrepreneurs present to an audience of students, professors, and administrative staff. In coordination with Zone Ei, other types of events have also taken place. Such activities include Crowded, Hackathon ENIGMA Facebook, Entrepreneurship Bootcamp Posible, among others. It is important to highlight that from January 2015 to March 2016; the park has impacted

University-Based Entrepreneurial Ecosystems

at least 1,400 entrepreneurs, which include both students of Tecnológico de Monterrey as well as members of the external community.

- **Incubator:** The incubator focuses on dressing and empowering early business ideas of students, professors, alumni, and entrepreneurs of the external ecosystem linked to Tecnológico de Monterrey in Guadalajara. Its main differentiator from other incubators in the region is the robust group of more than 50 expert advisers in business topics such as business model, taxes, finance, digital communication, marketing, publicity, operations, among others. Currently, the incubator manages three highly recognized programs: Yei, TecLean and Tec Launch pad. As soon as TecLean started, the incubator has been able to help around 109 companies, of which 56 are still productive, which results in a company survival rate of 51%. Additionally, 27% of the startups received at least one line of funding in their early stages. Some of the most successful cases include PITZ which have received around 330,000 USD; Pulqueza with 135,000 USD; AGRON Solutions with 110,000 USD; Beer Lab, which has received investment for USD 150,000; Technology for the Community (Tecnologías para la Comunidad in Spanish) with USD 55,000; and ECGlove with 30,000 USD, among many others.
- **Enlace E+E Program:** This program consists of a support network and communication to promote the entrepreneurship culture, which encourages the growth of small and medium-size companies of high value. Overall, these companies are characterized by their innovative practices, the potential for growth and entrepreneurship leadership. Well-consolidated entrepreneurs in the region, who have unique expertise in their respective economic sectors, and who selflessly share their knowledge, social capital, and time, to support other entrepreneurs and their projects, integrate the network. All companies or entrepreneurs who wish to participate in the system must go through an exhaustive selection process that evaluates their trajectory, potential, and affinity to the objectives of the system. Additional requirements include more than two years of operation, yearly sales of more than USD 100,000, and a high value, innovative and scalable proposal. The richness and value of the program reside in the openness and willingness of those involved. As of today (august 2017), Enlace E+E in Guadalajara consists of 57 mentors, has supported 18 projects successfully, where 8 of those are still active. Regarding the 8 companies still active, they report to have an annual income of 2.5 million USD and have 27 employees. A company that apparently portrays the profile of companies supported by the program is Cyberpuerta, which is currently reporting sales of more than 5.5 million USD per year.
- **Innovation Center:** This center offers training programs for executives, and business consulting to develop innovative programs for products, services, processes and business models⁵. The center also provides the Innovation Certificate, which is part of several academic programs in Tecnológico de Monterrey. The objective of this certificate is to prepare students to be able to develop, implement, and manage sustainable innovation strategies in high-value companies. In 2015, the center trained more than 60 executives of Continental, as well as 30 executives of other companies and industries. Since its inception, the center has contributed to the professional development of more than 130 students. The Certificate consists of six academic courses over a period of one year and includes participating in the implementation of innovative tools in regionally recognized companies, such as Donari, Lacta, Continental, Ooyala, Agrana, Telemedicina de Mexico, Hospital Felman, Hospital Paseo de la Victoria, among others.
- **Funding and Continuous Education:** This area works on strategic projects that connect the private sector with the innovative entrepreneurship ecosystem of Campus Guadalajara, through

University-Based Entrepreneurial Ecosystems

the development of micro, small and medium companies. The main activities include providing information, training, and high-end assessments to capitalize diverse business opportunities.

The area of extension and funding offers workshops and seminars on strategy with the aim of fostering entrepreneurial activity in the region. Some examples include Digital Marketing for entrepreneurs, Social Media, Finance for Entrepreneurs, and Program for entrepreneurial families, among others. Additionally, the area participates in the creation of joint projects with other strategic organizations in the region, such as Tec Funding Program, United States Consulate, Pacific Airport Group (Fundación Grupo Aeroportuario del Pacífico), Cuervo Foundation, MEGAVET, among others. All of these organizations have the objective of influencing the entrepreneurial activity of the region through forming abilities regarding business and entrepreneurship.

Finally, this area also offers consulting services specially customized for small and medium-size businesses. The portfolio of clients includes companies like Kasto Group, CECYTEJ, CINASI, RDN Muebles, Multiservicios Molino Central, among others. Together with consulting, this area also offers a Program of Accelerated Growth, which aims at increasing sales of participating companies in at least 20% through the redesign of their business model, processes, as well as a higher level of cost efficiency. All of these thanks to the collaboration of 52 consultants, which are experts in different business areas.

With the results obtained from this area in 2015, 155 entrepreneurs were benefited under the mode of Sponsorship through the Tec Funding program and twelve projects related to successful business bridging. In addition, the office created the Executive Program INVESCAP, with the bridging activities of Tec Funding Program, AMEXCAP, Fondo de Fondos, and EGADE Business School as a basis. Such program counts with 30 participants in its first edition and aims at forming experts in funding management of private capital to foster financial support for early entrepreneurs within the region. Regarding training, more than 100 entrepreneurs have been participating in 2016 in the different programs that the entrepreneurial ecosystem offers.

- **Academic program:** As part of the Innovative Entrepreneurship Ecosystem, Tecnológico de Monterrey launched a Bachelor's in Business Creation and Development degree (LCDE from its name in Spanish). The objective of this academic program is to form entrepreneurs who are ethical, innovative leaders, with an international vision, and socially responsible. The program was opened in 2006 and has had six generations ever since, and approximately 150 students who successfully obtained their degrees, and who have at least one entrepreneurship project. The program takes five years for completion.

As a requisite, the said projects must be sufficiently mature to become sustainable and offer high value. A key differentiator of the program is the incubation stage. This stage consists of five mandatory academic courses, which focus 100% on developing each student's entrepreneurship project. Students also participate in extra academic challenges, which complementary build their competencies and abilities that distinguish them as entrepreneurs. Students' efforts have resulted in the benefit of more than twelve Social Entrepreneurship institutions. Currently (august 2017), this academic program has a population of 230 students, with 83 students undergoing the incubation stage. Because of the robustness and focus of the program, several students and alumni projects have resulted successfully. Some examples include Safety Depot, Tecnologías para la Comunidad, ITS Aplicaciones, Sabius, Capesso, among others. Additionally, since the summer of 2015, the growth of some startups has been pushed with the accelerator

University-Based Entrepreneurial Ecosystems

program that takes place in Silicon Valley, namely Foynt, DOGSI, Moonki, and Donaji. This program called, summer in Silicon Valley, and has the objective of strengthening students companies to gain a global vision and to connect with partners, clients, investors, at a local and international level. Until August 2017, the achievements of the program include 34 startups from which 14 have obtained funding that adds up to a total of \$500,000 USD.

- **Academic department:** This department integrates a team of nearly 40 professors (full-time and part-time) that attend to approximately 950 students each year, through curricular and optional courses related to innovation and entrepreneurship that are registered under more than 24 undergraduate programs on the campus. Out of the total number of professors, 70% are also entrepreneurs and/or business owners. Additionally, this department also manages all resources necessary for the professional development of professors, as well as the Certificate of Family Business⁶ offered for students. Finally, this area is also responsible for the design of course content, Visiting Academic Leaders, Semestre i and Semana i activities, as well as academic research, all on the topic of entrepreneurship. Regarding semestre i, it is a program that consists of full immersion of students during an academic term in which they work full-time on their startups. In 2016, there were a total of 41 students and 15 professors and mentors from the industry, who together boosted 11 startups with a total of \$100,000 USD in funding.
- **Tec Social:** Social Tec is an area that inspires and encourages professors and students to be sensible and critical to problems in their community, with the objective to forming them as change agents that generate transforming proposals that provide value to both the society and the planet. To this end, this area offers space for participation, as well as university and citizenship formation to improve quality of life of the community and to strengthen the human sense. All of this is achieved with the strategic alliance between the innovative entrepreneurship ecosystem in campus Guadalajara, and principal actors such as Ashoka U Changemaker Campus.
- **Social incubator and Prepanet program:** Social Tec includes three social incubators located in strategic zones of ZMG, where it offers coursework on computer skills, English as a second language, domestic technologies, personal development, entrepreneurship skills development, as well as completion of primary, secondary and high school studies. The latter level highlights the Prepanet platform, which is a high school online program with official certification/validity. From 2015 to 2016, 350 prepanet students and 1470 users in the 3 social incubators were supported by more than 250 social service providers as tutors training in English, Information Technologies and entrepreneurship⁷.
- **Social Service:** In terms of impact and scope, in January of 2016, 1,107 students have influenced their community through different areas, with the aid of office of Servicio Social Profesional. Examples of the projects in this avenue include participants performing academic assessments of social incubator programs and Prepanet; in some cases, participants are also instructors or lecturers for such programs.
- **Change Hub (Central de Cambio in Spanish):** This is an area that offers personalized consulting to Social Entrepreneurship projects and manages groups, and student initiatives such as Changemakers⁸, Hackers, Operación Futuro, and Asociación de Jalisco, A.C. Since 2013, approximately 700 people have benefited from the actions led by 800 students that are involved in 25 different social entrepreneurship projects. From the projects supported by Central de Cambio, some have obtained total funding of \$200,000 USD.

University-Based Entrepreneurial Ecosystems

It is worthy to highlight that all the actors previously described, connect and interact at various point in time as part of numerous entrepreneurial events. For example, the *Semana i*, which traditionally consists of students working in solving challenges that takes them outside the classrooms and the academic environment. One of the activities in *Semana i* is the “entrepreneurship challenge” where 1,100 first-year undergraduate students have the challenge to obtained profits from a given seed capital of around 120 USD dollars, in order to, later on, donate such benefits to a social cause. Because of the entrepreneurial challenge in 2016, about 40,000 USD dollars were given to four social entrepreneurship projects; Escuela de cultura vial-Road Safety School), E-nable, Sabius and Tecnologías al Servicio de la Comunidad (Technologies for the Community). Due to the size and importance of the event, faculty members, ex-alumni and staff of the different entities in the entrepreneurial ecosystem of the Campus Guadalajara, become mentors and supporters of the event providing support and resources for all the participants.

Table 1 presents the main achievements of the entrepreneurial ecosystem in Guadalajara Campus in recent years. It is noteworthy to notice that it was not possible to have access to all the data from the different years.

Somehow, one of the leading strengths of Campus Guadalajara’s ecosystem is the quality of its multidisciplinary and experienced staff. 35 committed people in the crew, create a culture of collaboration, openness, and flexibility to adapt and respond to the constant challenges from the dynamic context within and outside the Institution. Besides, the majority of the staff have experience as entrepreneurs, high and specialized technical skills, and high relational capital with principal actors in the local entrepreneurial ecosystem (e.g., government, funds, universities, entrepreneurship communities).

In sum, the university-based entrepreneurial ecosystem in Guadalajara campus consists of active students registered in different schools (e.g., engineering, business, medicine, and humanities), alumni, community entrepreneurs and third-party investors that interrelate each other and receive support from the highly specialized staff that leads the different entities previously described. The creative and innovative spaces are located all around the campus, highlighting the robustness of the available infrastructure. Startups based on research and technology are encouraged, and intellectual property is essential only to the extent that it serves a larger purpose of growing the local and regional economy in terms of high-quality job creation. Finally, the impact that the entrepreneurial ecosystem has had in the Campus and the region is proof of a model that can be of reference for others to follow.

As previously mentioned, in this chapter, the authors decided to make a comparison between the four cases described in Grahams’s (2014) study and the Tecnológico de Monterrey in Guadalajara described in this document. In the next section, the comparison is presented.

DISCUSSION

As stated earlier, the objective of this chapter is to contribute to the study of the different initiatives that prove to be successful during new venture formation. The methodology explores the case of the entrepreneurial ecosystem at Tecnológico de Monterrey in Guadalajara and benchmarking it with four universities that, according to Graham (2014) are among the most effective within challenging environments. According to the author, such universities can be classified into two different models depending on their agenda and approach to entrepreneurship.

The essence of Model A lays in the role the community plays. The society as a whole dictates this model. The different actors of the ecosystem are the ones that drive entrepreneurial activity, assigning

University-Based Entrepreneurial Ecosystems

Table 1. Summary of the main entrepreneurial ecosystem achievements

Technology transfer office	2010	2013	2015	2016	2017
<i>Intellectual property</i>	14 patent applications (2 granted); 5 utility model applications; 1 industrial design granted; 2 registered software; one copyright, twelve brands, and 4 patent application filed under the PCT				
<i>Government funding</i>	USD \$130,000				
Incubator	2010	2013	2015	2016	2017
<i>Supported projects</i>				43	64
<i>Supported entrepreneurs</i>				56	159
<i>Surviving project rate</i>				53.4%	58.2%
<i>External investment for projects</i>				144,394 USD	217,000 USD
<i>Mentorship hours</i>				282	315
Enlace E+E	2010	2013	2015	2016	2017
<i>Mentors</i>				57	
<i>Projects</i>			18		
Innovation Center	2010	2013	2015	2016	2017
<i>Executives trained</i>			90		
<i>Professional development of students</i>			130		
Funding and continuous education	2010	2013	2015	2016	2017
<i>Entrepreneurs benefited under sponsorship</i>			155		
<i>Entrepreneurs in continuous education</i>				100	
Academic program	2010	2013	2015	2016	2017
<i>Students participating</i>					230
<i>Silicon Valley summer program</i>					
<i>Startups</i>					34
<i>Funding</i>					\$500,000 USD
Academic department	2010	2013	2015	2016	2017
<i>Number of professors</i>					40
<i>Professors that are entrepreneurs</i>					70%
<i>Academic programs attended</i>					24
<i>Students attended</i>					950
Tec Social	2010	2013	2015	2016	2017
<i>Social incubators users</i>			1,470		
<i>Prepanet</i>					
<i>Prepanet platform students</i>			350		
<i>Social service providers in Prepanet</i>				250	
<i>Students providing social service</i>				1,107	
<i>Change hub</i>			700 people benefited. 800 students involved. 25 social projects. Funding 200,000 USD		
Special initiatives	2010	2013	2015	2016	2017
<i>Semana i (entrepreneurship challenge)</i>					
<i>Students participating (1st semester)</i>				1,100	1,090
<i>Funds obtained and donated</i>				\$40,000 USD	\$29,818 USD
<i>Social projects benefited</i>				4	4

Source: Own elaboration based on Tecnológico de Monterrey in Guadalajara case analysis

universities a role of facilitator of connections and resources, and enhancer of opportunities. Universities under this approach do not own IP, and the technology transfer office is not the motor that moves entrepreneurial activity. Inventors are owners of their IP, and the university complements and facilitates the process of transforming such IP into a business reality.

University-Based Entrepreneurial Ecosystems

In Model B, the university plays a much relevant role when it comes to IP. In this case, the technology transfer office becomes more relevant, as it drives research that later transforms into spin-offs and startups. In this way, the university maintains and institutionalizes what it produces. The university still provides support to entrepreneurs in the ecosystem, namely students, alumni, community; however, these entrepreneurs are not the primary drivers of entrepreneurial activity. The relationship the university has with them is that of the provider of research-based technology, as well as a funder of initiatives that land into feasible business ideas with the participation of professors and staff.

For the purpose of discussing the case of Tecnológico de Monterrey in Guadalajara, this chapter compares it with the four cases ranked by Graham (2014), namely Aalto University, Imperial College, Tomsk State University of Control Systems and Radioelectronics (TUSUR), and University of Auckland. Both Aalto University and Imperial College are denoted as using a Model A strategy. In the case of Aalto, the university's focus is to nurture their regional ecosystem. As such, its entire infrastructure is targeted to transforming promising ideas into business realities. Aalto also partners up with international universities, which enhance the capabilities and resources available for the development of the community. In the case of Imperial, the university is structurally organized through an independent company called Imperial Innovation, which is the driver of entrepreneurial activity through two main offices: technology transfer and ventures. Imperial Inventions becomes a partner to the inventor by facilitating the process and also investing, hence building a more sustainable relationship.

In the case of TUSUR, it can be classified within Model B, due to its strong emphasis on being the university the driver of entrepreneurial activity. In fact, the university's mission is embedded in creating world-class knowledge and technology through a robust research institution that supports the entrepreneurial activity of the ecosystem. The Institute of Innovation concentrates different programs depending on the audience and is well connected with international universities as well.

The University of Auckland has a model that could be considered as a mix of both Models. On the one hand, the university has a subsidiary called UniServices, which is an independent unit that connects the industry with funders and researchers. On the other hand, the university has its own business school and other disciplinary centers, which complement and provide additional support to the services UniServices offers.

Finally, Tecnológico de Monterrey has created an entrepreneurial ecosystem that is also characterized as a mix between Model A and Model B, according to Graham's (2014) framework. The technology transfer office is university-led and focuses on supporting students, alumni, faculty, and staff. Additionally, Zona EI follows a Model A, which aims at promoting and facilitating the process of startup creation, based on technology-based research.

In order to contextualize the analyzed cases, Table 1 presents some features as the year of foundation, location, size in terms of their number of students, prestige in terms of their position in the QS ranking and their main disciplinary approach.

Similarities and Differences

As stated earlier, from the 5 universities considered in this chapter, both Aalto and Imperial are Model-A based, TUSUR is Model B, and Auckland and Tecnológico de Monterrey could be a mixed model. A technology base is vital for startups created from these universities. Similarly, all universities place a relevant role in research as the base of entrepreneurial activity. Student participation is another fundamental element, with different levels of involvement and responsibility varying among universities.

University-Based Entrepreneurial Ecosystems*Table 2. Comparison of Universities main characteristics*

	Aalto	Auckland	Imperial College	TUSUR	Tecnológico de Monterrey in Guadalajara
Year of foundation	2010	1883	1907	1962	1991
Location	Espoo, Helsinki, Finland	Auckland, New Zealand	South Kensington, London	Tomsk, western Siberia, Russia	Zapopan, Jalisco, México
Number of students	17563	33,050	17,565	11,000	8,000
QS World University Rankings (2016/2017)	128	77	8	ND	186
Disciplinary approach	Engineering, design, and business.	Arts, Business, social sciences, engineering, medicine	Science, technology, engineering, medicine, and business.	IT and robotics	Engineering, Business, Design, Humanities, Medicine.
Leading economic sectors in the region	High-technology manufacturing, telecommunications and electronic Companies.	Dairy and agricultural industries	Finance and health	Oil, gas sector, IT.	IT, electronics, agroindustry, creative industries.

Source: Elaborated by authors

Another similarity refers to their infrastructure. In all cases, such support is well defined and organized to promote entrepreneurship in students, professors, and their community. Finally, all universities have an active academic program that strengthens the entrepreneurial activity of the ecosystem.

Regarding the differences among these universities, the biggest one relates to the model each of them implements. Even when two universities use the same model (i.e., Aalto and Imperial), the implementation of the model per se varies. In some cases, some of their organisms are entirely autonomous from the university, and in some other cases, similar functional units are embedded in the university system. Aalto, in Finland, portrays itself as the most open from the five universities in this study. The possible explanation is related to the culture of the country, which seems to be more directed towards experimenting openly in benefit of the community. On the other hand, TUSUR, in Russia, is in a culture that seems to be more centered on institutions, which is why the university concentrates its efforts in business creating based on its own research.

Nonetheless, both Auckland, New Zealand, and Tecnológico in Guadalajara, Mexico, seem to be located in a strategic point with a high level of economic development, which facilitates the blossoming of entrepreneurial contexts. Even when Graham (2014) states that setting is predominant in the successful creation and development of university-based entrepreneurial ecosystems, the assumptions made in this chapter regarding culture would require further research to explore and understand the possible connections between entrepreneurship and national culture better. Table 2 summarizes the similarities and differences of the five cases analyzed.

University-Based Entrepreneurial Ecosystems**Table 3. Comparison of University Approach to Entrepreneurship**

Cases/comparison elements	Strategy & Policy	Infrastructure
Aalto University	Entrepreneurship philosophy focuses on nurturing the regional/ external ecosystem. Income generation is secondary to capacity building. Promotes internal cultural change through networks with third parties outside the university. University-based technology transfer office primary purpose to support spinoff with high potential to become a new company in the region.	Three components: 1. Student-led activities a. AaltoEs – Highly experimental b. Startup Sauna Foundation – internship program 2. University-led activities 3. External community a. Ecosystem of practitioners b. International university partnerships
Imperial College	Imperial Innovations a. <i>Independent publicly-listed company</i> b. Technology transfer office – business partner to the inventor i. Licensing ii. Formation of new companies c. Ventures - technology and healthcare business are emerging from the University of Cambridge, University of Oxford, University College London and Imperial College.	Three categories: 1. Activities supporting research-led, multidisciplinary innovation a. Imperial consultants b. ClimateKIC 2. Activities/functions supporting faculty/researcher entrepreneurship 3. Activities/functions supporting student entrepreneurship a. Two optional entrepreneurship courses b. Two student-led societies c. Imperial Create Lab
Tomsk State University of Control Systems and Radioelectronics (TUSUR)	The strategy focused on entrepreneurship, as well as knowledge and technology creation. Two key targets: 1. Establish stable, independent sources of funding and employment technology-based startups. 2. Nurture regional capacity of cutting-edge technology, which tailors university research and curricula. Limited licensing – Startup creation with full proprietorship of IP by the inventor.	Institute of Innovation (21) – Student business incubator, Commercialization unit, Technology Business Incubator, Faculty of Innovation Technologies No student-led society – only Senior management led programs. Three elements: 1. E&I for undergraduates a. Student-based incubator b. Introduction to entrepreneurship c. Group project-based learning d. Masters group projects e. E&I Bachelors 2. E&I for faculty and researchers a. Commercialization office – “Attract funding for research and commercialization; help scientists understand the business idea of their scientific results.” b. Patent Information Department 3. E&I for university-affiliated startups a. UNIC – A communication platform that offers research collaboration, shared laboratory, funding proposals and student internships. b. Bridge program – Links with Silicon Valley, Toronto, Taiwan, Israel, and Japan.
University of Auckland	UniServices a. Wholly-owned subsidiary – an Autonomous unit that links industry partners and corporate funders for research. b. Full-time researchers and technicians, faculty from other departments (project-basis) Research division: a. Public proper research – University faculty and researchers; IP owned by the university. b. Corporate-funded research – Managed by UniServices; performed by UniServices researchers, and university-employed researchers. IP owned by the corporate funder.	Three primary elements: 1. UniServices 2. Business School – Centre for Entrepreneurial Learning a. Spark – Agency for student-led entrepreneurship. b. Informal support for students – Student society in biotechnology, informal support, and internships. c. Educational programme – Innovation and Entrepreneurship programs at the Bachelors, Masters, and Ph.D. levels; one-week entrepreneurship program for other majors. d. Entrepreneurs club - Regional networking community. 3. University-based disciplinary centers
Tecnológico de Monterrey, Guadalajara	The Institution owns intellectual property that has been developed by faculty members using institutional resources (e.g., labs, equipment), but it can be licensed to the author. Even if the university does not have the faculty to exploit the IP by itself, it promotes and facilitates the licensing to the faculty members. The technology transfer office is also focused on supporting projects owned by students, alumni, faculty members, and staff, in order for them to protect their IP and to obtain funds for research and start-ups creation. It is also open to help entrepreneurs in the local community, but it is not the priority.	1. Innovative Entrepreneurship Zone (Zone Ei) a. Innovative entrepreneurship park b. Incubator c. Enlace E+E Program d. Innovation Center e. Funding and Continuous Education 2. Technology Transfer Office 3. Academic program 4. Academic department is attending all higher education students. 5. Tec Social a. Social incubator and Prepanet program b. Social service c. Change Hub

Source: Own elaboration based on Graham (2014) study and Tecnológico de Monterrey features.

*University-Based Entrepreneurial Ecosystems***CONCLUSION**

As explained in the chapter, entrepreneurship is still an essential tool for the sustainable development in any region. Therefore, it has attracted the attention of researchers and policymakers in order to find models and frameworks that explain and promote such phenomena. One of such approaches is the entrepreneurial ecosystem, where a number of actors interact with each other forming highly qualified human capital and facilitating the access to resources needed in the creation of new businesses based on science and technology. Traditionally, universities have played a significant role in terms of human capital formation and in the production of new knowledge that can be applied to create new technological products and services. As a result, university-based entrepreneurial ecosystems have emerged as promising detonators of sustainable development in the regions they are located.

