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THE MAŁOPOLSKA SCHOOL OF ECONOMICS IN TARNÓW

RESEARCH PAPERS COLLECTION

issue 2

Special issue
Entrepreneurship theory and practice
Current trends and future directions

with guest editors
Barry A. Friedman
Alexandros Sahinidis
Dimitris Stavroulakis

Tarnów 2019

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Foreword

A compelling case for the importance of entrepreneurship was made by the World Economic Forum (2018)[1]: 'entrepreneurs are key drivers of economic and social progress. Rapidly growing entrepreneurial enterprises are often viewed as important sources of innovation, productivity growth and employment (small and medium-sized enterprises account for 97% of all jobs in emerging economies). Many governments are therefore trying to actively promote entrepreneurship through various forms of support.'

Given its significance, we sought to better understand current entrepreneurship trends. In the Spring of 2019, we invited academicians, scientists and practitioners to submit papers that addressed current thinking about entrepreneurial concepts, models, methods and practices. This *Małopolska School of Economics in Tarnów Research Papers Collection* special issue is the result of a competitive double blind review process. The special issue contains three themes: young entrepreneurs, corporate social responsibility and sustainability, and the technical aspects of entrepreneurship.

Entrepreneurs. Young entrepreneurs represent the future drivers of economic growth. Drs. Makarona and Kavoura argue that this young generation must possess adequate and relevant entrepreneurial competencies. Academia plays a central role, and collaboration among educators, different stakeholders, and organizations from local communities need to change in order to realize young entrepreneurs' potential.

Upon graduation, many young entrepreneurs embark upon their first business ventures. Dr. Masouras explores these 'maiden voyages', with special emphasis on strategies used and perceived barriers that impede new business start-ups. Dr. Masouras' research focused on young entrepreneurs in Cyprus.

Mr. Spyropoulos examines and compares the start-ups ecosystems of MIT and Greece. Despite the great differences regarding entrepreneurial spirit and tradition, and different economy sizes between the USA and Greece, the study identifies key factors that determine the ability of a start-up ecosystem to promote innovation and contribute positive to the national and international economic development.

Corporate Social Responsibility and Sustainability. Like many millennials and post-millennials, young individuals often strive to create or join organizations that they perceive as socially responsible. Dr. Yanar investigated social entrepreneurship that links business, economics, entrepreneurship, altruism, and the achievement of global sustainable development goals. Her study investigated Turkish food companies' sustainable development initiatives. The study results show that most valuable Turkish food brands

[1] http://reports.weforum.org/new-models-for-entrepreneurship/executive-summary/ [online, accessed: 2019-07-17].

support their sustainable development goals mostly in the areas of quality education, reduced inequalities, good health and well-being, responsible production and consumption, zero hunger, poverty elimination, gender equality, and sustainable cities and communities.

Drs. Navarrete-Báez, Orozco, and Virchez examine the current state of sustainable business development practices of small and medium-sized enterprises (SMEs) in the Guadalajara Metropolitan Area of Jalisco, Mexico. Based on the International survey on corporate social responsibility and sustainable development in SMEs international project, 400 entrepreneurs responded to surveys, and 50% of the SMEs don't implement sustainability practices of Guadalajara in Jalisco, Mexico. These authors recommend that SMEs owners be educated on the importance and feasibility of business sustainability, and how to apply sustainable practices to increase the life and activity of their enterprises.

Technical Aspects of Entrepreneurism. Technological advances have greatly impacted entrepreneurship, especially with respect to the impact of the Internet and social media on how entrepreneurs initiate and run new businesses. Dr. Belias questioned what will be the next technological digital breakthrough that moves entrepreneurship. More specifically, he explored a future opportunity for the entrepreneurs: the use of robots for improving service quality. Dr. Belias argues that future research can create new opportunities for entrepreneurs.

Focusing on how entrepreneurs scan their environment for opportunities, Dr. Fouskas compares how digitally and non-digitally oriented entrepreneurs differ with respect to information seeking, information utilization, skills, experience, and motivation. Dr. Fouskas provides a compelling case that further research be conducted to better understand the impact of digital technologies on entrepreneurship in order to improve new venture creation success.

The Internet and social media provide a superhighway for entrepreneurs to exchange information. Dr. Totskaya studied the creative deployment of social capital in her study of Russian SMEs by examining the role played by horizontal and vertical relational ties established and maintained by traditional SMEs to grow their businesses. Her analysis of seventy-one SMEs indicated that horizontal bridging relations support and enhance SME development, and increase the likelihood of SME internationalization, and that environmental uncertainty also contributes to SMEs involvement in building extensive business networking. Dr. Totskaya highlighted the importance of bridging connections in supporting SME resourcing and development across multiple industry settings, and in various types of economic conditions.

We wish to thank the many paper reviewers for their diligence and professionalism in providing constructive improvements. Special gratitude is extended to Dr. Androniki Kavoura for her enthusiasm and guidance.

As guest editors, we thank you for considering this special issue. We hope that this special issue motivates you to conduct research that increases our knowledge of entrepreneurship.

Sincerely,
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ENTREPRENEURS

Redesigning the Ivory Tower: Academic entrepreneurship as a new calling supporting economic growth

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Abstract: Innovation in the world of markets safeguards the viability of the companies or the organizations and the society within which they operate. Entrepreneurship's role is significant in the promotion and economic development of countries and it is the young generation who should be given adequate knowledge to develop competent skills. The core of entrepreneurship may be found at academic entrepreneurship that moulds younger generations and may contribute to innovation and technology transfer. This may have positive effects on local economic growth. This paper examines the significance of academic entrepreneurship providing an overview of current trends and future outlook. Synergies need to be initiated between educators, different actors, stakeholders and organizations from local community which is strategic for economic development. The university needs to change in order to cope with the changes in society and in order to be able to contribute to the development of technology-oriented companies with economic consequences on local, national and international economic growth.

Key words: academic entrepreneurship, innovation, entrepreneurship education, restructuring of academic curricula

1. Introduction

Over the past two decades, academics worldwide have been witnessing or, in several cases, have been actively involved in the emergent phenomenon of entrepreneurial science (Etzkowitz, 2002), and what has been lately described as the second academic revolution (Etzkowitz, 2003). This emergent phenomenon is not simply a cursory sign of the times bound to subside after running its course, but rather constitutes a profound change on how academia is perceiving and reshaping its role within society and is examining how this newly-assumed role can have an impact on a regional, national and even global level. University knowledge positively influences entrepreneurial firm performance, while entrepreneurial firms' resources and capabilities can boost and be usefully implemented if they take into consideration and be in cooperation with universities and the knowledge they

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may offer (Link and Sarala, 2019). In an era during which economies are shifting towards new models, and economies of knowledge have been identified as the most successful and sustainable models, it should not come as a surprise that the very loci of knowledge generation should adapt and redefine their purpose and goal settings in order to address broader societal challenges and economic issues on various levels ranging from the local to the global. Universities with their Research and Development (R&D) centres, Research Centres and Science and Technology Parks are considered strategic for economic development, and they are the main source of innovation. There is a close need to establish a close relationship and a symbiosis with the private sector; it is a deliberate choice of the university in order to cope with the changes in society (Caseiro and Santos, 2019).

Nonetheless, as with any change, the actors involved are not necessarily consenting, but may be rather skeptical, reluctant or even hostile towards redefining the traditional academic tasks and embracing the new concept of the 'triple helix' (Etzkowitz and Leydesdorff, 1999). The aim of this paper is to examine how academia in general should reposition itself with respect to society. In particular, the authors wish to discuss how changes may be brought forth and which steps are necessary in order for these changes to be implemented. Keeping in mind that the transformation of traditional academic structures is both endogenous and exogenous, this work has been divided into 3 sections. Section 2 sets the framework of discussion. Section 3 focuses on the endogenous transformative steps that the academic institutions should follow in order for the generators of knowledge to also become generators of profit. Section 4 encompasses the exogenous parameters that are required for the second academic revolution to take place in regard to how the Ivory Tower may be redesigned in order to capitalize the generated knowledge and evolve into a novel economic player that will work on a par and in sync with more traditional economic sectors. Methodologically, the paper is a literature review that searched databases like Science Direct, Emerald, EBSCO host and scientific search engines like Google Scholar.

2. Transformation of academic entrepreneurship

Non-profit organizations or centres that share information technology knowledge, such as universities, may contribute to technology transfer and the development of technology-oriented companies with economic consequences on local economic growth through encouraging small business entrepreneurship (Kavoura and Andersson, 2016). Entrepreneurship education may foster business incubation and may have direct positive impact on entrepreneurial intention of students (Li, Rehman and Asim, 2019). Entrepreneurship is already established worldwide as a legitimate scholarly research subject, with many existing academic journals, while business schools offer courses on entrepreneurship aiming at innovation, growth, economic progress and the creation of strong bonds with the local community, while strategy development in a university setting is required focusing on diversification and multinationalization in order for entrepreneurial universities to develop (Lombardi et al., 2019; Stevenson and Jarillo, 2007).

As a corollary, an entrepreneur is 'someone who exercises initiatives by organizing a venture to take benefit of an opportunity and, as the decision maker, decides what, how, and how

much of a good or service will be produced' (Business Dictionary). As straightforward and clear as this definition may be and regardless of the abundance of related literature and studies that have emerged during the last twenty years, defining academic entrepreneurship is more elusive. This elusiveness is not related to how academic entrepreneurship may be perceived, but mostly relies on the fact that it is not a single event, but a rather *dynamic process* consisting of a series of events and actions (Friedman and Silberman, 2003). The most succinct definition though that could be given is one of the earliest ones, which defines academic entrepreneurship as a commercialized activity involving technology developed in a university (Louis, Blumenthal, Gluck and Stoto, 1989). As academic entrepreneurs, scholars exploit research-produced ideas, products or processes by bringing them to the market and trying to make a profit out of them. In other words, academic entrepreneurship aims at transforming inventions to technological innovations with profit as the final outcome. This process involves six stages: conducting basic research, generating a prototype (proof-of-concept), protecting intellectual property, deciding to commercialize, establishing an enterprise (or at least participating in the commercialization process) and finally profit-making (Feldman, Feller and Bercovitz, 2002). Within these stages, one has to be aware of three critical milestones, when the eventual success (or failure) must be objectively and critically re-assessed (Vekinis, 2014). The first critical milestone coincides with the proof-of-concept confirmation resulting from systematic research and development within a laboratory framework and academic setting. This first milestone can be viewed as the generation and demonstration of the invention that can potentially lead to an innovation. The second milestone occurs when the technology is demonstrated—still at the level of a prototype—in a relevant environment. Only after reaching this milestone, an academic may proceed to reach the third critical milestone the attainment of which paves the way for the commercialization activities to begin and for profit-generation to be attempted. This last critical milestone entails the demonstration of the prototype in an operational environment, and it is essential in demonstrating not only the potential of the invention as an innovation, but defines the engineering and manufacturing risks and most importantly the cost-benefit ratio which is part of the determinants on the success of technology transfer (Maicher, Mjos and Tonisson, 2019).

The Ivory Tower seems to be opening up its doors and embracing a new, almost neo-Humboldtian model that amalgamates the traditional missions of teaching and research with entrepreneurship, circulating knowledge and making a societal contribution with challenges that academic boards need to take into consideration (Blankesteijn, van der Sijde and Sam, 2019; Etzkowitz, 2013). The twenty-first-century academic settings (universities and post-war developed research centres) are called to play an even more active societal role and emerge as alternative engines of economic growth alongside more traditional wealth generators (such as natural resources and labour). This transition requires the emergence and support of a new framework that of the 'triple helix' as theorized by Etzkowitz and Leydesdorff (Etzkowitz, 1994; Etzkowitz and Leydesdorff, 1995; Leydesdorff, 2010; Smith and Leydesdorff, 2014). The triple helix model of innovation refers to the spectrum of interactions between academia, industry and governments capable of fostering and nurturing knowledge-based economic development. Under this perspective and given the fact that academic entrepreneurship is a dynamic, non-linear and often iterative process, academia seems to be developing a new

identity, which targets at creating value and profit through exploitation of the generated knowledge. It is increasingly becoming apparent that since skills and ideas are the new currency, academia needs to evolve from a purely epistemological enterprise to a wealth-generator capitalizing and promoting its main asset, human creativity. Emphasis should be put upon the strengthening of students' competent skills, since they are tomorrow's entrepreneurs, so that economic viability and society return on investment may emerge; emphasis should be put on the entrepreneur as an individual that has a specific background, environment, goals, values and motivations, as well as their personal reasons to pursue aims should be also taken into consideration by universities (Argyri, 2019; Asonitou, 2015; Sahinidis, Stavroulakis, Kossieri and Varelas, 2019; Stevenson and Jarillo, 2007). The search for change is an opportunity according to Drucker that brings innovation and individuals increasingly take responsibility for their own learning and careers and the organization, either the university and/ or the business should be seen as a learning organism (Drucker, 2015). Given the above definitions, the next sections provide an overview of the endogenous processes that are required for the Ivory Tower to start re-defining its identity and goals.

3. Endogenous transformations

Generation of wealth through academic activities was seen almost as unethical or antithetical to the mission and values of a professor or a researcher. In several instances, the industry–academia relation was even perceived as a serious breach to academic independence and freedom, and it was equally argued that should academia develop strong ties with the industrial sector, basic research would be threatened with extinction. Of course, at the turn of the twentieth century, the development of knowledge-based economies has partly dispelled—or at least assuaged these fears—and has demonstrated that having academia working synergetically with the industry leads not to a conflict, but to a confluence of interests (Etzkowitz, Webster, Gebhardt and Cantisano Terra, 2000; Earnshaw, 2017). Therefore, it becomes clear that in order for the second academic revolution to take shape and bear fruit, it is firstly the very academia that needs to change from the inside following a bottom-up approach. It is in this sense that the authors opted to describe these transformations as 'endogenous'. However, academia is not an abstract, soulless construction; it is, first and above all, the people that make it up. Hence, the endogenous transformations required for a true metamorphosis of academia can be divided into four levels, the first three of which are directly related to the individual (and are more or less of an 'esoteric' nature) and only the last one is related to the institution as a whole. These four levels are the following: (1) accepting academic entrepreneurship (the so-called third way or third mission) as a legitimate part of academia and as a sanctioned option (Garcia-Martinez, 2014), since it requires change of culture in order for academic institutions to boost academic third mission and respond to the domains of smart specialization (Fonseca Ferreira, Guerra and Sá Marques, 2019), (2) making a personal decision to become an academic entrepreneur, (3) acquiring and developing the necessary skills in order to follow the third way, and (4) each institution as a whole deciding to incorporate academic entrepreneurship as part of its identity and mission.

3.1. Conceptually legitimizing academic entrepreneurship

As already mentioned, academic entrepreneurship has been viewed with a large dose of mistrust and skepticism by the very same members of academia, a large number of which supported the notion that 'the traditional ethos of science did not permit [erosion of …] the boundary between science and private, profit-seeking-business' (Etzkowitz, 1983, p. 198), and that academic scientists must pursue work that stimulates them intellectually, advances the frontiers of science and generates new knowledge regardless of potential applications. There is an abundance of existing literature written by experts on the subject (e.g. Wadhwani, Galvez-Beharb, Mercelis and Guagnini, 2017 and references therein; Berman, 2011). Academic entrepreneurship that may boost regional or national growth and generation of wealth through knowledge is not only legitimate, but they should be seen as an integral part of today's academic institutions. Knowledge-based economies are not economies of scarcity, but rather of abundance; abundance of knowledge, information and ideas. 2018 Nobel Laureate of Economics Paul Romer has plainly and simply argued that 'in advanced economies, smart people and new ideas are the primary catalysts for economic growth' (Romer, 2007), while Henry Chesbrough has added: 'The locus of innovation has migrated beyond the confines of the central R&D laboratories of the largest companies and is now situated among start-ups, universities, research consortia and other outside organizations' (Chesbrough, 2003). The linear approach that simply funds academia in hopes that such investment will eventually be translated to worthwhile returns, is not just old-fashioned, but has rather proven ineffective and slowly-paced for sustainable and viable communities. Directly linking ideas and inventions to production can be used as a catalyst to speed up innovation generation. Academia should not simply prepare highly-skilled personnel that can be later hired, but should prepare knowledgeable, creative people that will strive for excellence and the generation of novel products and services replenishing the local economies with new business opportunities. Adopting the third way should not just be perceived as an egotistical personal goal or bet, but rather as a societal contribution. According to a comprehensive project led by MIT, universities have the ability to become powerful innovation drivers, but are most successful when attuned to the economic structure of their local communities (Lester, 2005). In other words, entrepreneurial endeavours emanating from research results is a new, effective means of returning the taxpayers' money into tangible results. This affects knowledge-based economy and reward systems reformation should be firmly fixed in the institutional framework of society (Momeni, Mazar Yazdi and Sajjad Najafi, 2019). Needless to mention that on top of the economic benefits to the local communities, innovativeness that can be boosted by universities and incubator centres has an important role in the sustainable development of the country and its regions (Guerrero, Cunningham and Urbanoc, 2015; Olkiewicz, Wolniak, Grebski and Olkiewicz, 2019; Shane, 2004).

3.2. Deciding to follow the third way

A lot of successful academic entrepreneurs claim that 'any good scientific researcher has both the capacity and most of the critical skills necessary to become a good entrepreneur'

(Vekinis, 2016, p. 38) and that 'physicians and scientists are natural innovators because they are constantly faced with unmet needs and problems they are eager to solve' (Makower, 2016, p. 1187). Be true as it may, a lot of academic members are deterred from the task, thinking it is incredibly risky and overwhelming. And for most of us it can be. Even though 'traditional' research is a path full of failures, these are encountered in the safe haven of our laboratories, libraries and offices and do not have direct financial repercussions. On the contrary, entrepreneurship inherently involves risk-taking and academicians—though great visionaries—have an innate risk-aversion. When launching a business though, most often than not, decisions have to be made expeditiously without all the data at hand relying on calculated risks. Opting for the new way of academic entrepreneurship: leaving one's comfort zone and approaching life in totally different way, abandoning certainties and embracing risk taking (Vekinis, 2016).

Under this perspective, opting for the third way is a very personal choice and is underlined by individual personality traits. Even though some of the entrepreneurial skills can—and should—be taught (as will be argued and presented in the following sections), taking a leap of faith to follow an unknown modus operandi is the most difficult step. A recent study by Fritsch and Krabel (Fritsch and Krabel, 2012) conducted among scientists working in the German Max Planck Society revealed that even though 28% of the surveyed scientists regard it as 'attractive' or 'highly-attractive' to start their own firm, only 3.2% actually engage in start-up activity. Vekinis has calculated that within the European Union only 1% of ideas became innovations even after receiving research funding by the European Commission (EC) under the various framework programs (Vekinis, 2016). He attributes this disheartening fact in part to the low-commitment and risk-aversion of many researchers to take their technology beyond the technical feasibility steps. It could be argued that academic entrepreneurship can be viewed as a new form of academic calling, and apart from the positive societal impact it may have, it can constitute a new means for personal development and life-long satisfaction. Becoming an academic entrepreneur should be freely chosen, but conscientiously supported as a life mission and a new form of academic identity. This is where the university has an important role to fulfill in order to contribute to the development of competent skills as well as the recognition of intentions for entrepreneurial activity from students' point of view.

3.3. Developing the skills for academic entrepreneurship

Educational institutions have been under a lot of pressure to update, change, and relook at the way they deliver teacher educational practices while at the same time educators are slow to change (Asonitou, 2015; Kenny and Gunter, 2018). Entrepreneurship requires a set of skills that any academician already possesses, such as good analytical, synthetic and organizational skills, resilience, perseverance, patience and ambition. Modern day academic groups operate as 'quasi-firms' 'lacking only a direct profit motive to make them a company' (Etzkowitz, 2003). Professors and researchers are almost removed out of the laboratory and every day research activities, and forced to undertake more 'managerial' and organizational tasks within their research group. However, practice shows that a good inventor is not necessarily a good innovator and does not always become a successful businessman/ woman. This

demonstrates that 'nature' is not enough and new, non-technical skills need to be 'nurtured' (Vekinis, 2014; Vekinis, 2016).

The development of transversal skills (problem-solving and communicative skills), as critical and necessary in educational setting and workplaces if implemented by universities, may successfully connect education with industry (Argyri, 2019). The development of transferable skills for determining the power of competitiveness and enabling innovation in social communities may take place with the contribution of universities. In the National Research Council report (2012) specific reference is made to the process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations (National Research Council, 2012). Entrepreneurial education could also offer a positive contribution to distinguish entrepreneurial intentions, since intentions have proved to predict entrepreneurial behaviour especially among youths, while taking into account gender issues (Sahinidis, Stavroulakis, Kossieri and Varelas, 2019; Sinell, Müller-Wieland and Muschner 2018). National institutional settings should focus on the individual agent in order for the potential entrepreneur to learn how his actions and behaviour can be shaped, although such performance differs across countries, thus, the government and policy issues in a country place a significant role as well (Acs, Audretsch, Lehmann and Licht, 2017; Friedman, 2011).