To the people leading entrepreneurial efforts in universities, it is not possible to recommend one particular approach to follow, since each of the ones described in this chapter have advantages and disadvantages. For example, Model B may discourage people in the entrepreneurial ecosystem because of a lack of flexibility in terms of the support given only to the university-protected IP that is considered as the only one worth pursuing a business agenda. In addition, a lack of clarity over students, alumni, faculty, and staff IP ownership rights, may cause the migration of projects with high potential to other instances where they can receive support. In Model A, since the community leads the entrepreneurship agenda, it requires building an entrepreneurial culture, which may need considerable time. Moreover, other studies address the same issue by highlighting that there is no one general model of the entrepreneurial ecosystem, as it needs to be contingent upon the specific characteristics, resources, needs and capabilities of its locale and or region (Thomas, Sharapov, & Autio, 2015).

Hence, the authors recommend making an internal analysis regarding the resources, capabilities, and strengths of the university. For example, in the case of Aalto, two integral factors of the ecosystem's early success are a dynamic student-led entrepreneurship movement and a university leadership that has been proactive in its support for strengthening the entrepreneurial ecosystem. Similarly, regarding the Imperial College, with a traditional commitment to knowledge transfer since its conception, which has derived in the creation of Imperial Innovations which operates as an independent listed company, in which Imperial College is a 30% shareholder (Graham, 2014).

According to Shirokova, Tsukanova, and Morris (2018), the positive relationship between university entrepreneurship programs and student start-up activities is significant and moderated by specific national culture dimensions. The authors find that specifically three of Hofstede's dimensions play an essential role as moderators: individualism, power distance, and uncertainty avoidance. Regarding individualism, the authors mention that in cultures with a high level of this dimension, university entrepreneurship efforts will have a stronger impact on start-up activity, because these cultures place a strong emphasis on individual achievement and self-realization. On the other hand, more collectivistic cultures will present a different scenario, because their focus is on group achievement and norms. In Tecnológico de Monterrey in Guadalajara, even though it is an institution embedded in a more collectivistic culture, the positive impact of the creation and development of entrepreneurial activity has been successful because of instilling in its graduates a sense of independence and empowerment, and focusing on the effects that each entrepreneur has in the regional economic growth.

Regarding power distance, Shirokova et al. (2018) find that countries with a closer relationship between professors and students will tend to be more open about sharing knowledge, tools, theories, and experiences that will be more productive to each new business idea. Individually, they make the argument

University-Based Entrepreneurial Ecosystems

that young adults, because of their lack of experience, they find it difficult to accept ideas or knowledge imposed on them because of a high power distance between them and their professors. However, when these same students discover that they can question, and challenge the traditional expectations and status quo of their ideas and the processes to transform those ideas into real business ventures, they will be more productive, and start-up activity will be more successful. Within the entrepreneurial ecosystem of Tecnológico de Monterrey in Guadalajara, students learn and develop their entrepreneurial capabilities through a methodology that allows them to not only learn from experience but to receive from their professors the support and coaching they need in each step of the process.

Finally, another dimension relevant and closely connected to the regional cultural capabilities is uncertainty avoidance. According to Hofstede and Hofstede (2005), this dimension has to do with the level at which a culture is able to deal with the fact that the future cannot be entirely predicted, and not all variables can be controlled. In cultures with a high level of this dimension, entrepreneurial activity tends to be less because people are more afraid to experiment on new ideas or methods, and prefer to avoid the risks inherent in breaking the established order of things. The strong emphasis that Tecnológico de Monterrey in Guadalajara places on innovation and entrepreneurship instills in its graduates and region a sense that uncertainty can be handled to transform ideas into tangible entrepreneurial endeavors that benefit all of its members. Thus, the uncertainty of the future becomes manageable, and entrepreneurship becomes an activity of primary importance in the economic growth of the region, which then increases opportunities for new ideas in a cyclic manner.

Additionally, it is essential to analyze the characteristics in the region, in terms of the economic sectors and actors that can complement the institution's internal resources. For example, in the case of Aalto University, the area of Espoo is Finland's major R&D center: it is home to other higher education institutions and research institutes, as well as the large population of students and technology professionals (Graham, 2014). Another example is TUSUR, who recognized the strength of the region's engineering skills base, particularly in the IT sector.

Based on the internal and external analysis, the next step would be to define the strategy to follow. Such was the case of Auckland University who decided to create UniServices that operates autonomously, self-funding its operations through an overhead fee applied to all its corporate research and consultancy contracts and employing over 700 researchers to support delivery of industry-funded research, but also allows it to invest strategically in university IP (Graham, 2014).

Finally, this chapter is an open invitation to people leading universities located in emerging economies to start acting today, since, in the opinion of the authors, there is a sense of urgency in the promotion of sustainable entrepreneurship.

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KEY TERMS AND DEFINITIONS

Ecosystem: A network of interactions among organisms, and between organisms and their environment. Such system can be of any size and usually is encompassed in a specifically limited space.

Entrepreneurial Activity: A process of designing, launching, and running a new business that offers a product, process, or service for sale or hires. Commonly, entrepreneurs involved in an entrepreneurial activity requires support from their environment in terms of financing, advising, selling, among others.

Entrepreneurial Ecosystem: A number of entrepreneurial actors, organizations, and institutions following a process in order to connect, mediate, and govern the performance of the entrepreneurial environment.

Entrepreneurial Framework Conditions: A framework used by the Global Entrepreneurship Monitor (GEM) to diagnose and promote the entrepreneurial activity around the world, consisting of nine dimensions (financing, government policies, taxes and bureaucracy, government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, domestic market burdens, access to physical and services support, and social and cultural norms).

Global Entrepreneurship Monitor: A worldwide research initiative aiming to have a better understanding of the entrepreneurship phenomena, both, in an individual level but also in terms of the entrepreneurial ecosystem conditions.

Technology Transfer: A process of disseminating technology from the actors and locations of its origination to broader distribution among more people and places. It occurs along various approaches, being the most common, from universities to businesses.

Tecnológico de Monterrey: A comprehensive, multi-campus and non-profit private university that offers academic programs in high school, undergraduate and graduate levels. It is located in Mexico, was founded in 1943 and it is well known for creating and promoting University-based entrepreneurial ecosystems within its main campuses. The university has the 14th best undergraduate entrepreneurship program in the world, according to the new ranking in *The Princeton Review's* Top Schools for Entrepreneurship Studies for 2018.

University-Based Entrepreneurial Ecosystems

University-Based Entrepreneurial Ecosystems: A number of entrepreneurial actors and organizations within the boundaries of a university that connect, mediate and govern the performance of the entrepreneurial environment in order to support students and the external community in order to promote their entrepreneurial initiatives.

ENDNOTES

1. Tecnológico de Monterrey Entrepreneurial formation history. Website: <https://tec.mx/en/tec-difference/entrepreneurship>
2. Tecnológico de Monterrey Strategic plan 2020 website: <http://sitios.itesm.mx/webtools/planestrategico2020/publico/EN/document/2020StrategicPlan.pdf>
3. Tecnológico de Monterrey Connect website: <http://www.itesm.mx/wps/wcm/connect/snc/portal+informativo/por+tema/educacion/tec-princeton>
4. The Social Hub or Change Central is a place that depends directly on Tec Social and has the objective of facilitating interaction among Changemakers, social entrepreneurs, and the community.
5. Innovation Center web page. Website: <http://www.gda.itesm.mx/parque/servicio.php?idServicio=27&4.-Centro-de-Innovaci%C3%B3n>
6. In terms of the academic requirements and characteristics, the Certificate of Family Business is similar to the Certificate of Innovation mentioned in the Innovation Center section.
7. Tec Social Annual Report Website: <http://centraldecambio.com/assets/TecSocialInglesInteractivo.pdf>
8. Organizers of the Changemaker Day, which is a day to celebrate Social Entrepreneurship with conferences, panels, workshops and a film festival. In 2017, the Changemaker day had an impact on 900 participants.

Chapter 22

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem: Entrepreneurship Ecosystem in Algeria

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ABSTRACT

This study is going to focus on the Algerian entrepreneurship ecosystem by adopting an investigation approach to explore the efficiency of the entrepreneurship process and actions. A proper survey has been conducted among several Algerian entrepreneurs to understand the national entrepreneurial ecosystem: environment, financial capacity, collaboration with the external environment, innovation capacity, etc. This chapter reports the findings of entrepreneurship ecosystem concerning the six entrepreneurship-related domains described by Isenberg to identify and develop. Results show that Algerian efforts still need a lot of enrichment due to the importance of the issue and the need for environmental and technological changes in the country. These changes should be substantially generated depending on the nature of entrepreneurship and should require the necessity of keeping up with these changes especially when shaping strategies and policies to address these challenges.

INTRODUCTION

Entrepreneurial ecosystems are emerging around the world as a fundamental pillar to develop entrepreneurs' activities. It has a key role in today's economy, directly linked to innovation, job creation, and the small business sector. It is considered as one of the critical elements for a healthy productive economy in developing countries. The entrepreneurial ecosystem literature has attracted much attention, especially in policy circles (Alvedalen & Boschma, 2017). Entrepreneurship makes economies more competitive and innovative and is crucial to achieving the objectives of several sectorial policies. Successful entrepreneurship ecosystem needs a dynamic environment. National social and economic

DOI: 10.4018/978-1-5225-5837-8.ch022

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

development policies are designed by taking into consideration the contributions and impacts of policies that support entrepreneurship.

Algeria tried to support this fact by putting in place a number of initiatives. However, there is a gap between providing the support and making it accessible for interested individuals. During these few years, entrepreneurship has become the trend. A good number of students, youth and professionals are creating their own enterprises to face the market demand (see Appendix 4). In the present circumstances, small businesses deal with new issues, such as rapid changes in technology, explosive growth in the number of new competitors, and an increasing variety of customer's needs.

Enterprises can benefit competitive strengths through sustaining corporate entrepreneurship, which is determined as stimulation and strengthening innovativeness factor, risk-taking, and proactiveness (Covin & Miles, 2006; Dess & Lumpkin, 2005). Nascent businesses are being introduced into their economic and social environment, and they are labeled to the several conditions in which they are operating. This illustrates the facilities and advantages that exist and which motivate entrepreneurs to start a new business where new value creation is in the core.

Using these facts, and in order to obtain more understanding to shaping entrepreneurship strategies in the Algerian context, this study comes to identify and analyze the prevailing conditions of the entrepreneurial ecosystem through a field study in some Algerian enterprises. The primary objective of this study taps into the efficiency of the several states that have had influence engagement in entrepreneurial activities, as well as the critical factors of entrepreneurship ecosystem' development process. Knowing current status helps identify opportunities and assists to develop plans for effective intervention.

Nonetheless, in order to better comprehend entire ecosystems, one should examine the intermediate causes, i.e., the systematic conditions and the entrepreneurial activity. Support services, networks, funding, worker talent, leadership (mostly in the form of dealmakers and entrepreneurs leading the ecosystem), and knowledge lie at the heart of the ecosystem. *"The presence of these elements and the interaction between them predominantly determine the success of the ecosystem"* (Stam, 2015, p. 66).

Another critical point lies in the fact that measuring entrepreneurial ecosystems enables the comparison between different ecosystems, within the same country and around the world (Mack & Mayer, 2016; Ritala & Almpantopoulou, 2017). Thus, examining the reciprocity among elements is essential to understanding the broader role of entrepreneurial ecosystems (Spigel, 2015).

Then, this study builds on existing based research and develops a conceptual framework to understand *what measures should be taken to make entrepreneurship ecosystems?* As an exploratory and the quantitative analysis, it purported to help us understanding Algerian ecosystem and its dimensions and know the critical lacks by building a clear analytical framework that makes explicit what is the cause and what is an effect.

This study is structured as follows: First, the paper is devoted to a review of the relevant literature and the Algerian entrepreneurship context. The quantitative methodology employed is then reviewed, and the results discussed. The chapter concludes with a discussion of the implications, the findings and directions for future research.

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

LITERATURE REVIEW

Entrepreneurship Ecosystem

Since the seminal work of Schumpeter (Schumpeter, 1934), entrepreneurship has been regarded as a positive driving force for regional economic growth and development (Birch, 1987; Storey & Johnson, 1987; Reynolds, 1987; Acs & Armington, 2004). Low and MacMillan (1988) emphasized that entrepreneurship is a process that can be undertaken in a variety of contexts. From this point of view, many studies have indeed stressed that contextual conditions such as education, culture, social support systems, technology, and the presence of human capital and expertise play an essential role in the changing conditions for entrepreneurship (Fischer & Nijkamp, 2009).

Entrepreneurship is one of the most dynamic approaches to socio-economic transformation and development. It is intimately related to private sector development, micro, small, and medium-sized enterprise policies, job creation, innovation, and competitiveness. Different nations understand entrepreneurship as an indispensable element to preserve the viability and competitiveness of a country's economy. Entrepreneurship is considered as the study of sources of opportunities; the process of the discovery, evaluation, and exploitation of opportunities; and the set of individuals, who discover, evaluate and exploit them (Shane & Venkataraman, 2000, p. 218).

Delmar and Wiklund (2011, p. 5) suggested triggering entrepreneurship firm growth as a complex phenomenon and required the support of numerous actors in the economy to take a severe cohesive action for its growth and development. Mason and Brown (2014, p. 5) think about the entrepreneurial ecosystem as about a set of interconnected entrepreneurial actors, entrepreneurial organizations, institutions and entrepreneurial processes which formally and informally coalesce to connect, mediate and govern the performance within the local-entrepreneurial environment. Also, Ray Sosa (the Co-Founder, Chairman and Chief Executive Officer, MPOWER Ventures, USA; Young Global Leader) suggested that *"Entrepreneurship is like a sports team – success goes with having the right people"* (World Economic Forum, 2011, p. 13).

This emphasizes a need for numerous actors to be involved in entrepreneurship growth. There seems to be an ecosystem working for development to occur that is a complex network and interconnected system. Although the term ecosystem has been widely used by scholars, politicians, and others in an economic context, Oh et al., (2016) elaborated a well-argued comment on its use. Moore (1993) appears to be the first one who used the term ecosystem. He suggested that a business should be viewed not as a member of a single industry but as a part of business ecosystem across a variety of industries. Smorodinskaya et al. (2017) state that the term ecosystem highlights the shift in a social, cultural and organizational context towards a knowledge-based economy. Hence, *"ecosystems are deliberately designed around and evolve around a key set of entities, at least at a particular point in time"* (Ritala & Almpantopoulou, 2017, p. 2).

Basically, the ecosystem can be described as a system that nurtures and sustain entrepreneurship (Isenberg, 2010). Isenberg created a diagram depicting the entrepreneurial ecosystem (See appendix 1). It consists of six general ecosystem domains:

- **Policy:** National / Local Government, governmental;
- **Finance:** Banks, Venture Capitals, angel investors, foundations and government Funds;

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

- **Culture:** Encompasses all social characteristics of a community and the subjective aspects related to the manner by which individuals relate to each other, what they value and what is the reason for recognition, for example, Media;
- **Human Capital:** Professionals, universities, and the mass workforce, among others;
- **Supports:** The institutions not belonging or related to government playing the role of entrepreneurship stimulators, such as incubators;
- **Markets:** Including the consumers, distribution networks, and marketing corporations.

The ability to secure Capital, the Business support found on the level of Incubators, Mentoring, legal services, and infrastructure (Electricity, Internet penetration, etc.) is what gives Finance and Support a direct influence on all startups. Culture is indirect because even though it shapes the image in which society perceives entrepreneurs, individuals with high resolve can easily escape its constraints. The rest of the domains are partially direct because they affect startups growth/ expansion in a great deal, while it is a limited effect during foundation.

An entrepreneurial ecosystem is not defined by high rates of venture creation; this mistakes the effect for the cause. Instead, entrepreneurial ecosystems are determined by the relationships between the elements that produce them and the advantages they provide. Also, Isenberg (2011) underscores the importance of the interrelated character of the ecosystem. According to him, piecemeal policy interventions may lead to reversed consequences. One should intervene holistically, hereby taking the complex relationships within the entrepreneurial ecosystem into account.

Even though these six domains are the base of all ecosystems, each ecosystem itself is unique. Thus, albeit resting upon different contexts, it is plausible to believe that different countries are capable of building their own entrepreneurial ecosystems that can encourage the appearance of favorable business concerns (Arruda et al., 2015). Building on the Systems of Innovation and Entrepreneurship approaches countries can develop an entrepreneurial ecosystem that integrates both institutions and agency and introduce an ecosystem of coherent patterns in a simple, intuitive, and compelling way.

Algerian Entrepreneurship Context

With its existing infrastructure (Africa's most advanced energy and transport networks), its human potential and its privileged geographical position, Algeria is an entrepreneurial ecosystem that is undergoing significant changes and has immense potential. It will need to integrate with regional and global ecosystems to take advantage of the opportunities that are lacking today, and that will make it to the next level. Realizing the importance of the SMEs sector the government has taken numerous steps in order to boost the entrepreneurial activity and trigger economic growth.

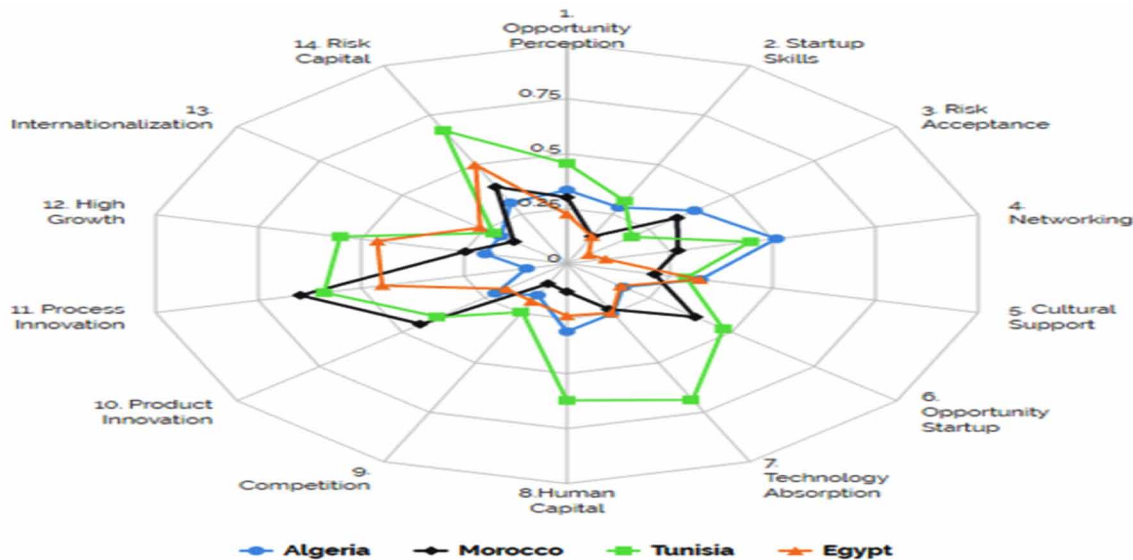
Nevertheless, despite this, that cannot hide the reality that Algeria is lagging behind its neighbors in terms of many indicators of entrepreneurship assistance according to Global Entrepreneurship Index (2017) as illustrated in Figure 1. This may be related to the fact that Algerians started developing an entrepreneurial ecosystem quite late compared to its neighbors. However, implementing a stable entrepreneurial ecosystem isn't as easy as it seems.

First of all, Algerian economy must move away from the oil sector. For decades, following its independence, Algeria was entirely dependent on oil and gas revenues. The recent recession and decrease of oil prices represent a real dilemma for the country, as it is aware of the urgency to usher in reforms and diversify the economy. Improving entrepreneurship can be a crucial factor in the diversity of economy.

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

Figure 1. Indicators of Algerian initiatives for entrepreneurship (country comparison)

Source: Global Entrepreneurship Index (2017)



It seems, have become a catalyst for growth, helping accelerate reforms and driving the economies of several countries around the world, where they are not only helping create jobs but are also boosting innovation and developing various human resources. Thus, the nation faces some obstacles such as:

- A lack of funding; launching a startup needs time and money, two things that are not easy to come by in Algeria. Getting financial support is the most laborious domain for Algerian entrepreneurs, especially for the fresh ones with no record of accomplishment to show. The banking system managed to go through the financial crises with minimal impact due to the wealth generated by oil in the country. Like in much of the region, banks are not much help, but unlike other regional nations;
- Algeria is lacking something else: aid from a national and international organization supporting entrepreneurship. To launch their startups, entrepreneurs have to work on their startups in addition to their regular jobs, slowing down their capacity to launch their startup in good time;
- Funding is hard to get in terms of required administrative paperwork, the time-consuming process and the difficulty in securing the statutory warranty for the needed loans. A few aid programs exist, like the ANSEJ (the National Agency for Supporting Youth Employment) which funds companies by allowing non-remunerated credits, and taking on the part of the bank interests on loans contracted from private banks. But these programs aren't enough to make a significant difference;
- Some obstacles many entrepreneurs faced had to do with the complicated taxation system, as there is no legal status for startups in Algeria;
- In terms of infrastructure, many elements are crucial for entrepreneurship ecosystem development such as electricity, IT and connectivity and so on;
- Another important aspect of the Algerian culture is its Islamic background that can be seen in the strong family values. They can have substantial effects on business relationships. Another impact

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

of the Algerian culture on startups in finding is the de-facto standard based on Islamic values, that loans with interest rate are not to be used by the society, known locally as ‘Riba’ (Al-Munajjid, 2016), the government acknowledged this and tried to solve by covering the 1% interest rate in ANSEJ loans. Few interest-free credits have emerged to the surface, but they stay constrained.

Promoting entrepreneurship must be a critical agenda in the Algerian politics. According to the Doing business 2017 report, Algeria has made starting a business easier throughout the reforms of 2014/15. Yet it is still not good enough, a comparison between the time needed to launch a startup shows that it takes 20 days to do so in Algeria, whereas it takes 9.5 days in Morocco, and 11 days in Tunisia (The World Bank, 2017). Algeria ranks 142 while Morocco is ranking 40. The results indicate that the climate for the creation of a manageable, still need to be improved to match the country (such as Morocco) and to be able to compete with other countries.

RESEARCH METHODS DESIGN

In order to collect data on the entrepreneurial ecosystem in Algeria, a survey method using a Google form was employed. This was chosen due to its advantages, namely: cheaper, faster, and more accessible than other methods. The questionnaire was developed with reference to previous studies.

Data Collection

In order to address the objectives of the study and to provide more insights into the points discussed above, an empirical investigation was deployed and data obtained from a convenience sample of 53 Algerian entrepreneurs. The research focused on small and medium enterprises in Algeria from different sectors and located in different areas of the country. A questionnaire composed mainly of closed-ended and rating questions was used as a data collection instrument. The poll was pretested in order to ensure that the survey content and measurement scales were clear, valid, and appropriate. Based on the pretest responses, some items were modified.

The owner/founders of the firms were the target respondents of the survey to ensure the validity of the data collected since the study is based on the context in which they exercise their entrepreneurial activities.

It should be noted that according to the latest SME Statistical Information Report, published by the Ministry of Industry and Mines in November 2017, the number of SMEs (all statuses combined) amounts to 1.060.289 entities, whose: 1 060 025 private PME (99.97%) and 264 (3%) public PMEs. However, with regard to the national investment support system, the balance sheet of investment declarations for the earlier 2017, which consists of information extracted from the ANDI “Agence Nationale de Développement d’Investissement” (National Investment Development Agency) database, registered 2916 projects. Because it’s difficult to contact all these entities, an email is sent to 250 entrepreneurs.

A personalized cover letter was sent to maximize the response rate, with the promise of feedback and confidentiality. Finally, we received 53 questionnaires which were relevant for the inclusion in the sample, resulting in a response rate of 21.2%.

A questionnaire provides information on 2 topics that inform us about various aspects of the enterprise and their entrepreneurial context. The instrument was designed to include a three-part survey.

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

Accordingly, the first part is necessary information about the owner/founder including gender, age, occupation, etc. The second part focuses on enterprise' profiling and characteristics (size and sector). The third part was developed based on the constructs of information about the current entrepreneurship context in order to identify the critical elements of a compelling entrepreneurship ecosystem (based on the six domains described previously).

Sample and Profile of Entrepreneurs

The author aims at this survey to have a sample that best reproduces the characteristics of the entrepreneurial population in the different regions of the country. A set of questions has been incorporated into a questionnaire to measure and identify the effectiveness of the ecosystem in which they interact to ensure the success of their projects. The survey was conducted during the period from July to September 2017.

The results show that the majority of entrepreneurs (more than 98%) have a university degree, they are predominantly male (72%), the presence of women-entrepreneurs in this survey is limited as it makes 28%. More than entrepreneurs are young individuals, 52% are between 18 to 34 years old, and almost 10% are above 45 years old. More than 52% were employees before starting their entrepreneurial project, and 64% have never attended entrepreneurship training or upgrades before (see appendix 2).

As reported in Table 1, more than 67% of the enterprises are located in the center (North of the country), almost 46% conducting business are created from 5 to 10 years.

The size is defined by the number of employees in the enterprises which is categorized into three modalities: Less than 10 employees, between 10 and 49 employees, and from 50 to 249 employees.

Table 1. Detailed Profile of the 53 Entrepreneurs

Nature		Nbr	%
Business Sector	<i>Agriculture</i>	4	7.55
	<i>Commerce</i>	2	3.77
	<i>Construction</i>	8	15.09
	<i>Industry</i>	4	7.55
	<i>Service</i>	17	32.08
	<i>ICT</i>	12	22.64
	<i>Other</i>	6	11.32
Age	<i>< 5 years</i>	17	32.08
	<i><5-10>years</i>	24	45.28
	<i>>10 years</i>	112	22.64
Nb of employees	<i><10</i>	40	75.47
	<i><10-49></i>	9	16.98
	<i><50-249></i>	4	7.55
Location	<i>Center</i>	36	67.18
	<i>East</i>	8	15.09
	<i>West</i>	6	11.32
	<i>South</i>	3	5.66

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

This ranking has been allocated according to the definition of SMEs in Algeria. The overwhelming majority had an employed workforce of fewer than 10 employees (75.47%). The 53 selected entrepreneurs are engaged in the different businesses activities. The Services sector is first (32.08%) followed by the ICT sector with 22.64%, and then Construction with more than 15%. The rest provide from other areas such as Agriculture, Industry, Commerce, Health, Automotive, and Tourism.

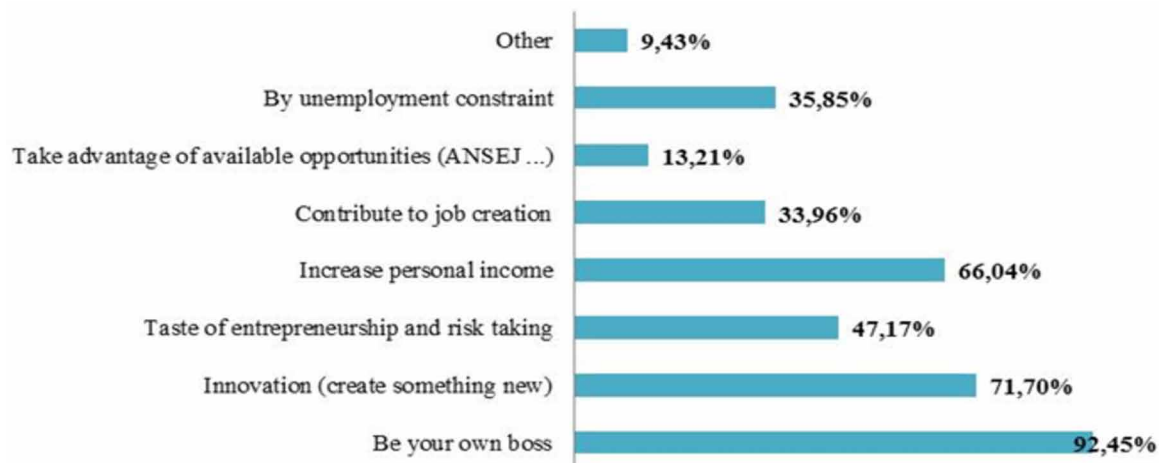
However, the sector composition varies widely between regions, but the share of new entrepreneurs in services is more critical (Statistical Information Report, 2017). In general, this sector requires fewer qualifications and is more easily accessible. It also has a relatively high turnover rate and does not require long-term investments. Conversely, in high-income countries, nearly half of all new entrepreneurs engage in technology and services, such as information and communication, finance, high-skilled services, health or social services, education (Herrington, 2017).

Nature of Entrepreneurial Activities

In order to determine the importance of the entrepreneurial activities, some questions have been addressed to 53 entrepreneurs. In terms of an example of motivation, Figure 2 shows that the most significant percentages of respondents (92.45%) launch their startups in order to be their own boss. Innovation (or create something new) (71.70%) was in the second position followed by increasing personal income (66.04%), and taste of entrepreneurship and risk taking (47.17%). Minor importance has the item: dealing with the stress of unemployment (almost 36%) compared to other motivations, such as taking opportunities to create jobs, add value, desire to impact positively on society, partner with foreign companies, and solving existing problems. Globally, most entrepreneurs interviewed shared that although monetary reasons were not the prime motive to start a business, they definitely felt that becoming an entrepreneur could offer them better income prospects.

But, despite the importance given to the choice of the sector and the launch of the entrepreneurial activity, some difficulties arise and which can hinder the progress of the project, especially at the beginning (see Figure 3). These difficulties are reflected in the vast majority of the obstacles related to the funding

Figure 2. Motivation for Creating an Entrepreneurial Project



An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

sources (98.11%), administrative procedures (90.57%), Taxation and social charges (73.58%). Without forgetting the other deficiencies such as difficulties related to gender (be men or women entrepreneur) which come side by side with technological insertion and equipment. In addition to the challenges associated with the activity, information availability and lack of labor, which can also be difficulties that the 53 entrepreneurs declared having encountered during the launch of their entrepreneurial activity.

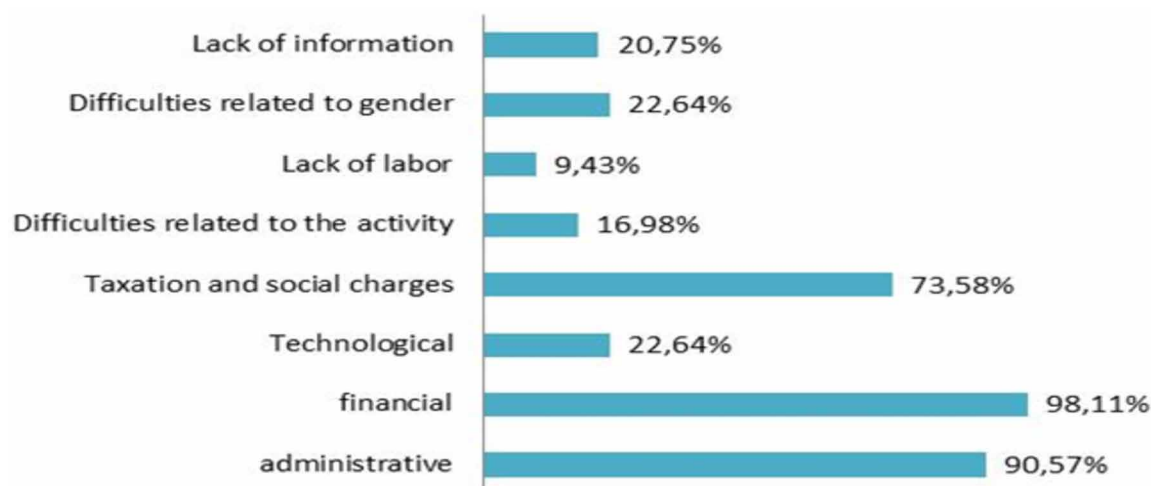
Apparently the creation of entrepreneurial activity, for the entrepreneurs, was stimulated by many factors such as: having a previous experience in the field (having already worked in the same sector with another company, 66%), and have a university degree in the same area (62.26%). The other factors: various opportunities for the environment and buoyant sector, seem to be also factors for the entrepreneur's engagement in a specific activity (see appendix 3).

Figure 4 shows the source of funding for the 53 entrepreneurs, family/ friends take the lead (51%) that are a characteristic of the local culture, followed by personal investments (25%). and what is interesting is that government aid programs come before last with only 15% contributions, this implies the absence of responsible investment funds, on-going initiatives such as JIL's FCE that was launch in 2016 may help boost this percentage. This can be confirmed by the fact that almost 80% said that they hadn't been accompanied by the governmental aid structures before the launch of their project. Thus, 43 entrepreneurs (86.79%) have confirmed that the government policies are not favorable for the start and the development of their business activities.

RESULTS AND DISCUSSION

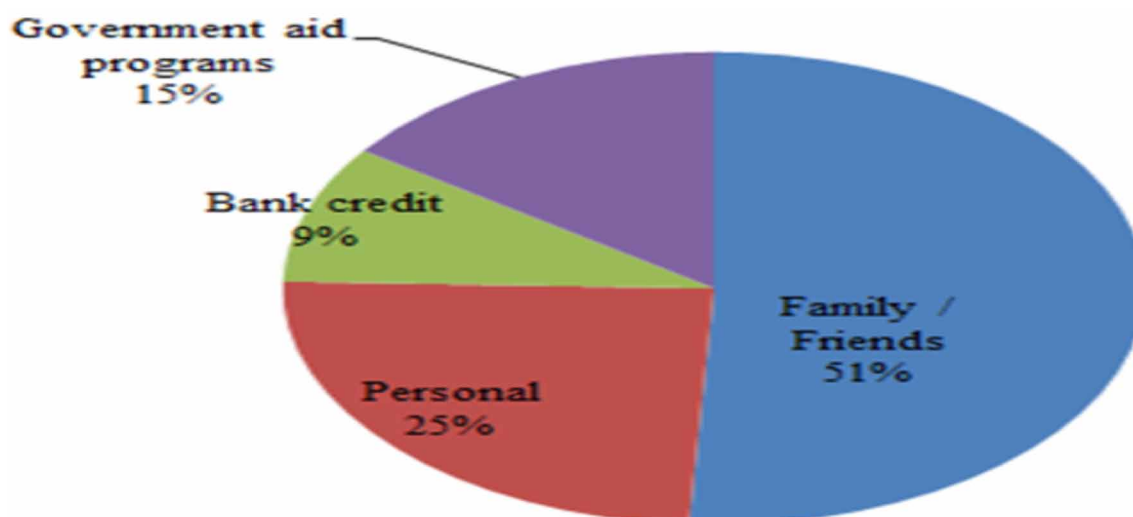
Understanding critical elements driven change in entrepreneurship context is very crucial to Algerian entrepreneurs. It's the same for the government authorities in the implementation of different strategies and programs. The knowledge and the development of the separate elements are crucial for Algerian entrepreneurship, as it involves new customers, new jobs, new markets and even new business models. This section presents the results data analysis and discusses it accordingly in relation to the theoretical

Figure 3. Difficulties encountered



An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

Figure 4. Sources of funding



context, and with the aim of achieving the objectives stated. Through this section, we wish to highlight the effectiveness of the Algerian background with regard to the six domains of entrepreneurship. This will cover the elements that correspond to the central axes on which our survey questionnaire was developed.

Policy and Support

For government policies, the author introduced three points, regulations and legislation, administrative procedures and corruption. Questions for these elements were asked in the form of assessing the effect (degree from 1- very negative to 5- very positive) of each component in questions mentioned in Figure 5. This strategy focuses on what needs to be enhanced in the factors affecting entrepreneurs, or they are already well developed in the ecosystem. It should be noted that in some case of entrepreneurship domains some degrees were suppressed because there was no response.

Fifty-five percent of the entrepreneurs shared that corruption and the administrative procedures have respectively tremendous and little adverse effect on their activities. These two elements pose a significant obstacle with which entrepreneurs deal in the course of their operations. The majority are agreeing about the fact that it's impossible to deal with and the formalities that are to be fulfilled at the time of startup are time-consuming and bureaucratic. To cope with this, entrepreneurs rely on their personal contacts to get things done. Decentralization, reducing the needed paperwork for registration and making more PME friendly laws are recommendations that can reduce the detrimental impact policies is having on startups (Beggat, 2016).

Concerning support, the author focused on: accompaniment program, transportation, infrastructures (mainly electricity) and ICT infrastructures. Centralizations of incubators around the capital city are another down point facing entrepreneurs from different cities taking into consideration the vast surface of the country (transportations availability and facilities).

As illustrated in Figure 6, existing infrastructures, such as electricity and infrastructures for facilitating transportation can't generally be seen as a favorable element in the current entrepreneurship context.

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

Figure 5. Policies' degree effect on entrepreneurial operations

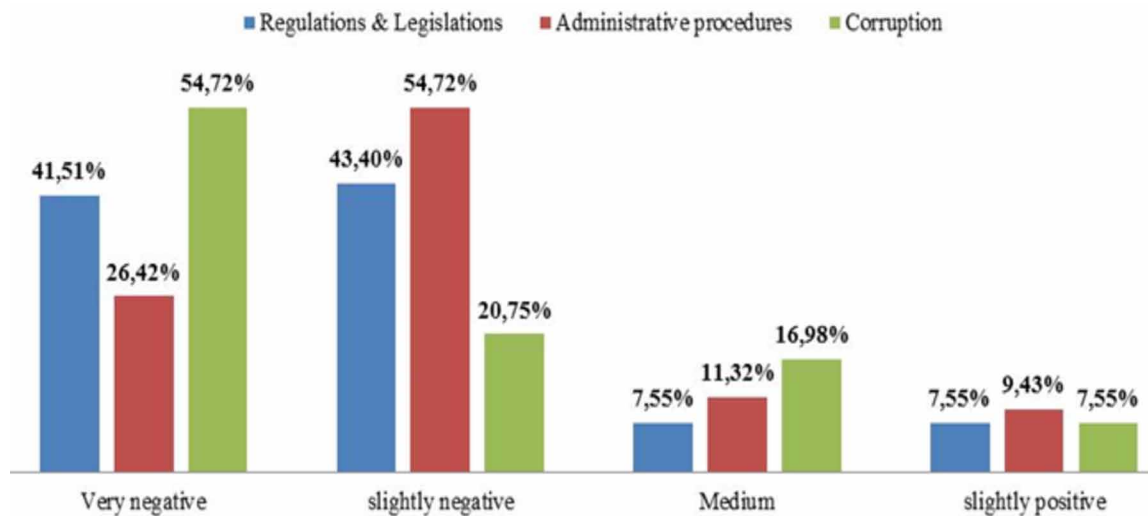
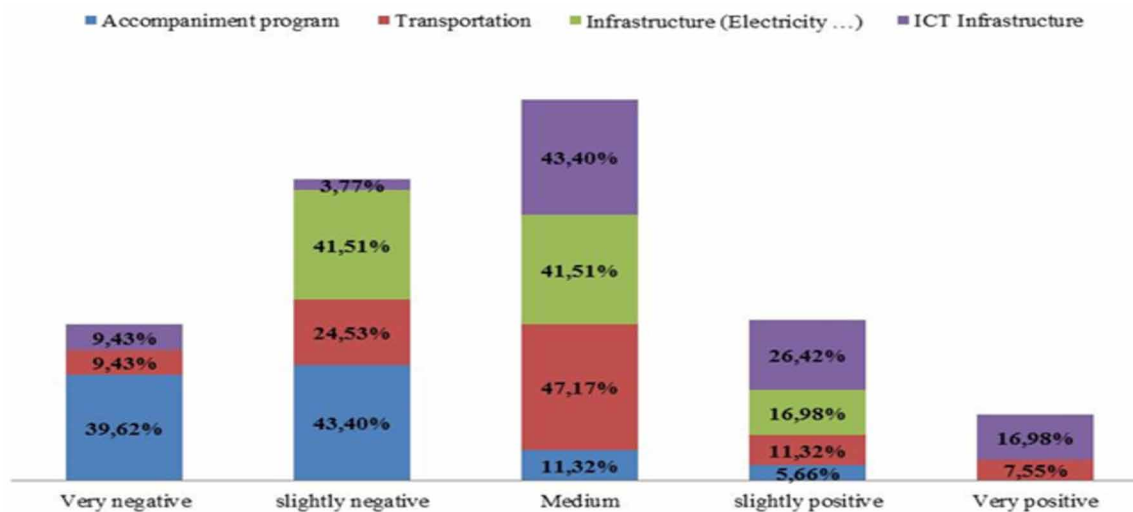


Figure 6. Support domain effect according to entrepreneurs



These points must require immediate attention from the government in order to develop entrepreneurial activities. However ICT infrastructure (internet connectivity...) comes with alerting numbers, around 44% see it as a moderate obstacle. Above average, unsatisfaction was observed concerning accompaniment program (incubators). Especially, when 63% of the entrepreneurs have declared that technological environment is not favorable to the current infrastructure and ICT services available, but they confirmed its usefulness in their activities and operations, as shown in Table 2.

It is essential to have an idea about the ICT tools that companies own and use. I have identified them but, unfortunately, support for survival and a low number of significant and leading incubators, like INSEJ or ANEM, only provides startups' growth. In Algeria, whereas the Incubators function in the

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem*Table 2. ICT level use*

Category	N ^{br}	%
High	22	41.51
Medium	23	43.4
Low	8	15.08
Total	53	-

role of offering only some supports (they are able to provide limited support for access to funding for example). This element needs to be looked into by the policymakers to make the Incubation services reachable and be more relevant for the entrepreneurs.

Access to Finance and Culture

Table 3 shows the sources funding element which includes: government aid programs, financial institutions and financial support coming from family / friends.

As mentioned above, entrepreneurs shared that they took financial support from family and friends which considered as a most prominent funding resource for them. Almost 81% have said that this element has a very positive effect on the entrepreneurship context. This feature can also be counted in the culture's domain. Family / Friends have a crucial role for the 53 Algerian entrepreneurs. However, banks, and the existing government aid program don't play the role well as it should, and unfortunately, these two elements are considered to be unfavorable in the entrepreneurial context.

Results confirmed that access to finance remains a significant barrier for entrepreneurs in Algeria. They have difficulties securing bank loans or finding risk-capital. Banks want a positive track record and collaterals, which new firms, particularly those in the competitive, intensive sector, generally do not have. Algerian entrepreneurs also experience severe difficulties in covering their working capital needs. Another critical point linked to their relationship with the banking system (e-banking must be developed) with pressure to keep up with especially for a new entrepreneur in the initial phase, when the cash-payment cycle is not yet up to speed.

Table 3. The effect of different funding sources

Level	Finance			Culture		
	Aid Programs	Financial Institution (Banks)	Family Friends	Environment Culture	Gender	National Education System
Very negative	43.40%	30.19%	-	7.55%	1.89%	1.89%
Slightly negative	30.19%	41.51%	-	16.98%	20.75%	52.83%
Medium	22.64%	28.30%	7.55%	43.40%	56.60%	45.28%
Slightly positive	3.77%	-	11.32%	28.30%	20.75%	-
Very positive	-	-	81.13%	3.77%	-	-

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

Concerning culture elements author introduced three elements which can be the effect (positively or negatively) the entrepreneurship in Algeria, these include the culture of the environment, the gender (be men or woman entrepreneur) and the effectiveness of the national education system. The results show that the climate is generally favorable and supports the entrepreneur. This helps them to strengthen and reproduce the ecosystem's already existing culture by "normalizing these practices and creating new stories of successful entrepreneurs that enter in the region's history" (Spigel, 2015, p. 56).

This element is the most favorable factors in this domain (family support, encouraging creativity & innovation) comparing with other items, such as entrepreneurial opportunities for women. Despite the efforts of the state in the field of training and media areas, and despite the changes and socio-cultural developments experienced by Algerian society, changes in attitudes require more time and effort to raise awareness about a new culture of genres.

The availability of information about the opportunities of the environment, market competition, skills, resource funding and so on is not favorable for the entrepreneurship context. This means that media and institutions of information don't play the role that it takes.

Human Capital and Markets

Table 4 illustrates that 53 entrepreneurs are not satisfied with training programs applied by institutions such as a university. Almost 60% have shared that this element does not support entrepreneurship in Algeria. However, the majority mentioned the availability of skilled employees. So, they did not receive the desired support from the university to fulfilling their knowledge and skill building needs.

With regard to their experience in the field as well as the nature of the activity they perform, results indicate that globally entrepreneurs do not hide their ability to manage and conduct their project by drawing on the experience gained from their professional career in other companies. Over 71% have shared that this element has very positive support for their entrepreneurial activity.

Concerning market domain author introduced three elements: competition in the field, the access to the market, and the price of several raw materials needs. The results show that accessing market is seen as a moderate element by 30.19% of surveyed entrepreneurs; it is a high ratio taking in consideration that the entrepreneur is familiar with the environment, market demand and potential users.

Table 4. Human capital and market effect

Level	Human Capital				Market		
	Training Institute (University)	Skills	Activity Nature	Experience	Competition	Market Access	Raw Material Prices
Very negative	1.89%	1.89%	-	-	-	16.98%	7.55%
Slightly negative	33.96%	16.98%	-	9.43%	22.64%	26.42%	50.94%
Medium	43.40%	71.70%	50.94%	7.55%	26.42%	30.19%	33.96%
Slightly positive	11.32%	9.43%	41.51%	11.32%	35.85%	16.98%	-
Very positive	9.43%	0.00%	7.55%	71.70%	15.09%	9.43%	7.55%

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

A possible reason for this would be the lack of proper marketing channels. Being able to expand nationally and internationally is of utmost importance for Algerian entrepreneurs, what requires attention by the government for tailoring strategies for the local needs to advise entrepreneurs and helps them develop new markets.

CONCLUSION

The entrepreneurial framework conditions matter because they regulate to what extent the resulting new ventures are able to fulfill their growth potential. A range of necessary entrepreneurial conditions, such as government policy, supports, education and training, infrastructures based on ICT, financial support and so on, controls the degree to which entrepreneurs are able to achieve their potential. The ultimate goal of any ecosystem is to evolve from being subsidized until it becomes market funded and financially self-sustaining. Silicon Valley is at this maturity level (Harrington, 2017, p. 16).

Several previous studies that have addressed topics related to the entrepreneurial ecosystem focused on identifying all its participants (Mack & Mayer, 2016). While Van de Ven (1993) with his 'Social system framework' did not exclusively focus on the individual characteristics of an entrepreneur. He emphasized the importance of the university, financing mechanisms, human competence pool and an institutional arrangement to legitimize, regulate and standardize activities on entrepreneurship. Therefore, Algeria needs to recognize and redesign the development of these elements as the foundation of its entrepreneurial ecosystem culture.

This must be started by the importance of an entrepreneurial ecosystem (why?), as with every significant innovation, the most prominent confusion lies in the exact scope (what?), and its implementation (how?). And, if one cannot find the way for 'how' question, then it will be difficult and ambiguous to understand 'what' this ecosystem is and 'why' it is so important. A healthy entrepreneurial ecosystem for Algeria will drive resource allocation towards productive uses. It will also drive total factor productivity through innovation. The more exceptional overall factor productivity, the higher the economy's capacity to create jobs and wealth.

Also, entrepreneurship is created by innovation and business initiative woven with risk-taking strategies. One of the novel ways of doing business is Technology Entrepreneurship. Technology entrepreneurship is based on some critical steps to establish business ventures, such as: following the patterns and efficacy of existing Technology Parks, identifying the prospective regions, human capital equipped with ICT skills, social interactions with corporations, operational, financial resources, productivity, adoption of policies and best management practices.

This study provides implications that entrepreneurs, government, banks, and universities may draw from its results. Based on quantitative analyses, this study can help inform them as to the importance of redesigning the context in which ecosystem actors and elements interconnected. The aim was to understand that, through 53 entrepreneurs' experiences. A detailed examination of the entrepreneurial ecosystem analogy in this study requires careful attention to the critical elements of the ecosystem to be healthy.