The support provided by the state or other agencies but also the level of knowledge regarding the design of a business plan as well as the knowledge that young people receive from their education system, for example through their universities, may influence young entrepreneurship (Sahinidis, Vassiliou and Hyz, 2014). It has been shown that scientists can be trained for business regardless of their cultural background, ethnicity or religion (Hunady, Orviska and Pisar, 2018). Also, it is feasible to instigate the drive for entrepreneurial activity and to teach the practicalities of launching a business through appropriate sets of courses irrespective of the pre-existing cultural background of the academic environment (Etzkowitz, 2003). Still, apart from acquiring the 'practical' set of skills and apart from overcoming the innate risk-aversion, an academic aspiring to follow the third way must train himself/ herself and acquire skills that cannot be developed in an academic environment and cannot be taught in any course (Vekinis, 2014; Vekinis, 2016).

First of all, the aspiring academic entrepreneur needs to develop acumen and the ability to make rapid decisions without clear facts based on weighed guesses. Secondly, he/ she must abandon the more 'romanticized' notions of scientific excellence and acquire a sort of 'colder' perspective with regards to the most significant figure of merit for a business, the cost-benefit ratio. Striving for excellence is one thing, getting into the market at the right time is another. The third skill is 'ruthlessness', required when trying to penetrate a market and develop an antagonistic product or service. Next, the academic member needs to train oneself to identify and manage less tangible and non-technical risks that are hardly encountered in the academic arena, such as the shifting market, the ever-changing customer needs and opinions, the competition that may arise at any moment. Understanding the market trends as well as being able to forecast and foresee the future market trends and the positioning of his/ her invention with respect to them is of paramount importance. Equally important is to develop negotiating skills, necessary not only to attract investors, but to secure a viable business when dealing with customers, personnel and other business entities. Lastly, the academic en-

trepreneur should have a good measure of self-awareness in the sense that one must be prepared to identify and acknowledge one's own strengths and weaknesses (Makower, 2016). Building the right team is not much different than creating one's research group or a research consortium; it is the complementarity of skills that one is looking for. The hard part is to acknowledge what one cannot or is not willing to do. Is it then easy to follow the third way? It seems that it is not, and it requires a unique blend of skills. It is still though feasible and up to a point teachable.

4. Exogenous transformations

Academic entrepreneurship, as already described, is not a single event, but a dynamic, multi-stage process involving many actors. However, for knowledge spawned at a university or a research centre to become a product, it is equally important to develop the appropriate infrastructure and re-design the academic institutions in such a way that they become able to turn inventions to innovations. This re-design is what the authors of this paper have termed as 'exogenous', emanating both from the state—that regulates the operations of the academic institutions and from the universities and research centres as entities—in the sense that they should incorporate entrepreneurial activities in their strategic planning. In an analogous way to with the individual's change, academic institutions can re-invent themselves and re-set their goals in order to incorporate entrepreneurial endeavours in their missions. However, in contrast to the bottom-up approach of endogenous transformations, creating the new Ivory Tower is more of a top-down approach. The first step towards a modern academia harmonized with a knowledge-based economy is again a change in the way of thinking, but one that has to start from the state. As it was very eloquently put by Mazzucato, who views the state as the 'creator of the knowledge economy', 'the role of the government, in the most successful economies, has gone way beyond creating the right infrastructure and setting the rules. It is the leading agent in achieving the type of innovative breakthroughs that allow companies, and economies, to grow, not just by creating the "conditions" that enable innovation. Rather the state can proactively create strategy around a new high growth area before the potential is understood by the business community (from the Internet to nanotechnology), funding the most uncertain phase of the research that the private sector is too risk-averse to engage with' (Mazzucato, 2011, p. 19). This suggestion is on a par with the triple helix model and indicates how a state can boost its economy by turning it into a knowledge-based economy. The state is the actor that traditionally invests in high-risk research. The key parameter is to prioritize the sectors that have the greatest potential for immediate results if engaged in entrepreneurial activities. The potential is there awaiting for the three strand of the helix to start intertwining and it is more a matter of how to use existing pieces rather than creating new ones.

From the institutions' part, the first suggested step—that it is the norm in a lot of countries—is that each university and research centre funded has its own patent and technology transfer office (TTO). It is also suggested that part of any institution's budget should be allocated for the protection of the intellectual property (IP) generated within the institution. The selection of the patents to be financially supported could be selected by the technology transfer experts of the respective office or/ and by specially-organized committees. Even though

the number of patents is not directly linked to the willingness to engage into entrepreneurial activities (Fritsch and Krabel, 2012), lack of IP protection is synonymous to wasted revenues. Any invention that is not protected is a lost opportunity for innovation and profit. Recent studies suggest that the odds of success can be increased through the synergy of faculty and TTOs the role of which is of paramount importance in commercializing the outcomes of research (e.g. Wood, 2011).

The second suggested step has already been hinted throughout this work—even by its very title. It is up to each university and research centre to decide on how to redefine its goals and mission. Each 'tower' has to select to what extent and how it can include academic entrepreneurship into its activities and functions. Of course, this presupposes that the corresponding laws include academic entrepreneurship as a legitimate part of the academic identity and as a possible criterion for career advancement. Engaging in entrepreneurial activities sometimes requires a short-term 'abstinence' from academic duties and a lot of academic members decide to take leaves of absences in order to engage into the commercialization of their ideas. Such choices should not be 'penalized' when academic entrepreneurs apply for advanced positions. Moreover, it would be very beneficial if there were a greater focus on finding ways to incentivize and reward academic staff when developing their inventions and engaging in entrepreneurial activities. Lastly, but not least, part of the academic restructuring seems to involve a tighter interaction and cross-fertilization among the various disciplines. New curricula incorporating entrepreneurship, managerial, communication and advertizing courses could be very beneficial in any faculty that embraces commercialization of its ideas. As pointed out by Hunady et al., those with higher education who took during their study a course on entrepreneurship were more likely to start a business as well as to start a successful business (Hunady, Orviska and Pisar, 2018). Inversely, the trial- and-error approach, which is almost natural to scientist but alien to business school, can be proven as a great asset of reliance and creativeness when launching a high-risk venture. Departments should open their gates and share their different point of views; science has a lot to learn from economics and humanities and vice versa. Synergies need to be initiated between educators, different actors, stakeholders and organizations from local community for the best possible design and choice of the teaching methods to set the agenda for the entrepreneurial university (Starnawska, 2018).

5. Conclusions

This work on the redesign of the Ivory Tower does not claim to be an exhaustive literature survey nor an in-depth analysis of academic entrepreneurship. However, it aspired to instigate a discussion on how modern-day academia needs to readjust and reposition itself and how it can contribute to national growth in a shifting global environment and a fast-paced transformation of economical systems based on knowledge-creation. Creativity is the greatest capital and the most precious asset humanity possess; academia has a duty to exploit it the best way it can to accomplish its main goal and serve society. As former US president Woodrow Wilson said, 'I not only use all the brains I have, but all that I can borrow'.

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Restrukturyzacja wieży z kości słoniowej. Przedsiębiorczość akademicka jako nowe wyzwanie wspierające wzrost gospodarczy

Abstrakt: Ulepszanie rynków gospodarczych chroni rentowność firm lub organizacji oraz społeczeństwa, w których one działają. Innowacyjna przedsiębiorczość odgrywa istotną rolę w promowaniu krajów oraz w ich rozwoju gospodarczym. Dlatego młode pokolenie powinno otrzymać odpowiednią wiedzę, pomagającą rozwijać odpowiednie kompetencje. Trzon przedsiębiorczości stanowi przedsiębiorczość akademicka, która kształtuje młodsze pokolenia i może przyczyniać się do stałego doskonalenia i transferu technologii. Może to mieć pozytywny wpływ na lokalny wzrost gospodarczy. Niniejszy artykuł analizuje znaczenie przedsiębiorczości akademickiej, dostarczając przeglądu aktualnych trendów i perspektyw na przyszłość. Należy zainicjować współpracę pomiędzy nauczycielami, różnymi podmiotami gospodarczymi, zainteresowanymi stronami i organizacjami społeczności lokalnej, która będzie miała strategiczne znaczenie dla rozwoju gospodarczego. Uniwersytet musi się zmienić, aby poradzić sobie ze zmianami w społeczeństwie i przyczynić się do rozwoju firm zorientowanych na technologię, mających znaczenie w kształtowaniu lokalnego, krajowego i międzynarodowego wzrostu gospodarczego.

Słowa kluczowe: przedsiębiorczość akademicka, innowacje, edukacja w zakresie przedsiębiorczości, restrukturyzacja programów akademickich

Young entrepreneurship in Cyprus: An institutional analysis

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Abstract: This article reviews the trends prevailing among young Cypriots as regards entrepreneurship, as well as their perceptions regarding the institutional obstacles to entrepreneurship, i.e. their potential and the opportunities they are given to do business. The main study objective of this article is to approach and analyze the way young persons embark on their 'maiden voyage' into entrepreneurship, in conjunction with other factors, which are explained below. The methodology used here is the questionnaires and the focus groups method.

Key words: entrepreneurship, young entrepreneurship, institutions, employment

1. Introduction

Young entrepreneurship is one of the most interesting fields of discussion in the context of an institutional analysis, since institutional processes and conditions have a major effect on the young people's decisions regarding their future professional and business choices (Henrekson, 2006). Some young people, for example, choose employment, either in the public or the private sector, while the plans of other young people provide for self-employment (Hofstede et al., 2004). Such decisions are affected by market conditions, economic conditions, the support provided by the state or other agencies, as well as other parameters, such as the level of knowledge regarding the design of a business plan, as well as the knowledge that young people receive from their education system, for example through their universities (Sahinidis, 2015).

Young entrepreneurship can also be used as a measure for assessing various factors discussed in this article. For example, by means of the following analysis it is possible to assess the political and social environment, i.e. external factors that have a positive or negative effect on business trends, young or female entrepreneurship initiatives, as well as other activities (Sahinidis et al., 2014; Eesley, 2016).

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2. Employment in the public or private sector, or self-employment?

A trend that should be investigated in the context of young entrepreneurship is precisely what the young people themselves want, or consider being the best and ideal option, as regards their professional careers. In order to investigate this trend, as well as the various opinions held by young people, three different questions were used as part of this research. The first question was about the option of becoming a private sector employee, asking respondents to define the extent of their willingness to pursue this professional option in the medium or long term and taking into account all pros and cons, e.g. financial, personal, social, etc. The same question was also asked in regard to becoming a public sector employee or a freelancer/ entrepreneur.

The following graph shows the responses in regard to the first question, i.e. the young people's desire to become private sector employees. On a scale of 0 to 4, where 0 is the minimum desire and 4 is the maximum desire, the majority of respondents, i.e. 35.8%, report a desire level of 2, while desire levels 3 and 4 also get high rates at 30.3% and 23.6% respectively, demonstrating that young people are to a great extent driven by the thought and the desire to be employed in the private sector.

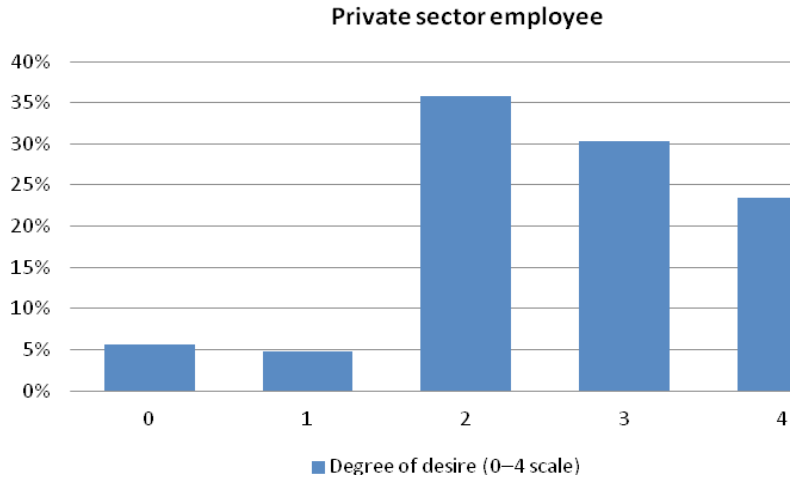

Figure 1. The desire for employment in the private sector

S o u r c e: Author's own elaboration.

The second question in this category is about the desire to be employed in the public sector. More specifically, the question is worded as follows: Public sector employee: Please rate your desire for this professional option in the medium or the long term, also taking into account all positive and negative factors, e.g. financial, personal, social etc. (on a scale of 0 = minimum appeal to 4 = maximum appeal). The following graph presents the answers in percentage form.

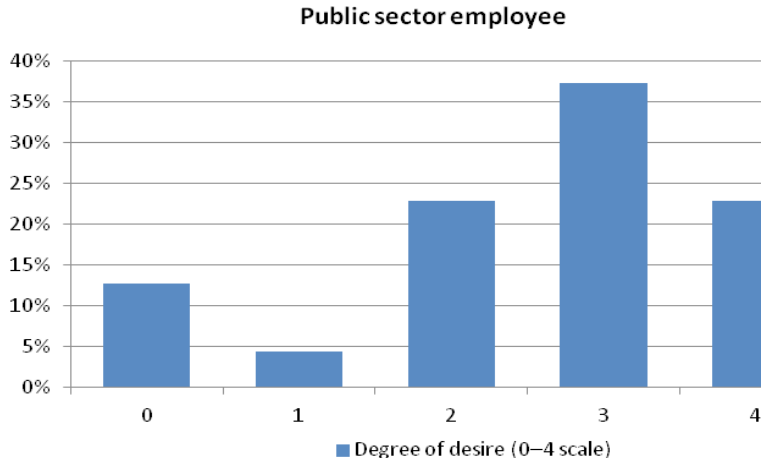

Figure 2. The desire for employment in the public sector

S o u r c e: Author's own elaboration.

We can see that the desire for employment in the public sector has a lead over the private sector, as the majority of respondents (37.3%) give it a 3 rating, while a substantial, and almost equal to the corresponding question for the private sector, 22.8% gave it a 4 rating.

When asked if they have ever considered setting up their own business, the majority of respondents answered 'strongly', while equal numbers of respondents considered it 'a lot' and 'a little', followed by 'fairly', while 'not at all' comes last with a very small percentage. We could say that the young people's inclination to set up their own business is strong, at least—as examined here—at the initial consideration stage.

The same inference can be drawn from the question 'Have you ever considered setting up your own business?' Therefore, the answers given to this question are independent from the above variables, in the sense that someone has probably considered setting up their own business, irrespective of whether they desire, at the same time, to be employed in the private or the public sector. We should always keep in mind, after all, that young people are generally concerned with the issue of their professional career, and therefore it is reasonable to come across various trends that, quite often, coincide. This is, after all, demonstrated by the results of this research. The following diagram illustrates the strong inclination of young people to consider setting up their own business, albeit without overlooking the high percentage of young people who barely considered such a possibility.

The above results can be used to extract very useful comparative conclusions. For example, while our data show that a large portion of young people take a positive stance towards employment in the private or public sector, at the same time they are seriously considering, or at least have given some thought to, setting up their own business. This also leads to the conclusion that entrepreneurship plays a decisive role, and is of particular concern for young people, and this will be discussed later on.

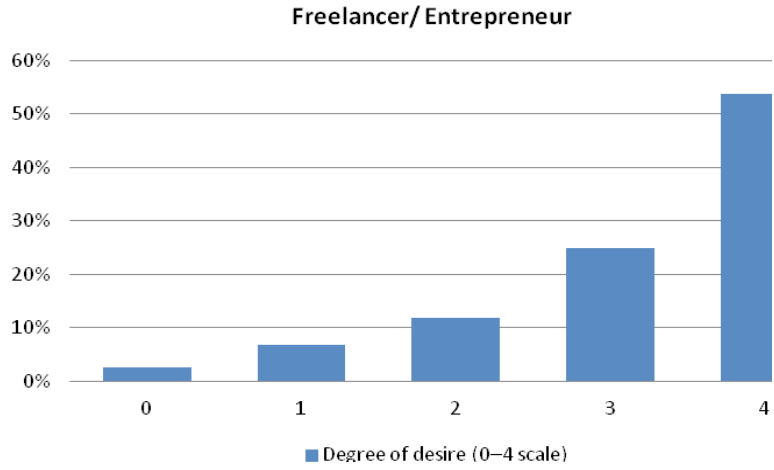

Figure 3. The desire for self-employment

S o u r c e: Author's own elaboration.

3. Difficulty of setting up a business

A key issue of concern for this research is the young people's perceptions of how difficult it is to set up a business. That said, at this stage of the research it is not clear what type of business they have in mind at the outset; albeit this is a follow-up issue. This is due to the fact that the difficulty of setting up a business is closely related to the type of business and how a person conceives of the business they wish to create. This is why in the following questions we are trying to determine whether the respondents have an, at least, elementary knowledge of how to draft a business plan, a feasibility study, etc. The main concern of this research, though, is the fact that the difficulty of setting up a business is affected by various obstacles, which are rated in our research and were also discussed as part of the theoretical analysis of this research.

As regards the question: 'Rate the possibility of setting up your own business in the next five (5) years', we can precisely see that the majority of young people lacks the certainty and, more importantly, the planning, although, as we saw above, most young people considered, or merely gave some thought to, creating their own business. This uncertainty is evident in the responses to this specific question. In other words, whereas 26.8% say that it is possible to set up their own business in the next five years, and 23.5% say that it is maybe possible to set up their own business in the next five years, in contrast 26.3% say that this scenario is neither possible nor impossible, and 16.8% say that it is maybe impossible. Moreover, 6.7% say that this is impossible.

This picture is reversed in the following question, which calls respondents to: 'Rate the possibility of setting up your own business in the next ten (10) years.' The percentage of those who answered 'It is possible to set up my own business in the next ten years' is almost doubled in comparison to the corresponding question regarding the possibility for the next

five years. More specifically, this response, i.e. whether it is possible to set up one's own business in the next ten years, is chosen by 44.4% of respondents, while 'maybe possible' is chosen by 20.8%, since a portion shifts from this possibility to the 'it is possible' scenario, i.e. they believe that the scenario of setting up their own business in the next ten years is, indeed, possible. The answer 'neither possible, nor impossible' is chosen by 24.7%, while the percentage of persons who say that it is 'maybe impossible' is dramatically reduced to 4.5%, as compared to 16.8% in the previous question. Also, 5.6% say that this is impossible.

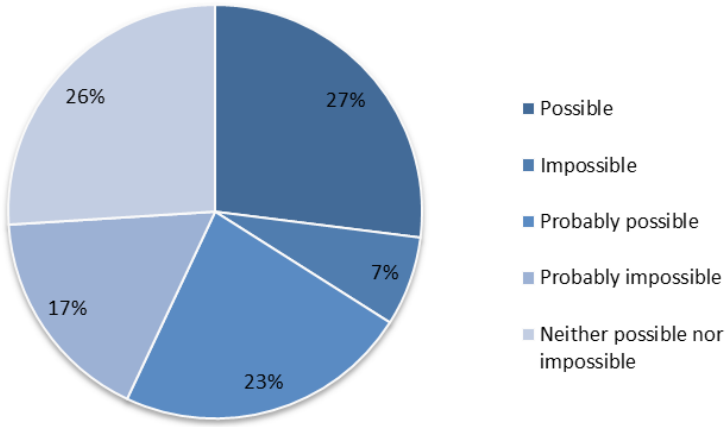

Figure 4. Young people's perception of the possibility of setting up their own business in the next five years

S o u r c e: Author's own elaboration.

At this point, however, it is important to see whether the young people are aware of the practical details of setting up one's own business. And by practical details—although the question is a general one—we mean all the practical and bureaucratic steps one must make in order to set up their own business. For example, formation of a company and a legal entity, registration with the tax authorities, registration of trade name, etc. As regards this question, 41% of respondents replied that they are a little aware of the practical details, 19.1% said they are not aware at all, and 39.9% said that they are aware of the practical details.

The next two questions are about the 'Young Entrepreneurship' and 'Female Entrepreneurship' programmes. What we actually want to examine by means of these two questions, is whether the respondents are aware of these programmes and, if yes, to what extent. In essence, both questions 'fit in' with the preceding one, given that a person who is aware of the practical details of setting up a business will most probably be aware, or will have simply heard, of these two programmes, which provide for the subsidisation of part of the cost of setting up a business, on the basis of specific criteria.

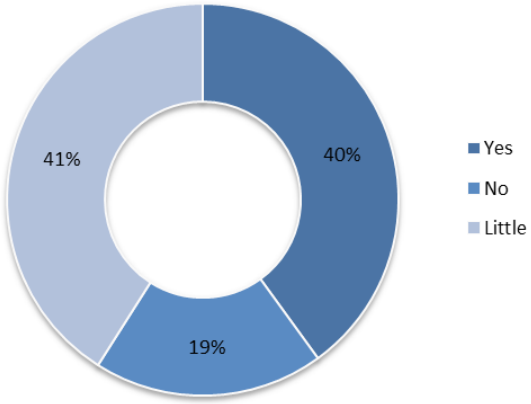

Figure 5. Practical details of setting up one's own business

S o u r c e: Author's own elaboration.

The first question was: 'Are you aware of the "Young Entrepreneurship" programme?' Almost 28.5% gave an affirmative answer, i.e. they know about the young entrepreneurship programme. Moreover, 29.1% gave a negative answer, i.e. they knew nothing about this programme. In addition, 19.6% said that they are a little aware of this programme, while 22.9% replied that they have simply heard of this programme.