Another critical point that this study illustrates appears that the obstacles are multiple and varied: from institutional to social to financials lacks and the very nature of the Algerian economy which is primarily based on the oil sector. According to the African Development Bank Report on 'African Economic Outlook: Entrepreneurship and Industrialization,' (2017) the persistent decline in commodity prices has begun at attributable to the collapse of commodity prices and, in particular, oil. Resource-rich countries

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

have been particularly affected by this less mobilization of domestic resources: between 2012 and 2015, revenues were divided by more than half in Algeria (51.8%).

The Algerian economy is very dependent on this sector, which still accounts for 94.5% of total exports. This is confirmed by the drop in the trade deficit in 2017 following the rise in oil prices. As a result, oil revenues increased by 16.5% (from 28.2 billion \$ in 2016 to 32.9 billion \$ in 2017). The persistence of these difficulties is still a matter of the quality of the business climate which hinders in a very negative way the capacity of project creation.

The goal of this study is to collect data on the entrepreneurship context for providing a guideline for those interested in creating a startup in the country. There is a lack of literature that focuses on the critical elements of the entrepreneurship ecosystem development in the Algerian context. So, this study contributes to bridging the scientific gap in entrepreneurship in Algeria.

Study findings have implications for both theory and practice. For researchers, the study provides empirical evidence on the determinants of entrepreneurship ecosystem. For entrepreneurs, the results provide an insight into various factors that play a role in sustenance and growth of their activities. For policymakers, it proposes a vision of co-existence and inter-dependence of elements enabling and disabling entrepreneurship.

The exploratory nature of this study means that it was conducted within the constraints of various limitations. These limitations have significant implications for how this study should be perceived by scholars. Due to constraints of time and money, the sample size of this study was tiny. Despite the boundaries of the research related to the sample size, which can be considered as no representative of all regions across Algeria, the findings at this stage contribute to the understanding of the determinants of entrepreneurship, which support and harness the growth of entrepreneurial activities in Algeria.

In a broader sense, this study has established a guideline for creating information about existing condition of the entrepreneurship ecosystem in Algeria, but there are still several areas of research for future investigation. Such as the evolution of Algerian ecosystem especially with the current conditions of the economic crisis caused by the drop in oil prices. Also, attention must be accorded to the experience of other country' entrepreneurship ecosystem in order to bring exciting initiatives.

Future research can also analyze the entrepreneurial success factors to improve understanding of what makes some entrepreneurial activities successful and others not. In addition, prospective study can focus on the development of a theoretical reflection on productive entrepreneurship ecosystems, the links between the various agents of the ecosystem (connectivity), their role and what can be developed in this interaction system-agent, reviewing the impact of the plan on development policies (directly affecting employment and economic viability).

ACKNOWLEDGMENT

The author would like to thank to gratefully and sincerely all respondents, without the enthusiastic participation of owners of 53 entrepreneurs this study would never have come into being. Thank you to all of you!

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An Empirical Analysis of the Algerian Entrepreneurship Ecosystem

KEY TERMS AND DEFINITIONS

Entrepreneur: Entrepreneurship is not only an outcome of the ecosystem but also a significant input factor since entrepreneurs drive the ecosystem by creating it and keeping it healthy. Drucker believes that what entrepreneurs have in common is not personality traits but a commitment to innovation. For innovation, the entrepreneur must have not only talent, ingenuity, and knowledge but he must also be hardworking, focused, and purposeful.

Entrepreneurial: A process, in which opportunities for creating new goods and services are explored, evaluated, and exploited.

Entrepreneurial Activity: Entrepreneurial activity, as an output of the entrepreneurial ecosystem, is considered the process by which individuals create opportunities for innovation. This innovation will eventually lead to a new value in society, and this is, therefore, the ultimate outcome of an entrepreneurial ecosystem while entrepreneurial activity is a more intermediary output of the system. This entrepreneurial activity has many manifestations, such as innovative start-ups, high-growth start-ups, and entrepreneurial employees.

Entrepreneurship Ecosystem: An entrepreneurship ecosystem is the totality of all elements that affect a startup and are outside the immediate control of the entrepreneur, startups growth and success is in direct link with it. We can group these elements into four factors, which are (1) individual characteristics and skills, (2) institutional and regularity determinants, (3) financial determinants, and (4) culture determents.

Innovation: It is recognized as a source of growth and competitiveness. The Oslo Manual distinguishes between four types of innovation.

Marketing Innovations: Establishing a new marketing method requiring substantial changes in a product's design, conditioning, placement, promotion, or pricing.

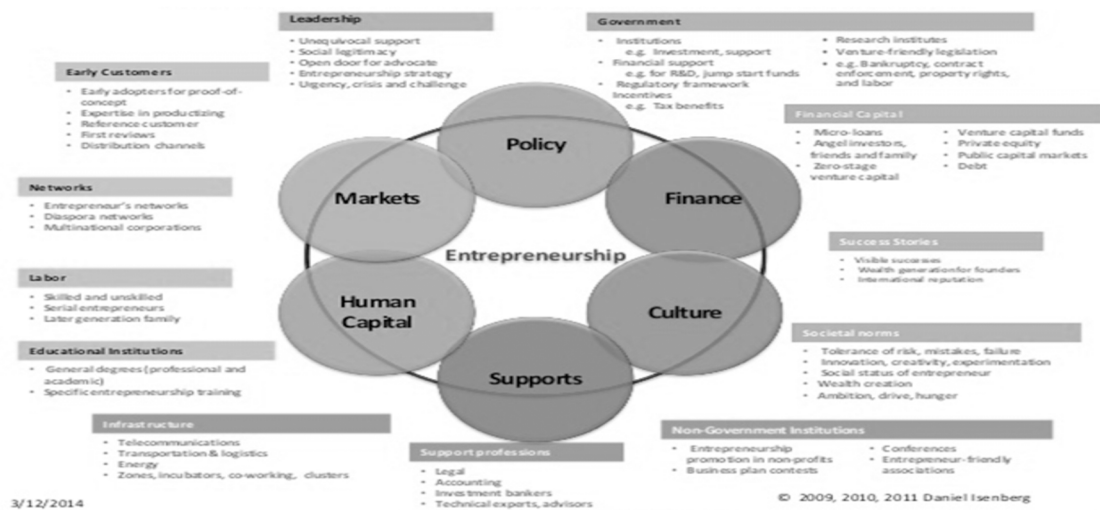
Organizational Innovation: Establishing a new organizational process in practices, workplace organization, or company public relations.

Process Innovation: Establishing a new production or distribution method, or significantly improving an existing one. This notion involves significant changes in techniques, material, and/or software.

Product Innovation: Introduction of a new product. This definition includes significant improvements to technical conditions, components or materials, embedded software, user-friendliness, or other functional characteristics.

Small and Medium Enterprises (SMEs): Are companies that fall under specific legal limitations regarding the number of employees and the annual turnover. However, this differs from one place to another. In Algeria, an SME is a service or right provider employing between 1 to 250 employees with a turnover not exceeding 2 billion AD.

Startups: The first thing that is associated with entrepreneurship is startups. It is necessary to establish its definition in order for it to be used later on in this study. A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty. A startup is also considered as an organization formed to search for a repeatable and scalable business model. The term expandable suggests that the aim of every startup is to grow (and, consequently, to stop being a startup) and to mature to a fully functional company: to an SME.

An Empirical Analysis of the Algerian Entrepreneurship Ecosystem**APPENDIX 1****Domains of the Entrepreneurship Ecosystem***Figure 7.**Source: Babson College: Daniel Isenberg, 2011*

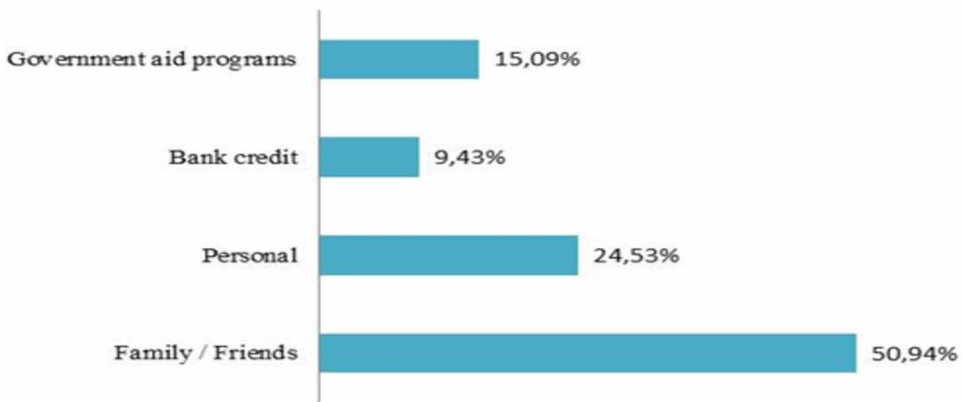
An Empirical Analysis of the Algerian Entrepreneurship Ecosystem**APPENDIX 2****Respondents' Characteristics***Table 5.*

Category		Nbr	%
Sex	F	15	28,30
	M	38	71,70
Age	18-24	8	15,09
	25-34	20	37,74
	35-44	19	35,85
	45-54	2	3,77
	> 55	4	7,55
Situation before creation	Employee	28	52,83
	Student	15	28,30
	Unemployed	10	18,87

APPENDIX 3

Sources Funding

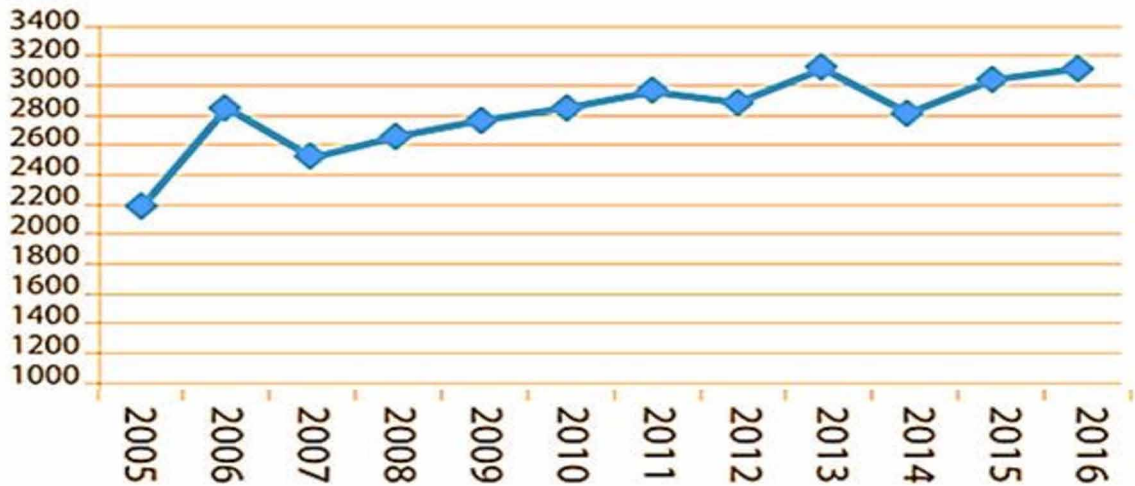
Figure 8.



APPENDIX 4

Evolution of Entrepreneurs' Numbers

Figure 9.
Source: ONS, 2016



Chapter 23

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC): Literature Review and Theoretical Foundations

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ABSTRACT

This chapter presents a literature review of the term competency given the importance of the term in a wide variety of domains, specifically in the education and training. More specifically, the concept is analyzed within the entrepreneurship domain since it has used it as a framework to study entrepreneurs and their performance with new venture creation and later its growth. The chapter also presents a review of entrepreneurship competency models which have been proposed by previous research under the iceberg model. In the end, a model of entrepreneurship competencies is introduced, paying close attention to the behavioral level competencies which can be developed throughout education basing on past research and in the iceberg model.

DOI: 10.4018/978-1-5225-5837-8.ch023

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)**INTRODUCTION**

The assumption that formal education develops specific competencies in young people has rapidly increased the number of entrepreneurship programs and courses in universities around the world (Fayolle & Gailly, 2008; Oosterbeek et al., 2010; Bell et al., 2015; Edwards-schachter et al., 2015; Piperopoulos & Dimov, 2015; Hatt, 2018). In spite of it, and according to different researchers, the entrepreneurship education field is in its early stages since there is no universal theoretical framework nor best practice as to how to educate or train entrepreneurs (Vesper & McMullan, 1988; Gorman et al., 1997; Hills, 1988; Fiet, 2001; Gibb, 2002; Bechard & Gregoire, 2005; Kuratko, 2005; Matlay, 2006; Rasmussen & Sørheim, 2006; Fayolle & Gailly, 2008; Bruton, 2010; Bagheri & Pihie, 2011b; Albornoz, 2013; Fayolle, 2013; Gedeon, 2014; Ghina, 2015; Hatt, 2018).

Entrepreneurship education takes relevance under two assumptions. The first is regarding the fact that those entrepreneurs who create an enterprise within a university environment have a more significant impact on the economic development of their ecosystem (von Graevenitz et al., 2010; Wurthmann, 2013), and they perform much better (Shane, 2003; Godsey & Sebora, 2010). The latter is due to the fact that institutions provide entrepreneurs with skills, attitudes, and knowledge which allow them to be alert to business opportunities and create a business from them (Ali et al., 2012; Piperopoulos & Dimov, 2015). Besides that, it has been established that entrepreneurship education plays a fundamental role in the development of more and better entrepreneurs (Martin et al., 2013; Hatt, 2018). The second assumption affirms that entrepreneurs can be nurtured. This is, there is not entrepreneurial gen, one is not born an entrepreneur (Gorman et al., 1997; Kuratko, 2005; Neck & Greene, 2011). There is sufficient evidence that entrepreneurship can be taught or at least encouraged through entrepreneurship education (Solomon, 2007). Stating that entrepreneurs can be “made” (Sánchez, 2013) whether through formal education or training has significant implications. Amongst them, the theoretical framework of what should be taught and how should it be taught (Kuratko, 2005); even the place where it should be educated (Hindle, 2007).

In the context of the entrepreneurship education, one consistent stream of research focuses on how to develop competencies among students. In this regard, the competency-based approach has become more often a way to study the characteristics of effective entrepreneurs (Man et al., 2002). Explicitly, by competency, is understood all those attributes possessed by an individual which are suitable to perform a specific function (Chell, 2013). This way, if the feature concerns the creation of a company, then, the competencies a person should develop are those concerning entrepreneurship. The development of entrepreneurship competencies amongst youngsters would increase their perceived feasibility, therefore, their entrepreneurial intentions (Sánchez, 2011; Obschonka, 2017).

The relevance of competencies in the promotion and success of the entrepreneurial process has yielded to an extensive line of research leading to numerous definitions and entrepreneurial competency typologies (Chell, 2013; Tehseen & Ramayah, 2015). However, the typologies and classifications proposed so far are heterogeneous, and there is no consensus among scholars as to which are the relevant competencies required within the field of entrepreneurship. On the other hand, not all skills associated with entrepreneurship are susceptible to be learned or acquired through education (Man & Lau, 2005) since most of them are strictly related to personality traits, motives or attitudes, which are all very stable throughout time and turn out to be difficult to modify (Le Deist & Winterton, 2005). As a consequence, the literature on entrepreneurship competencies is characterized by the absence of an integrated framework about the typologies of relevant skills for entrepreneurship and more specifically on which are

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

susceptible to be acquired through education or training. Most importantly, little is known about which competencies education programs should emphasize on.

Under this context, after an extensive literature review, in this chapter, an entrepreneurship competency model is proposed focusing on those competencies which are susceptible to be acquired by training and education (Bird, 1995; van Dam et al., 2010; Mojab et al., 2011). In particular, the chapter first addresses the definition of the term competency, and three levels are identified taking into consideration the Iceberg Model adapted from Boyatzis (1982) and Spencer and Spencer (1993). Likewise, an exhaustive analysis of various entrepreneurship competencies typologies is performed based on previous literature, and categorization is proposed based on the levels identified in the Iceberg Model. The proposed classification distinguishes among competencies which are susceptible to be learned through education and those which are not. Finally, a Model of Teachable Entrepreneurship Competencies (M-TEC) is proposed, integrating findings from existing models (Mitchelmore & Rowley, 2010, 2013).

DEFINITION AND SCOPE OF THE TERM COMPETENCY

The term competency acquires particular relevance from an academic perspective since it allows to close the gap between education and job performance (van der Klink & Boon, 2003). It constitutes a key term in a wide array of domains such as human resources and education, using it as a primary element in development, training, and education (Stoof et al., 2002). However, despite its importance, there exists a considerable confusion around the term competency (Shippmann et al., 2000; Stoof et al., 2002; van der Klink & Boon, 2003; Le Deist & Winterton, 2005; Hayton & Kelley, 2006; Mitchelmore & Rowley, 2010; Mojab et al., 2011; Morris et al., 2013; Bamiatzi et al., 2015). Such confusion is due to the fact that the term has been defined and used in a wide array of domains such as social psychology, clinical psychology, industrial psychology, law, education and vocational orientation (Shippmann et al., 2000; Sánchez, 2013; Edwards-schachter et al., 2015). Furthermore, the complexity of the term is also related, amongst other factors, to the polarization in two distinct directions: the individual approach and the collective approach. The first one focuses on the behavior of the individual, while the latter focuses on the construction of competencies required within an organization (Le Deist & Winterton, 2005).

Despite the lack of consensus with regard to the term's definition, the study of competencies is relevant since they, at least those of a behavioral nature (Boyatzis, 2008), can be developed (McClelland, 1973; Bird, 1995; Shippmann et al., 2000; Man et al., 2002; van der Klink & Boon, 2003; Le Deist & Winterton, 2005; Boyatzis, 2008; Oosterbeek et al., 2010; Sánchez, 2012; Sánchez, 2013; Tehseen & Ramayah, 2015) unlike personality traits and intelligence itself (McClelland, 1998; Le Deist & Winterton, 2005) through training or education (Man & Lau, 2005). Additionally, since they can be observed, competencies can be measured throughout different methods, included those of a qualitative nature (Bird, 1995).

A review of the literature from the different fields of application of the term competency, state that the confusion of the term is also due to the word itself. Thereby, two words arise "competence" and "competency," used to refer to the term of competency and are frequently and indistinctly used although they are defined in different ways (Edwards-schachter et al., 2015). The same thing happens with terms such as "skills", experience or knowledge", "ability" and "competency" (Mitchelmore & Rowley, 2010; Sánchez, 2011), "capacity", "resources" and "assets" (Rasmussen et al., 2011; Bamiatzi et al., 2015), which are not only interrelated but are used interchangeably in the literature. In the search to clarify and

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

better understand the term competency, an analysis of both terms “competence” and “competency” is performed and shown in Table 1.

The term “competence” refers to the task and its achievements, while “competency” is concerned to the individuals who do the job and not the job itself (van der Klink & Boon, 2003). The first, focuses on the minimal standard norms of performance, while the latter focuses on the behaviors or conducts individuals show (Winterton, 2001; Le Deist & Winterton, 2005; Mitchelmore & Rowley, 2010; MacLean & Scott, 2011). The competency understood as “competence,” is not directly observable but is inferred from the performance that can be observed. For its part, the term “competency” refers to all those attributes such as knowledge, abilities, and attitudes that along with performance contribute to a professional competence (MacLean & Scott, 2011). Thus, competencies are those attributes that are suitable or fit the purpose of fulfilling a particular task (Chell, 2013). They are a set of capacities, knowledge, and skills required to achieve superior performance for a specific field of study (van Dam et al., 2010).

In the following section, a discussion of the multidimensional nature of the term competency is presented in order to broader understand its complexity.

DIMENSION OF THE TERM COMPETENCY

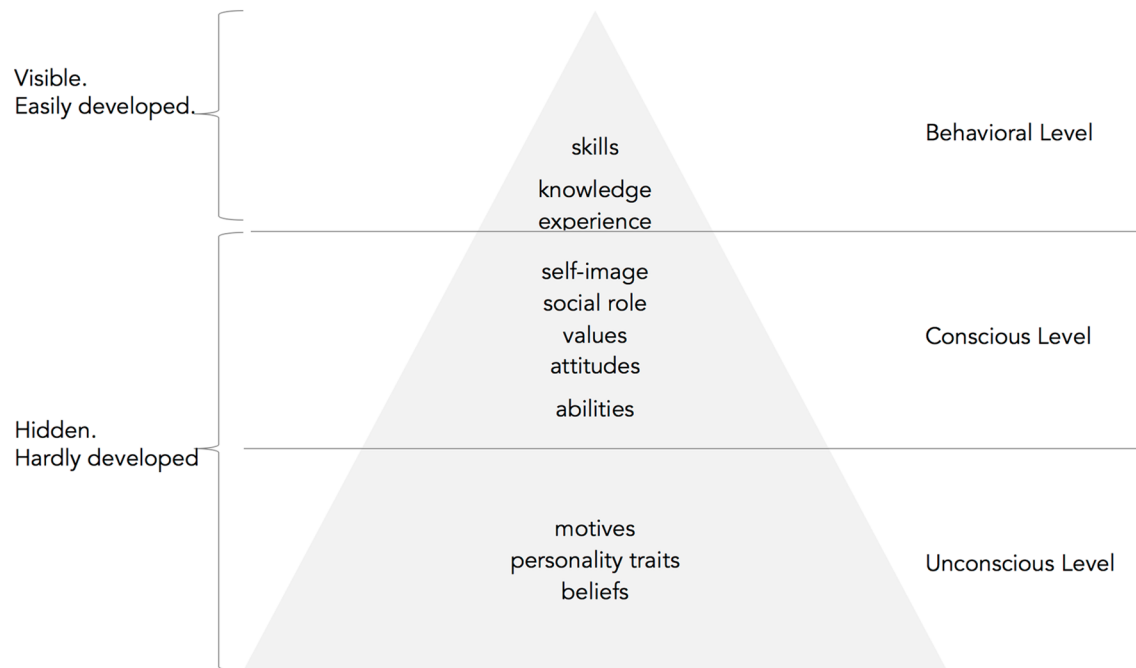
From the definition given in the previous section, the multidimensionality of the term is clearly established (Mitchelmore & Rowley, 2013). The Iceberg Model (Figure 1) proposed by Boyatzis (1982) and Spencer & Spencer (1993) considers the term competency as a term formed by three levels. At the bottom of the iceberg lays the personal attributes which remain hidden to the person at an unconscious level, but in any case, they determine the way in which the person behaves. Among these attributes personality traits and beliefs stand out. In a second level, attributes such as personal values, attitudes, abilities or social role appear. Even though these qualities remain hidden, they are situated on a conscious level to the individual. Finally, at the tip of the iceberg more visible characteristics of the person is located and manifested through the person’s behavior, such as knowledge, skills or experience.

As mentioned earlier, the term competency is complex and at the same time, valuable in itself since it represents the sum of all the attributes required to perform a task or job in a particular context (Bird,

Table 1. Definition of the terms “Competence” and “Competency”

Term	Approach	Definition	Authors
Competence	Functional	They refer to the job and its achievement; it refers to the minimum standards of performance. These cannot be directly observable, they are inferred from the performance of the person.	(Boyatzis, 1982; McClelland, 1998; Winterton, 2001; van der Klink & Boon, 2003; Le Deist & Winterton, 2005; Mitchelmore & Rowley, 2010; MacLean & Scott, 2011)
Competency	Behavioral	It deals with the people who do the job. They describe the behaviors rather or conducts that the individuals demonstrate and that contribute to the job performance. They are defined as those inherent characteristics of the person that leads to superior performance in a given context.	(Boyatzis, 1982; Spencer & Spencer, 1993; McClelland, 1998; Winterton, 2001; van der Klink & Boon, 2003; Le Deist & Winterton, 2005; Mitchelmore & Rowley, 2010; MacLean & Scott, 2011)

Source: Prepared by the authors.

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)**Figure 1. Iceberg model***Source. Adapted from Boyatzis (1982) and Spencer & Spencer (1993).*

1995; Baum et al., 2001; Wu, 2009; Ahmad et al., 2010). Additionally, two characteristics distinguish the term competency as such from the particular elements which compose it: the first one is that the competent behavior implies the specific possession of examples of the different aspects; and the second is the possibility of such factors be compensated by others up to a certain point (Hayton & Kelley, 2006).