In the corresponding question about female entrepreneurship, which was put as: 'Are you aware of the "Female Entrepreneurship" programme?', 25.7% gave an affirmative answer, i.e. they know about the female entrepreneurship programme.

4. The influence of external factors (institutions)

One of the key subjects of this research, which were also discussed on the theoretical level, are the various external factors that may have a positive or a negative influence on any form of entrepreneurship. In the context of this questionnaire we focus on four external factor axes: political, social, cultural, and economic. As discussed at length on the theoretical level, external factors determine entrepreneurial actions, decisions, and choices. The most important fact is that these external factors are independent of firms, which are practically unable to do anything to alter them. What can be done, however, is to take into account the characteristics of these factors, in order to come up with the relevant business decisions and actions.

In the field of young entrepreneurship, in particular, young people seem to be particularly influenced by external factors and are very concerned of whether they are able to make entrepreneurial steps. As demonstrated below, the young people's decisions are affected by various deterrents. The following variables are based on the PESTEL approach, wherever—as stated previously—it was used for isolating the characteristics of the political, social, social/cultural and economic factors.

The first question made in this section is whether the political environment in Cyprus is conducive to the creation of businesses by young people. 52% replied 'a little' and 24% 'not

at all', both high percentages which paint an exact picture of the young people's disillusionment with the political environment, and also illustrate the extent to which this factor deters young people from taking their first entrepreneurial steps. Almost 20.7% gave an affirmative reply, i.e. they said that the political environment in Cyprus is 'very' conducive to the creation of businesses by young people.

The second item examined in this research is the social environment and, more specifically, the question was whether the social environment in Cyprus is conducive to the creation of businesses by young people. We can infer by the results that the young people's perception of the overall society and how it can influence their business decisions is different from their perception of the political environment. In other words, their perceptions of the effect of the political environment on their decision to do business are different from their perceptions of the effect of social environment on their decision to do business. At least this is shown by the responses of the persons who completed this questionnaire. More specifically, 41% replied 'a little', in contrast with 52% who replied 'a little' in the case of the effect of the political environment on their business activity.

The third item is about the cultural environment and, more specifically, the question was put as follows: 'Is the cultural environment (culture, civilization) in Cyprus conducive to the creation of businesses by young people?' This question specifically examines how the various cultural trends within society, as well as how the culture and the people's way of thinking, in general, have a positive or negative influence, and to what extent, on the young people's decision to set up their own business. In other words, whether the cultural environment encourages young people to do business. So, 33.7% said that the cultural environment in Cyprus is 'fairly' conducive to the creation of businesses by young people, while 39.9% replied that the cultural environment in Cyprus is 'a little' conducive to the creation of businesses by young people. Moreover, 8.4% replied that it is 'very' conducive, and 3.4% replied that it is 'very much' conducive. Finally, 14.6% gave a negative reply, in other words that the cultural environment in Cyprus is 'not at all' conducive to the creation of businesses by young people.

The final item that is discussed here in the context of the external factors that have a positive or negative influence on the development of young entrepreneurship in Cyprus is the economic environment. In other words, how the economic situation affects the young people's initiative-taking and decision-making regarding their business activity. Given the economic crisis and instability, the analysis of this external factor is particularly interesting. In this instance, the question was put as follows: 'Is the economic environment in Cyprus conducive to the creation of businesses by young people?' It therefore leaves the field open for the respondents themselves to explain how they perceive the economic crisis. For example, someone may perceive the economic environment in terms of the difficulty to obtain financing (e.g. getting a loan from a bank) or in terms of the economic crisis, which imposes tougher terms of competition in the market. So, 35.4% of respondents give a negative answer, i.e. that the economic environment in Cyprus is 'not at all' conducive to the creation of businesses by young people, and 37.6% say that it is 'a little' conducive. Almost 20.2% say that the economic environment in Cyprus is 'fairly' conducive, 4.5% say that it is 'very' conducive, and, finally, 2.2% say that it is 'very much' conducive.

5. Comparative analysis vis-à-vis the findings of the focus groups[1]

Interesting evidence are also extracted from the conversations conducted with the participants, through the use of the focus group method. Multiple focus groups were conducted, with a specific number of participants who were selected by means of a screening process (each potential participant was interviewed separately).

The agenda of the conversation does not differ from the philosophy of the aforementioned questionnaire, albeit it has been adapted in a way that facilitates debate and interactivity. Therefore, the broad axes on which the conversation with the groups was conducted are the following: direct and indirect objectives as regards the professional occupation of young people; how do young people perceive the creation of a business and, in general, how do they picture the concept of a 'business' in their own mind; whether they are aware of any practical difficulties and, in general, procedures required for setting up and creating a business; whether they already have any ideas and how innovative these ideas are; and, finally, whether the overall environment in Cyprus is conducive to this. Surely, the focus group conversations give rise to many other subjects of interest, which will be presented below, as part of a content analysis.

The first fact that was established through the focus group discussions is the reason why someone creates or wishes to create their own business. This was the opening discussion point made by the moderator, with the aim of encouraging and starting the conversation. Some of the participants said that they would like to create their own business because they do not wish to be employees and obey the orders of any superior. Others said that, although they would like to create their own business since this offers them independence and room for manoeuvre, at the same time they are concerned that setting up a business may be a huge risk. Risk aversion is related to the following findings of the discussion on institutional, economic and other obstacles, which may possibly prevent or hinder the creation of businesses by young people.

A common point of reference for focus group participants are the institutional and economic obstacles that exist as regards the financing of young entrepreneurship. Most young people have heard of the financing schemes, but only a small group actually got into the trouble of researching them. This is evident in the discussions conducted with the participants. Apart from that, the majority of participants believe that there are many obstacles that prevent young people from actually getting in the process of applying for funds. As a matter of fact, a significant portion of participants think that it is a waste of time to apply for financing through a programme (e.g. the young entrepreneurship programme), since they believe that success mainly lies in the person-hours one will spend in order to create their own business.

The discussion progressed on exactly that pattern, emphasizing institutional and economic obstacles. For example, one of the points that were extensively discussed was the fact that the young entrepreneurship financing programme provided by the Republic of Cyprus through the Youth Board fails to cover actual financing requirements, as the applicants must, in practice, demonstrate that they possess the remaining 60 or 70% in order to be eligible for the remainder of the financial support, and thus the overall procedure becomes arduous since,

[1] The focus group sessions were recorded in video and some of them have been posted on YouTube.

according to the participants of the focus group discussions, young people are not financially independent, and the procedures for getting a bank loan are complex and difficult.

Moreover, the discussions also referred to family, as an institution that provides substantial support to the young people's business ventures. Most participants argued that those young people who enjoy financial or other (e.g. real property) support from their family can do business more easily. Actually, participants referred to personal examples from their own experience and from the family businesses some of them own. This is exactly where a difference in perception, between those who have their own family business and those who have not, emerged. Those who do not have their own family business believe that the process of developing a business is very difficult, also expressing a fear of borrowing, failure, and bankruptcy.

A participant to these groups said that what is really necessary is capital and an idea. Moreover, certain participants referred to the use of technologies that facilitate the development of innovative business activities. In this case the participants referred to the examples of companies that are based in Cyprus and mainly operate online. The participants also believe that the use of new technologies can boost services and improve customer service.

When compared with the findings of the questionnaire, the findings of the focus group seem to be in agreement and point to certain issues for a more in-depth discussion. For example, for the question referring to the young people's own perception of the possibility of setting up their own business in the next five years, or in the next ten years, we can clearly see the similarity between the data from the questionnaire and the data from the focus groups, and we can also see that they are consistent with each other in quantitative (questionnaire) and qualitative terms (focus groups). The young people's perceptions of entrepreneurship are the same in both methods. As regards this specific question, participants to the focus groups provide detailed explanations of exactly where their hesitation and concern for setting up their own business lies. Their main concern lies with institutional and economic factors. Institutional factors include the legal framework of which they are probably not knowledgeable yet, the difficulty to obtain financing, and the lack of government incentives. What is, therefore, more evident in the focus group discussion is the young people's perceptions of institutions.

As regards incentives, the participants believe that the state should offer more incentives to young people who make their first entrepreneurial steps, for example, tax incentives and easier financing procedures.

The participants also referred to female entrepreneurship, since some of them did research on this specific financial assistance programme. In fact, they believe that it is important that women are targeted through this programme, since this encourages an even larger part of the population to do business through smart ideas. That said, they did not fail to refer to the difficulties of obtaining financing, since these are the same with those of the young entrepreneurship programme. Participants believe that these programmes should become more flexible. If these qualitative data obtained from the focus groups are compared with the quantitative data from the questionnaire and, in particular, the question about female entrepreneurship ('Are you aware of the "Female Entrepreneurship" programme?'), we can see that there is indeed some relativity. In the quantitative analysis, 51.4% said that they are not aware of the female entrepreneurship programme, 9.5% said that they have simply heard of it, 13.4% said

that they know a few things about the programme, and 25.7% said that they are aware of it. This matches with the qualitative findings of the focus groups, since the discussions showed that only certain participants were aware of the programme, since they actually took the trouble of researching it, while the rest of the participants were either not aware, or had simple heard, of the existence of a scheme for enhancing female entrepreneurship.

Moreover, participants do not believe that any sex is superior to the other in terms of the ability to create or lead a business. They believe that the two sexes are equal in terms of entrepreneurship and that any abilities are mainly related to the personality of each individual. Another key feature pointed out by the participants is experience.

At this point, those participants to the focus groups who said that they are aware of the female entrepreneurship programmes were asked how they knew about it, i.e. which sources they used to obtain information. Most participants said that initially they sought information online and then they turned to the official agencies for additional information about the application procedure.

Some of the participants are involved in the tourist sector through their family businesses and this turned the discussion towards business examples from that sector. This was very interesting, since these examples helped us form an even better understanding of the characteristics of family businesses and, above all, their concern about the lifecycle of the business, and how it will be passed to the next generation. In other words, whether they will continue with the same business, upgrade it, or turn it onto something altogether new. In any case, they believe that the fact the family provides them with a space (e.g. a store) is a great help for them.

A question that gave rise to a heated discussion among the participants is whether they believe that the Turkish invasion of Cyprus had an impact on the nature of entrepreneurship on the island and to what extent. Most participants believe that it had a negative impact, since the country lost territories that could be exploited by the primary sector of its economy. They were also negative in regard to the opening of the barricades, since the uneven tax policies of the north and the south create a 'two-tier' market. The participants said that entrepreneurship can only be enhanced through the effective and actual reunification of the island, and not through the mere opening of a barricade, which gives rise to other problems.

The discussions also demonstrated that education is inextricably linked with entrepreneurship. The participants emphasized the role of universities and whether they provide young people with the requisite means and knowledge for creating their own business. The participants almost unanimously agreed that the universities offer knowledge that acts as the basis for their future business activity, but, at the same time, believe that experience is a key element, which cannot be obtained in any university.

Finally, an interesting feature of the discussions was the continuous reference to innovation and innovative enterprises. It was interesting mainly for the following reason: because most participants did not have any in-depth and effective knowledge of the business aspects of the concept of innovation, albeit they were aware of, and understood, the importance of innovation in terms of financing, i.e. the fact that their proposal for the development of a business plan must include innovation and, by extension, they understand the importance of innovation for the viability of an enterprise.

As part of a discussion on innovation, some of the participants referred to their own business ideas, arguing that innovation does not always cost a lot to implement, but may be a simple thing, or a plain procedure, such as a simple differentiated intervention in customer service that is not applied by any other competitor, or is not applied at a sufficient extent in the geographical area where a business operates.

Table 1 is a codification of the qualitative data variables, as extracted through the focus group discussions:

Table 1. Classification of the variables as suggested by the focus groups of our research

Field of discussion	Data
Reasons to set up a business	– Independence – Room of manoeuvre – Risk in regard to success
Obstacles (institutional/ economic)	– Insufficient information about support/ financing programmes – Procedural difficulties – Non-viable financing procedure – Legal framework – Political
Other supporting institutions	– Family – Education (university)
Expertise	– Knowledge of the design and implementation of a business plan – Knowledge of technology
Incentives	– Need for tax incentives – Need for easier financing procedures
Market-competition	– Market characteristics – Business characteristics and types
Innovation	– Economic dimension of innovation – Innovation expertise

S o u r c e: Author's own elaboration.

Kourilsky and Walstad (1998), in their study on young entrepreneurship in the United States twenty years ago, and using the qualitative approach with focus groups in their methodology, came up with interesting evidence about the young people's views and attitudes; however, the most interesting fact is that their findings have a lot in common with our own research, that is to say with the case of Cyprus, twenty years later. For example, both sexes exhibit a low level of entrepreneurial knowledge. Women, however, are more aware of their shortcomings in this knowledge field than men. Both sexes believe that further education can remedy the problem of the lack of knowledge. This is exactly what we encountered in the focus groups of our research. Namely, that the knowledge of young people is inadequate, for example as regards the young entrepreneurship financial assistance programmes, but, at the same time, we saw that some women were better informed about the female entrepreneurship programme.

We can also find similarities with another study, by Adetayo (2006), which concerns a totally different case, more specifically the case of Nigeria, albeit also examines the young

people's perceptions of entrepreneurship and, in particular, the programmes for the support of young entrepreneurship, and also employs a qualitative methodology. For example, the young people of Nigeria see many deterrents as regards the institutional factor. Nonetheless, in the same study the young Nigerians exhibit a willingness to learn and be informed about programmes for the support of young entrepreneurship. Moreover, they generally wish to learn (through education) about entrepreneurship, because they believe that this is how they will develop their business skills.

In the above two cases, the comparison is made because it is interesting to see how two countries that are totally different and have totally different characteristics (United States–Nigeria) both from each other and from the country examined in our research, i.e. Cyprus, have so important common features of an institutional and essential nature.

A case of a country with characteristics similar to those of Cyprus is the case of Croatia, since it is one of the 'small nations'. In their study, Cuckovic and Bartlett (2007) argue that a key motivation not only for young entrepreneurship, but also entrepreneurship at large, is the tax incentives regime, and that the Croatian government has designed and implemented such tax incentive policies for encouraging entrepreneurship. However, the focus group research performed by Cuckovic and Bartlett (2007) confirmed that most owners and managers of small and medium-sized enterprises believe that the tax system should be better adapted to their specific needs. The tax incentives issue was discussed above, in the case of our research in Cyprus, through the primary data we extracted.

Of particular interest is the case of Greece. An interesting study, which explores the views and perceptions of Greek public university students who have taken business studies, is that by Fafaliou (2012). According to this study (2012), almost half of the responding students (46.5%) were positively disposed towards entrepreneurship despite the difficulties and the obstacles they could possibly encounter during the stage of the conception of the idea and the early start of the business venture. Moreover, the study concludes that 34.7% of respondents already had a clear idea of the type of business they wanted to get involved with. In comparison, we can see that in our case as well, many of the participants in the focus groups developed their own business idea, and some of them actually realized it.

Another thing in common of our research with the study by Fafaliou (2012) is the fact that although the majority of participants said that they were not prepared to become self-employed in terms of adequate knowledge or experience, it is still a preferable option than working as salaried employees. Despite the large number of concerns also expressed in the study (2012) as regards the difficulties they expect to encounter at the stage before and after they start creating their business, 46.5% of respondents expressed the desire to set up their own business.

Since we are referring to university students, a further issue that it would be interesting to mention here is that of the correlation between a person's academic discipline and the profession they actually pursue or wish to pursue in the future, as well as what really influences such a decision. This issue is interesting precisely because it focuses on the institution of family and the way it affects the future decisions of young people. This because, as we saw from the focus group data of our own research, the institution of family plays—in the case of Cypriot youths—a key role in business choices and decisions, and is both an institutional and

an economic factor. Referring to the case of Greece, Vasiliadis and Poulios (2007) argue that the family is a major support for young people, at least at the first stages of developing their business ventures. However, according to the research by Vasiliadis and Poulios (2007), the results of this study suggest that Greek university graduates start their own businesses, and this can be explained by the high rates of entrepreneurship among Greeks, which is comparable to the European average. Moreover, the authors (2007) say that 'graduates startup a business based on family resources or on their own funding and they don't use banking loans or community funding. Moreover, with regard to the affinity of object of study of the entrepreneurial activity, it appears that the answers of graduates are not homogeneous, while they are differentiated, depending on the faculty of graduation' (p. 80). This quote is important, since it actually says that young people do not trust banks. This, of course, was exacerbated by the banking crisis, which, especially in the case of Cyprus, played a major role. Therefore, the institution of traditional family remains the principal source of financing.

We should not overlook the fact that entrepreneurship is directly related to unemployment (Mariana-Cristina, 2014). Mariana-Cristina (2014) argues that 'Youth entrepreneurship could help develop young people's personality, identify new ways of employment and poverty reduction, and transform the society in general' (p. 580). After all, the ultimate goal of the various national strategies for enhancing young entrepreneurship, female entrepreneurship and, in general, entrepreneurship, is to support employment and the entry of young people in the labour market. Kretsos (2014) points out that one of the outcomes of the Greek economic crisis and the bailout was the declining strength of young people in the Greek labour market, owing to the implementation of wide-ranging austerity policies and the consequent growth of insecure employment and youth unemployment since the first financial assistance deal of 2010. Therefore, the economic situation is directly related with unemployment and, by extension, with the labour market.

The institution of education and, more specifically, tertiary education, plays a major role in the overall development of entrepreneurship. We have already referred to many cases of surveys conducted within universities and to the views of the students, precisely because universities are an important hotbed of entrepreneurship-related knowledge and ideas. This is, after all, why universities must incorporate entrepreneurship courses, mostly of a practical nature, in order to act as brainstorming hotbeds, and as links to the labour market. Morris et al. (2017), based on data collected in 25 countries, argue that the extent and type of the students' involvement in business activities are related to the syllabus (i.e. whether entrepreneurship is actually taught in the universities), and they are also related to the knowledge offered to the students regarding direct financing programmes, which determines whether they will immediately embark on a business venture or not. The prior experience some students possess—either directly through their family environment, or in connection with various entrepreneurship-related university initiatives—is conducive to setting up their own business. Even the difficulties encountered by young people in regard to financing may have a positive effect, provided they are considered as prior business experience. Moreover, in their study Morris et al. (2017) discuss the consequences of this situation and the measures that could be taken. This is also argued in the study by Stamboulis and Barlas (2014), i.e. the necessity to mobilise universities towards this direction, while Kakouris (2008) further specifies the discus-

sion, by incorporating innovation as an integral part of entrepreneurship. As, after all, shown above, innovation is one of the key discussion topics of the focus groups we examined.

In their study, Apergis and Fafaliou (2014) examine the determinants that affect the tendency of young Greek university students to create a new business venture. Their study identifies many institutional obstacles, for example bureaucracy, an issue that was also dealt with in our own research. The author's research (2014) also identifies the following major factors: risk propensity, prior experience in leadership, missing available time and the place of performing work.

As a concluding comment on the Greek case, we should mention the argument made in the book by Petkovic and Williamson (2015) that, although the Greek education system (from the early childhood education) is lacking in terms of the basic entrepreneurship skills it offers to young people, Greek youths believe, as mentioned above, that they possess the necessary means and knowledge to start their own business and, as a matter of fact, the relevant percentage is one of the highest in Europe.

The case of Cyprus was extensively discussed above, along with the analysis of the primary data. An interesting distinction as regards Cypriot enterprises is the one made by Hadjimanolis (2008) between small and larger enterprises, pointing out that the problems and obstacles faced by a business are obviously related to its size. Moreover, Hadjimanolis (2008) also deals with the issue of entrepreneurial education in Cyprus, and more specifically higher education. As in the above references to the Greek case, the author (2007) argues that entrepreneurship is an integral part of the social and economic process, and this is why it must be incorporated into the various levels of the Cypriot education system.

An interesting issue in the case of Cyprus—which was also mentioned in the focus group discussions—is that of the political problem caused by the Turkish invasion of 1974. Howells and Krivokapic (2009) approach entrepreneurship under the prism of the political issue, from the point of view of the Turkish Cypriots (whereas our primary data approached the issue from the point of view of Greek Cypriot youths). Thus, according to the authors (2009), Turkish Cypriots take a very positive stance towards the opening of the barricades, since they believe that it will benefit their businesses. They also believe that it will strengthen their commercial relations with the European Union.

Finally, an interesting subject that should be mentioned here—although it is not a subject of our primary research—is entrepreneurship among the Cypriots of the diaspora. It would be interesting for a future research to deal with this issue, since many Cypriots fled abroad after the Turkish invasion of 1974 and did business there. Panayiotopoulos (1996) deals with this issue and examines the business activity of Cypriots in London. He mainly emphasizes the role played by ethnic communities in the development of business activity among their members.

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Młoda przedsiębiorczość na Cyprze – analiza instytucjonalna

Abstrakt: W artykule dokonano przeglądu opinii na temat przedsiębiorczości dominujących wśród młodych Cypryjczyków, ze szczególnym uwzględnieniem postrzeganych przez nich przeszkód instytucjonalnych. Skupiono się na potencjale młodych ludzi i na możliwościach, jakie uzyskują oni jako przedsiębiorcy. Głów-

nym celem artykułu jest obserwacja i analiza sposobu, w jaki młodzi ludzie rozpoczynają swoją „dziewiczą podróż" w kierunku przedsiębiorczości w połączeniu z czynnikami opisanymi jako przeszkody. Zastosowana metodologia to kwestionariusze i metoda grup fokusowych.