Table 2 synthesizes the dimensions which compose the term competency proposed previously in the literature organized according to the structure proposed by the Iceberg Model. In particular, skills, knowledge, experience, self-image, social role, values, attitudes, abilities, motives, personality traits, and beliefs are included.

Next, each one of the dimensions of the term competency is described and analyzed.

Unconscious Level of the Term Competency

Regarding the unconscious level of the Model, it includes motives, personality traits and personal beliefs of the individual.

In the first place, motives are those thoughts the individual holds which drive him to a specific action (Spencer & Spencer, 1993). In this way, the literature distinguishes two triggering forces of personal motives: push factors and attraction factors. In the entrepreneurship domain, the push factors refer to those situations in which the individual is pushed towards the creation of a venture. Meanwhile, the attraction forces relate to those personal conditions in which the individual is attracted towards the entrepreneurship phenomena. According to previous research, there exist three internal motives which

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)*Table 2. Dimensions of the term competency*

Level	Dimension	Definition	Authors
Unconscious Level	Motives	Things that a person consistently thinks or wants which leads him/her to action (Spencer & Spencer, 1993)	Boyatzis, 1982; Bird, 1995; Driessen & Zwart, 2000; Man & Lau, 2005.
	Personality traits	Physical characteristics and responses consistent with situations or information (Spencer & Spencer, 1993)	Boyatzis, 1982; Bird, 1995; Stuart & Lindsay, 1997; Lau et al., 1999; Driessen & Zwart, 2007; Man, Lau & Chan, 2002; Man & Lau, 2005; Hayton & Kelley, 2006; Athayde, 2009; Oosterbeek & van Praag, 2010; Mitchelmore & Rowley, 2010; Ployhart & Moliterno, 2011; Sánchez, 2011; Volery, Müller, Oser, Naepflin & del Rey, 2013; Chell, 2013
	Beliefs	They are reflected in perceived desirability and feasibility (Volery, Müller, Oser, Naepflin & del Rey, 2013)	van der Klink & Boon, 2003
Conscious Level	Self-image	It refers to the person's perception of himself as well as his own evaluation (Boyatzis, 1982)	Spencer & Spencer, 1993; Bird, 1995; Man & Lau, 2005; Mitchelmore & Rowley, 2010
	Social Role	It represents the individual's perception of how he "fits" with respect to the expectations of others (Boyatzis, 1982)	Spencer & Spencer, 1993; Bird, 1995; Man & Lau, 2005; Mitchelmore & Rowley, 2010;
	Values	Values are part of the self-image and social role, based on them the person evaluates his image and social function (Boyatzis, 1982)	Ployhart & Moliterno, 2011
	Attitudes	They are feelings or assertions for or against a particular topic (Boyatzis, 1982)	van der Klink & Boon, 2003; le Deist & Winterton, 2005; Man & Lau, 2005; Athayde, 2009; Mitchelmore & Rowley, 2010; Sánchez, 2011
	Abilities	Permanent features are useful for performing a range of tasks (Marvel, Davis & Sproul, 2014).	Cassar, 2006; Markman, 2007; Chell, 2013; Marvel, Davis & Sproul, 2014
Behavioral Level	Skills	It is the ability to perform some physical or mental task (Spencer & Spencer, 1993)	Boyatzis, 1982; Bird, 1995; Stuart & Lindsay, 1997; Lau et al., 1999; Man, Lau & Chan, 2002; van der Klink & Boon, 2003; delamare le Deist & Winterton, 2005; Man & Lau, 2005; Cassar, 2006; Hayton & Kelley, 2006; Markman, 2007; Athayde, 2009; Mitchelmore & Rowley, 2010; Oosterbeek & van Praag, 2010; Ployhart & Moliterno, 2011; Sánchez, 2011; Chell, 2013; Marvel, Davis & Sproul, 2014
	Knowledge	It is the understanding of principles, facts and processes (Ployhart & Moliterno, 2011)	Boyatzis, 1982; Spencer & Spencer, 1993; Bird, 1995; Stuart & Lindsay, 1997; Lau et al., 1999; Driessen & Zwart, 2000; Man, Lau & Chan, 2002; van der Klink & Boon, 2003; delamare le Deist & Winterton, 2005; Man & Lau, 2005; Hayton & Kelley, 2006; Markman, 2007; Mitchelmore & Rowley, 2010; Ployhart & Moliterno, 2011; Sánchez, 2011; Volery, Müller, Oser, Naepflin & del Rey, 2013; Chell, 2013; Marvel, Davis & Sproul, 2014
	Experience	It is a multifaceted construct that reflects an opportunity to learn and transfer knowledge from the general to a specific job (Ployhart & Moliterno, 2011)	Cassar, 2006; Mitchelmore & Rowley, 2010; Ployhart & Moliterno, 2011

Source. Prepared by the authors.

lead to the creation of a new venture in the entrepreneurship domain: the need for autonomy, need for achievement and need for power.

On the other hand, personality traits refer to all those personal characteristics generally stable throughout adulthood, which guide and maintain the consistency of the individual's behavior (Athayde, 2009; Ployhart & Moliterno, 2011). In the literature, certain personality traits have been clearly identified as distinctive of entrepreneurs such as: self-efficacy (self-perception regarding the personal ability to execute a given behavior), risk-taking (decision making under uncertainty) or innovativeness (tendency towards creativity and innovation), among others (Driessen & Zwart, 2000; Athayde, 2009). As stated earlier, some authors such as Driessen and Zwart (2000) consider that motives such as the search for

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

autonomy (desire for independence and freedom) and achievement (desire a person has to be successful in competitive situations) may also be considered personality traits of the entrepreneur.

Finally, personal beliefs are closely linked to the desirability (degree of person attraction towards an entrepreneurial activity due to the fact that the action is perceived by the individual as a valid career option) and perceived feasibility (degree in which an individual feels personally capable of starting a venture) of the entrepreneurial activity. Both are direct antecedents of the entrepreneurial intent (Volery et al., 2013).

Conscious Level of the Term Competency

The conscious level in the Iceberg Model is composed by the self-image of the individual as well as by the social role, personal values, attitudes and aptitudes in the development of a specific task.

In the first place, self-image refers to the perception the individual has of herself/himself and the evaluation s/he makes of such image (Boyatzis, 1982). This way, the definition embodies two closely linked dimensions, self-concept, and self-esteem of the individual (Boyatzis, 1982).

Social role refers to the perception the individual has regarding the set of social norms of behavior which are acceptable and appropriate in the social group s/he belongs to (Boyatzis, 1982). Thus, the social role represents the position of the individual with respect to how s/he fits herself/himself with others' expectations of her/his social group.

Personal values represent the preferences and individual have over a specific type of work, and just like personality traits, they are usually stable throughout adulthood (Ployhart & Moliterno, 2011).

On the other hand, attitudes are feelings for or against a specific concept or idea (Boyatzis, 1982). Specifically, they refer to the predisposition towards a particular object, including abstract concepts, and which manifests itself through cognition (beliefs), affections (emotions) and behaviors (actions) of the individual (Athayde, 2009).

Finally, abilities are useful and permanent characteristics to perform a range of determined tasks (Markman, 2007). It is important to highlight the difference between this concept and that of skills, in that abilities hardly change over time and, therefore, cannot be developed in the same way as skills or knowledge itself. Precisely, abilities are acquired only through teamwork, alliances with other individuals and the work experience that the individual learns over time (Marvel et al., 2014).

Behavioral Level of the Term Competency

In regard to the behavioral level of the Iceberg Model, it includes skills, knowledge, and experience of the individual.

In this way, skills represent the individual capacity to retain more information or process it faster. They are closely linked to domains which reflect a great deal of what the individual has learned through her/his formal education or past experience (Ployhart & Moliterno, 2011). Somehow, skills can be understood as a practical application of previously acquired knowledge (Hayton & Kelley, 2006), they can be developed and improved over time (Oosterbeek et al., 2010).

On the other hand, knowledge refers to the understanding of principles, facts, and processes, from the most generic to the most specific, the individual have ever learned through formal education or past experience (Ployhart & Moliterno, 2011). In the particular case of entrepreneurial activity, knowledge

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

refers to the rational part of the entrepreneurial act itself (Driessen & Zwart, 2000), since it is linked to the required cognition the individual must have to reach a determined result (Hayton & Kelley, 2006).

Finally, the experience is a multidimensional concept which reflects the opportunity to learn and to transfer general knowledge acquired in a specific job (Ployhart & Moliterno, 2011). Just like Le Deist & Winterton (2005) define it, it is the know-how of a person, linked to the practical side of the functional competencies of the individual.

It is evident, from the educational point of view, that the most relevant level of analysis in the Iceberg Model is the behavioral one, where competencies may be developed through formal education (Man & Lau, 2005), unlike innate aspects of the individual such as personality traits or intelligence, amongst others (Le Deist & Winterton, 2005). For instance, personality traits do not usually change over time, and if they do, the change produces itself in an extended period of time, and a direct correlation between entrepreneurship education and his personality traits may not be established (Oosterbeek et al., 2010). Another good example of this is personal attitudes, which may not be learned since they are firmly related to particular characteristics with which the individual is born (Taatala, 2010). However, knowledge, skills, and experience of the individual can, in general, be learned and improved through education (Driessen & Zwart, 2000; Man & Lau, 2005) and therefore, it is more likely that they change over an observable period of time (Oosterbeek et al., 2010). Besides, when referring to visible attributes of the individual, in the behavioral level competencies can be measured through different methods, included quantitative ones (Bird, 1995), something much harder to achieve when measuring hidden attributes such as personality traits or attitudes.

In the following section, an extensive analysis of the different models of entrepreneurship competencies is shown as preceding to the M-TEC proposed afterward.

EXISTING MODELS OF ENTREPRENEURSHIP COMPETENCIES

Over the past few years the competency-based approach has become a standard framework to study the characteristics and actions of entrepreneurs (Man et al., 2002; Rasmussen & Sørheim, 2006) since it is considered that competencies are essential factors which provide a better understanding of new venture success and growth (Mojab et al., 2011). Specifically, previous research recognizes the difference between entrepreneurship competencies and those of management, being the former those needed by an individual to start a venture while the latter are those required for the control and growth of an existing business (Bamiatzi et al., 2015; Tehseen & Ramayah, 2015). Thus, there is a high consensus that entrepreneurship competencies are owned by those individuals who start and develop their business later on (Mojab et al., 2011) and these are relevant given the direct link between individual competencies and the creation, survival, and growth of business (Mitchelmore & Rowley, 2010).

Regarding the concrete definition of entrepreneurship competencies, the existence of several theoretical models that offer a list of skills closely related to the entrepreneurial activity of the individuals stands out. Generally speaking, all previous models consist of a set of competencies organized in categories all related to specific purposes of the entrepreneurial process (Wu, 2009). The importance of these models is that they provide a useful guide to understand a full range of behaviors that lead to superior entrepreneurial performance (Draycott & Rae, 2011).

Due to this importance, an extensive literature review is done around models of entrepreneurship competencies to determine the types of skills that can be developed through entrepreneurship and en-

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

trepreneurial education. The purpose is to identify which are the competencies focused mainly at the behavioral level of the term according to the Iceberg Model of Boyatzis (1982) and Spencer & Spencer (1993). Based on this review, the authors propose a comprehensive model of teachable entrepreneurship competencies and identify which are key competencies that can be developed from the educational sphere to enhance both the entrepreneurship intention and the success of this activity in more consolidated stages of the business process.

To this end, Table 3 presents a synthesis of the leading models of entrepreneurship competencies proposed in previous research, as an earlier step to identify the main categories of skills to be developed during entrepreneurship education.

After analyzing the different entrepreneurship competency models, a proposal is made based on the behavioral level of the Iceberg Model by Boyatzis (1982) and Spencer & Spencer (1993). The M-TEC proposed includes four main categories of competencies gathered from previous empirical and theoretical research: entrepreneurship competencies, management and business competencies, human and relational competencies and interpersonal competencies (Rathna & Vijaya, 2009; Mitchelmore & Rowley, 2010; Tehseen & Ramayah, 2015; Bamiatzi et al., 2015). Likewise, taking as a reference the Iceberg Model by Boyatzis (1982) and Spencer & Spencer (1993), it can be observed that each one of the competency categories proposed in previous research analyzes them in different levels, as shown in Table 4.

Specifically, entrepreneurship competencies refer to those underlying characteristics that result in the creation, survival, and growth of a venture (Bird, 1995). Examples of these type of competencies at a behavioral level are the proper exploration of the environment (Wu, 2009; Mitchelmore & Rowley, 2010, 2013), opportunity identification (Man et al., 2002; Man & Lau, 2005; Wu, 2009; Mitchelmore & Rowley, 2010, 2013; Chell, 2013; Morris et al., 2013), risk assessment (Ahmad et al., 2010a; Mitchelmore & Rowley, 2013; Chell, 2013), generation of successful venture ideas (Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013), vision of the venture (Mitchelmore & Rowley, 2013; Morris et al., 2013), development of innovative products and services appropriate for the identified niches of market (Chandler & Jansen, 1992; Mitchelmore & Rowley, 2010, 2013) and value creation (Morris et al., 2013).

A second category identified includes those competencies related to the management and business competencies needed to run a successful business (Bamiatzi et al., 20015). Examples of these types of skills are the ability to develop management systems necessary to the proper functioning of the organization in the long term (Man et al., 2002; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013), the skill to acquire required resources to operate the business (Chandler & Jansen, 1992; Hayton & Kelley, 2006; Rasmussen et al., 2011; Mitchelmore & Rowley, 2010, 2013; Chell, 2013; Morris et al., 2013), the operative, technical, financial, budgetary and marketing skills (Lerner & Almor, 2002; Onstenk, 2003; Mitchelmore & Rowley, 2010, 2013), previous entrepreneurial experience (Mitchelmore & Rowley, 2010) or familiarity with the industry and the market (Chandler & Jansen, 1992; Wu, 2009; Oosterbeek et al., 2010; Mitchelmore & Rowley, 2010). Besides, in this category it is also valuable the skill to implement the proper strategy for the venture (Lerner & Almor, 2002; Man et al., 2002; Man & Lau, 2005; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010), developing a good business plan (Mitchelmore & Rowley, 2010, 2013) or setting the proper management objectives (Winterton, 2001; Onstenk, 2003; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010).

Thirdly, human and relational competencies refer to the capacity to work with others, understand and motivate them, both individually and as a group (Chandler & Jansen, 1992). Examples of these types of competencies are the skill to develop the appropriate management of the organizational culture to guide the company (Chandler & Jansen, 1992; Winterton, 2001; Hayton & Kelley, 2006; Wu, 2009;

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)*Table 3. Models of entrepreneurship competencies*

Authors	Approach	Competency Categories
Chandler & Jansen (1992)	Empirical	Conceptual competencies; Opportunity competencies; Exploitation competencies; Technical competencies; Political competencies
Winterton (2001)	Theoretical	Cognitive competencies; Functional competencies; Personal competencies; Meta-competencies
Onstenk (2003)	Theoretical	Entrepreneurship competencies; Management competencies; Entrepreneurship competencies
Man & Lau (2005)	Empirical	Entrepreneurship competencies
Hayton & Kelley (2006)	Theoretical	Innovating competencies; Brokering competencies; Championing competencies; Sponsoring competencies
Wu (2009)	Empirical	Entrepreneurship competencies
Rathna & Vijaya (2009)	Empirical	Management competencies; Interpersonal competencies; Decision competencies; Ethical competencies; Venturing competencies; Managerial competencies; Learning competencies
Ahmad et al. (2010a)	Theoretical	Strategic competencies; Conceptual competencies; Opportunity competencies; Leadership competencies; Relational competencies; Technical competencies; Personal competencies
Ahmad et al. (2010b)	Empirical	Strategic competencies; Conceptual competencies; Opportunity competencies; Relational competencies; Learning competencies; Personal competencies; Ethical competencies; Familiarity competencies
Mitchelmore & Rowley (2010)	Theoretical	Entrepreneurship competencies; Business and Management competencies; Relational and human competencies; Interpersonal competencies
van Dam et al. (2010)	Empirical	Entrepreneurial knowledge; Career adaptability; Occupational self-efficacy; Creative thinking; Networking skill; Teamwork skill; Entrepreneurial climate; Education; Entrepreneurial behavior
Ahmad et al. (2011)	Empirical	Strategic competencies; Commitment competencies; Conceptual competencies; Opportunity competencies; Leadership competencies; Relational competencies; Learning competencies; Personal competencies; Technical competencies; Ethical competencies; Social responsibility competencies; Familiness competencies
Sánchez (2011)	Empirical	Entrepreneurship competencies
Rasmussen et al. (2011)	Empirical	Opportunity competencies; Exploitation competencies; Defensive competencies
Chell (2013)	Theoretical	Cognitive competencies; Personality competencies; Social and interpersonal competencies; Specific business competencies; Motivational competencies; Learning competencies
Morris et al. (2013)	Theoretical	Entrepreneurship competencies
Alcaraz et al. (2014)	Empirical	Entrepreneurship competencies
Dimitratos et al. (2014)	Empirical	Innovation competencies; Proactive competencies; Risk taking competencies; Entrepreneurship competencies; Networking competencies; Autonomy competencies
Bamiatzi et al. (2015)	Empirical	Entrepreneurship competencies; Management competencies; Human relations competencies; Personal competencies
Tehseen & Ramayah (2015)	Theoretical	Strategic competencies; Conceptual competencies; Opportunity competencies; Learning competencies; Personal competencies; Ethical competencies; Familiness competencies

Source. Compiled by the authors.

Mitchelmore & Rowley, 2010), the skill to recruit (Mitchelmore & Rowley, 2010, 2013), leadership skill (Chandler & Jansen, 1992; Winterton, 2001; Man et al., 2002; Onstenk, 2003; Wu, 2009; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013), delegation capacity (Chandler & Jansen, 1992; Ahmad et

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)*Table 4. Categorization of entrepreneurship competencies*

Competency Category	Unconscious Level	Conscious Level	Behavioral Level
Entrepreneurship competencies	Risk-taking; Innovativeness; Determination; Proactiveness; Initiative; Self-confidence; Self-awareness; Self-control; Self-motivation; Self-management; Self-efficacy; Self-criticism; Need for achievement; Need for autonomy; Need for power; Social orientation; Perseverance; Creativity; Personal strength; Energy conservation; Emotional intelligence; Stress tolerance; Motivation for work	Entrepreneurial learning	Exploration of the environment; Identification of opportunities; Risks evaluation; Generation of ideas; Business vision; Product innovation; Value creation
Management and business competencies		-	Acquisition and development of resources; Development of management systems; Management skills; Business operating skills; Financial and budgetary skills; Marketing skills; Technical skills; Preparation of the business plan; Implementation of strategies; Goal Setting; Monitoring and control skills; Business experience; Familiarity with industry; Familiarity with the market; Management style
Human relations competencies	Empathy	Tolerance; Assertivity	Management of the organizational culture; Ability to hire; Leadership skills; Delegation skills; Motivational ability; Human relations; Teamwork; Employee development; Employee Performance Management
Interpersonal competencies	Commitment competencies	Conceptual competencies; Coordination of activities; Organizational skills; Analytical skills; Logical thinking; Learning ability; Comprehension of complex information; Flexibility; Integrity; Honesty and transparency	Interpersonal skills; Customer portfolio management; Decision making; Written communication; Verbal communication; Negotiation skills; Relationship management; Conflict resolution; Persuasion; Political capacity

Source. Prepared by the authors.

al., 2010a; Mitchelmore & Rowley, 2010), ability to motivate others both individually and collectively (Chandler & Jansen, 1992; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013), skill to maintain and foment amiable and fruitful human relations (Winterton, 2001; Lerner & Almor, 2002; Man & Lau, 2002; Mitchelmore & Rowley, 2010, 2013), teamwork (Winterton, 2001; Man et al., 2002) or the appropriate performance management and the development of employees (Man et al., 2002; Wu, 2009; Mitchelmore & Rowley, 2013).

Finally, interpersonal competencies include those that allow an efficient interaction among individuals and groups (Rathna & Vijaya, 2009). Among these type of competencies in the behavioral level the following competencies are included: interpersonal skills (Man et al., 2002; Man & Lau, 2005; Mitchelmore & Rowley, 2010, 2013), ability to manage customer portfolio (Mitchelmore & Rowley, 2010),

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

decision making (Man et al., 2002; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010; Chell, 2013), oral and written communication (Winterton, 2001; Man et al., 2002; Wu, 2009; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013), negotiation skills (Onstenk, 2003; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010), social relationship management (Man et al., 2002; Onstenk, 2003; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2013; Chell, 2013; Morris et al., 2013; Alcaraz et al., 2014; Dimitratos et al., 2014), conflict management (Ahmad et al., 2010a), persuasion skills (Winterton, 2001; Man et al., 2002; Hayton & Kelley, 2006; Wu, 2009; Rasmussen et al., 2011) and political competencies (Chandler & Jansen, 1992; Mitchelmore & Rowley, 2013).

ENTREPRENEURSHIP COMPETENCIES WHICH CAN BE LEARNED THROUGH TRAINING AND EDUCATION

From the point of view of entrepreneurship education, it turns out especially relevant to identify which entrepreneurship competencies can be acquired and developed through educational programs (Sirelkhatim & Gangi, 2015). This way, the literature review synthesized in Table 4 manifests the great diversity and heterogeneity of competencies which have been identified in the entrepreneurship domain. It is important to notice that Table 4 classifies the skills identified in previous research according to of the three levels stated in the Iceberg Model (unconscious level, conscious level, behavioral level). It is also of great importance to emphasize the relevance the behavioral level competencies have mainly from the education point of view since through it they can be developed and measured. Despite its importance in the education and training domains, there is currently no theoretical framework that clearly delimits which are the most important specific behavioral competencies. In order to fulfill this gap in the literature and taking into consideration findings of previous research, a classification of entrepreneurship competencies at the behavioral level is proposed. The proposed model distinguishes between the four levels or typologies previously established (as shown in Table 5): entrepreneurship competencies, management and business competencies, human relation competencies and interpersonal competencies.

Within the entrepreneurship competencies, there is a distinction between identification, evaluation, and exploitation of opportunities (Man et al., 2002; Morris et al., 2013; McCann & Vroom, 2015). In terms of business and management skills, the model includes those related to strategic and management skills. Given competencies reflect the capacity of the leader of the organization to develop a strategic vision of the future to follow, which requires thinking beyond the day to day operations (Ahmad et al., 2010a). Human relations competencies include those focused on leadership and motivation, as well as those related to human resource management. These competencies are based on the interactions between person-person or person-group (Man et al., 2002). Finally, among interpersonal competencies, social skills are distinguished, related to effective communication with others around. It is important to mention that all of the competencies included in the model are all considered to be at the behavioral level of the Iceberg Model since they can be observed throughout the individual's conduct, they are not characteristics hidden or rooted in the individual.