Słowa kluczowe: przedsiębiorczość, młoda przedsiębiorczość, instytucje, zatrudnienie

Start-up ecosystems comparison: MIT and Greece experiences

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Abstract: This study examines and compares start-up ecosystems of MIT and Greece. Despite the great differences regarding entrepreneurial spirit and tradition, and different economy sizes between the USA and Greece, the study identifies key factors that determine the ability of a start-up ecosystem to promote innovation and contribute positive to the national and international economic development. Furthermore, the study examines the case of Greek start-up ecosystem within the Greek economy, recovering from a decade of declining economic activity.

The literature review examines various factors that affect promotion of innovation and performance of start-up companies, comparing key success factors between MIT and Greek ecosystems. The research involves primary research and the use of structured questionnaires from Greek start-ups; more specifically 130 questionnaires were distributed to the founders of Greek start-ups, and were collected immediately during exhibition events.

The research findings provide a deeper understanding of the challenges and dynamics of Greek start-ups, and a better understanding of the role of ecosystems and business culture between Greece and MIT (Boston, East USA). The findings provide insights to entrepreneurs as they strive to increase the success rates of current and future projects as well as to the wider innovation ecosystem, e.g. business angels, venture capital firms, policy makers, to further improve their success rates or design and implement policies for innovation promotion. Finally, key areas for further research are highlighted.

Key words: innovation management, marketing, start-ups, founders, business models, entrepreneurship, strategy, Greek enterprises

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1. Introduction

While Greece is trying to develop its start-up ecosystem, MIT (Massachusetts Institute of Technology) runs one of the most effective start-up ecosystems in the world. 'In 2003, Professor Edward Roberts along with then PhD student Charles Easley developed a survey to explore the entrepreneurial activities of MIT alumni. The findings from the initial MIT survey indicated that MIT alumni were significantly engaged in new enterprise formation.' In 2014 the survey updated

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> […] to explore the continuing contribution of MIT alumni to innovation and entrepreneurship in the United States and worldwide. On the one hand, fund raising and capital access became more challenging as the US economy entered a period of deep recession starting at the end of 2007, and venture capital assets and investments declined. On the other hand, entrepreneurship concurrently became a potentially more appealing career choice due both to structural and perceptual changes in traditional employment and occupations, as well as to an apparent groundswell in young people's interests in entrepreneurial endeavors. For instance, the proportion of MIT undergraduates selecting employment in venture-capital-backed start-ups upon graduation increased from less than 2% in 2006 to 15% in 2014 (Roberts, Murray and Kim, 2015).

The MIT alumni-founded companies represented in our survey results exhibit superior performance in terms of survival relative to new US firms as a whole. While roughly 50% of US newly formed businesses survive for five years or more and 35% last for 10 years, approximately 80% of new companies founded by MIT alumni survive for five years or more and 70% last for 10 years according to our results. The survival rate for the MIT-alumni companies is higher at every stage of the company life cycle. Overall, the survey results suggest that about two-thirds of all MIT alumni-founded companies—from those that started as far back as 1945 to those recently founded—continue to exist today. This is consistent with the follow-up telephone survey, which found that 72% of all companies founded are still active (Roberts, Murray and Kim, 2015). In fact, as of 2006, over 25,000 existed, and 900 new ones are created each year. These companies employ over 3 million people with aggregate revenues of approximately USD 2 trillion. To put that in perspective, the total annual revenue from MIT alumni founded companies taken together would make them the 11th largest economy in the world (Aulet, 2013). 2018 GDP in terms of USD for the USA was 20.5 trillion, China 13.6 trillion, Germany approximately 4 trillion, Italy 2.073 trillion, Brazil 1.868 trillion, Canada 1.709 trillion, Russia 1.657 trillion, and Greece 0.218 trillion (World Bank, 2019).

On the other hand, the Greek macroeconomic and business environment in which Greek IT start-uppers have been trying to develop their business activities is not an easy one for new—or for existing—business. The austerity measures since 2010 resulted to an economy characterized with high unemployment levels and increased poverty, over taxation and dramatic cuts of income level for the majority of population, as well as IT investment budgets.

However, the macroeconomic environment is not the only negative factor for Greece, as the country has a low score in a number of innovation related indexes.

> Greece is not performing well on 'Business dynamism' and 'Innovation capability pillars', placing 120th in 'Growth of innovative companies' and 126th in 'Companies embracing disruptive ideas'. Government regulations appear to be holding the country back in terms of bureaucracy and lack of digitalization, as it ranks very low on 'Quality of land administration' (135th), 'Efficiency of legal framework in challenging regulations' (127th), 'Burden of government regulation' (131st), 'Efficiency of legal framework in settling disputes' (133rd) and 'Future orientation of government' (135th) (EIT Digital, 2018).

According to the EU's Digital Transformation Scoreboard for 2018, Greece performs lower than the EU average in six of the seven dimensions. The country ranks significantly lower than the EU average in the areas of 'Digital Infrastructure' and 'E-leadership'. The situation is also moderate for the 'Supply and demand of digital skills', 'ICT start-ups' and 'Digital Transformation', where there is a lot of room for improvement. In the dimension of 'Entrepreneurial culture', Greece scores better but still below the EU average (EIT Digital, 2018).

2. Methodology

The research was based on both primary and secondary data. Primary data include data collection from 130 founders of Greek start-ups, with a special focus on IT business, collected the period between September 2018 and March 2019. The study examines the Greek start-up ecosystem, with a special focus on companies engaged in digital solutions (IT sector). The objective is to enhance the understanding of the digital start-ups in Greece, by analyzing the founders' views, strategy, and current perception regarding their ICT start-ups. The study examines the Greek start-ups participating in Digital Greece 2018, and a number of related events and exhibitions, focusing on different business sectors. The Greek Ministry of Digital Policy, Telecommunications and Media organized digital Greece. All participating start-ups have participated at least in one start-up boot camp or start-up accelerator programme operating in Greece. To this respect, the founders have received at least basic business training regarding all aspects of establishing and managing a start-up company, such as company formation, product design, market selection, human resources, negotiations, and pitching to potential investors, and therefore are considered to be trained on the business and managerial aspects of running a start-up company. The data were encoded and advanced statistical analysis software (SPSS) was used in order to analyze the correlation between variables, with the use of Spearman Correlation Coefficient.

Regarding the primary data, and more specifically the year of establishment of their start-up in Greece, in terms of having a company officially formatted, 21% of the responders have not yet established their company. 6% of the responders had their companies established during the period 2006–2012, 12% of the responders had their companies established in 2013 or 2014, 9% of the responders had their company established in 2015, 16% of the responders in 2016, 22% of the responders in 2017 and 19% of the responders established their company in 2018. In total, 57% of the companies have been established for less than 3 years (September 2018 – March 2019 was the period of data collection). This demonstrates that the majority of the IT start-ups are new, and furthermore, the companies that have not yet formed officially face several issues in terms of transactions, sales and ability to evaluate actual value of their products.

Secondary data include publically available information and reports from organizations engaged in MIT and Greek start-up and innovation ecosystems, and relevant academic studies.

3. Literature review

3.1. The role of entrepreneurial education

Probably the initial difference of MIT ecosystem approach and other, less innovation-based or innovation friendly ecosystems was the focus on the role of entrepreneurial education; 'entrepreneurship can be taught' (Aulet, 2013). This, by itself, is a key difference between MIT's approach and some established myths, that either you are born an entrepreneur or not.

'A better understanding of the factors that contribute to start-up failure represents a critical aspect of entrepreneurship studies' (Okrah, Nepp and Agbozo, 2018). Previous studies (Aulet, 2013; Amit and Zott, 2012; Chesbrough, 2010; Gambardella and McGahan, 2010; Morgan and Vorhies, 2009; Raj and Srivastava, 2016; Evers, 2003) highlight that entrepreneurial success starts with (or requires) a promising product, but business success starts with entrepreneurial education. This approach sets from the very beginning a different point of approach for start-ups ecosystems and highlights the need for entrepreneurial education for all participants. In order for the ecosystem to be effective, both start-uppers need to have entrepreneurial education, in order to reduce their venture risks and increase their chances for survival and growth. Entrepreneurial education is essential for other members of the ecosystem, such as investors (business angels, seed investors and venture capitalists), in order to be able to identify and evaluate business opportunities. Importance of entrepreneurial education has to start before the product—it has to do with identifying opportunities, either with the creation of new products or markets, or with a new approach to solve an existing problem. Product design follows, including a detailed analysis of the product characteristics, and so does market analysis—which is the ideal market (and market segment) for the new product, and examines the appropriate strategy, business model sales processes and pricing options in order to improve the chances for gaining market share. The above studies highlight that a great product is not always enough, and that there are many other factors to consider, both before product design, as well as after the product is ready.

MIT has a long history providing entrepreneurial education to students and developing a healthy ecosystem. Many of MIT alumni and faculty staff participate in the MIT start-ups ecosystem, either as (serial) entrepreneurs or as mentors and investors. On the other hand, Greece entrepreneurial education made its first steps during the last 10 years and slowly introduced at business studies or became available through new business ecosystems, such as special seminars run by accelerators or business boot camps and incubators.

3.2. Founder's teams

Academic studies highlight the role and importance of founder's team. 'MIT research on entrepreneurship determined years ago that solo entrepreneurs were considerably less likely to build successful companies than were teams, thus forming the basis for our second educational principle. A team-based approach to student learning and activities has therefore been adopted throughout most of our curriculum design' (Roberts, Murray and Kim, 2015).

Further research (Spyropoulos, 2020) examines the cases of Greek start-ups. In the sample of Greek start-up founders examined, regarding the number of founders per start-up com-

pany, 33% of the responders were the only founder, 31% responded that their founders team had two members, 25% responded that their founders team had three members and 11% responded that the founders team included four members. This can be applied to several reasons since some start-ups may have not formed yet as companies and are at an initial early stage; therefore new founders may join the existing founder(s) in the near future.

What is also noticeable is that correlation analysis revealed no correlation significance between the number of founders and perception of success, or education levels.

3.3. Gender

Academic studies for women entrepreneurs (Mustapha and Subramaniam, 2016) summarize previous literature highlighting the role of support from family members. Regarding MIT ecosystem, 'as with broader trends in the US economy, the overall rate of entrepreneurship is considerably lower among female MIT alumni survey respondents than among their male counterparts. Overall, the rate of entrepreneurship in our sample is 12% for women versus 29% for men' (Roberts, Murray and Kim, 2015). The study concludes: 'Female alumni have a much smaller but growing presence as founders, but their firms have relatively limited economic impact.' This implies that female entrepreneurship is linked to a more secure, less disruptive business approach, with lower possibilities for failure and less opportunities for dramatic scale ups.

Past research also highlights different motives and obstacles for women entrepreneurs, concluding that women

> […] are more likely to engage into business as a means of balancing between work and family demand and also they believe that their existing experience can help them succeed in business. Furthermore, the successes of female entrepreneurs are more likely to be influenced by family needs and support and the age of their children. However, men found dealing with business malpractice posed a great challenge in business where women are less experienced with it (Hazudin, Kader, Tarmuji, Ishak and Ali, 2015).

This appears to be consistent with the Greek founders (Spyropoulos, 2020) from the respondents, 73% were men and 27% women, majority of the IT entrepreneurs were men. However, further statistical analysis, presented in Table 1 below, reveals interested correlations between gender and perception of need for product improvement as well as secure funding the following:

Table 1. Gender: statistical significant correlations

Variable 1	Variable 2	*r*
Gender	Improve Product as a Challenge	0.182*
Gender	Funding 100k	–0.194*

*$p < 0.05$

S o u r c e: Author's own elaboration.

Gender therefore seems to play a limited role for Greek start-uppers—'Gender' variable correlates positive with 'Improve Product as a Challenge' and negative with 'Funding 100k Euros'. This means that women founders consider to a high degree the challenge to improve their product, and that women founders were less likely to secure funding. However, there was no evidence of correlation for Greek start-up founders between gender and several other variables, as academic literature highlights (Roberts, Murray and Kim, 2015). More specifically, further statistical analysis on the perception of success and for four potential reasons for setting up a start-up company as a basis of differentiation or competitive advantage—a different business model, technology, specific business opportunity or process innovation—there is no evidence of correlation significance. This can be interpreted that there is no linear relationship between gender and success or variables related with reasons for starting a start-up company.

Regarding MIT ecosystem,

> In terms of company exits, women-founded firms in our survey are less likely to go public or become acquired. Interestingly, they are also less likely to fail. We also observe differences in firm size for female versus male entrepreneurship. Relative to males in the survey, female entrepreneurs from MIT are significantly more likely to own small firms. While 49% of male-founded firms report employing fewer than 10 workers, the figure for female-founded firms is 72% (Roberts, Murray and Kim, 2015).

For Greece such an analysis is not available at present. The focus of women entrepreneurs in Greece on improving product could create a feeling of entrepreneurs who are more willing or eager to create a new standard or value for the customers, and reduce the risks of their start-up organization; to this respect, focus on product improvement could lead to a more stable business. The reasons behind the reverse relationship between women entrepreneurs and funding can be attributed to several factors; venture capitalists may prefer fast growth and more scalable markets, and therefore favour investments in marketing or sales instead of product improvement; or a focus on product improving on behalf of women entrepreneurs may be interpreted as a weak point in a business proposal or plan submitted to venture capitals.

3.4. Serial entrepreneurs

A key finding has to do with serial entrepreneurs. The importance of serial entrepreneurship lays to the fact that serial entrepreneurs boost possibility of success for new ventures and often become parts of the existing start-up ecosystem as mentors and investors.

> Roughly 40% of MIT alumni entrepreneurs in our current survey (and 49% of telephone survey respondents) have already launched two or more companies during their careers. In reality, the overall proportion of serial entrepreneurs is necessarily higher due to the 'right-hand censoring effect'; i.e., alumni who graduated more recently and those who are first-time entrepreneurs are observed here as one-time founders though they may go on to found more businesses in the future (Roberts, Murray and Kim, 2015).

Furthermore, serial entrepreneurs provide answer to a key question: 'Are successful entrepreneurs born or made? How much of the success in entrepreneurial endeavors results from luck or birth-based characteristics as opposed to learned knowledge and skills?' Results indicate that the firms in our sample founded by first-time entrepreneurs (compared to experienced founders) have a slightly lower probability of successful exits (IPO or M&A), and have a much higher chance of failed outcomes (bankruptcy or fire sale) when compared to the same subjects' subsequent entrepreneurial attempts. These results are slightly stronger in regard to the successes of later firms founded in the same industry. Overall, the survey results suggest that entrepreneurial practice and experience improve outcomes (Roberts, Murray and Kim, 2015).

Serial entrepreneurship also reveals another side of the business ecosystem; serial entrepreneurs are business people who proved their value again and again; their success cannot be attributed to luck, or to a specific one-time business opportunity or a single business contact; instead they are entrepreneurs who are able to create extensive network, and able to identify business opportunities, often at different sectors. From another point of view, serial entrepreneurship can be linked with economic freedom ratios, since entrepreneurs are able to create new business in different business sectors, indicating an economy that welcomes and rewards innovation; to this respect stagnant or fragmented economies may not offer opportunities for serial entrepreneurs.

Regarding Greek start-ups, and their previous experience as entrepreneurs, previous research (Spyropoulos, 2019) indicates that

> 63% of the responders examined had not launched a previous venture. 29% of the responders had previous experience of launching one venture. However, there is also a noticeable percentage of serial entrepreneurs among the responders: 2% of the responders had launched three business ventures, while 6% of the responders had launched three or more previous ventures. What is also noticeable is the success of these previous ventures: 18% of the responders have one venture in the past that is still surviving today, 2% of the responders had two previous ventures that survived, while another 2% had three or more of previous business ventures that survived.

In addition (Spyropoulos, 2019), a number of correlations is revealed and presented in Table 2, between serial entrepreneurs and variables determining achievements and strategy of start-ups.

Table 2. Serial entrepreneurs: statistical significant correlations

Variable 1	Variable 2	*r*
Previous Surviving Start-Ups	Prototype Achievement	0.196*
Previous Surviving Start-Ups	Funding 100k	0.222*
Previous Surviving Start-Ups	Major Value to Customer	–0.178*
Previous Surviving Start-Ups	New Product	–0.223*
Previous Surviving Start-Ups	New Market Creation	0.193*

*$p < 0.05$

S o u r c e: Author's own elaboration.

Greek start-up founders with previous start-up experience (serial start-uppers) and founders of start-up ventures that are currently operational understand the importance of developing an early prototype; there is indeed a significant correlation between 'Previous Surviving Start-Ups' and 'Prototype Achievement'. Furthermore founders with previous experience find it easier to secure early finance, which can also be interpreted that finance and funding managers or business angels find it easier to finance a start-upper who has a successful history (in terms of surviving start-ups), since there is a significant correlation between 'Previous Surviving Start-Ups' and Funding 100k.

Surprising, it appears to be that serial entrepreneurs also focus less on providing major value to customer—there is a reverse analogous relationship between 'Previous Surviving Start-Ups' and 'Major Value to Customer'. This finding may be interpreted for B2B solutions that either existing companies have already resolved their major pains, or that for major pains existing companies would trust an established company as a supplier, instead of a start-up. Furthermore, start-uppers may lack the ability or willingness to confront established companies in a sector that is of major importance to end-customers. Regarding B2C, issues related to start-up solutions usually only rarely address major parts of somebody's life.

Furthermore, there is a negative correlation between serial start-uppers 'Previous Surviving Start-Ups' and 'New Product Development'; more experienced start-uppers focus less on existing well-defined markets, and develop a new product with innovative characteristics. To the contrary, there is positive correlation between serial start-uppers and 'Market Creation'. This can be interpreted by the serial start-uppers offer solutions that try to create and define new markets. On the other hand, as presented in Table 3 below, no correlation was found between serial entrepreneurs (Spyropoulos, 2019) and other variables highlighted by academic studies (Roberts, Murray and Kim, 2015).

Table 3. Serial entrepreneurs: no evidence of correlation significance

Variable 1	Variable 2
Previous Start-Ups Surviving Today	Success
Previous Start-Ups Surviving Today	Sales 100k
Previous Start-Ups Surviving Today	Funding 100k
Previous Start-Ups Surviving Today	Technology as Competitive Advantage
Previous Start-Ups Surviving Today	Management as Competitive Advantage
Previous Start-Ups Surviving Today	Business Model as Competitive Advantage
Previous Start-Ups Surviving Today	Intellectual Property as Competitive Advantage
Previous Start-Ups	Opportunity (Reason for SU formation)
Previous Start-Ups	Technology (Reason for SU formation)
Previous Start-Ups	Business Model (Reason for SU formation)
Previous Start-Ups	Process Innovation (Reason for SU formation)
Previous Start-Ups	Improve Product (as Challenge)
Previous Start-Ups	Get More Customers (as Challenge)
Previous Start-Ups	Get Funding (as Challenge)
Previous Start-Ups	Prototype
Previous Start-Ups	POC

Variable 1	Variable 2
Previous Start-Ups	Success
Previous Start-Ups	Sales 100k
Previous Start-Ups	Funding 100k

S o u r c e: Author's own elaboration.

Surprisingly, for Greek serial start-uppers, it seems that there is a far complex business reality and a far more complex ecosystem; serial start-uppers, even successful ones with previous ventures surviving, appear to face still severe challenges; lack of correlation evidence shows that there is no relationship between launching a previous project, even if this is a successful one, in terms of survival, and secure sales of over 100k or funding of 100k. Lack of correlation between other variables (reasons for start-up formation, as defined by business opportunity, technology, process innovation or business model, prototype or POC development, and different challenges) indicate that there are no consistencies between ventures; a successful entrepreneur may not use the same driver for differentiation and for forming a new start-up, to this respect there is no a specific pattern for innovating.

These results highlight the complexity of the ecosystem as well; serial entrepreneurs in Greece, even successful ones, still find it difficult to finance their next venture, or to make it a success by securing initial sales of 100k.

3.5. Age factor

> The declining age of MIT alumni founders is another notable trend in MIT entrepreneurship. The median age of first-time founders has decreased over the last eight decades. While the median age during the 1940s was 39 years old, the median age for first-time founders who graduated during the 2010s is even lower at 27; the accuracy of this particular snapshot is unclear since this figure is downward biased due to right censoring. These results do not include companies already formed by MIT students who had not yet graduated at the time of the survey. The factors contributing to the falling age of first-time entrepreneurs are not well known. One possible contributor is the declining cost of starting an innovation-driven enterprise (e.g., cloud computing and application program interface [API] tools have lowered the IT costs of starting a company), which in turn reduces the opportunity cost of entrepreneurship. Moreover, enhanced access to alternative forms of capital may also be a factor. For example, our own data show the increasing engagement of recent MIT alumni in crowdfunding to support the invention of a new product or service (Roberts, Murray and Kim, 2015).

Regarding the age of the Greek start-up founders examined (Spyropoulos, 2019), 32% were between 18 to 28 years of age; 32% from 28 to 35; 28% from 36–45, and 8% were over 45 years old. Regarding education, 4% of the respondents were High School Graduates, 40% hold a Bachelor's Degree, 38% of the responders hold a Master's Degree and 18% hold a PhD Degree. Table 4 below reveals a key correlation identified between age and other variables.