Although the current chapter is of a theoretical nature, a brief analysis of the best practice of entrepreneurship education programs is presented hereafter following the work of Nieuwenhuizen et al. (2016). In their research, they interviewed 12 highly-ranked universities known for their global entrepreneurship prestige. Amongst them, Babson College is analyzed not only being entrepreneurship focused college, but it also is also a founding member of the Global Entrepreneurship Monitor Report

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)*Table 5. Proposed model of teachable entrepreneurship competencies at the behavioral level*

Type of Competency	Competency	Authors
Entrepreneurship competencies	Identification of opportunities (Exploring the environment, Identifying opportunities)	Chandler & Jansen, 1992; Man et al., 2002; Onstenk, 2003; Man & Lau, 2005; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010, 2013; Rasmussen et al., 2011; Chell, 2013; Morris et al., 2013
	Evaluation of opportunities (Risk assessment; Vision of the business)	Ahmad et al., 2010a; Mitchelmore & Rowley, 2013; Chell, 2013; Morris et al., 2013
	Exploration of opportunities (Idea generation, Product innovation, Value creation)	Chandler & Jansen, 1992; Lerner & Almor, 2002; Man & Lau, 2005; Hayton & Kelley, 2006; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010, 2013; Morris et al., 2013; Alcaraz et al., 2014
Management and business competencies	Strategic skills (Acquisition and development of resources; Preparation of business plan, Implementation of strategies, Setting of objectives, Management style)	Chandler & Jansen, 1992; Winterton, 2001; Lerner & Almor, 2002; Man et al., 2002; Onstenk, 2003; Man & Lau, 2005; Hayton & Kelley, 2006; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010, 2013; Rasmussen et al., 2011; Chell, 2013; Morris et al., 2013
	Management skills (Management Skills, Planning Skills, Business Operational Skills, Financial and Budgetary Skills, Marketing Skills, Technical Skills; Monitoring and control skills, Development of management systems)	Chandler & Jansen, 1992; Winterton, 2001; Lerner & Almor, 2002; Man et al., 2002; Onstenk, 2003; Man & Lau, 2005; Le Deist & Winterton, 2005; Mitchelmore & Rowley, 2010, 2013; Ahmad et al., 2010a, 2010b
	Previous knowledge and experience of the business (Business experience, Familiarity with industry, Familiarity with the market)	Chandler & Jansen, 1992; Wu, 2009; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010; Oosterbeek et al., 2010
Human relations competencies	Leadership and motivation (Leadership skills, Delegation skills, Teamwork, Motivation skills)	Chandler & Jansen, 1992; Winterton, 2001; Man et al., 2002; Onstenk, 2003; Wu, 2009; Ahmad et al., 2010a, 2010b; Mitchelmore & Rowley, 2010, 2013; Alcaraz et al., 2014
	Human resource management (Organizational culture management, Hiring skills, Human relations, Employee development, Employee performance management, Creation of a culture of cooperation and mutual trust)	Chandler & Jansen, 1992; Winterton, 2001; Lerner & Almor, 2002; Man & Lau, 2002; Man et al., 2002; Hayton & Kelley, 2006; Wu, 2009; Ahmad et al., 2010a; Mitchelmore & Rowley, 2010, 2013; Chell, 2013
Interpersonal competencies	Social skills (Interpersonal skills; Customer portfolio management; Decision making; Written communication ; Verbal communication; Negotiation skills; Relationship management; Conflict resolution; Persuasion; Political competence)	Winterton, 2001; Man et al., 2002; Onstenk, 2003; Man & Lau, 2005; Hayton & Kelley, 2006; Wu, 2009; Mitchelmore & Rowley, 2010; Ahmad et al., 2010a, 2010b; Rasmussen et al., 2011; Mitchelmore & Rowley, 2013; Chell, 2013; Morris et al., 2013; Alcaraz et al., 2014; Dimitratos et al., 2014

Source. Prepared by the authors.

(GEM) and has strong links with several international universities (Nieuwenhuizen et al., 2016). On the other hand, EM Lyon Business School is recognized as a leader in entrepreneurship education in both France and Europe, according to the research by Fayolle & Byrne (2010). It was one of the first business schools in France to integrate a required course in venture creation for all its undergraduates while in other universities among France and Europe such courses are of an elective nature (Fayolle & Byrne, 2010). A third example of a university very much interested in the development of entrepreneurship amongst its students is Tecnológico de Monterrey, in Mexico. Tecnológico de Monterrey has been the first university in Mexico to introduce efforts to incorporate in its curricula entrepreneurship educa-

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

tion (Alvarez et al., 2006) which occurred since 1978 when the university created the first mandatory entrepreneurship course aimed at the development of businessmen and women. Throughout the years the course has evolved, its mandatory nature has not changed, but it has shifted the focus of it towards an entrepreneurship competency approach. Tecnológico de Monterrey is a national leader regarding entrepreneurship education although it has also received international acknowledgment. According to the Princeton Review Ranking (Princeton Review, 2017), Tecnológico de Monterrey has obtained the 17th Rank among the best universities in entrepreneurship. It is important to notice that it is the first university outside the U.S. to be considered by the Review.

Finally, the conclusions are presented in order to offer practitioners, researchers, policymakers and entrepreneurship ecosystem actors specific recommendations, solutions and future areas of research.

CONCLUSION

This chapter presents a theoretical review of the term competency in order to show an integrative perspective of it within the entrepreneurship domain. As stated throughout the chapter, the competency approach has been widely used in previous research. However, theoretical developments have been so extensive that have resulted in scattered literature and knowledge somewhat disintegrated. Therefore, a need is identified in the context of entrepreneurship competencies regarding a comprehensive revision of competency models previously proposed in the literature in order to introduce an integrative vision and a new classification, consistent but straightforward of entrepreneurship competencies to further explore theoretical and empirical advances in this field of research.

In the first place, from the previous research it can be concluded that entrepreneurship competencies relate to those characteristics an individual possesses (skills, knowledge, experience, self-image, social-role, values, attitudes, abilities, motives, personality traits and beliefs) which predispose her/him to become a good entrepreneur and a competent professional in her/his field of business (Edwards et al., 2015). Thus, there is a consensus with respect to the fact that competencies are possessed by those individuals who start a business and later develop and grow it (Bird, 1995), as well as their relevance to the link there exists between the competencies an individual has and the birth, survival and growth of the venture (Mitchelmore & Rowley, 2010).

In addition to this, a competency-based approach to entrepreneurship reveals these can be developed through education and training (Sánchez, 2011), in such a way that academic institutions knowledge about this, is essential for the appropriate design and implementation of academic entrepreneurship programs. The literature review emphasizes the potential of the behavioral competency dimension (Boyatzis, 1982; Spencer & Spencer, 1993), which include previous skills, knowledge and experience of the individual which can be developed through education (Man & Lau, 2005), unlike innate characteristics of the person such as personality traits or personal attitude (Le Deist & Winterton, 2005).

Within the behavioral dimension or level of competencies, previously developed models of entrepreneurship competencies highlight the existence of four key categories: entrepreneurship competencies, business and management competencies, human relation competencies and interpersonal competencies (Mitchelmore & Rowley, 2010, 2013). Within each of the proposed categories, specific competencies are identified such as those related to entrepreneurship competencies (identification, evaluation and exploitation of opportunities), business and management competencies (strategic and managerial skills, previous

Proposal of a Comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC)

knowledge and experience of the business, leadership and motivation), human relation competencies (human resources management skills and social skills) and interpersonal competencies.

From the literature review performed, future lines of research are identified. Specifically, an integration of the entrepreneurship competency categories identified in future theoretical and empirical advances which explore entrepreneurship intentions of the students enrolled in specialized entrepreneurship courses at any level of formal education. Although, a particular emphasis is made on university students since they are more mature than others, meaning their career choice is well established, and it is expected to remain over time. It is especially interesting to explore how each one of the categories of entrepreneurship competencies proposed is capable of increasing the perception of the individual regarding feasibility and desirability of entrepreneurial activity, which constitute two direct antecedents of entrepreneurial intention. Finally, further research would require the development and empirical contrasting of a scale of measurement to evaluate the theoretical model of entrepreneurship competencies proposed in this chapter.

As to the managerial implications this research has, the proposed Model of Teachable Entrepreneurship Competencies (M-TEC) contributes to the clarification of those competencies relevant to include in the curricula in order to develop better-equipped entrepreneurs to successfully deal with the challenges faced when creating a startup or new venture. Another managerial contribution is related to closing the gap, both practitioners and researchers have identified in the design of education interventions and the evaluation of its impact (Kamovich & Foss, 2017; Neck & Corbett, 2018) whether by measuring the performance of the venture, the competencies acquired or developed by the entrepreneurs or the increase of the intention to startup (Hatt, 2018). In such a way that the proposal of M-TEC has the potential to provide a tool to educators, policymakers, startup support ecosystem (incubators, accelerators, investments, etc.) when selecting entrepreneurs (and their ventures) into their programs or support system.

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KEY TERMS AND DEFINITIONS

Behavioral Competencies: According to the Iceberg Model and the model proposed in this chapter, are the competencies which can be observed through the individual's conduct. It is also relevant to mention that these competencies can be quickly developed through education or training.

Competency: Multidimensional construct which represents what a person is capable of doing. It includes knowledge, skills, experience, abilities, values, attitudes, personality traits, among others.

Entrepreneurship Competencies: These are related to the creation, survival, and growth of a venture. These competencies refer to the ability an individual has in order to perform activities concerning entrepreneurship and solve the problems s/he will encounter along the way.

Human Relations Competencies: Include the interactions that entrepreneurs generate throughout the process of creating a company. Since they recognize the opportunity, integrate their team, launch the project and seek investment, among others.

Iceberg Model: It is a model which tries to explain the underlying characteristics of an individual at three levels: unconscious level, conscious level, and behavioral level.

Interpersonal Competencies: Determined by social skills related to effective communication with other people in the immediate environment.

Managerial Competencies: These competencies are related to the formulation of the business strategy.

Chapter 24

Industry–Academia Collaboration in Business Schools

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ABSTRACT

In today's competitive business environment, companies need to recruit right personnel for the right job at the right time. The competencies required for the managers to succeed in the corporate world are knowledge, skills, and attitude. In this context, the chapter explains the need for the industry-academia collaboration in higher education in general and business schools in particular. This collaboration should be at input, process, and output levels of the business school activities. Here the author with the case study of IFIM Business School, located in India, attempts to provide the insights into the best practices followed in industry-academia collaboration. The chapter explains the opportunities and the challenges in fostering effective industry-academia collaboration and offers suggestions to design a strategic win-win business policy for the partners.

INTRODUCTION

In today's dynamic business environment, it is imperative that business schools collaborate with industry to produce industry-ready students. Academia-Industry collaboration is the arrangement between academic institutions and business entities for attaining mutually beneficial goals and objectives. The author through a case study of IFIM Business Schools attempts to provide the insights into the best practices on Industry-Academia collaboration with reference to Business School.

There is greater emphasis on academic-industry relationships from the early 1980s, and currently, it is necessary for both academic institutions and the industry. The innovative measures from the sectors, institutions and the Government will help in fostering the active relationship between the academia and the industry. The conventional model of the relationship between academia and industry is that of producer and consumer. This relationship facilitates the mutually beneficial collaboration between both

DOI: 10.4018/978-1-5225-5837-8.ch024

Industry-Academia Collaboration in Business Schools

the stakeholders. Indian employers are now facing acute shortage of high quality trained manpower. The business schools are not geared up to produce industry-ready students. The Government initiatives alone cannot solve this problem. So, the industry and the established education players have a more significant role to play in coming out with the alternate solution of producing industry-ready students. By this collaboration, Industry gets many inputs from academia in terms of research, and Universities get funding, society gets new products and technology. The partnership would lead to benefits for all the stakeholders.

There is incremental growth in the industry-academia collaboration in the past two decades. This growth is mainly attributed to the Central and State Government for academic research. The industries are interested in this collaboration since they get assistance from academia in terms of research and new product development activities (Bestieler, 2006). The innovation is the need of the hour for corporates to be competitive in this dynamic business environment.

Companies can develop new products and launch them in the market much faster by this partnership with the Universities. In this process, the industry gains expertise in the areas of their business and in turn they can nurture the students and make them job-ready. Universities get funding, as well as recognition in the society. The need of the hour is to have a collaboration where both the parties will come out with the specific action plans, which are mutually beneficial.

In India, the Central Government's new initiatives such as Make-in India and Skill India requires this academia-industry collaboration. Innovation needs ideas from both the industry and academia. To achieve the global standards in products and services the Indian companies need to collaborate with institutions such as IISc. (Indian Institute of Science), NITs (National Institute of Technology) and IITs (Indian Institute of Technology) and IIMs (Indian Institute of Management). Since innovation is one of the tools for competitive advantage, companies and countries need to give importance to industry-academia collaboration. It is essential for the Government to address this issue and provide assistance and support for Industry-academia collaboration. The companies need to collaborate with external partners such as universities, public sector organizations, competitors, suppliers and customers in their own or in related industries. Specifically, small and medium-sized enterprises (SMEs) are said to benefit from these external linkages (Egbu, Hari, & Renukappa, 2005) because of their natural limitations. The impacts of innovation strategy and university collaboration on the performance of SMEs are currently the significant concerns of technology and innovation policies in emerging economies. The underlying assumption is that a greater focus on university collaboration will contribute to the knowledge assets of SMEs, which in turn, will make them more competitive in a global economy.

Generally, universities are a vital source of knowledge and provide the basis for innovation in emerging industries (Feldman & Kelley, 2006). Their innovation refers to the new product development and successfully launching the same in the marketplace. Due to this reason, University-industry link has become a key component in the national innovation system. Today the universities are no longer limiting themselves to their traditional roles such as teaching and research but are increasingly engaging in entrepreneurial and business activities that are known as 'third stream activities.' This is mainly due to the changing market and academic environment where the Universities are required to get funding from the Government as well as industry. Today in India Business School ranking process gives higher emphasis on the research and executive development programs conducted by the Business Schools. The other important factor is many of the teaching faculty members also come with rich corporate experience, and their contribution to the industry benefits the industry. The direct involvement of universities with industry can be seen in activities such as research funding, training partnerships, and technical

Industry-Academia Collaboration in Business Schools

services contracts. Apart from these, the industry also sponsors research centers and researchers and offers sponsorship or endowment of chairs (Laursen & Salter, 2003; Siegel, Westhead, & Wright, 2003).

According to Mian (2003) over the last 20 years, universities have been acknowledged as one of the primary sources of competitiveness; however, studies have suggested that only advanced economies benefited from the universities' contributions.

Thus, the universities in emerging economies are trying to follow the footsteps of universities in developed countries such as the USA. This could mean an enormous challenge for higher education institutions as regards funding, quality, and relevance (Mian, 2006).

Advanced countries have a different approach towards industry-academia collaboration where the enterprises are deriving benefits from this collaboration in terms of technical and managerial expertise (Arksey & O'Malley, 2005). With the establishment of Science Parks, incubation centers, contracted research, and Technology Transfer Offices these countries are able to assist the academia and industry in fostering the collaboration successfully. This has helped the industries in developing value-added services and products. The outcomes are eventually expected to accelerate the growth of economies. However, despite the numbers of highly-trained people, well-equipped laboratories, variety of company needs and demands, dynamic and enthusiastic students many technology development initiatives have not been successfully brought in the market because of the limitations in the innovation ecosystem and academic entrepreneurship (Schramm, 2004).

Most of the studies done in the past on industry-university collaboration have analyzed such partnerships in terms of research outcomes, which enables the industry in technology development. This also helps in enhancing the company's performance in the areas of new product development, market research, and market testing. The innovative products will result in patents thereby benefiting the companies. The best practices of Industry-University collaboration will be of immense help to the industry as well as Universities. Universities being a repository of knowledge can help companies in Research & Development activities thereby fostering innovation culture.

Youtie and Shapira (2008) refer to this as the 'knowledge factory' role attributed to universities, characterized by an assembly-line-like transformation process of research inputs into scientific and economic outputs. Mansfield did a survey about the benefits of recent academic research for firms, published in 1991, and a follow-up study published in 1998. In the first study. These are very positive findings compared to a survey conducted by Beise and Stahl for 2,300 firms in manufacturing industries (Beise & Stahl, 1999).

Research studies by Mansfield's (1991) for the US and Beise and Stahl's (1999) for Germany suggested that academic research could explain a significant proportion of product or process innovations. Mansfield (1991) found that about 10% of the new products and processes commercialized during 1975-85 could not have been developed -without substantial delay- without recent academic research. Beise and Stahl (1999), in an extensive survey of German firms, observed that a similar proportion of product- or process-innovating firms introduced innovations between 1993 and 1995 that would not have been developed without public research. Cockburn and Henderson (2001) estimated that the rate of return to public funding of biomedical sciences (in terms of increased private sector R&D) was as high as 30% per year (Brännback, 2003). Problematically though, the rate of return assessments work backward from existing innovations to demonstrate the influence of university research on their development, and yet it is challenging to attribute new products to particular scientific findings.

*Industry-Academia Collaboration in Business Schools***LITERATURE REVIEW**

Universities have always been an indispensable source of competitive edge for companies. Perkman, Neely, and Walsh (2011) through their research concluded that companies often determine their goals for University-Industry Collaboration in terms of general benefits, such as accessing students or gaining windows on emerging technologies. Perkmann, Neely, and Walsh (2011) also came out with a framework for measuring performance in university-industry alliances. When it comes to collaboration Universities, and companies have different requirements for creation and dissemination of knowledge. It is essential for University and Industry partners to understand each other's strengths and weaknesses before going for collaboration. The less prior understanding would lead to misunderstanding and conflicts in the later part of cooperation. It is also necessary for both the parties to define their objective and set milestones to achieve the same. The term innovation has been adapted to various meanings. Baregheh et al. (2009) analyzed some 60 definitions of innovation and proposed change to be "the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace." In the same paper, the innovation process is divided into creation, generation, implementation, development, and adaption. The front end innovation process is divided into opportunity identification, the identification of customers' needs, idea generation, concept definition and project selection by Trotter and Vauhhan (2012). Hippel (1988) found that when the required expertise is not available and in-house development can be time-consuming and expensive; there could be a high incentive to seek the needed information from professional colleagues. Chesbrough (2006) emphasizes open innovation as a paradigm that assumes that firms can and should use external ideas as well as innate ideas, as the firms look to advance their technology. Co-creation is defined broadly as the creation of value by consumers, first by Kambil et al. (1996) and later by Zwass (2010). Prahalad and Ramaswamy (2004) state that the high-quality interactions that enable an individual customer to co-create unique experiences with the company are the key to unlocking new sources of competitive advantage. In University-Industry Collaboration, there are elements that reflect the requirements of knowledge co-creation (Filip, 2013). As Schulze and Hoegl (2006) pointed out earlier, it is likely that several or all knowledge creation modes occur within a single project development phase.

Allen and Henn (2007) found that the probability of a pair of people in an organization communicating with each other declines rapidly as the distance between them increases. They also concluded that getting people to talk to each other is the only truly effective way of advancing the process of innovation. The Embodied Creative Processes presented by Kristensen (2004) suggests that there are differences in the requirements of different stages in the creative process. The preparation and elaboration stages typically require a combination of communal and private space. The incubation and insights stage probably need more area that is private. For example, useful information presented in the nature of objects, artifacts, tables, images, tabletops, etc. can facilitate the process at an implicit level. Thoring et al. (2012) suggested that a creative space should allow interaction and movement so that people and ideas can be grouped and moved. Whiteboards, Post-it notes, and colored pens should be used to encourage visual thinking. A creative space should be beautiful, promote fun and create an atmosphere of abundance (ibid). Appel-Meulenbroek, de Vries and Weggeman (2014) described the metrics for a layout to support knowledge sharing in research environments: visibility (accessibility), placement within the room (accessibility) and centrality in the building. According to the study by Appel-Meulenbroek, de Vries and Weggeman (2014), the added value of physical workplace to the innovation process remains hard to be proven empirically, however, the visibility of colleagues appears to increase the number of knowledge sharing

Industry-Academia Collaboration in Business Schools

meetings. Requirements for services are to support interaction and facilitate trust, such as the services provided by a “champion facilitator”, who Laing (2014) concluded that, as work patterns are increasingly mobile and also often virtualized, organizations and individuals need to provide for events and activities that create community and awareness in physical places. Face-to-face activities in physical settings that are memorable and distinctive become more significant. Workspaces and urban environments need to be designed and managed to allow for many different kinds of special events: parties, lectures, pop-up experiences, meet-ups, and many other types of social, cultural and educational activities helps parties to focus on the common goal in a process (Jones & Burgess, 2010; Philip, 2013).

Montgomery and Porter (1991) concluded that academia traditionally had trailed business in its grasp of trends. It must be and remain aware of trends-not fads-in business so that it continues to be relevant in its “production” of graduates who will be seeking employment after finishing their degrees and leaving the institution. Beard (1994) emphasized the need for a higher degree of industry-school collaboration to integrate employer’s needs into the programmes on offer, and a real involvement with industry to allow students to gain valuable practical experience and to facilitate the development of the business. Moreover, to improve the programs by encouraging the participation of a number of guest speakers who can offer their own practical experiences; Academic staff should be invited to keep their skills updated by undertaking practical consultancy on a regular basis. Byrne (1991) found that companies demand more relevance today. He adds that MBA programmes provide less connection to the job, are felt to be too long and insufficiently flexible. More and more business corporations are looking to collaborate in more detail with business schools to create programmes to improve the quality of output, which can be customized according to company’s individual needs and requirements. Miller (1993) identified significant revisions in curriculum and contents, which are undertaken in business schools, with an objective of including industry recommendations. Many business schools in India have been inviting suggestions from industry to update their curriculum and cover the topics of present-day relevance. This is done with a view to imparting the knowledge and skills set, needed by graduating students in continually changing the global business environment. Elliot, Goodwin, and Goodwin (1994) discovered that MBA programmes place too much emphasis on quantitative and analytical skills and neglect human skills and do little to produce managers who are capable of meeting challenges of global business environment and cope with the increasingly diverse workforce.

Patel and Popker (1998) emphasized on ensuring a common platform for industry and education institutions to work out value-based curriculum taking into consideration the needs of industry. Bisoux (2003) through his research found that corporations are placing growing emphasis on finding the “right person.” Rao and Bowondor (2004) in his report on Management Education in India states that development of industry interactions is an evolutionary process. The main strength of top business schools like Kellogg, Harvard, Sloan, Wharton, etc. is their healthy relationship with industry through teaching, research, student’s placements, problem-solving and case study preparations. Knowledge Partners (2006) discovered that there is a considerable gap between the rapidly evolving skill need of Indian businesses and those provided by our higher education system; there is a growing realization amongst the government, academic institutions, and the industry, of the urgent need to bridge these skill gaps. The main strength of top business schools like Kellogg, Harvard, Sloan, Wharton, etc. is their healthy relationship with industry through teaching, research, student’s placements, problem-solving and case study preparations. The major constituents of a high-quality business school are (a) Competent faculty members with industry exposure who are able to provide practical insights to the students; (b) Teaching quality. Professors possessing a combination of theoretical and practical business capabilities are required

Industry-Academia Collaboration in Business Schools

to enhance students' knowledge, skills, and attitudes during their formation; (c) Power to convene. This is crucial to attracting academics and businesses, society and government leaders to their programs and activities such as conferences, symposia, and forums; (d) Students. The number of students defined in the strategic objectives of different programs: degree and non-degree students, combining young, middle-aged and senior experienced. How many and what type of students? These are related to the school's funding sources; (e) Research. Pure and applied research or both. Research aimed at gaining or maintaining accreditations, rankings, and recognition, and contributions to knowledge and practice. According to Ghosh et al. (2007) at present, there are several mechanisms operational in India, with 'Academia-Industry interaction,' as a fulcrum of technical education. He focused that by involving the industries right from the stage of drafting syllabi to absorb the trained students, they are allowed to shape the CORE into a highly productive Human Resource Centre. This also enables them to reduce the time required to orient a fresh graduate before s/he could be inducted into shop floor and to upgrade/ re-skill their existing employees at a very competitive cost. Modi (2009) said that fresh graduates, who join the industries, require six months to 2 years as gestation period to show their contribution and, many a time, they leave the organization before they start showing results. This is due to the gap between theory and practice. The industry, Research, and Development laboratories should become partners with the centers of higher learning. Gupta (2009) discovered that there is lack of strong integration with industry and other stakeholders in India and urged for the adoption of new and innovative strategies to face the mammoth global challenges. Premchand (2009) found that the Industry interface has a strong bearing on a school's intellectual capital. In India, the level of interface is shallow, and there are some misconceptions. Public relations work done for placing students such as organizing guest lectures and seminars are often the activity that Business Schools do in the name of industry interface. Good interface with industry ensures that faculty members are keeping pace with the fast- changing scenario of industry, which is mirrored in the knowledge, and skills of students who do not need much training on being hired. There is a huge gap between the expectations of a company from job aspirants and the curriculum taught to the students in Engineering Colleges and Business Schools. Vinay and Cashmira (2011) through their model on IAI concluded that Academia-industry relationship is not like that of technology donator-acceptor, but is of interactive and collaborative nature, acknowledging and ensuring mutual respect for each other's role and contributions with an eye to attaining the real purpose of such relationships, namely, bringing about research outcome synergy.