Table 4. The age factor: statistical significant correlations

Variable 1	Variable 2	*r*
Age	Get Funding as a Challenge	0.258*
Age	Prototype	–0.244*
Age	Funding 100k	0.174*
Age	Previous Start-Ups	0.190*
Age	Education	0.353*

*$p < 0.05$

S o u r c e: Author's own elaboration.

For Greek start-up founders, Age appears to be an important variable; 'Age' correlates with 'Get Funding as a Challenge' (positive), 'Prototype' (negative), 'Funding 100k' (positive), and 'Previous Start-Ups' (positive). This means that founders of a more mature age realize the importance to secure funding and that they actually have more chances to succeed in securing funds. They are also more likely to have previously launched a start-up. However, it is less likely to have a prototype developed. It seems reasonable to realize the importance of securing finding, especially in a more mature age (since as a person there are increased needs that need to be satisfied) and from a business perspective, especially if you have also launched another start-up (not necessarily successful) to understand the importance of securing funding. This comes in consistency with the fact that VC managers and business angels actually feel more confident with more mature, educated start-uppers. Regarding Prototype development, there may be different interpretations; early stages of start-up development or different types of innovation (e.g. business model, disruptive solutions) may be the reasons for the lack of prototype development in ICT start-ups examined.

3.6. Funding

Financing has been identified to have a strong correlation with innovation and success in most start-ups (Okrah, Nepp and Agbozo, 2018). Despite all efforts, funding is not actually available for Greek start-ups, especially at early stages; from the €215m available in the Innovation and Early Stage Windows, only €13m approximately have been invested so far. An analysis of funding for Greek start-ups is presented in Table 5 below (EIT Digital, 2018).

Table 5. Top 2018 and all time Greek start-ups

Top 10 2018 funded Greek start-ups	Million Euros	Top 10 funded all time Greek start-ups	Million Euros
Workable	43.93	Persado	83.60
Softomotive	21.75	Workable	73.83
Viva Wallet	15.00	Hellas Direct	23.80
Blueground	10.44	Softomotive	21.75
Hellas Direct	7.00	Blueground	17.38
Pollfish	5.48	Metamaterial Technologies	16.26

Balena (Resin.io)	4.35	Balena (Resin.io)	15.13
METIS	4.00	Viva Wallet	15.00
Centour Analytics	2.50	Book'n'Bloom	12.55
Home-Made	2.00	Pollfish	7.76

S o u r c e: Author's own elaboration based on EIT Digital, 2018.

What is more important is a profile analysis of the 10 most funded Greek start-ups in 2018. They had their first funding after 5 years, and have a mean of 6.67 years of operations, and 2.9 Funding Rounds. Five of the 10 have a branch in the USA, with offices in 3 countries. They employ between 51–100 people and the mean number of investors is 5.52 (EIT Digital, 2018).

The main problems of the Greek start-up ecosystem become clear at this point. The lack of funding at early stages can kill a promising start-up, depriving resources from product development, market research and investments, especially in Intellectual Property. Companies that survived long enough (5 years) and secured early access to third countries and therefore more mature markets, especially in the USA, appear to have better chances to secure finance from investors to secure their further development. It is questionable, however, whether in such cases capital investment from Venture Capital is an ideal way to go. At this stage, company expansion and growth (considering the international expansion and 5 years of operation) should enable these start-up organizations to secure access to low cost banking finance through loans; from this point of view investments in Greek start-ups appear to rely on banking instead of investment criteria.

It is tempting to attribute such a profiling and lack of early funding to a more generic lack of entrepreneurial education (ability to evaluate opportunities early on) and risk avoidance strategy (select to invest in companies with over 5 years history and already present in more mature markets).

Despite some efforts to secure financing for the Greek start-up ecosystem, and especially to improve its early stage financing, the actual results remain poor: published data in Table 6 indicate a total of 46 Euros investments during the first 6 months of 2019 (Triandopulu, 2019).

Table 6. 2019 semester: a start-up investments in Greece

Venture Capital	Start-Ups
Metavallon VC	Citizen (UK-based)
	Advantis Medical Imaging
	Guest Flip
	Ferry Hopper
	Entomics
	Tendertech (UK-based)
	Perceptual Robotics
	Think Silicon

Venture Capital	Start-Ups
Venture Friends	Blue Ground
	Welcome PickUps
	My Job Now
	Novoville
	Weeengs (UK-based)
	Flex Car
	Plum (UK-based)
	Spot a Wheel
UNI.Fund	Exit Bee
	Nanoplasmas
	Allcancode
	Bibe Coffee
	Flex Car
	Nimbata
	DTWise
Velocity Partners	MyJobNow
	ToorBee
	iCOMAT (UK-based)
Marathon VC	HacktheBox
	LearnWorlds
9AVentures	Melapus
OpenView	Balena
StartUpFundingClub	Intoolab

S o u r c e: Author's own elaboration based on Triandopulu, 2019.

It has to be noted that some investments refer to the UK-based companies (a more investment-friendly business environment during 2019) and scale-ups (e.g. BlueGround). Considering the fact that Scale-Up BlueGround alone was funded with USD 8m and UK-based Weengs was funded with GBP 6.5m, while UK-based Plus also secured financing of GPD 4.5m, results a net funding for Greek-based companies of less than 30m Euros.

3.7. International students

International students (defined here as individuals born outside the United States) in our MIT alumni survey were as likely to start their own ventures as the domestic students. However, they were more likely to be serial entrepreneurs, meaning that foreign-born students account for a disproportionately high proportion of MIT alumni-founded companies. Companies founded by international students exhibited both a lower failure rate and a lower likelihood of achieving a successful exit (Roberts, Murray and Kim, 2015).

An additional study (Zafar and Khan, 2013) highlights the role of culture in entrepreneurship; it is tempting to attribute success of MIT international students to a combination of culture but also because of entrepreneurial education.

3.8. Intellectual property

Previous studies (Hormiga, Batista-Canino and Sánchez-Medina, 2010) also highlight the role of intangible assets on start-ups.

> In terms of direct contribution to innovation, 31% of the MIT alumni responded that they are named as an inventor on a patent. Furthermore, more than half of MIT alumni noted that they were responsible for new product development at a firm of which they were not a founder (Roberts, Murray and Kim, 2015).

The Greek and European Intellectual Property systems have some differences with the USA; however, taking into account the difficulty of Greek start-ups to secure early stage funding, it is clear why it becomes difficult for them to invest early on Intellectual Property Rights.

4. Discussion on key findings

The first finding is the growing need for entrepreneurial education in Greece; and today there are several programmes already in Greek universities and other private and public organizations offering entrepreneurial education in Greece. However, entrepreneurial education needs to become part of all members of the ecosystem, such as founders and investors, in order for the ecosystem to be further developed.

The next finding is that for a large part of start-ups, there is a need to form stronger team of founders; 64% of them are teams of 1 or 2 founders which contradicts MIT experience for greater teams and subsequently wider sets of skills.

Regarding Gender, it appears that men tend to be more engaged to entrepreneurship in relation to women in both ecosystems. Women in MIT ecosystem tend to set up smaller companies, with a higher rate of survival, while women start-uppers in Greece find it more difficult to secure funding and a stronger need to improve their product.

As far as serial entrepreneurs, MIT experience suggests that serial entrepreneurs actually improve their performance as they gain experience from one venture to another, and it becomes easier to secure funding; however, results from the Greek start-up founders suggest otherwise.

Regarding Age, it appears to be a continuous trend for MIT ecosystem to start business early—the median age is 27 or even lower, since many entrepreneurs who start their businesses during their studies are not included in MIT study; the Greek group appears to have 28% more than 36 years old and another 8% more than 45 years old. Clearly, MIT approach favours younger ages, with less experience but with a higher level of entrepreneurial education and more focused ecosystem support.

The main findings identified by comparing the MIT and Greek start-up ecosystems, excluding the obvious differences between the economies of the USA and Greece and market sizes or absolute numbers of participants in each ecosystem, are presented in Table 7 below.

Table 7. Main differences between MIT and Greek start-up ecosystems

Key Issue	MIT Ecosystem	Greek Ecosystem
Entrepreneurial Education	Applied for a long time	Applied just recently
Founders	Teams of founders considered more effective	33% just 1 founder, 31% just 2 founders
Gender	Women less possible to fail with lower exits	Women focus on product improvement; harder to secure funding
Serial Entrepreneurship	40%–49% entrepreneurship alumni established 2+ companies. First time entrepreneurs faced with higher possibility to fail and lower chance of successful exits	38% of start-up founders with previous ventures experience, 22% with at least one venture still surviving
Age	Declining: mean today is at 27 years old (not including students)	32% up to 28 years old, 32% up to 35 years old, 28% up to 45 years old
Funding	Early Funding Available	Early Funding Not Available
Internationals	International Students start Domestic Ventures	No data available
Intellectual Property	31% of alumni hold patents, over 50% responsible for new product development	No data available, however difficult to invest in patents due to lack of early stage funding

S o u r c e: Author's own elaboration.

5. Limitations of the research

While MIT ecosystem has a long tradition of entrepreneurial education and success, alongside with available resources, the Greek start-up ecosystem has a far more limited experience-relevant education and availability of resources. Furthermore, the majority of the start--ups examined are less than 5 years old; therefore, it may be too soon to draw any conclusions.

In addition to this, the Greek start-ups and their ecosystem evolved during the last few years within a negative economic climate, with Greece suffering major GDP losses, income loss for the majority of the population and investments budgets cuts from established companies. Therefore, market sizes are small, with less segmentation opportunities; targeting the international markets appears to be the best possible strategy for Greek start-ups.

Further research is recommended to explore further the role of culture and entrepreneurial education, in a growing economy.

6. Conclusions

The differences between the USA economy (MIT basis) and Greek economy in terms of economy size, growth (at least during the last decade), innovation culture and entrepreneurial education are so great that any comparison between MIT and Greek start-up

ecosystems would appear futile; however, the study highlights several issues that can be addressed.

First of all, entrepreneurial education and any society and economy with the ambition to grow through innovative start-ups needs to focus on providing such education, especially early on, since the age for people starting start-up companies is declining. Secondly, early funding is critical for a healthy start-up ecosystem; this issue, however, is both an issue of entrepreneurial education and availability of resources. Finally, the role of the supportive ecosystems is important for the future of start-up companies, especially on their early stages.

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Ekosystemy start-upowe – porównanie doświadczeń amerykańskich (MIT) i greckich

Abstrakt: W artykule dokonano przeglądu i porównania amerykańskich (MIT) i greckich ekosystemów start-upowych. Przeprowadzone badania wykazały, że pomimo znaczących różnic w tradycjach podejmowania i prowadzenia działalności gospodarczej oraz wielkości gospodarek obydwu krajów kluczowe czynniki determinujące zdolności ekosystemu start-upowego do promowania innowacji i wkładu w krajowy i międzynarodowy rozwój gospodarczy pozostają takie same. Dodatkowo poddano analizie przypadek ekosystemu start-upowego funkcjonującego w Grecji, której gospodarka odradza się po dekadzie spadku aktywności ekonomicznej.

Przegląd literatury koncentruje się na analizie czynników wpływających na promocję innowacyjności oraz na wyniki przedsiębiorstw rozpoczynających działalność rynkową; porównano czynniki sukcesu start-upów greckich i amerykańskich. Badania własne obejmowały 130 greckich start-upów i zostały przeprowadzone wśród ich założycieli z wykorzystaniem ustrukturyzowanego kwestionariusza badawczego. Wyniki badań umożliwiają głębsze zrozumienie dynamiki rozwoju greckich start-upów i wyzwań, z jakimi zmagają się powstające przedsiębiorstwa; umożliwiają także lepsze zrozumienie roli ekosystemów i kultury biznesowej w Grecji i w Stanach Zjednoczonych (MIT, Boston). Rezultaty przeprowadzonych badań mogą być przydatne dla przedsiębiorców dążących do osiągnięcia sukcesu w realizowanych i planowanych projektach, a także dla szerszego ekosystemu innowacji (np. aniołów biznesu, firm venture capital, decydentów) w dążeniu do podniesienia wskaźników sukcesu lub opracowania i wdrożenia zasad promocji innowacji. W zakończeniu artykułu wskazano kluczowe obszary dalszych badań.

Słowa kluczowe: zarządzanie innowacjami, marketing, start-up, przedsiębiorcy, modele biznesu, przedsiębiorczość, strategie rozwoju przedsiębiorstw, przedsiębiorstwa greckie

CORPORATE SOCIAL RESPONSIBILITY AND SUSTAINABILITY

Social entrepreneurship in the context of sustainable development goals

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Abstract: Social entrepreneurship is an important tie between businesses and altruism; it is seen as an implication of entrepreneurship in the social environment. Social entrepreneurship aggregates the skillfulness of traditional entrepreneurship with a goal to change the world. It offers insights that may find out ideas for more socially acceptable and sustainable business strategies and contributes to global sustainable development goals and it may also encourage firms to undertake more social responsibility. Accordingly, the aim of this study is to investigate the supports of Turkish food companies to the sustainable development goals through corporate social responsibility. In the study, content analysis method is used to analyze the data gathered from web sites of Turkey's most valuable food brands according to the Brand Finance Report. The results of the study highlights that most valuable Turkish food brands support the sustainable development goals through corporate social responsibility practices mostly in the areas such as quality education, reduced inequalities, good health and well-being, responsible production and consumption, zero hunger, no poverty, gender equality, sustainable cities and communities.

Key words: social entrepreneurship, corporate social responsibility, sustainable development goals, content analysis

1. Introduction

Attention is increasingly being given to social entrepreneurship and social enterprises. Several institutions, schools, governments, public agencies firms are giving consideration to the concept and put into service resources to social entrepreneurship (Chell et al., 2010). It is a charming subject for practitioners, policy makers and the companies because it addresses several issues in society (Thompson, 2002; Alvord et al., 2004; Brainard and Siplon, 2004). Concept of social entrepreneurship applies generally in the form of corporate social responsibility to related activities with a social objective in either the profit sector or in the firm social entrepreneurship (Dees and Anderson, 2003; Austin, et al., 2006). For another definition, social entrepreneurship contains the activities and processes supported to discover, define and exploit

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opportunities in order to enhance social wealth by creating new initiatives or managing existing corporations in an innovative form (Zahra et al., 2009).

Social entrepreneurship usually is being formed: the determination of a particular social problem and a solution to address it; the evaluation of the social impact, the business model and the sustainability of the initiative; and the creation of a social mission-oriented for-profit or a business-oriented non-profit venture that maintains the double or more bottom line (Shane and Venkataraman, 2000).

Although social entrepreneurship is a global concept, there are different reasons for all of the regions. For example, in developed nations social entrepreneurship is getting attention because of the decrease of the welfare state. Important gaps in the social safety net and changes in the institutional environment have led to social entrepreneurial opportunities in these countries. In less-developed, developing or emerging economies, social entrepreneurship originates out of a combination of mistrust of the non-governmental organization obtuseness within the private sector, and the importance of the government to provide services to the people. In this context, the objective of the study is to investigate the relationship between social entrepreneurship and sustainable development goals in the context of corporate social responsibility practices of most valuable Turkish food brands (Brand Finance Report, 2018).

2. Literature review

2.1. Social entrepreneurship

Social entrepreneurship is defined as an entrepreneurial business with a social purpose (Austin et al., 2006) and has become an important global economic action (Mair and Marti, 2006; Zahra et al., 2008). Remarkable social entrepreneurship innovations mostly derive from developing countries and include the transmission of new business strategies that address basic human needs (Seelos and Mair, 2005), for example the work on low cost surgeries to patients or the spread of sanitation systems in rural villages of less-developed regions (Elkington and Hartigan, 2008).

Social entrepreneurs are also defined as entrepreneurs with a social mission (Dees, 2003; Martin and Osberg, 2007) and take in consideration social entrepreneurship as entrepreneurial activity with an intentional social purpose (Austin et al., 2006). It could be seen in the literature that definitions of social entrepreneurship are mostly derived from the integration of the concepts of both entrepreneurship and social character (Mair et al., 2006; Martin et al., 2007). It has also been called the immediate pursuit of economic, social, and environmental goals by enterprising initiatives (Haugh, 2007). A different viewpoint proposes a model of social entrepreneurs as change agents in the social sector (Dees, 2003) and it is usually argued that social entrepreneurs are entrepreneurs with a social propose as opposed to a profit seeking motivation and their goal is to generate social value for society. For example, it is stated that social value has little to do with profits but instead involves the fulfillment of basic needs such as providing food, water, education and medical services to those members of society who are in need (Certo and Miller, 2008).

It is also stated in the literature that social entrepreneurship proposes the entrepreneurship may be aimed at benefiting society rather than only increasing individual or firm profits. It seems to commit an altruistic form that does not evaluate all human activities in business terms.

It enables a bridge to be built between enterprise and altruism (Roberts and Woods, 2005). So, it is argued in the literature whether social entrepreneurships are willing to cut off a financial loss to form a corporate social responsibility firm or a social entrepreneurship prefers to form a corporate social responsibility firm rather than a profit-maximizing firm (Baron, 2005).

The concept of social entrepreneurship can be gone back to a report entitled *The rise of the social entrepreneur* (Leadbeater, 1997) in the United Kingdom and also in the United States to the publication of *New social entrepreneurs* by the Roberts Foundation, where social entrepreneurship is viewed as aggregating commercial enterprises with social impacts (Emerson and Twersky, 1996), as innovating for social impacts (Dees, 1998). Kao (1993) states that the process of entrepreneurship should add value to all society. Some factors have influenced the development of social enterprises internationally, such as demand side factors (public wanting services from social enterprises as customers), supply side factors (the supply of social entrepreneurs), and contextual and institutional factors impact on the relation between both demand side and supply side factors (Spear, 2006).

2.2. Sustainable development goals

Basic human needs and wants are important factors of firms' strategies as to which goods or services to produce. Human needs have unlimited nature and for the firms striving to find new markets as well as for the firms seeking for growth it has become an important matter. Some strategies can be applied. The first one is, in developed regions, that many people are unwilling to pay enough for particular products and services for their needs. This became unfortunately clear to some startups in the 1990s, while the free services they offered were used by millions, they found it impossible to implement fees for their services when risk capital drained. The second one is that the basic needs of people in less developed or developing countries remain unmet, mainly because these potential customers are willing but unable to pay for goods and services that would satisfy their needs and wants. It is not the only reason why those unsatisfied needs have failed to attract the business area in search for new markets (Seelos and Mair, 2005).

It is regarded that services should satisfy regular human needs, particularly those that contribute to health, education, well-being are failing poor people in terms of reach, property, and affordability. The main reason for this failure appears to be the fact that public spending does not reach the poor adequately and if it does, service procurement is often unsatisfying and has poor quality. For these reasons, firms are expected to take responsibility for meeting social and environmental challenges more proactively, so as to succeed a more sustainable development (The World Bank, 2003). According to that, most common definition of sustainable development is the one launched by the World Commission on Environment and Development in 1987 and accordingly, the global objective of achieving sustainable development. First, a report has been made available on environment and the global problems for the year 2000, including proposed strategies for sustainable development. Hereunder, it was assigned that priority is to satisfy the important needs of the poor, such as those for food, clothing, house and jobs, but also to provide them with the possibility to satisfy their objectives for a better life. There was an important point in the report and that is the problem, how balanced development among developing and developed or less developed countries could be achieved. It is deduced from the report, each region will have to try its own focused policy implications. Because of these

discrepancies, sustainable development should be seen as a global objective. So, to start new acceleration in the efforts to achieve sustainable development, the United Nations Millennium Declaration was adopted in September 2000. It devoted regions both rich and poor to do all they can to eliminate poverty, hunger and to promote human equality, and achieve peace, democracy and environmental sustainability (Tan et al., 2005). In order to launch the concept of sustainable development, the United Nations defined a number of Millennium Development Goals. These goals consist of 8 specific goals with 17 targets and 48 specific indicators for development and poverty elimination by 2015. Goals contain issues such as health, education, gender equality and environmental problems (Seelos and Mair, 2005).

Accordingly, in this paper it will be tried to investigate whether multinational or national firms in a developing country may have a place to find out solutions via implementing corporate social responsibility needed to achieve sustainable development goals on a local scale to help sustainable development goals on a global scale for both current and future generations.

3. Methodology

Although social entrepreneurship is taken to consideration in a large extent, studies regarding this topic are very limited. Therefore, current study aims to provide a deeper understanding of social entrepreneurship in the context of the sustainable development goals. As stated in the literature section, United Nations launched the sustainable development goals that are an important guide to get through a better and more sustainable future for all on a global scale. They address the global challenges the nations face, including those related to poverty, inequality, climate, environmental degradation, prosperity, peace and justice. According to the United Nations goals of 17 main groups, food companies were chosen within the Turkey's most valuable brands (Brand Finance Report, 2018) to collect data for this study.

The main objective to choose food companies within the Report is what kind of corporate social responsibility practices they usually consider and implement to achieve the sustainable development goals. The main question is: do they usually practice food-related corporate social responsibility implementations or any other field to help in the United Nations sustainable development goals with regard to social entrepreneurships?

The sample used in this study are 14 companies: Migros (12), Ülker Bisküvi (14), BİM (15), Pınar (22), Sütaş (27), CarrefourSA (45), Superfresh (46), Banvit (47), Tat Konserve (50), Kent Gıda (55), Kipa (57), Tukaş (83), Dardanel (88), Penguen Gıda (89), with all available data published on their official websites. Qualitative content analysis was used to analyze the data. Qualitative research method enables to analyze the meaning of a phenomena and a deeper understanding of communication messages (Cornish, 2012). It is a technique for gathering and analyzing the content of text and the content refers to words, meanings, pictures, symbols, ideas, themes, or any message that can be communicated (Neuman, 2003). In this research, the corporate social responsibility practices of the companies studied were then coded and classified into categories as regards United Nations Sustainable Development Goals.

4. Results

The data collected were categorized and presented in Table 1, for the corporate social responsibility practices reported by the companies participating in the study on their websites.

Table 1. Corporate social responsibility initiatives by the most valuable food companies according to the Brand Finance Report 2018

Company	Corporate Social Responsibility	1*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Migros	Family Clubs					✓												
	Well-Being for Kids: Store Tours			✓														
	Respect for Food Project		✓															
	Waste Foods to Our Little Friends	✓																
	Barrier Free Store Project										✓							
Ülker	Child and Sport Platform			✓														
	Children's Art Workshops										✓							
	Ülker Children's Cinema Festival																	
BİM	Education Exceeds All Barriers																	
Pınar	Everything Is for Our Children				✓													
Sütaş	From Farm to Dining Room				✓													
CarrefourSA	Clean Environment-Barrier Free Life										✓	✓						
	Food Banking		✓										✓					
	Friendship Movement												✓					
	Let's Children Design				✓													
Superfresh	N/A																	

Company	Corporate Social Responsibility	1*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Banvit	Girls, Let's Go to the School with Banvit				✓													
	Firefly Mobile Education Unit				✓													
	For Your Health and Well-Being			✓														
	Dreams Academy										✓							
	Banvit Jr NBA Camp			✓														
	Smart Kids Dining Table			✓														
Tat	Awareness												✓					
Kent	Collaboration with Society		✓															
Kipa	N/A																	
Tukaş	N/A																	
Dardanel	N/A																	
Penguen	Support to Education with Computer				✓													

* 1—No poverty, 2—Zero hunger, 3—Good health and well-being, 4—Quality education, 5—Gender equality, 6—Avoid wasting water, 7—Affordable and clean energy, 8—Decent work and economic growth, 9—Industry, innovation and infrastructure, 10—Reduced inequalities, 11—Sustainable cities and communities, 12—Responsible production and consumption, 13—Climate action, 14—Life below water, 15—Life on land, 16—Peace, justice and strong institutions, 17—Partnerships for the goals

S o u r c e: Author's own elaboration.

In summary, 'Quality education' and 'Reduced inequalities' present the greatest amount of support of corporate social responsibility practices in the most valuable Turkish food companies. Avoid wasting water, Affordable and clean energy, Decent work and Economic growth, Industry, innovation and infrastructure, Climate action, Life below water, Life on land, Peace, Justice and strong institutions, Partnerships for the goals appear not to being supported. Good health and well-being, Responsible production and consumption, Zero hunger, No poverty, Gender equality, Sustainable cities and communities appear to be the least supported goals respectively. According to that, Table 2 presents the summary of the results.

Table 2. Frequency of the goals and supportive companies

	Frequency of supported goals	Company
4—Quality education	6	Pınar, Sütaş, CarrefourSA, Banvit, Penguen
10—Reduced inequalities	6	Migros, Ülker, BİM, CarrefourSA, Banvit
3—Good health and well-being	5	Migros, Ülker, Banvit
2—Zero Hunger	3	Kent, CarrefourSA, Migros
12—Responsible production and consumption	3	CarrefourSA, Tat
11—Sustainable cities and communities	1	CarrefourSA
5—Gender equality	1	Migros
1—No poverty	1	Migros

S o u r c e: Author's own elaboration.

5. Discussion, conclusion and managerial implications

Social entrepreneurship can be seen as an important actor who applies business principles to solving main social problems via non-profit or profit organizations. It generally focuses on both social development and well-being promoting social change and ideology in communities and creates new models for the provision of products and services that provide directly to basic human needs that remain unsatisfied by current economic or social organizations. By contrast to traditional entrepreneurship, in social entrepreneurship, creation of social value is the main objective to achieve sustainable development. Social entrepreneurship gives opportunity to many businesses integrating social needs to their business via corporate social responsibility practices. So, social entrepreneurship may contribute to the sustainable development goals of the United Nations, creating new business models for human needs such as providing medicine, food and education, etc.

Accordingly, based on the findings reported in this study, quality education and reduced inequalities are the most supported goals by the most valuable Turkish food companies. Good health and well-being are seen the second most supported goals by the companies. Then, zero hunger and responsible production and consumption come together as the third most supported goals. Sustainable cities and communities, gender equality and no poverty are the other supported goals by the companies. It is found in the study that, avoid wasting water,

reasonable and clean energy, decent work and economic growth, industry, innovation and infrastructure, climate action, clean water, life on land, peace, justice and strong institutions, partnerships for the goals are seen as the goals not supported by Turkish food companies. Some companies, such as Migros and CarrefourSA, are seen supporting more than one corporate social responsibility practices and so they make contribution to the sustainable development goals in different areas.

In this context, companies may contribute to the sustainable development goals while building strong corporate image, reputation and strengthening relations with customers by practicing corporate social responsibility. It can be said that to make an important contribution to sustainable development, social entrepreneurship is an important factor and it should reach a critical mass of initiatives around the world. Companies may first start to contribute to these goals by supporting local issues for more sustainable World. It is advised to companies that integrating corporate social responsibility practices and social entrepreneurship could be very beneficial for achieving sustainable development goals, especially in less developed countries, where achieving sustainable development goals are more critical issue. In these countries, corporate social responsibility practices may gain trustworthiness, through integration with local forms of social entrepreneurship. By building partnerships with local entrepreneurs, the companies may engage in projects that match relevant social needs to corporate resources (Hart and Christensen, 2002).

Through social entrepreneurship next generations will be more satisfied and this creates a great chance for global corporations to create new ventures and social value for those who need it most.

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Przedsiębiorczość społeczna w kontekście celów zrównoważonego rozwoju

Abstrakt: Przedsiębiorczość społeczna jest ważnym ogniwem łączącym przedsiębiorstwa i altruizm. Jest ona postrzegana jako konsekwencja wprowadzenia przedsiębiorczości w środowisko społeczne. Łączy umiejętności tradycyjnej przedsiębiorczości z postawionym przed nią zadaniem zmiany świata. Oferuje spostrzeżenia, które pozwalają opracować pomysły na bardziej zrównoważone i akceptowalne społecznie strategie biznesowe, oraz przyczynia się do osiągnięcia globalnych celów zrównoważonego rozwoju. Może też zachęcać firmy do brania na swoje barki większej odpowiedzialności społecznej. Zgodnie z przedstawionym założeniem zadaniem niniejszego badania jest analiza wsparcia tureckich przedsiębiorstw spożywczych w celu osiągnięcia zrównoważonego rozwoju poprzez społeczną odpowiedzialność biznesu. Do analizy danych, pozyskanych ze stron internetowych najbardziej wartościowych marek żywności w Turcji (według Raportu Finansowania Marki), wykorzystano metodę analizy treści. Wyniki badania podkreślają, że najbardziej wartościowe tureckie marki żywności wspierają cele zrównoważonego rozwoju poprzez praktyki społecznej odpowiedzialności przedsiębiorstw, głównie w takich dziedzinach jak: wysokiej jakości edukacja,

zmniejszenie nierówności społecznej, dbałość o dobre zdrowie i samopoczucie, odpowiedzialna produkcja i konsumpcja, brak głodu, brak ubóstwa, równość płci, zrównoważenie miast i społeczności.

Słowa kluczowe: przedsiębiorczość społeczna, społeczna odpowiedzialność przedsiębiorstw, cele zrównoważonego rozwoju, analiza treści

Intrinsic factors of competitiveness and sustainable business development, small and medium-sized enterprises in Guadalajara, Metropolitan area, Jalisco

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Abstract: This research presents the current state of sustainable business development practices of small and medium-sized enterprises in the Guadalajara Metropolitan Area (GMA), located in the State of Jalisco, Mexico. This work is based on the international project called: *International survey on corporate social responsibility and sustainable development in SMEs*, promoted by LABEX in Montpellier, France. More than 400 surveys from a common questionnaire were distributed to entrepreneurs from the municipalities located in the conurbation of GMA. The initial findings, based on descriptive statistical analysis, show that 50% of the SMEs don't implement sustainability practices in Guadalajara, Jalisco, Mexico. Entrepreneurial orientation practices stand out in the economic sphere, in the external social sphere, the activities related to the community in which they are located, in the internal social sphere, the activities that involve their employees in decision making, and in the environment field with the use of alternative energies. In the end, the main causes of these practices' absence and some tips to achieve them are presented in this paper.

Key words: entrepreneurship, entrepreneurs, sustainable development, small and medium enterprises

1. Introduction

In the last decade, sustainable development has been a recurring topic in all fields. Public administration has created a lot of proposals and has incorporated sustainable development into its agenda, with the goal of making it one of the main objectives of all countries in the United Nations.

Beyond being a topical subject, to which more than thousands of millions of dollars have been allocated all over the world, it is an urgent issue to address. The world's population keeps growing, nowadays there are almost seven billion five hundred million people, by the year 2050, it is estimated by the United Nations that there will be around 9,700 billion people (UN, 2013), which makes it even more urgent to figure out how to adapt to prepare for our future. If sustainable development has been defined as '*development* that meets the needs of

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the present without compromising the ability of future generations to meet their own needs' (Brundtland, 2006), it is fundamental to develop action plans that take into account satisfying present-day needs, without exhausting resources for our future needs. Rather we should look for alternative solutions that will not put our future at risk.

Business management is not detached, more than an issue, from the global impact. That is also why it has been developing policies and actions for some years in order to align with the millennium goals and thus take responsibility for action. Then, at the basis of these actions, sustainable business development begins to take shape, something essential within the business management.

Thereby governments, at all levels, educational institutions, society and enterprises must work cohesively to reach sustainability as a whole, that means working as a team towards the process that will allow endless human existence on Earth, through a healthy, safe, productive life, in harmony with nature and its universal values (Du Plessis, 2011).

The study of sustainable business development practices have been strongly developed in all directions and with emphasis in the last decade, through business social responsibility practices and other indicators (Lopez, 2009), but these practices mainly fall on big enterprises. Although, fortunately, there is already more available literature on the working methods applied to the small and medium-sized enterprises (SMEs) (Maheswari, Nandagopal and Kavitha, 2018, p. 9).

The impact of the SMEs in Mexico and in the whole world is really important, since they represent 99.5% of all active enterprises in the country, according to the national statistical office, Geography and Informatics (INEGI, 2016). There are very similar results across the world (European Union, 2004). Unfortunately, it has not been given the due importance, especially regarding its sustainability impact, as the main studies fall again on the larger enterprises (Maheswari, et al., 2018, p. 8). Thinking solely about the environmental field disregards the social and economic sphere, which also play a part in the sustainable development and in this case, in business.

Thus, this work's aim is to describe and understand, based on a reference database construction directly obtained from the businessman, the social, economic and environmental behaviours and attitudes of sustainable global performance in the small and medium-sized enterprises in the Guadalajara metropolitan area, as a reference and current representation of the State of Jalisco.

This article is divided in five parts. In the first one, the literature regarding the phenomena of sustainable development and the variables determining it will be reviewed. The second part explains the methodology broached in this study. In the third part, the obtained results and their discussion will be presented. Subsequently, we will proceed to provide some conclusions and recommendations, and finally, the biography and annexes that base the document will be shown.

2. Literature's review

2.1. The sustainable development

Sustainable development is a broad concept. In the beginning, only the environmental aspect was contemplated, mainly due to the start of awareness raised concerning the damage that

human beings were causing to the environment. But over the years, and through numerous analysis and consultations at international levels, this concept has been broadened. Presently, it covers three pillars: the social, the economic and the environmental pillar, whose dependence is primary and where it must be contemplated as a fair sustainable development, ecologically stable and economically efficient, as one is not possible without the other (Lopez, 2009).

The most accepted definition is the one quoted above, which was written for the first time in 1978, in a report titled *Our common future*, known as Brundtland, created by the World Commission on Environment and Development, in which the concept of sustainable development is first formalized (Brundtland, 2006).

From faculty of both universities the study and topic has been tackled in a wide and complex way, a fundamental part of its daily activities.

In order to understand each field and how they can be dimensioned, Figure 1 is displayed below, the model of systemic sustainable development of UNIVA (UNIVA, 2015), where we can observe the three intersections that each dimension has, and towards where it is orientated.

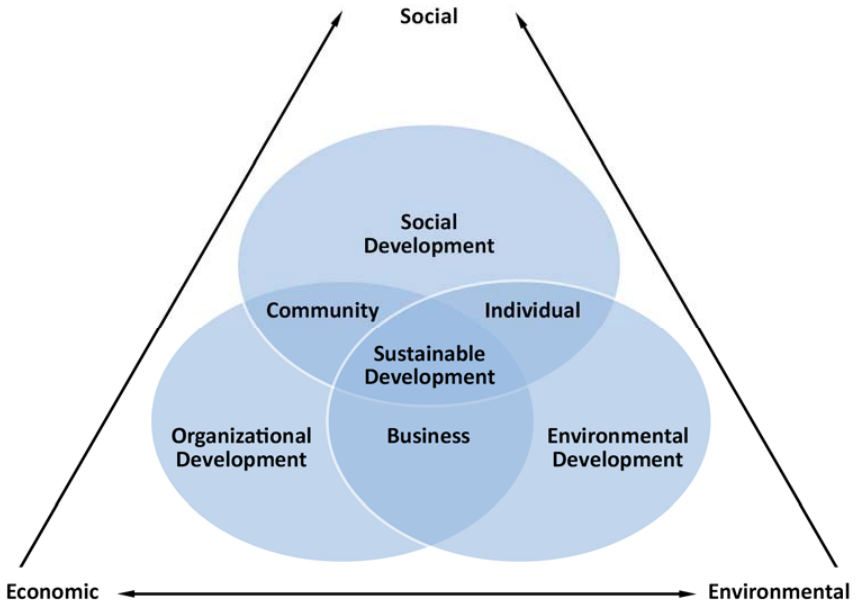

Figure 1. Model of Systematic Sustainable Development UNIVA

S o u r c e: UNIVA. Comprehensive Development Plan 2016–2020 (2015).

For its organizational development, environmental development and social development will be used as reference points. The intersection of environmental and social development is assigned to the individual, the intersection of social and organizational development is assigned to the community, and the intersection of organizational and environmental development is assigned to the business aspect, which is our subject of study. Thereby we make way for the concept of sustainable business development.

2.2. Sustainable business development

Sustainable business development is defined as 'the search for a development which is viable, habitable and equitable in the long run, taking into account the company's profitability, its social development, as well as natural resource protection and natural resource management' (Spence, Boubaker and Ondoua, 2011, p. 18).

The business sustainability in tour plays a key role in global strategy, based on the economic prosperity, ecological balance and common welfare. It points out that a sustainable organization must include an ecological vision, the acquisition of common sense regarding the production of goods and services, promoting environmental care, environmental risk control, good relationships between organizations, integration of working groups and sustainable permanent orientation and mentoring, with a direct or indirect benefit (Velázquez Álvarez and Vargas-Hernández, 2012; Husted, 2005).

The variables to consider regarding the sustainable business development practices in this research are displayed in Figure 2. Environmental development is measured through environmental practices, for example recycling, reusing, energy saving, means of transport, product development and sustainable processes. Concerning the economic field, entrepreneurial orientation, innovation, competitiveness, pro-activeness and risk taking were considered. The social field has been divided into internal and external stakeholders. With internal stakeholders, the variables considered were balanced in work practices (human resources, health and work safety, among others), involvement in decision-making and diversity policies in the organization. With the external aspect, the variables supporting community were considered, as well as job creation, external associations and support to local provision.

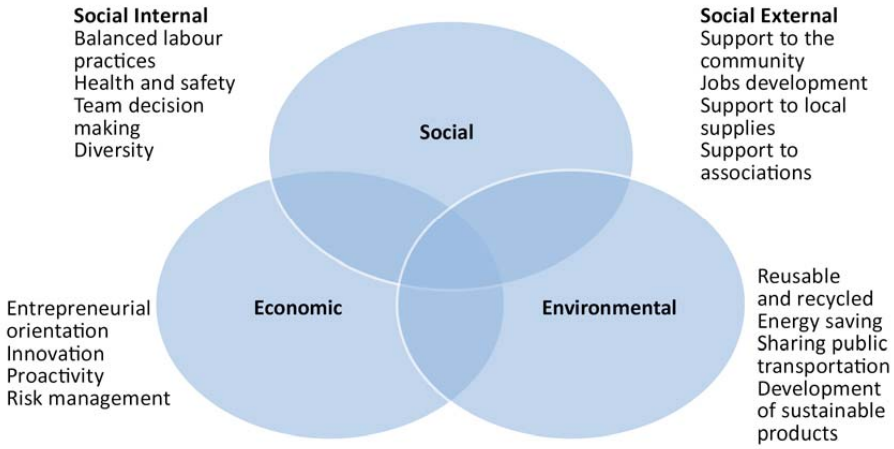

Figure 2. Sustainable business development variables

S o u r c e: Authors' own elaboration.

Here below we will define conceptually the variables that have been considered in this research.

2.3. Entrepreneurial Orientation

Entrepreneurial Orientation (EO) is based on the strategic orientation of the enterprise and the processes created to take action (Lumpkin and Dess, 2001). These processes take the form of a business management style, with three main characteristics such as innovation, proactiveness and risk taking (Covin and Slevin, 1988).

For their part, Fauzul, Hirobumi and Tanaka (2010) define entrepreneurial orientation as the ability of the enterprise to conduct innovation activities, take risks and be pioneers in their actions. It is a decision-making process (Patel and D'Souza, 2009) that affects the company's will to innovate, to develop a structure for proactivity, to have a greater initiative, to be more aggressive than its competitors and to take risks (Ellis, 2011). This will depend on the degree of implementation to promote the change and the innovation, to take risks and compete fiercely (Wiklund, Shepherd, 2003).

2.4. The innovation

The most accepted definition of innovation is the one provided by the Organisation for Economic Co-operation and Development, which defines it as 'the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations' (OECD, 2012).

At the same time, the innovation makes reference to the enterprise's ability to support new ideas and experimentation, in order to introduce new products and the use of creative processes (Miller, 1983; Chandra, 2007).

Consequently, according to Kirzner (1973), Shane and Venkataraman (2000), and Eckhardt and Shane (2003), the key element to identify an entrepreneurial innovation is its involvement in the search of new relationships between a company's resources and the existent products.

2.5. Competitiveness

The concept of competitiveness is linked to the concept of innovation. It is defined as the ability to do profitable business, maintain that profitability, predict change and act on these predictions effectively (Esterhuizen, van Rooyen and D'Haese, 2008).

Proactivity and risk-taking arise from these elements, proactivity being the search of the pioneers' benefit, through the anticipation of wishes and future needs in the market and capitalization on emerging business opportunities (Covin and Slevin, 1988; Lumpkin and Dess, 1996). Additionally, it involves the enterprise's ability to compromise resources, depending on future demands, including new products and services before the competition exists (Covin and Slevin, 1988; Rauch et al., 2009; García-Morales, Ruiz-Moreno and Llorens-Montes, 2007).

Risk-taking is defined by Stoner, Freeman and Gilbert (1999) as something that implies a decision, through the process of identifying and selecting a course of action to sort out a specific problem.

2.6. Stakeholders

According to Freeman, the stakeholders are: 'any group or any individual that might affect or be affected by the achievements of the organization's goals.'

Hill and Jones (2009, p. 133), in turn, reinforce this concept and define the stakeholders as 'groups of constituents who have a legitimate claim in the firm', while Carroll (1991) emphasizes the legitimacy's virtue: groups and individuals can be considered as stakeholders whose legitimacy might include the power. These can be classified in different ways. According to their dynamic, as internal and external (Navarro, 2012).

Internal stakeholders are those who include partners, shareholders, investors and employees hired in all forms. External stakeholders are the clients, financial institutions, competitors, providers and subcontractors, public administration, local communities, countries and societies, opinion makers, political groups, churches, labour unions and universities. Additionally, stakeholders have an impact on the same organization, as Rojas, M'Zali, Turcotte, and Kooli (2006) mention. They can be presented as legal groups, moral groups, individual or collective groups. They can either interact through a primary representation, those whose participation is essential to make the enterprise survive, or through a secondary representation, those that exert a reciprocal influence but are not essential for the organization's survival.

2.7. Environmental practices

Environmental practices are the actions or initiatives that have an impact on the improvement of quality of life of inhabitants and the environment in a sustainable way and can be used as tangible examples so that other countries or regions can adapt them to their own situation (Cervera and Hernández, 2001) by carrying out an environmental accounting process (López, 2009), through the development of environmental reports by using indicators linked to the risks, environmental impacts and the policies developed by the company (Qureshi, Pariva, Badola and Hussain, 2012).