Academia and industry share a symbiotic relationship. Academia produces graduates who are absorbed by industry. Research work in universities is taken up by the industry and turned into products and services. Industry, on the other hand, looks to academia for solutions to their concerns. It would like universities to tailor their courses to turn out graduates whose skill-set are aligned to industry requirements. Often, new research topics arising out of the interaction between the duos which benefit both academia and industry.

IT consulting giant Infosys has initiated such a partnership – the company launched Campus Connect, an India-based programme with the goal of aligning education with the industry's needs. Under the program, faculty members at partner institutions attend seminars and courses to gain an "industry perspective" of the subject matter they teach. The company also works closely with the institutions to fine-tune their curriculum for greater industry relevance. The result: a larger pool of talent – equipped with the requisite skills – from which Infosys can recruit new employees.

Industry-Academia Collaboration in Business Schools

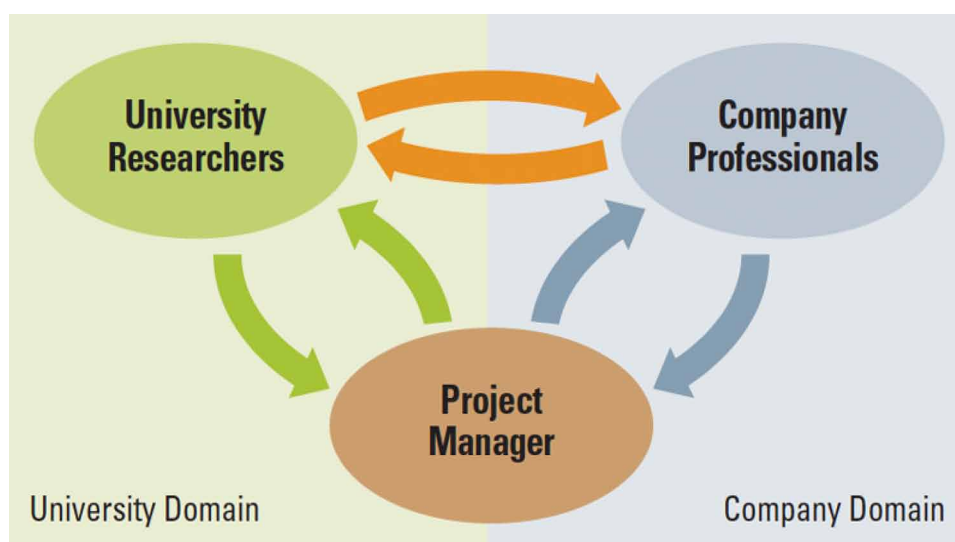
The lack of qualified managerial employees in organizations has posed significant challenges for the companies. This is also the great concern in the area of technical expertise. The government of India has under the leadership of Prime Minister has initiated Skill-India and Make in India programs and partnered with both government and private institutions.

KNOWLEDGE EXCHANGE PATHS IN INDUSTRY-UNIVERSITY COLLABORATION

An effective communications framework between Industry and University will help in bridging the gap between outcome and impact. It is vital to develop two-way knowledge transfer path between the university researchers and the company's project manager, as well as between the project manager and others in the company. The project manager should keep the team members updated on the progress of the research collaboration and convey the university team about the ideas from the company and their connection to other company activities.

Figure 1 explains the role of University Researchers, Project Manager, and other company professionals in effective Industry-Academia collaboration. The technical communities within the company facilitate the identification of new ideas and applications resulting in successful outcomes. It is also important to share with University Research team the vision of how the collaboration helps the company. It is crucial for both the Industry and academia to invest for the long-term relationships. This is only possible through mutual trust and proper communication.

Figure 1. Knowledge exchange paths in Industry-University collaboration



NEED FOR INDUSTRY ACADEMIA COLLABORATIONS IN INDIA

India is ranked 81 in the 2015 Global Innovation Index, which is of more significant concern for Government, academia, and industry. The great concern for the nation is its current education system which is more knowledge oriented. Currently, the courses at the technical and management institutes are not equipped to meet the needs of a start-up economy. The Indian Government initiatives such as Skill-India and Make-in-India really need the Industry-Academia collaboration at technical and management education institutes. The school education in India does not focus on imparting entrepreneurship skills to the children. One of the problems faced by the entrepreneurs is in finding the right kind of employees. Thus, it is imperative that the government promotes Academia-Industry collaboration through effective policymaking. Initiating and fostering research at universities applicable or accessible to start-ups or the start-up ecosystem will ensure that more and more successful spinoffs emerge from Indian universities.

Indian employers expect three things while hiring students from premier business schools: knowledge component (facts, frameworks, theories, practice component (doing and execution) and 'being human' component (values and ethics, commitment, attitudes and beliefs towards work, optimism and empathy). Business schools in India are strong on preparing students for analytical skills. i.e., knowledge component, but are poor in practice and 'being human' components, which are the heart of practical management in India. Employers expect certain functional roles to be filled by fresh MBA graduates along with a hands-on approach to work. This indicates that while designing curricula, business schools must focus on their current strength in the knowledge component while augmenting stress on practice and 'being human' components. Practice component means executing policies effectively by recognizing organizational realities. It involves teamwork, people management, perspective building. It can be done through 'action learning labs/track trips' focused on specific areas like analytics, sustainability, entrepreneurship, and innovation, or type of company or geographic region to facilitate hands-on experience away from the campus to build real-world critical thinking skills in order to sense opportunities and define problems in the corporate world (Heijer, 2011).

'Being human' component means understanding moral principles to create a balance between career and commitment to the organization, adaptability, a positive attitude towards work, and integrative thinking approach. It can be done through immersive programs that focus on themes like effective teams, ethics and social responsibility, leadership and corporate accountability, social innovation, etc. This is where the challenge for business schools lies. These components are not easy to develop in a classroom setting and call for experiential learning. Recruiters in the initial years expect from MBA graduates to handle functional roles like client-customer handling, business development and intelligence, markets, branding, digital marketing, social media, job rotation and cross-functional training, sales, operations, etc. This implies a practice component. Those recruited from IIMs are assigned strategic roles, like being placed as executive assistant manager to senior business leaders and are expected to help them in strategy formulation and work as a resource team for them. Generally, MBAs are expected to play supportive roles to middle-level management who formulate policies and set directions. Their main role in initial years is execution and implementation by recognizing organizational realities. The 'being human' aspect is reflected in the workplace after 5-6 years of experience when MBAs reach middle-level management and work as leaders. They must be sensitive enough to the social impact of business and ethical standards that are expected from them by their employer in strategy development and execution. The new roles and skills that the Indian corporate world now demands from MBAs require a different kind of curriculum on the above three components, and business schools need to rebalance their curri-

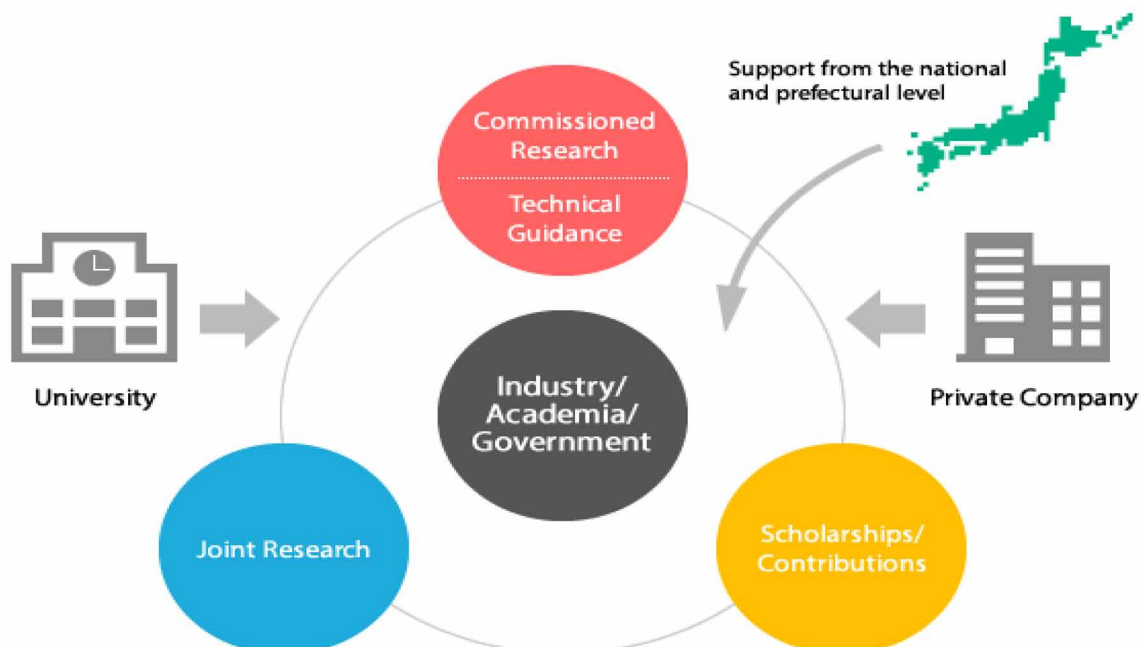
Industry-Academia Collaboration in Business Schools

cula on ‘practice’ and ‘being human’ component if they are to re-establish the value addition they offer to the corporate world. They must balance all three elements in developing holistic business managers.

Industries approach institutions to help design appropriate curriculum and courseware that could enable development of market-relevant workforce or enhance the capacity of the existing workforce to meet the evolving market challenges (Duffy, 2008). A long-term mutually beneficial relationship results from research collaborations between the institutions and the industry. The industry relies on Universities to provide the conceptual background and theoretical foundation, and Universities are dependent on the industry to provide an opportunity for real-time application and prospects for commercialization of the ‘innovation ideas.’ Institutions are acknowledged for their strong ‘conceptual understanding’ and ‘theoretical knowledge,’ and the ability of the researchers to take an independent viewpoint (beyond well-accepted industry practices and standards). This enables the Universities to carry out an open assessment to solve the problem and develop ‘conceptual’ and ‘experimental’ approach to problem-solving (supported by scientific, technical and technological principles and beyond experiential and evidence-based resolving). Industries, on the other hand, provide an opportunity for the Universities and researchers to put to the test their ‘conceptual approaches’ and ‘innovative ideas’ in a real-time situation and help establish concrete solutions for real-time industry challenges. Industries in return have an ‘innovative’ solution that could enable ‘performance excellence.’ Academic (Research) Institutions, on the other hand, have also strived to develop or provide an ‘enabling environment’ for ‘innovative ideas’ (conceptually appropriate and duly researched) to be translated into ‘industrial or entrepreneurial ventures,’ through appropriately structured and nurtured incubation facilities.

Figure 2 explains the Integrated Industry-Academia collaboration where the stakeholders such as Industry, Academia, and Government have to work with integrated approach rather than in isolation to achieve the objectives.

Figure 2. Integrated Industry-Academic Collaboration Model



Industry-Academia Collaboration in Business Schools

The collaboration between the industry and academia help Universities in producing industry-ready students. This can be facilitated through guest lectures, internship opportunities to students. Thus, the interaction between industry and academia promotes in harnessing creativity, access to market expertise, create value, and drive growth. However, to initiate and develop these relationships, institutes need to be open to inputs from the industry, and the industry, in turn, needs to be involved in the relationship right through the processes such as idea generation, funding, and development (Chesbrough, Vanhaverbeke, & West, 2008).

In view of these obstacles, it is crucial for both the parties to negotiate and come out with mutually beneficial collaboration. This can be achieved by developing an integrated model of Academia-Industry Interface. Eminent scientists /technocrats outside the university system should be encouraged to participate in teaching and research ventures.

Thus, Industry-academia collaborations play an essential role in fostering innovation and thereby producing industry-ready students. This can be achieved by the active participation of industry, academia, and Government.

Collaboration between industry and academia supports improvement and innovation in the industry and helps to ensure industrial relevance in academic research. Organisations often look beyond industry partners to academic collaborators for innovation to address challenges related to competitiveness. However, successful collaboration does not just happen; it must be carefully planned and nurtured (Allen, 1984). It has, therefore, essential to understanding fully what makes such partnership a success.

The industrial partners usually have only a limited number of academic institutions with whom to partner. Initial interactions are fraught with pitfalls. It requires time to develop mutual confidence. The industrial partner needs a reasonable assurance that the academic research has a good chance to be successful. The more extended relationship offers better opportunities for success and maintenance of confidentiality.

The Indian government, to contribute towards this growth, has launched Make in India and Skill India programs. The Government bodies such as All India Council for Technical Education (AICTE) which governs the Indian technical and management education and University Grant Commission (UGC) is providing grants for consultancy and research projects undertaken by affiliated colleges.

This has propelled the Industry-Academia collaboration by both Engineering Colleges, and Management departments of Universities and Business Schools. The success of partnership depends on three principles: a mutual interest in a shared, achievable goal; constant communication about expectations, timelines, and rewards; and transparency throughout the project. Almost all roadblocks to collaboration can be eliminated by choosing right partners and later come out with specific, measurable, achievable and time-bound goals. It is important to have continuous conversations, monitoring and feedback process to ensure that both the partners derive benefits. The partners should come out with mutually agreeable objectives and work towards the same by assigning the responsibility to the individual role holders. The collaboration requires funding, deliverables, publications, patents. An excellent industry-academic partnership is set up from the start as a win-win for the partners.

INDUSTRY ACADEMIA COLLABORATION AT IFIM BUSINESS SCHOOL

IFIM Business School established in 1995 by Centre for Developmental Education (CDE) a not-for-profit trust. The institute is situated in Electronics City, Bangalore which is known as Silicon Valley of India.

Industry-Academia Collaboration in Business Schools

Here major IT companies such as Infosys, Wipro, TCS, Accenture, Cognizant Technologies, HP, and IBM have primary business operations.

The collaboration between Industry and Academia is feasible in metros and major cities such as Bangalore, and Hyderabad. IFIM Business School is rated among the top three Business Schools in Bangalore and is one of the six business schools in India accredited by AACSB (The Association to Advance Collegiate Schools of Business American accrediting organization). Globally five percent of the top business schools are accredited by AACSB. In Bangalore, first Business School to be certified by AACSB hence the IFIM Business School has been chosen as case study to explain the importance of Industry-Academia collaboration. The institute offers two year Post Graduate Diploma in Management accredited by AICTE (All India Council for Technical Education) and recognized by AIU (Association for Indian Universities) as equivalent to MBA. The institute offers courses such as PGDM (General) with specialization in Finance, Marketing, Operations, Business Analytics and HR areas, PGDM (Finance) and PGDM (International Business). These courses are also accredited NBA (National Board of Accreditation).

From its inception in the year 1995 until the year 2010, the institute focused mainly on traditional curriculum, management knowledge, and functional expertise to the students. The institute found that the students were unable to meet the expectations of the industry in terms of their competencies (Knowledge, skills, and attitude). There was a gap between industry expectations and the student competency levels. The institute was unable to attract the best of the companies for the internship and campus recruitment. Through the series of the internal brainstorming exercises and the discussions with the industry experts, the institute came out with the set of initiatives for bridging this gap.

In the year 2011, the Institute took initiatives in setting up V.B. Padode Centre for Sustainability and started Corporate Mentoring, industry visits, Guest Lectures, and industry-academia events to make students industry-ready professionals. In addition to these initiatives, students are exposed to Industry Internship Programme in the industry, Social Immersion Programme (SIP) with NGOs, Personality Enhancement Programme (PEP), Wellness programme, and case studies. These initiatives helped the students in understanding the best industry practices and made them acquire the competencies that are relevant and contemporary. Through SIP (Social Immersion Program) students are exposed to the social problems and issues. The institute also felt the need for involving industry practitioners and alumni at all levels of academic inputs. To execute these ideas institute felt the need to recruit competent leadership team, faculty and staff members. In the year 2012, the Institute initiated the AACSB accreditation process.

FACULTY AT IFIM BUSINESS SCHOOL

IFIM Business School has faculty members with a right mix of academic and industry experience. Other than these regular faculty members there are industry practitioners who come and share their experiences with the students as guest faculty.

B-school provides opportunities for the faculty to develop and update competencies through Faculty Development Programmes organized within India and overseas. Faculty members are motivated to undertake research and consultancy projects in collaboration with the industries. This provides many opportunities for the faculty members to build a secure network with the industries.

Industry-Academia Collaboration in Business Schools

Ascent Transformation Series (ATS)

The IFIM Ascent Transformation Series in collaboration with 'Economic Times' involves who's who of the corporate world discussing contemporary issues which are of greater importance to both academia and industry. This industry knowledge coupled with projects and classroom learning indeed makes students industry ready. The transformation of students with the industry collaboration ensures that they step into the corporate world with the right mix of academic excellence and industry knowledge (Sengupta & Parekh, 2009).

Corporate Summit-Confluence

Confluence is a corporate summit to deliberate and discusses the latest trends and emerging challenges faced by corporate practitioners. 'Transform to get the Industry Edge' is the motto of the IFIM Business School. In alignment with the theme, the Business School collaborates with diverse sectors thus adding to the pool of corporate engagement year after year.

The quarterly event 'Confluence' creates the strong network between Academia and Industry with the discussion on contemporary and relevant issues in the areas of finance, marketing, business analytics, and human resources management (Galunic & Rodan, 1998). These events provide a platform to network resulting in strong academia-industry collaboration mutually.

Corporate Mentorship Program

Mentoring is a symbiotic and synergetic relationship with mutual benefits. The essence of mentoring is a sustained corporate relationship that helps the students to set their goals and work towards achieving these goals with the help of corporate and faculty mentors. Mentoring fosters a sense of bonding that builds a reciprocal relationship over the period between mentors and mentees.

Few benefits of Mentoring program are as follows:

- Mentoring focuses on Career Planning and Development, Entrepreneurship, Employability, Career Transitions, Work-life balance, and Corporate Ethics;
- Mentees get benefits through expert advice by leveraging the strengths and mitigating weaknesses;
- Mentors guide and nurture mentees through their corporate experience and expertise thereby making mentees, industry-ready professionals;
- Senior Corporate practitioners guide mentees as mentors by providing insights on corporate culture and expectations so that mentees adopt accordingly.

This initiative really helped the students in setting up their career goals and work towards achieving the same.

Personality Enhancement Program

The Personality Enhancement Programme (PEP) is designed to guide students to become active communicators, develop winning personalities to become dynamic leaders. The program helps students identify personality shortcomings, deepen self-realization and establish positive belief systems so that they grow

Industry-Academia Collaboration in Business Schools

into successful managers and good human beings. To be a successful corporate leader one requires domain knowledge and leadership qualities coupled with sound body and mind. The PEP initiative strives to achieve this objective. Every student has to undergo a rigorous Lifestyle management course from day one whereby students are required to do Yoga, a Physical exercise in the well-equipped Gymnasium under the guidance of an expert. Students also undergo effective leadership and team-building activities to enhance their awareness level and self-management. The course also provides them insights on a balanced diet and nutrition.

Social Immersion Program (SIP)

Social Immersion Program (SIP) sensitizes students to the needs of the community and will enable them to identify their social problems through field study and research. The students will be assigned to designated NGOs and have to undertake field study under the guidance of NGO mentor and the faculty mentor for a period of 10 days. Here they are required to study the Social Project assigned to them by the NGO and study in detail the social problems, and challenges involved in solving these social problems. The students will identify the problem and define the objectives of the study during this period. After returning from the respective field study, they undertake the project for 4 months and finally present their findings and solutions through Techno-Economic Viability (TEV) report. Here the faculty and NGO mentors will help handhold and guide students throughout this program. Business School has established CSR Centre known as V.B. Padode Centre for Sustainability. Business School has collaborated with NGOs across India, such as World Vision India, Action Aid, Art of Living (AOL), Anti- Pollution Drive, Bhagavatula Charitable Trust, Adamya Chetana, Calcutta Rescue, Help Age India, Vanitha Sahay Vani, Biocon Foundation, CARE India, CRY, Bachpan Bachao Andolan, SOCHARA, IPH, Bala Vikasa, Smile Foundation, CINI Kolkata, Ujjivan, Teach for India, Prime Trust Pondicherry, Pratham Foundation Mumbai, Saahas Zero Waste, Isha Foundation, Mitra Jyoti, and Nada India Foundation, New Delhi, etc.

International Collaborations

In order to provide holistic and contemporary management education IFIM Business School has signed MOUS with leading global business schools such as Rennes Business School France, Plymouth University UK, University Wollongong Australia, ALBA Graduate Business School Greece, Sheffield Hallam University UK, Fach Hochschule Lubeck, Jacksonville University Florida USA, President University Indonesia, Manchester Metropolitan University Belgium, VCU School of Business Virginia USA, and Brooklyn Law School, USA .

This collaboration facilitates Faculty and Student exchange programs and collaborative research opportunities that will provide global exposure to the students and faculty members. The students get the opportunity to take up projects in the industries around the overseas partner Universities.

Academic Partners

IFIM Business School has a partnership with following organizations:

- IBM Business Analytics Lab to facilitate Business Analytics specialization students with the latest analytical tools and training from IBM experts;

Industry-Academia Collaboration in Business Schools

- Prabhudas Liladher Finance Lab and Bloomberg Trading terminals to provide finance specialization students real-time experience in stock trading;
- IFIM Business School is the University partner to CFA Institute, USA whereby CFA recognized Finance specialization curriculum at par with their global standards;
- Association with National Stock Exchange (NSE) for PGCP (Post Graduate Certificate Programme) in Global Financial Markets;
- Programmes in Entrepreneurship in association with EDI, NEN, and LEDMAC;
- First institution in Karnataka to tie-up with NASSCOM.

Industry Internship Program (IIP)

IFIM Business School's unique Industry Internship Program (IIP) has been recognized as the most effective method of enhancing employability. 'Indian Management Conclave-2013' organized by MBA Universe conferred IFIM Business School with a SILVER AWARD in the category of 'Effective Industry-Institute Engagement.' At IFIM Business School IIP is wholly integrated into the curriculum of the programme. The entire fifth term is devoted to the IIP; which spans over 4.5 months.

Recruiters have very well received industry Internship Programme (IIP) across industries for its unmatched exposure and valuable on-the-job learning. Students over the years have benefited from the internship for its practical edge and industry experience. The advantage for the recruiting companies is that students would have already completed all coursework that is expected of the graduating student. IFIM students pursue their internships with leading companies, which adds to their repertoire of achievements and accomplishments.

Advantages of IIP are as follows:

- Provides a transitioning bridge between theory and practice;
- Enables on-the-job training for students to experience a 'learn by doing,' in a real work environment;
- Ensures greater access to the faculty to offer student mentorship and evaluation to make them industry-ready during the internship;
- Building the currency of knowledge 'through student engagement with industry mentors.

Every year, Industry Internship Program witnesses a large number of companies from diverse sectors ranging from IT, ITES, financial services, auditing, manufacturing, hospitality, media and advertisement, banking (Atiff, 2003), research and consulting, sports, etc.

Placement Process

The Centre for Continuous Employability (CCE) extends support to ensure that are given the right opportunity to streamline their career interests with the opportunities available. The CCE team strives to provide best placement opportunities for all the students. The continuous industry collaboration offers the participation of bets of the companies in the placement process.

Industry-Academia Collaboration in Business Schools

CHALLENGES AND OPPORTUNITIES IN INDUSTRY-ACADEMIA COLLABORATION

Before selecting the University partner, the company needs to define the project's strategic context. The company has to do identify the research portfolio to determine collaboration opportunities. It is essential to establish specific collaboration outputs that can provide value to the company. After identifying the internal users of this output at the working level; map the capabilities of the Universities and match the need with the competency of the University. It is essential to frame both the short-term as well as long-term goals of this collaboration. A company representative and the University representative need to form teams, which will communicate and clarify the issues and progress towards the objective. The Project Managers in the company need to coordinate continuously with the counterparts from the University and work towards the target.

It is crucial that academia and industry share a mutually beneficial relationship. Academia produces graduates who are later absorbed by the industry and research work in universities are assisted by the industry and then turned into products and services. Industry, in turn, looks at academia for solutions to their concerns. The industry expects universities to tailor their courses to convert their graduates into corporate ready professionals who possess the competencies that will match the industry requirement. This happens only by proper coordination and cooperation among the academia and industry. The industry provides funds and expertise for the research in universities that can be used for designing and developing new products this can be achieved by setting up laboratories, designating industry chairs and providing guest faculty and placement opportunities. The academia can use industry experts during students' recruitment, training, mentoring, industry internship, and placement activities. This will really help the Universities in getting the right quality of students, later transforming them into corporate-ready professionals.