3. The Guadalajara Metropolitan Area

The Guadalajara Metropolitan Area has 7 municipalities located in its conurbation: Guadalajara, Zapopan, San Pedro, Tlaquepaque, Tlajomulco de Zuñiga, Ixtlahuacán de los Membrillos, El Salto and Tonalá. The Guadalajara Metropolitan Area is the most populated area in Western Mexico and its surface's expansion is 2,734 square kilometres. It has a population of 4,8 million inhabitants and a population density of 1,622 inhabitants per square kilometre (INEGI, 2015).

The entrepreneurial activity is very widespread, where the goods turn stands out with 48%, services with 42% and manufacturers with 9%. Table 1 displays the enterprises located in each municipality that belong to the Guadalajara Metropolitan Area and the jobs they have created.

Table 1. Economic Units in the Guadalajara Metropolitan Area

Municipality	Economic Units	Staff Employed
El Salto	5,624	45,217
Guadalajara	90,533	538,517
Ixtlahuacán de los Membrillos	921	5,373
Tlaquepaque	19,519	105,967
Tlajomulco de Zúñiga	11,059	77,661
Tonalá	16,214	46,240
Zapopan	42,683	322,299
Total GMA	186,553	1,141,254
Total Jalisco	313,013	1,561,965

S o u r c e: Authors' own elaboration based on INEGI, 2015.

The municipality of Guadalajara has the highest concentration of enterprises, with 47.8% of enterprises and 46.7% of staff employed. In general, the Guadalajara Metropolitan Area owns 60.6% of all the enterprises located in the State of Jalisco and 73.7% of job creation.

It should be noted that 99.5% percent of the 186 thousand enterprises located in the Guadalajara Metropolitan Area are considered as small and medium-sized enterprises (SMEs) according to their size and economic activity.

Therefore, we formulate the following hypothesis: Based on sustainable development practices, SMEs in the GMA are intrinsic factors to achieve entrepreneurial sustainability.

4. Methodology

For the analysis of information, 408 surveys were distributed to the owner or the person in charge of the SMEs for the entire Guadalajara Metropolitan Area. The goods turn, the industrial turn and services were included in the same proportion, with a benchmark of 40%, 30% and 30% respectively.

The instrument that has been used comes from an international instrument that has been developed by the LABEX$_{®}$ (Courrent, Labelle and Spence, 2013), whose intention is to conserve the same theoretical basis and then standardize the variables across the world, by applying the same criteria and parameters as well as by homogenizing the results.

42 key questions, which cover the three pillars of the sustainable development, have been selected for this research in order to fathom objectively the sustainable practices in the small and medium-sized enterprises in the study region. The original survey was translated into Spanish, retaining the same structure and content. It was applied during the months of April and September of 2016.

The selected questions include 13 questions regarding the environmental field, 20 questions regarding the social field (12 questions regarding the internal social field, and 8 ques-

tions regarding the external social field) and 9 questions regarding the economic field (see Annex 1).

The presentation of results is developed through the application of descriptive statistics, displaying the answers given through the use of the relative frequency found in the assessment of these practices. The responses obtained from the three fields were presented through Likert-type oriented responses (Hernández, Fernández and Baptista, 2010). It has been considered that the responses with 'frenquently' (value of 4) or 'systematically' (value of 5) are considered as sustainable practices. The answer N/A (it does not apply value of 6) has been ruled out to avoid bias in the answers.

The data were collected through a face-to-face survey of a representative sample of SMEs located in GMA, stratified by size, industry sector and municipality. With 95% reliability and obtaining a sampling error of 4.8%, and a Cronbach's Alpha of 0.805 (Anderson, Sweeney, Williams, 2012; Santesmases, 2009).

As the data were self-reported by single informants from each firm, common method bias may have increased the relationships between the variable indicators (Podsakoff, MacKenzie, Lee and Podsakoff, 2003). To test whether this was a problem, we have made a Harman's one-factor test (Podsakoff and Organ, 1986), it was performed through an exploratory principal components factor analysis of the 42 key questions. The results showed that 8 distinct factors with eigenvalues 1 accounted for 63.9% of the total variance and that the largest factor did not account for a majority (only 29.5%).

5. Results and discussion

In the following section we present the results obtained from the questionnaires applied. We will start by analyzing the questions regarding the environmental field, then the questions regarding the social field, both internal and external, and finally, the questions regarding the academic field.

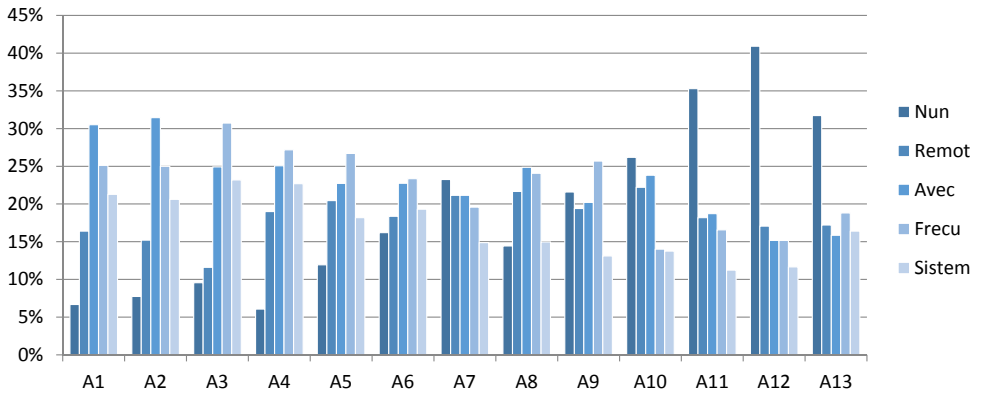

Figure 3. Response rate in the environmental field

S o u r c e: Authors' own elaboration.

In Figure 3 we observe that, just in two activities (A3 and A4), the responses obtained (frequently and systematically) are above 50%, that is to say, more than a half of the sample carry out these water care and water conservation practices, implementing the practices that improve the quality of life of their staff (Cervera, 2001). On the contrary, we found 3 responses below 30% (A10, A11, A12), meaning that they do not share it often with their stakeholders, neither internal nor external, and the impact of the practices that they have (Freeman, 2010; Navarro, 2012; Rojas, 2006). With an overall average rate of 39% of enterprises including these practices to their daily activities, specially using indicators that assess the positive impact on those practices in this field (Qureshi, Pariva, Badola and Hussain, 2012).

The internal social field is where the execution of the best sustainable practices was found, with seven activities possessing a rate of 50% or above (SI1, SI2, SI3, SI4, SI5, SI6 and SI8), with a great interest in their staff, hiring, empowering and offering a good atmosphere and the impact that it has in the enterprise (Navarro, 2012; Rojas, 2006; Cervera, 2001). On the other hand, we find the lowest rate in SI11 with 31% where these practices, for some reason, are not shared with their external stakeholders. The overall average rate was 50%, where we can observe that they try to improve the quality of life of their employees (Qureshi, Pariva, Badola and Hussain, 2012).

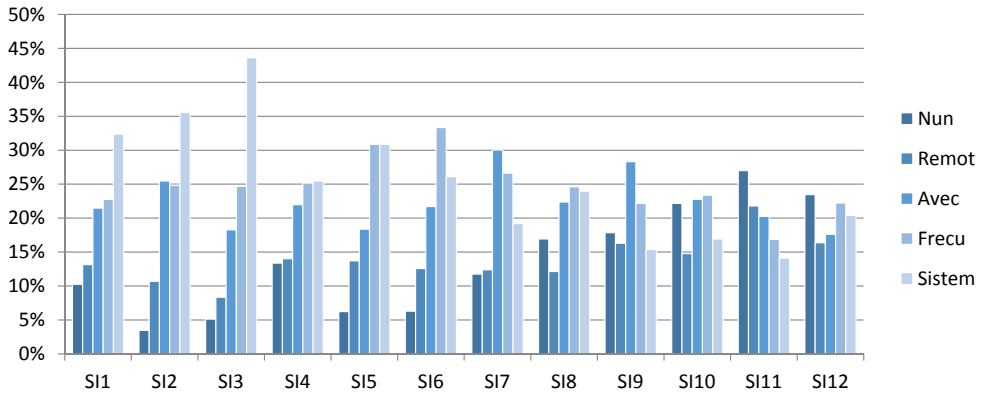

Figure 4. Response rate in the internal social field

S o u r c e: Authors' own elaboration.

In the internal social field we found two activities with more than a half of the rates found, SE5 with 64%, and SE4 with 51%, showing the support towards the community where the enterprise is located (Navarro, 2012; Qureshi, Pariva, Badola and Hussain, 2012). The rest is below the 34%, highlighting SE2 and SE7 each one, again they do not share or they rarely share these practices with their stakeholders. The overall average rate was 32%.

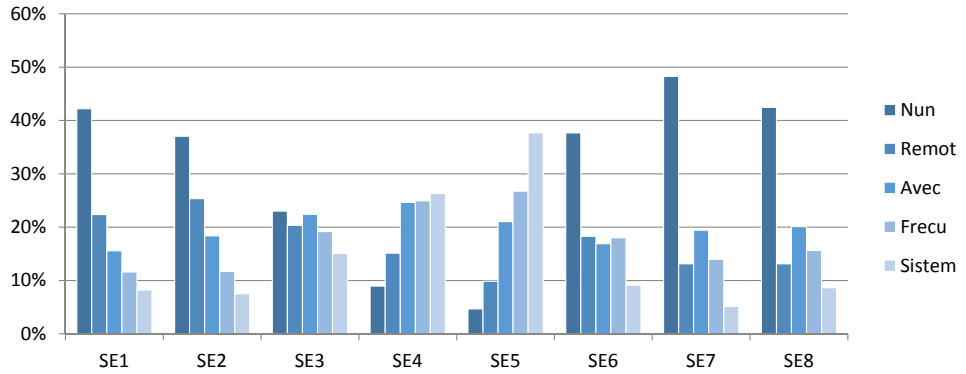

Figure 5. Response rate in the external social field

S o u r c e: Authors' own elaboration.

In the economic field, no response shows rates higher than 50%, the highest one was E2 with 36% which references the launch of new products or services (OECD, 2012; Miller, 1983; Chandra, 2007), and found results lower than 30% (E1, E5, E8 and E9), little investment in the I&D (Covin and Slevin, 1988), little proactiveness to innovate (Lumpkin and Dess, 2001; Ellis, 2011; Fauzul, Hirobumi and Tanaka, 2010), little interest in the opportunity of emerging business and its entrepreneurial orientation (Covin and Slevin, 1988; Lumpkin and Dess, 1996; Wiklund and Shepherd, 2003). The overall average rate was 30%, the lowest average of the four fields.

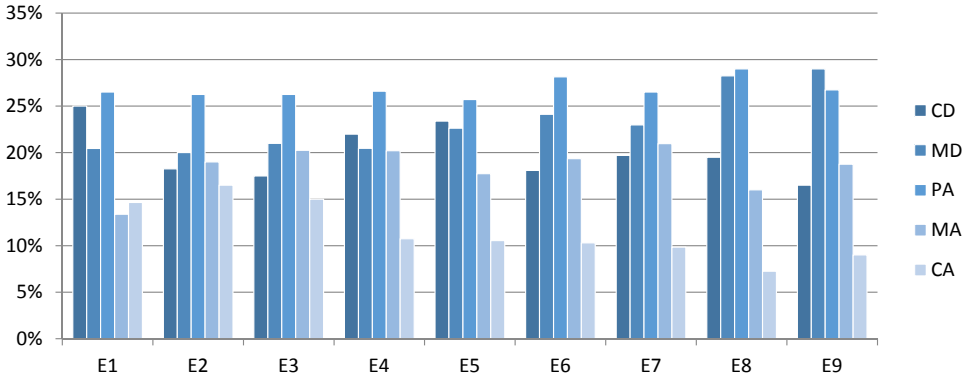

Figure 6. Rate response in the economic field

S o u r c e: Authors' own elaboration.

The results obtained from the three pillars of sustainability do not reflect systematization of sustainable business development (UNIVA, 2015). The economic pillar, specifically the entrepreneurial orientation (Lumpkin and Dess, 2001); the continuous work with internal and external stakeholders (Freeman, 2010), and their environmental practices (Cervera and Hernández, 2001), are far from being considered an approach to act and manage consistently.

6. Conclusions and recommendations

It can be observed that the sustainable practices in the small and medium-sized enterprises in the GMA are different and un-measurable, although it can be observed that the owners of the enterprises who were interviewed have a notion of the sustainability's meaning, but may not know its dimension, scope and the minimum indicators to measure it.

The emphasis and work on the internal social field stand out, as more than 50% of the responses found enterprises promote these practices, possibly due to the structure of the enterprise. On the other hand, although it was clearly noted that there is a certain commitment with their community, the results, however, also showed that entrepreneurs hardly share such practices with external stakeholders (cameras, associations) and somehow they keep for themselves the 'Know How'.

The poor performance in the economic field stands out, reducing it to the practices of increase in sales, without any sustainable basis in the long term, as for example the investment in I&D, the launch of new products or risk taking for the continuity of the enterprise. Entrepreneurial orientation is very limited.

As our hypothesis proposed, sustainable development practices in SMEs are an intrinsic factor to achieve entrepreneurial sustainability. Based on the results presented before, we can determine that they are not an intrinsic factor, since the results of the practices developed in the three areas: environmental, internal social and external and economic social, do not show values considered as everyday practices (values: 'frequently' [value of 4] or 'systematically' [value of 5]). For environmental they are in the order of 45%, for the internal social, which is the highest, shows 59%, for the external social, which is the lowest, reaches 25%, and the economic in 30% and does not make them competitive in the long term.

Through this study it was possible to have an approximation of the practices of sustainable development in the SMEs, in this case of the GMA, as there is not yet literature available in this specific area.

However, as this study has been one of the first studies to empirically evaluate the link between sustainable development practices and entrepreneurial sustainability engagement in SME, it provides a relevant initial observation in this field. We suggest that future studies could use samples of other geographical contexts and environments with different public policies settings to verify the findings presented in this study.

The limitations identified in this study can be located in the different measurements provided directly by the owner of the company, as a potential weak point, they measure the organizational level of participation within the Entrepreneurial Orientation and sustainable development based on perceptions, therefore, are subjective, although the size of the sample developed could have an objective tendency in the analysis.

Lastly, it is suggested to work from all the society's fields to educate the owners of the SMEs on the importance and feasibility of business sustainability, and how to apply sustainable practices to increase the life and activity of their enterprises.

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Wewnętrzne czynniki konkurencyjności i zrównoważonego rozwoju biznesu w małych i średnich przedsiębiorstwach w obszarze metropolitalnym Guadalajary w stanie Jalisco

Abstrakt: Niniejszy opis badań przedstawia aktualny poziom zaawansowania praktyk związanych z procesem zrównoważonego rozwoju małych i średnich przedsiębiorstw w obszarze metropolitalnym Guadalajary (OMG) w stanie Jalisco w Meksyku. Praca opiera się na międzynarodowym projekcie *Międzynarodowe badanie społecznej odpowiedzialności biznesu i zrównoważonego rozwoju w MŚP*, promowanym przez LABEX Montpellier z siedzibą we Francji. 400 ankiet ze wspólnego kwestionariusza zostało rozesłanych do przedsiębiorców z gmin

znajdujących się w aglomeracji OMG. Wstępne ustalenia, oparte na opisowej analizie statystycznej, pokazują, że 50% MŚP obszaru Guadalajary w Jalisco w Meksyku nie wdraża praktyk zrównoważonego rozwoju.

Praktyka zorientowania na przedsiębiorczość wyróżnia się w sferze ekonomicznej, w zewnętrznej sferze społecznej, w działaniach związanych ze społecznością, w której są wdrażane, w wewnętrznej sferze społecznej oraz w działaniach, które angażują pracowników w proces podejmowania decyzji. W dziedzinie środowiska jest szczególnie zauważalna w działalności zorientowanej na wykorzystanie alternatywnych źródeł energii. W niniejszym dokumencie przedstawiono główne przyczyny niestosowania tych praktyk oraz zawarto kilka wskazówek, jak należy je wprowadzić.

Słowa kluczowe: przedsiębiorczość, przedsiębiorcy, rozwój zrównoważony, małe i średnie przedsiębiorstwa

Annex 1

Questions regarding the environmental field

1. Waste separation and scrap (recycling of materials: paper, plastic, glass and metal).
2. It gives priority to reusable things, use of recyclable materials.
3. It educates its employees in the proper use of water and energy saving.
4. It gives priority to water and energy, through the use of efficient equipment.
5. It gives priority to the vehicles less polluting and non-motorized means of transport and optimizes their distribution network.
6. It encourages and supports its employees to use alternatives of means of transports to travel instead of cars for individual use. (Example: carpooling, public transport, bicycles, etc.).
7. It takes part in the activities carried out by organizations that encourage the protection of the environment.
8. It includes environmental considerations in its purchasing decisions and in supplier evaluation.
9. It includes environmental considerations in the design and development of products and services in all the stages of its life cycle. (Eco-conception and analysis of life cycle).
10. It consults its close stakeholders (employees, suppliers, clients, creditors, etc.) on the decisions concerning the environment.
11. It establishes environmental metrics and monitors it (concerning the risks, pollution degree, energy consumption, waste, etc.).
12. It communicates these actions to its external stakeholders. (Example: website, associations, cameras, reports, etc.).
13. It communicates these actions to its internal stakeholders (working meetings with the staff, intranet, reports, business newsletter, etc.).

Questions regarding the internal social field

1. It tries to have a wide diversity of employees (immigrants, young people, old adults, in reinsertion, men, women, indigenous people, sexual orientation, etc.).
2. It takes into account the personal limitations of employees in the work organization.

3. It offers employee benefits law.
4. It conducts training in health and safety at work.
5. It encourages and supports the employees to undergo training.
6. It informs the employees about the strategic orientation of the company.
7. It involves the employees in the decision making process.
8. It allows the employees to take part in the profits and capital business. (Bonus, Stock purchase, profit sharing, etc.).
9. It consults its stakeholders (employees, suppliers, clients, creditors, associations, ONGs, etc.) on the decisions regarding the human resource management.
10. It establishes metrics and monitors it (training costs, absenteeism, business career management, equity, accidents at work, etc.).
11. It communicates these actions to its external stakeholders (website, associations, cameras, reports, etc.).
12. It communicates these actions to its internal stakeholders (work meetings with the staff, intranet, reports, business newsletter, etc.).

Questions regarding the external social field

1. It contributes to community by providing sport activities, teaching activities, cultural activities (through public organizations or associations with social, cultural, sport and teaching activities).
2. It consults its stakeholders (employees, suppliers, clients, creditors, associations, ONGs, etc.) on the decisions regarding the local development.
3. It offers internships to students and contributes to their education.
4. It promotes job creation in the region.
5. It favours local suppliers.
6. It has established metrics that monitor the relationships in the community (amount spent, time allocated, different types of beneficiaries, etc.).
7. It communicates these actions to their external stakeholders (website, associations, cameras, reports, etc.).
8. It communicates these actions to its internal stakeholders (work meetings with the staff, intranet, reports, business newsletter, etc.).

Questions regarding the economic field

1. My company puts a big effort into research and development (R+D), improvement of technology and innovation.
2. My company has introduced new product lines and services in the last five years (or since its formation).
3. My company has carried out important modifications in its products and services in the last five years (or since its formation).
4. My company is usually the one in charge of making the first move to which our competition responds.
5. My company is often the first to introduce innovations (new products and services, introducing new techniques and technologies, production methods, etc.).

6. In general, my company adopts a very competitive position in order to weaken the competition.
7. My company is decidedly in favour of high risk projects that are supposed to bring great benefits.
8. In an uncertain situation, my company adopts a very aggressive attitude in order to maximize its likelihood of seizing golden opportunities.
9. Due to the atmosphere where it works, my company keeps taking golden and risky opportunities in order to achieve its goals.

TECHNICAL ASPECTS OF ENTREPRENEURISM

Entrepreneurship in the age of digital tourism: The future prospects from the use of robots

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Abstract: Tourism is an industry that is mostly based on the information that can be made possible through the assessment of the tourist product and the tourist service. During the past years we have seen important changes in the industry from the rapid growth of the use of new technologies on tourism, such as the Internet and social media, which have changed the way that the industry operates today. However, it is important to see into the future and identify what can be the next change in the tourist industry. By having examined the current literature, this paper had identified a future opportunity for the entrepreneurs in the tourist industry and this is from the use of robots for improving the service quality on tourism. The paper concludes that there is a need for future research on this field which can create new opportunities for entrepreneurs.

Key words: entrepreneurship, innovation, new technologies, robots, Internet, tourism

1. Introduction

Today the consumer lives and moves into a digitized world where the Internet and its applications play a predominant role in everyday life. The Internet is an important part of our lives and has changed our everyday activities as well as interactions with other people. The Internet has enabled its users to communicate directly with each other and share their interests. This link changes the way people communicate, since communication with other people from around the world is done with just one click. Social media (SM), such as Facebook, which has almost twice as many active users as the number of people living in Europe, have a special role to play.