The collaboration would help the industry in reducing the overall cost of innovation and product development by sharing high-tech research facilities. The shared core facilities will immensely benefit small and mid-sized companies. Universities can use their Postdoctoral scholars in providing research requirements for the industry that will be a win-win proposition for both the parties. Industry can also provide Early-stage venture funds for the students' startup companies. This would foster entrepreneurial skills among the students of the University.

It is crucial for the Central government to involve industries in the implementation Skill India and Make-in India initiatives. The job-oriented courses need to get first-hand inputs from the industry experts. Collaboration between the academia and industry would help not only for academic progress but also for the quality of the work. The industry-academia collaboration will assist the faculty in learning new teaching tools and to the students in improving their competencies. In this process, students will also learn different approaches to solving a problem.

There is a need for inter-institutional collaborations both at the national and international levels to upgrade the curriculum and meet global standards.

CONCLUSION

It is imperative that Business Schools develop mutually beneficial collaborations with the industry. The challenges such as getting the right industry partner followed by proper coordination and cooperation

Industry-Academia Collaboration in Business Schools

make the relationship weak and finally leading to separation (Patil & Popker, 1998). For the relationship to continue both the parties have to come out with the realistic and time-bound objectives. Trust factor plays a significant role in maintaining good relations that will be beneficial to industry and academia. The process outcome should be measurable and mutually helpful. It is also essential for the institutions to leverage on their strengths and communicate the same to the industry partners. The management of the Business Schools needs to motivate faculty members and students come out with innovations and practice out of the box thinking. The partnership will be extremely beneficial and fruitful if both the parties are willing to participate in these collaborative activities. It is essential for the Business Schools to set clear objectives and deliverables that are time-bound and measurable. It is need of the hour to celebrate success and record all the learning and outcomes of Industry collaboration as part of Business School knowledge repository. It is vital for the Business Schools to develop a mutually beneficial relationship with the Industry partners by involving them in every stage of the academic process. Business Schools need to engage the representatives of these partner industries in the admission process, guest lectures, curriculum development, student projects, industry internship program and final placement process. The Business School-Industry collaboration will result in joint research and consultancy opportunities that will enhance the competency level of faculty members by making them aware of contemporary issues and problems in the corporate world. The faculty members need to design and develop customized executive development programs and invite corporate practitioners to participate in these programs. The process of collaboration should be mutually beneficial and flexible so that the partnership will be win-win for both the parties. By engaging corporate practitioners in periodic guest lectures, the students get an update on current issues and problems. Faculty members need to develop Case Studies which will become important too; in pedagogy. The need of the hour is to identify suitable industry partners who will help the institutes in producing industry-ready students.

The industry-academia collaboration requires proper planning at University, Industry and Government levels. The partnership will lead to success only with mutual trust, coordination, and cooperation. Unless the stakeholders define the clear vision for the industry-academia collaboration and work towards the same, the partnership may not bring the required result.

The initiatives taken by IFIM Business School helped the institute in finally getting finally good industry-academia collaboration resulting in top 30 slots in Business School ranking, better internship and final placement opportunities for students, and enhanced opportunities in getting consulting opportunities for the faculty members. By doing this, the institute gained the global recognition in terms of getting AACSB accreditation in the month of February 2018. The institute became a sixth business school in India to get this accreditation and one of the top five percent business schools in the world who are AACSB accredited.

It is imperative for the business schools to establish collaboration with the industry, get the benefits, and transform their students into the industry –ready professionals.

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KEY TERMS AND DEFINITIONS

All India Council for Technical Education (AICTE): The statutory body under central government to govern technical, and management education in India.

Indian Institute of Science (IISc.): Premier science and research institute set up by the Indian government to offer post-graduation and doctoral level courses.

Indian Institute of Technology (IIT): Premier engineering college set up by the Indian government. This is an Indian institute to provide world-class technical education.

Industry-Academia Collaboration: A mutually beneficial partnership between industry and academia.

Industry-Internship Program (IIP): Students undergo industry-internship program with the designated industry partners.

National Board of Accreditation (NBA): The accreditation body under the central government.

National Institute of Technology (NIT): Premier engineering college set up in all the states by the Indian government.

Personality Enhancement Program: Students undertake a program that enhances their communication skills and their lifestyle.

Social Immersion Program: Students experience social immersion program with the designated non-government organizations.

Socially Responsible Citizen: Sensitized students to social issues and problems, and made to come out with the solutions.

University Grant Commission (UGC): The legislative authority under central government to regulate central, state, private, and deemed-to-be universities in India.

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Index

A

Aarogya 303
 Abenomics 445-446
 Academic Integrity 5, 13, 119-120, 236
 academic leadership 118, 120, 123, 128, 134
 Albania 371-372, 376, 383, 385
 Algeria 476-477, 479, 481, 483, 486-490, 493
 All India Council for Technical Education (AICTE) 528, 537
 alliances 186, 504, 522
 Amrutasyah Putrah 304
 Ashram 287-292, 297-298, 300-302, 304
 Atithi 290, 304
 attitudes 31, 42, 57, 61, 90-91, 99, 104, 122, 137-140, 142-144, 149-152, 158, 160, 168, 180, 182, 266, 272-273, 306, 330, 353, 372, 375, 398, 400-402, 414, 417, 434, 447, 488, 499, 501-502, 504-505, 511, 518, 524, 526

B

Backwardness 78
 Bancoldex 239, 247-249, 251-252, 261
 Bapu 304
 Beaumarchais 6
 Behavioral Competencies 509, 518
 Bhagini 290, 304
 Bhakhri 304
 business development 9, 248, 261, 268, 332, 335, 337-338, 340-342, 344-345, 350, 526
 business growth 247, 249, 252, 350

C

change management 182
 classroom behavior 26, 29-30, 35, 38-39, 44-45, 48, 53

Collaborative Open Innovation 261
 collaborativeness 374-375, 377, 382, 384-385, 389
 communication skills 96-97, 117, 537
 competencies 67, 82, 85, 88, 97-101, 104, 106, 108, 110-111, 113-115, 117, 143, 150-151, 155, 159, 228, 240, 244, 271, 312, 408, 456, 460, 464, 498-501, 505-506, 508-509, 511-512, 518-519, 529, 533
 competency 87, 97-98, 101, 104, 109, 158, 498-502, 504, 506, 511-512, 518, 529, 533-534
 connection 58, 64, 67, 72, 74, 78, 230, 243, 285, 292, 335, 406, 523, 525
 Contextual Factors 81, 412
 contract cheating 1-3, 12-13, 24
 cope 5, 10-11, 56, 61, 83, 140, 215, 485, 523
 copyright 3, 6, 24, 263
 Copyright Infringement 6, 24
 corporate entrepreneurship 272, 312-313, 330, 400, 477
 Corporate Entrepreneurship Responsibility 313, 330
 Corporate Ethics 305
 Corporate Social Innovation 305-307, 321, 330-331
 Corporate Social Responsibility 58, 62, 141, 155, 305-308, 312, 319
 crisis 79, 81, 89, 137-138, 152, 414-415, 418-422, 425, 427-428, 490
 Croatia 156, 158-159, 162-163, 165, 169, 171-173
 cross-country analysis 433-434, 441, 447-448
 CSR (Corporate Social Responsibility) 155
 culture of trust 118, 125-126, 132-133

D

decisions 31, 55, 57, 61, 64, 75, 78, 82-84, 119, 121, 133, 140, 143, 182, 202, 225, 230, 263-264, 286, 335, 374-376, 400, 403, 405, 409, 435, 447, 457
 Demands of the Labor Market 99, 117
 Dharma 285, 304
 disruptive behavior 1, 26

Index

drivers 92, 186, 412, 468

E

economic impact 335-338, 340-341, 344, 346, 350, 355, 365

economy 28, 57, 60, 65-66, 79-81, 89, 91, 95-98, 114-115, 126, 137, 139-140, 142-144, 150-151, 157-158, 184, 254, 264-266, 275, 284, 307-308, 313, 317, 319, 332-337, 339, 342, 353, 372, 383, 400, 402-403, 414-415, 419, 425, 427, 432, 440, 446, 466, 476, 478-479, 489-490, 520, 526

ecosystem 81, 188, 191, 272, 295-296, 301, 308, 313, 316, 372, 385, 403, 428, 434-435, 440-443, 445, 447-448, 455-462, 464, 466, 468-469, 471-472, 474, 476-479, 481-482, 485, 488-490, 493-494, 499, 511-512, 521, 526

Education in Ethical Values 183

education in values 184-185, 202

education programmes 353, 355, 364

education system 27, 30, 67, 97, 155-156, 161-162, 164-165, 167-170, 172, 180, 438, 488, 523, 526

educational innovation 181, 187

Educational System Values 180

effectuation 307, 330, 403

efficiency 7, 28, 80, 99, 103, 106, 122, 124, 141-142, 149-150, 152, 191, 216, 233, 244, 271, 312, 428, 464, 476-477

EFQM 187-188, 192

empirical research 114, 156, 161, 164-165, 266, 269, 275, 373

employer 9, 104, 114, 123, 142, 145, 272, 523, 526

employment 9, 29, 40, 58, 64, 98, 104, 110, 114, 144, 158, 264-265, 293, 308, 314, 316, 337, 340, 350, 353, 355, 361, 372, 398, 400, 402, 405, 415, 421, 428, 444, 456, 490, 523

entrepreneur 31, 40-42, 59, 61, 80, 145, 265, 267, 272, 274-275, 281, 283-284, 286, 295, 300, 312, 335, 337, 342, 344, 373, 376-377, 385, 398-400, 402, 408-409, 415-418, 434, 436, 444-445, 460, 471, 483-484, 487-489, 493, 499, 504, 511

entrepreneurial activity 56, 266, 275-276, 333, 400, 408, 414-423, 425-427, 457, 464, 466-469, 471-472, 474, 477, 479, 483-484, 488, 493, 504-505, 512

entrepreneurial attitude 26, 29-31, 35, 40-42, 44, 46, 48, 53, 460

entrepreneurial ecosystem 313, 428, 441-443, 445, 448,

455-462, 464, 466, 468, 471-472, 474, 476-479, 481, 489, 493

entrepreneurial ethics 263-264, 275

entrepreneurial framework conditions 420, 428, 457, 474, 489

entrepreneurial intention 371, 373-377, 382-384, 389, 401-402, 458, 512

entrepreneurial orientation 312, 353, 371-378, 381-385, 389, 398

entrepreneurial quality 414-423, 425, 427-428, 432

entrepreneurial spirit 307, 356, 365, 398-400, 402-403, 407-409, 412, 460

entrepreneurship 28-29, 31, 40-42, 48, 90, 113, 144, 151-153, 203, 216, 226, 228, 233, 263-266, 272, 276, 283-286, 292, 296, 299-301, 305-308, 310, 312-315, 317, 319-321, 330, 332-333, 335-337, 342, 346, 350, 352-356, 361, 365, 370-379, 383-385, 389, 398-403, 405, 407, 412, 414-416, 418-428, 432-436, 438-443, 445-448, 455-461, 464, 466, 469, 471-472, 474, 476-485, 487-490, 493-494, 498-500, 502-503, 505-506, 509-512, 518, 521, 526

entrepreneurship competencies 498-500, 505-506, 509, 511-512, 518

entrepreneurship ecosystem 313, 372, 440, 445, 448, 457, 476-478, 482, 490, 493-494, 511

entrepreneurship education 353-355, 372, 401-402, 456-458, 474, 499, 505-506, 509-511

equity 58, 62, 64, 67, 78, 312, 314

ethical behavior 30, 35, 39-40, 46, 56, 63, 113, 120, 131, 133-134, 136, 140-141, 147-148, 150, 266-267, 269, 272, 284

Ethical Dilemma 281

ethical governance 214, 229, 232-233, 236

ethical leadership 79-81, 85-91, 95, 236

Ethical Reasoning 29, 281

ethical standards 26, 29-31, 38-40, 42, 44-46, 48, 53, 80, 139, 142-143, 153, 225, 266, 275, 526

Ethical Theory 276, 281

ethics 5, 9-10, 14, 28-29, 31, 35, 39, 42, 44, 48, 54-55, 59, 61, 63-64, 78, 80, 87-89, 92, 95, 119-120, 122-123, 126, 133, 137-147, 150-153, 155, 159, 181-184, 187, 189-190, 202, 214-216, 224-226, 228-229, 232-233, 236, 263-264, 266-267, 269-276, 283-286, 299-300, 304-305, 312, 526

ethics in higher education 216

executive education 79-80, 89-90, 95, 370

Index**F**

Fab Lab 202
 FabLab 181, 193
 fake papers 1, 9, 11
 Fake Positive Peer Review 1, 24
 family business 263-264, 268-270, 272, 276, 342, 352-357, 361-362, 364-366, 370, 378, 382, 398-399, 403, 405-409, 412-413
 Family Business Alliance 356, 365, 370
 family business centers 356, 365-366
 Family Business Chairs 354, 361-362, 364-366, 370
 family business programs 356, 364, 366, 370
 Family Firm 270, 355-357, 361, 365, 370
 Family Firm Institute 355-356, 361, 365, 370
 FEAS 373-374, 384
 fourth industrial revolution 181, 202
 funding 9, 15, 71, 118, 215, 223, 297-298, 313, 321, 333, 338, 366, 445, 458-459, 464-465, 477, 483-485, 487-488, 496, 520-521, 524, 528

G

Gaushala 291, 304
 GEM report 435, 439
 Global Entrepreneurship Monitor 415-416, 422, 433-434, 457, 474, 509
 governance 63, 65, 88, 121, 158, 181-182, 214-216, 229-230, 232-233, 236, 305, 316, 321, 365

H

higher education 10, 12-13, 26-31, 34, 48, 53-54, 56, 58, 64, 67, 69, 75, 78, 91, 115, 118-123, 125-128, 130, 133, 138, 142-143, 151-152, 155-161, 163, 169-172, 180, 185, 187, 194, 214-221, 223-224, 229, 232-233, 238, 333-334, 342, 345, 352-354, 356, 360, 370, 372, 446, 455, 472, 519, 521, 523
 higher education institutions 10, 27, 54, 56, 67, 78, 91, 118, 142, 157, 163, 214-215, 217, 219-220, 232, 238, 333, 342, 345, 352-354, 356, 370, 446, 472, 521
 homo oeconomicus 138-139, 144, 146, 150, 152, 155
 honesty 3, 87, 138, 140-142, 145-147, 149-150, 155, 183, 225, 236, 264, 269, 286, 295
 human behavior 66, 75, 137, 285, 301

human capital 98, 111, 114-115, 143, 155, 457, 471, 478, 488-489
 human development 54-55, 57, 60-61, 64-66, 78, 99, 236, 305, 307, 319
 Human Relations Competencies 509, 518

I

Iceberg Model 498, 500-502, 504-506, 509, 518
 inclusive business 307, 312-313, 317, 319, 330
 Indian Institute of Science (IISc.) 537
 Indian Institute of Technology (IIT) 537
 individual entrepreneurial orientation 371-378, 381-385, 389
 Industry Internship Program 532, 534
 industry-academia collaboration 519-521, 525-529, 533-534, 537
 Industry-Internship Program (IIP) 537
 Information Security Challenges 216, 233, 236
 Innovate Education 117
 innovation ecosystem 188, 521
 innovation management 187, 202, 206
 Innovation-Driven Entrepreneurship 426, 432
 innovativeness 158, 373-375, 377, 382, 384-385, 389, 427, 477, 503
 interpersonal competencies 113, 506, 508-509, 511-512, 518
 intrapreneur 186, 272, 281
 intrapreneurship 186, 202-203, 251, 264, 272, 276
 investment 71, 115, 307, 336, 416, 446, 481, 484, 518

K

Karmabhumi 289, 304

L

leadership education 79-81, 85, 87-92
 lifelong learning 97, 104, 110, 151, 218-219
 Life-Long Learning 117
 linkage 57, 346

M

Maharaj 288-289, 304
 management education 28-31, 34-36, 48, 53, 85, 95, 354, 402, 523, 526, 528, 531, 537

Index

management students 26, 30, 32-33, 35, 39-41, 43-44, 46, 48
 Managerial Competencies 518
 Mandir 289-290, 304
 Marketing Innovations 493
 Martial 6, 13
 Mexico 333, 398, 402, 455, 459-460, 469, 474, 510
 Micro and Small Enterprises (MSEs) 339, 350
 Millennials 244-245, 261, 272-274, 276
 Model of Quality Culture 130, 136
 model of trust-based quality culture 128-129, 134, 136
 Moral Hazard 80, 95
 Muni 287-292, 297-298, 300-302, 304
 Muni Sewa 287-288, 290-292, 297-298, 300-302

N

National Board of Accreditation (NBA) 537
 National Institute of Technology (NIT) 537
 necessity entrepreneurship 414-416, 418-421, 425, 427, 432
 Necessity-to-Opportunity Entrepreneurship 420, 432
 networks 72-74, 221, 225, 238-239, 242-245, 248-249, 252, 261, 271, 286, 296, 300, 312, 314, 317, 334, 344, 417, 435, 437, 477, 479
 non-profit organizations 140, 158

O

open collaborative innovation 238, 243, 245-246, 251-252, 254-255
 open innovation 188, 244, 255, 261, 522
 opportunity entrepreneurship 416, 424, 432
 Organizational Innovation 493

P

Parivar 290, 304
 personal value 167-168, 172, 180
 personal values 146, 156-157, 161-162, 164-165, 167, 169, 266, 283-284, 501, 504
 Personality Enhancement Program 530, 537
 Pertinence 64, 78
 plagiarism 1-7, 9-15, 24-25, 31, 40, 119, 224, 226, 236
 plagiarism detection software 14
 Poland 80-87, 89-92, 95, 97, 111, 141, 145, 149
 policy 11, 81, 106, 141, 156-157, 162, 164, 169, 172, 180, 225, 236, 307, 334-336, 345, 371, 420, 427-

428, 434, 447, 476, 479, 485, 489, 519
 Portugal 217, 222, 227, 420-422, 425-427
 positive behavior 29, 36, 38, 43
 predatory journals 8-11, 25
 Prerna 296, 304
 Princeton Review 354, 356-357, 370, 460, 474, 511
 proactiveness 373-375, 377, 382, 384-385, 389, 477
 Process Innovation 493
 Product Innovation 493
 productivity 99, 238, 297, 312, 337, 400, 489
 professional skills 104, 117, 182
 promotion of entrepreneurship 332, 335, 350, 403
 publish or perish 2, 9
 Pujya 289, 304

Q

QS Top Universities Ranking 370
 Qualification Framework 151, 155
 quality 2, 5, 9, 13-14, 26-27, 29, 31, 54, 56-57, 59, 61-62, 64, 66-67, 70, 75, 81, 86-87, 97, 118-134, 136, 145, 152, 172, 194, 216, 218, 220-221, 223, 225, 229-233, 243, 269, 287, 298, 308, 314, 320, 334, 355, 360, 372, 385, 389, 414-423, 425-428, 432, 435, 446, 457, 460, 466, 490, 520-521, 523, 533
 quality assurance 64, 67, 118-127, 130, 132-133, 136, 218, 229-231
 quality culture 119-121, 123-134, 136

R

relevance 158-159, 181, 255, 333, 338, 401, 499-500, 509, 511, 521, 523-524, 528
 Research Ethics 120, 236
 risk taking 40-41, 138, 389, 483
 Ritah Jatah 285, 304
 Ritam 285, 304

S

Schwarz Value Survey (SVS) 180
 Self-Plagiarism 5, 25
 SEWA 287-288, 290-295, 297-298, 300-302, 304
 SEWA Rural 287, 292-295, 297-298, 300-302
 Sharda 289-290, 292-293, 304
 Shared Value 307, 312, 330
 Shri 288-290, 292, 301-302, 304
 Silicon Delta 446

Index

- Small and Medium Enterprises (SMEs) 333, 336, 350, 372, 493
- Social Competence 150, 155
- Social Immersion Program 529, 531, 537
- social innovation 187, 189-190, 202, 305-307, 312, 319, 321, 330-331, 526
- Social Intrapreneurship 202
- social responsibility 54-56, 58-59, 61-63, 65-72, 74-75, 78, 84, 140-141, 144, 152, 155, 157, 305-308, 312, 314, 319, 332-334, 342, 526
- Social Responsibility of Universities (SRU) 78
- social value 180, 185-186, 191, 194, 284, 286, 296-298, 300, 305, 307, 312, 319-321, 330
- Socially Responsible Citizen 537
- Software-Generated Papers 25
- Spain 6, 71, 193, 352-355, 357, 360-361, 364-366, 370, 420-422, 425-427, 434, 436
- spillover effect 305, 307, 319, 330
- spirituality 290, 292, 295, 304
- stakeholders 29, 56, 59, 69, 72, 75, 80, 89-90, 95, 120, 123, 141, 157-161, 172-173, 180, 182, 189, 216, 230, 236, 248, 296-298, 301, 308, 314, 319, 333-334, 345, 406, 432, 434-435, 447, 520, 524, 527, 534
- Stakeholders of an Educational Institution 180
- standards 9, 25-27, 29-31, 38-40, 42, 44-46, 48, 53, 80-81, 85, 89, 97-99, 109, 118-123, 126-127, 132-133, 136, 139, 142-143, 150-153, 161, 194, 221, 224-226, 236, 243, 266, 275, 312, 316, 320-321, 360, 446, 520, 526-527, 533
- startup 192, 207, 264, 267, 274, 282, 295, 302, 312-313, 372, 427, 458, 468, 481, 485, 490, 493, 512, 533
- startups 115, 264, 267, 459, 464-466, 468, 479, 483, 485-486, 493
- strategic management 90, 123
- Strategic Prospective 306, 330
- strategy 29, 63, 67, 89, 106, 121, 159-160, 162, 216, 221-222, 227, 261, 271, 305, 307, 313, 319, 321, 330, 353, 364-365, 427, 448, 455-456, 464, 468, 472, 485, 506, 518, 520, 526
- student engagement 26, 28-29, 31-33, 43-44, 46, 48, 53
- study program 133, 376, 382
- succession planning 403, 406-407, 412
- successors 84, 271, 398, 405-406, 408-409, 413
- sustainability 59-60, 64, 75-76, 89-90, 157, 221-222, 229, 268-269, 291, 300, 305, 307-308, 312, 319-320, 330-331, 336-337, 345, 420, 526, 529, 531
- sustainable development 58-61, 63, 65-66, 73, 75, 78, 115, 139-141, 214, 228, 232-233, 236, 310, 319, 471
- synergy 109, 181-182, 371, 374-375, 384, 389, 524
- ## T
- technology transfer 333, 455-458, 460, 467-468, 474, 521
- Tecnologico de Monterrey 455, 510-511
- top management 82, 84, 87, 127
- transdisciplinary 238-239, 243-245, 251-252, 254-255, 261
- transdisciplinary teams 238-239, 243-245, 251-252, 254-255, 261
- transition economies 79-80, 86, 89-92
- Triple Helix 238, 241, 244, 255, 261, 375
- trust-based quality culture 123-130, 132-134, 136
- ## U
- unemployment rate 152, 372, 415, 419-421, 425, 432
- Unicorns 446
- University Grant Commission (UGC) 528, 537
- UNIVERSITY SOCIAL RESPONSIBILITY 56, 58, 67, 332-333
- university students 1, 184, 371-372, 374, 384, 403, 512
- university-based entrepreneurial ecosystems 455, 457, 469, 471, 474-475
- USA 3, 11, 97, 333, 352-357, 365-366, 436, 458, 478, 521, 531
- ## V
- value chain 244, 306, 312, 321, 330
- Vanaprastha 290, 304
- venture 40-41, 45, 264, 267, 272, 274-275, 281-282, 285, 287, 295, 312, 372, 376, 398, 446, 456-459, 466, 479, 498, 502-506, 510-512, 518, 533
- Vocational-Driven Entrepreneurship 432
- ## Y
- Yatra 296, 304