SMs do not have a common definition that has been adopted by those working in this field and therefore there is confusion among researchers. For example, Kaplan and Haenlein (2010) refer to the fact that there is a group of WEB 2.0-based applications that allow content creation in collaboration with the consumer, as well as direct communication between the developer of the website and its visitors. In another case,

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Chan and Guillet (2011) report that SMs are platforms that allow people to communicate with each other and exchange views and ideas.

In another approach, social networking is a behaviour in which people develop relationships to survive (Coyle and Vaughn, 2008). Today, due to the rapid growth of the Internet, social networking has expanded to a direct link between people through the Internet. People can interact with each other to exchange ideas and opinions, which ultimately shapes their views on a range of critical issues such as their consumer habits. Now consumers are often affected and also influence other consumers with their comments and valuation on products and goods, thus also affecting the relation of consumers to products and markets (Cheung and Lee, 2012).

It should be noted that the Internet is an important tool for all sectors. However, the presence of tourist businesses on the Internet is also important because it allows almost all businesses to have direct access to the public through pure travel websites and social media and to influence the public and its behaviour. Middleton et al. (2009) refers to the fact that in today's economy based on Internet-based information, the greatest benefit is for small and medium-sized destinations. For many years, especially in the 1990s, tourist industry depended on a few intermediaries, mainly tour operators, on whom thousands of businesses depended. Small businesses did not have the resources to access the consumer directly, since traditional media advertizing required considerable financial resources but also human resources.

The shift from the traditional tourist paradigm into the digital tourist paradigm means that there are many opportunities and new niches for those who want to take the risk and invest into digital tourism (Belias et al., 2018). Hence, it is important to make a literature review over what can be the key challenges for an entrepreneur in today's digital tourism. For this reason this paper will examine the current issues and challenges on digital tourism, such as the Internet and social media, while it will go much further by investigating what can be the future role of robotics on tourism from the entrepreneur's perspective. Hence, this paper is going to fill in a gap in the existing literature since it will move on beyond the existing research by emphasizing the need to make a research on robotics and what can be the opportunities for an entrepreneur. The paper will rely upon the existing literature. This means that it will use both the latest papers, as found on online databases such as EBSCO and Science Direct.

2. Literature review

2.1. Entrepreneurship

Entrepreneurship is a complex concept and cannot be defined with precision. Many definitions have been attributed to the term. The term 'entrepreneurship' has often been used to describe concepts such as creating, establishing, managing a business or organization. Entrepreneurship is a way of thinking that guides the activities of one or more people and encourages them to recognize opportunities, take initiatives that lead to economic gains and gains (Kizner, 2005).

Marshall in the *Principles of Economics* (1890) spoke of four factors—factors of production: land, labour, capital and organization. Entrepreneurship is the organization that is needed to coordinate and operate the other three factors. More generally in economic theory, entrepreneurship is considered to be the fourth factor of production. The combination of inputs for wealth creation, leadership, competitiveness, corporate responsibility and innovation are key components of entrepreneurship. According to Pizam and Milman (1993), it is a way of thinking and the act that is directly related to the opportunity requires a holistic approach and balanced management. It also requires continuous thinking and activation in a way designed to discover new profit opportunities (Marques, 2006). It involves the realization of opportunities that may not provide the necessary resources (Stevenson and Jarillo, 1990).

It became particularly known as a term after 2000, although in many European countries its widespread use began in the mid-1990s. The main reasons for the strong entrepreneurial commitment were: (a) that in the 1980s and 1990s many new businesses started to operate and experienced rapid growth; and (b) that the issue of employment started to be of interest to society and by extension to the politicians (Drucker, 2015).

2.2. Digital tourism

In recent years there has been a rise in living standards and demographic changes as well as changes in preferences for travel destinations and modes of transport, which creates new conditions in the tourism market. The main features of tourism today are the fact that it offers more flexibility, more quality and less mass products as well as competitive prices and a variety of services. Today tourists show a dynamic behaviour and demand more and more detailed information. Although tourist travel packages still characterize the market, tourism, according to which the tourist is looking for information on his own, is growing more and more. The customer's ability to locate information and buy specific services is being developed over the last few decades. In order for a sector to respond to the new challenges of the market, it is necessary to develop telecommunication and technical infrastructure (Baird and Parasnis, 2011).

2.2.1. The evolution of the Internet: Reasons for its fast deployment from entrepreneurs

The Internet, as it is today, has begun in the 1960s in America where the cold war prevailed. It was created by the need to create a safer telecommunications system, a need that led to the idea of interconnecting computers across the globe, with the development of communication applications. The Internet today is a global network connecting computer systems and interconnecting local and broadband networks (Baird and Parasnis, 2011).

With the help of a set of appropriate software applications, Internet users can communicate with each other, access information provided by specific nodes on the network, and transfer files between computers that are interconnected. All the different uses of the Internet and implemented by a series of executable applications are described as Internet services. The main purpose of the Internet is the easy way to exchange information and access it quickly and without geographical limitations (Binkhorst and Den Dekker, 2009).

On a computer that is an Internet hub and accessible to the user, the service must be organized with the help of the appropriate software. Each service manager should be allowed to use it by the individual user. The user should have the appropriate software to use the services. The Internet is an ideal environment for tourist and business activities and it is of particular interest to the tourist sector. Today with the Internet, the spectrum of the tourism industry has direct access to a variety of sources of information at a global level, while agents can exchange messages quickly and economically. At the same time, there can be direct and effective support for the clientele of tourist destinations. In this way, products and services can be promoted as well as information to be promoted around the world. All together, products and services can be sold through websites, and business strategy processes and ways to assess them globally can be improved. An important element of this activity is that the cost of communication between the customer and the intermediary body of tourism is reduced. Finally, communication between collaborating companies is supported (Balfanz et al., 2002).

2.2.2. Benefits for tourists from using the Internet

The aforementioned activities operate in a way that benefits the final tourist—consumer who has all the information he/ she needs in order to arrive at the best possible solution. The Internet influences and changes in depth the value chain in the tourism sector as it is today the new medium through which transactions are made and which until recently has been conducted differently between tourism businesses and their clientele. At the same time, it has allowed direct contact between the customer and the supplier, while it has a significant impact on the role traditionally played by the market players so far and has strengthened the role of intermediaries currently active through the Internet. In recent years there has been a very large expansion of Internet use at international level, while cost savings and rapid development of its infrastructure have been achieved. Information and communication technologies can make a significant contribution to improving performance, productivity and competitiveness during the organization of tourist events. Developments in Information and Communication Technologies have a tremendous impact on how the business strategy of businesses in the tourism sector functions as they can make a significant contribution to increasing business productivity (Borràs et al., 2014).

These systems are already used in tourism and can support every operational function. They can provide all the tools that are needed to find important and profitable details in the tourism market that can promote products with a range of specialized tools in specific market segments. Information and communication technologies significantly reduce costs and increase efficiency. With the use of ICT, tourism businesses can have the ability to differentiate the product they offer, and ultimately enjoyed by the final consumer with the added value the latter has (Chen et al., 2011).

2.2.3. Benefits for the entrepreneur from using the Internet

With the use of ICT in the tourism sector, all operational functions can be supported. ICT provides all the tools that are needed to search for significant profitable sectors in the marketplace to promote products by specialized means. Through ICT, spending can be reduced and

the information, communication and the way the tourism sector works can be significantly increased. ICTs enable the consumer through the tools they offer to buy the right product while providing suppliers with the tools they need to develop, manage and distribute their products globally. Through ICT, the tourism industry can develop and market the products it desires (Dirks and Keeling, 2009).

In order to make effective use of ICT, specific conditions such as the management of the tourism organization, which should assess the capacity of ICTs and the future of tourism organizations, must be taken into account. At the same time, industry needs to address product demand and marketing mix in order to create added value in money and in the time it invests. ICT must be managed carefully, because it is crucial for the organization of tourism in order to protect the interests of the tourist. Finally, tourism intermediaries need to realize that the evolution of ICT represents a revolution in the tourism industry. The Internet is a new economic environment in which business processes are conducted. E-commerce is a sector that is constantly evolving and more and more tourist organizations can develop Internet services using ICT (Hartley, 2005).

This mode of entrepreneurship is now known as e-tourism and is not just a process of using a computer or a network as the business uses an entire system that can be applied by the tourism industry. All these factors become indispensable in ICT in order to ensure the survival and competitiveness of tourism. The use of electronic ICT methods and applications can provide the tourism industry with a significant competitive advantage. E-tourism is essentially the use of ICT in the tourism industry. It is the purchase and sale of tourist products and services through electronic channels such as the Internet. E-tourism includes all those applications as well as strategic and management issues related to the use of new technologies. ICT includes a comprehensive range of electronic tools that facilitate the strategic management of organizations and businesses while allowing the user to manage the information, the operation and the process, as well as to communicate with the tour operator in order to achieve the best possible outcome for the organization (Nam and Pardo, 2011).

The Internet today leads to a new way of responding and to a consumer behaviour that is changing as the revolution of a whole chain of tourist values has come. Using ICT in tourism can increase efficiency and at the same time reduce costs through the automation of specific processes such as automatic customer check-in to hotels or passengers on an airplane. In addition, customer and sales data can be used to support marketing such as forecasting production management. As a result, not only the processes change, but new services can also be designed to expand the range of choice of tourism services in order to shape a product and adapt to the customer's specific needs and preferences (Rainisto, 2003).

The introduction of ICT in tourism has been created by the need for large units such as hotels and travel agencies as well as air services in order to make the production process faster and at a lower cost as well as to have a rapid development of ICTs that cannot leave unimpaired tourism industry. The new technological data as well as the prospects and capabilities they give to the industry have turned the interest of both large and small-sized enterprises into adopting new technologies in the framework of the computerization they carry. ICTs can work beneficial at every level in order for a modern tourism business to be efficient from production and management to marketing and strategic planning. The tourism industry is

always characterized by high utilization of ICT both internally and externally, to individual businesses in the sector as well as to the online distribution of tourist products. This is largely due to the complicated standard work and its processes and to the complex structure of the tourism industry, which includes a large number of enterprises belonging to different categories and sizes and being usually at a great distance from the final consumer (Mkono, 2018).

Through ICT, the process of issuing tickets and bookings to tourist services has become faster and more effective over time while ICT programmes have been extended to all sectors, such as coastal companies, car rental and travel agencies. In this way, once tourism has begun to develop, technology and information are used both for work done in hotels and for how businesses communicate with each other. The use of ICT in the tourism sector offers a number of advantages over traditional ways of approaching tourism, and from these advantages all factors in a tourism chain benefit as access to the tourist product and service is easy and fast, the customer can access a range of information on any product without cost within 24 hours and throughout the year (Chen et al., 2011). By using the Internet, the client does not have to contact specific travel agencies to ask for price and sightseeing information as he can collect the information he wants on his own (Navio-Marco et al., 2018).

Finally, with the ICT, the Internet is easy to use due to its wide spread and penetration. The Internet can be accessed by a large number of consumers who now know how to use it with ease. This allows customers to interact with other customers in a range of communities and forums to exchange ideas and compare their experiences. For the most part, modern tourists use blogs and forums in order to be the same producers of tourist information and provide travel advice to other stakeholders (Binkhorst and Den Dekker, 2009).

ICTs have many advantages for a tourism business as they can expand the position that this tourism company has in the local and international market with a minimal capital that the company itself can find faster to reach more customers and better suppliers. Suppliers can today sell products and services through the Internet directly to their customers, without using intermediaries. In addition to ICT, small and medium-sized enterprises can be strengthened and supported in order to reduce the gap with larger firms (Navio-Marco et al., 2018).

Small and medium-sized businesses can now advertize and promote the product they sell quickly and at a low cost worldwide without being dependent on travel agencies or agents. In addition to ICT there is a continuous improvement of the services provided and the continuous development of the technologies which has the effect of developing and improving the services provided by each tourist company. At the same time, there is a better understanding of the client's needs based on research and interaction, and information gathering. For the client, the time between the availability of the capital it offers to a tourist business and the reception of the services it will enjoy will be reduced. At the same time, business processes are simplified and automated, which results in lower costs and reduced bureaucracy, so ICT is based on an important relationship in customer communication with the business. Because of the global accessibility that exists in the information of each business, the customer can develop in this business, trust. Finally, the image of the company is improved. An enterprise that does not create a website is in danger of presenting a bad image to the outside and a non-modern business activity (Dwivedi et al., 2012).

Today, businesses involved and active in tourism indirectly or directly seek to offer the best possible quality to provide information to their customers. Today it is impossible for the tourism industry to operate without the necessary information support both internally and externally in order to interconnect electronically and distribute its tourist product. The twenty-first century has been marked by rapid developments in the area of ICT that have directly affected the wider field of tourism. The use of ICT is largely due to complex and standardized processes as well as to the complex structure of the industry, which includes businesses of various categories and sizes with significant features such as the geographical dispersion they have in space and the distance from consumers. Undoubtedly, the use of ICT has contributed significantly to improving performance and productivity. Today, ICTs create significant opportunities for tour operators to upgrade their services while also developing new business activities, a feature that can lead to a strategic advantage over their competitors. The emergence of ICT is determined in the early 1950s where there has been a large increase in international travel and exchange receipts, and new databases have emerged from information systems and provide a large amount of information to travellers while at the same time performing a technical and functional role as they allow employees to identify their clients' wishes and those that do not satisfy them (Dirks and Keeling, 2009).

2.3. The use of ICT in the Greek market—opportunities for an entrepreneur

In the Greek market, online detention centres have not used all the opportunities offered by ICTs, although the development of ICTs since 1990 has been rapid and the spectacular development that has been observed in recent years in the use of ICT by its users shows that there is a tendency that reservation systems tend to be substituted. The Internet today is an ideal environment for professional and business activity especially in the field of tourism. The features of the Internet are that it offers online and large geographic coverage, while at the same time it has low costs, characteristics that have the effect of being directly applicable to booking systems. For this reason, hotels have the ability to promote their products easily and quickly through the Internet, making them known worldwide (SETE, 2015).

It can therefore be predicted that in the field of ICT there will be future developments in which tourists-consumers and intermediaries will be able to join a large information network where strong competition will exist and there will be many variables and factors that make up the landscape. Tour operators now pay special attention to their direct suppliers who are located in tourist destinations. Tourism demand often comes from different and distant geographical areas and must be transferred to the destination of travellers so that the latter can consume the products of the suppliers. From this, it is understood that there is a large amount of information to be transferred from the direct supplier and the development organization to international demand and vice versa. Information on tourism is a vital and key factor in the well-functioning of the tourism industry and in this way the use of communication and information technologies can contribute significantly to the efficient and efficient operation of the tourism industry, both economically and micro-economically. Due to the above, each tourist intermediary brings together and communicates the tourist demand with the direct supplier

by providing the latter with specific distribution channels for the promotion and sale of his products with specific economic rewards (Nam and Pardo, 2011).

2.4. Social media and the tourist product

Information and communication over the Internet is nowadays a widespread tool for the choice of destination by everyday tourists. As Li et al. (2017) notes, potential online travellers are constantly growing and tourism products, including booking, take place through the web. In its report, the European Travel Commission (2015: 13) points out that recreational and business trips are designed by majority (64–65%) over the Internet, including booking airline tickets and hotel rooms.

Until recently, the Internet served to obtain information only through the official websites of travel agencies and measured tourism organizations that advertize specific countries and locations. Social media provide travellers with the opportunity to exchange information about their past vacations and business trips (Chan and Guillet, 2011), and this communication is both informative and advisory. In our time, the degree of information on tourism products through social media continues to grow, while information from conventional media such as television, radio and newspapers is declining. In a large survey that looked at results from 19 nations, 60% of Internet users used one or more social media once a day and these users, one in two, 'uploaded' to their page information related to one product or company (Insites Consulting, 2012).

The great impact of social media, according to several scholars, is that users can create content themselves, informative, entertaining and entertaining. On the other hand, older information media made the user passive since there was no interaction but one-way information. In the tourism sector, social media have been 'embraced' by Internet users in tourist destinations searches and holiday planning and business trips, while feedback with other, often unknown, travellers from around the world, allows interaction through messages and comments, images, video and audio, and through narrations of their travels. This type of open communication takes place through many Internet providers, such as social media (e.g. Facebook and Twitter), websites that are dedicated to travel and restaurants such as TripAdvisor and Yelp, as well as personal blogs (Berne-Manero et al., 2018).

Schegg and Stangl (2017) underline the importance of oral-to-mouth communication that, through the Internet, differentiates the relationship between consumers and service and service providers around the world. Internet users who want to buy a product or service can now, through social media, be informed by users who have made purchases in the past and have their own experience. At the same time, this communication takes place not only between family members, friends, or even known ones, but also among people who have never been close friends from every corner of the world.

3. Discussion. The future potentials of digital tourism and opportunities for entrepreneurs: The case of robots

The case of digital tourism surely paves the way for new opportunities for entrepreneurs. For example Chestler (2016) has mentioned that robots have already managed to dominate

manufacturing. Most of the large assembly lines, such as on the car industry, have relied on the use of robots. However, there is a window of opportunity in the case of the service sector where robots have not been used in such a great extent but still they can become a future prospect. Ivanov and Webster (2017) have mentioned the increasing interest of the tourist industry on robots though they are still in a very early adaption stage. In this case it is important to mention that most of the successful startups are those who are getting involved on the very early stages or even those who are creating new technologies and innovations, such as Apple, Google and Facebook. In this case the adoption of robots is slow but steady, especially from high-end tourist companies.

Papers such as Ivanov et al. (2018) and Kaivo-Oja et al. (2017) have argued that there are already some companies, mostly startups, which have produced solutions for tourist companies which are using robotics such as automatic bars and robots which welcome the guests. Also there are startups which are creating robots that can do part of the housekeeping, such as cleaning the floor. Of course there are several reservations over the value of robots along with the impact on the labour markets (Thomas, 2017).

Nonetheless, if we look back into all of the latest innovations of the past 20 years, we will notice that innovations which created anxiety and fear over the consumers and the professionals, such as the introduction of low cost flights and the online booking, today are accepted as some of the most common practices and policies in the tourist industry, while the early innovators (such as EasyJet and Booking.com) today are dominating the market. Hence, an entrepreneur may have a lot to gain from investing into robots in the tourist industry.

4. Conclusions and recommendations

The tourist sector relies on the use of new technologies. If we look back into the industry's development over the past years, we will notice that technologies play a key role into its growth and they have become a mean of development. Actually, tourism is an industry where innovation has become the 'game changer' of this industry. The paper has concluded that new technologies play a dominant role in the tourist industry. However, it is important to see what is next. The next big thing is the use of robots in the tourist industry. From the perspective of entrepreneurs this is a big opportunity since it can change the way that tourist services are offered. Hence, someone who is willing to invest now in this industry, he/ she can benefit from this. Nonetheless, the paper has also noticed the lack of such research on an empirical level. For this reason it would be wise to see more research in this field along with case studies over successful attempts to create start-ups by using robots in the tourist industry.

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Przedsiębiorczość w dobie turystyki cyfrowej. Perspektywy związane z wykorzystaniem robotów

Abstrakt: Turystyka jest branżą, która opiera się głównie na informacjach uzyskiwanych dzięki ocenie zarówno produktu, jak i usługi turystycznej. W ciągu ostatnich lat zaobserwowano istotne zmiany w tej gałęzi gospodarki, polegające na szybkim wzroście wykorzystania nowych technologii, takich jak internet i media społecznościowe. Zmieniły one sposób funkcjonowania rynku usług turystycznych. Dlatego niezwykle istotne jest podjęcie próby prognozy dotyczącej zmian, które mogą pojawić się w branży turystycznej. Na podstawie literatury przedmiotu w artykule przedstawiono możliwości, jakie otwiera przed przedsiębiorstwami turystycznymi wykorzystanie robotów, które mogą się przyczynić do poprawy jakości usług świadczonych przez te przedsiębiorstwa. Stwierdzono, że istnieje potrzeba kontynuacji badań w tym zakresie, gdyż mogą one stworzyć nowe możliwości dla przedsiębiorców.

Słowa kluczowe: przedsiębiorczość, innowacje, nowe technologie, roboty, internet, turystyka

Entrepreneurial opportunity scanning in the digital age

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Abstract: In this paper we focus on the opportunity scanning part of the entrepreneurial process and examine whether digitally oriented entrepreneurs vary in terms of information seeking and utilization, skills and experience and motivation compared to non-digitally oriented ones. In order to do so we conducted 52 semi-structured interviews in new business ventures from Greece, equally divided between the two groups mentioned above. The results indicate that although there are significant differences in terms of information seeking and utilization, entrepreneurs of both kinds pose similar skills and experience and have relevant motivation regarding the opportunity scanning process. To this end we believe that further research should be done regarding the entrepreneurial process to examine the impact of digital technologies and set the foundation to factors that can improve the success of new venture creation through utilization of digital tools.

Key words: entrepreneurship, digital technologies, business ventures

1. Introduction

Opportunity scanning has been one of the most important parts of the entrepreneurial process. It is the initial step that allows a potential entrepreneur to perceive these opportunities and create the venture that will pursue them (Bygrave and Hofer, 1992). Several researchers argue that opportunity recognition is the foundation of entrepreneurship (Kirzner, 1973; Kaish and Gilad, 1991; Shepherd and Douglas, 1999; Keh, Der Foo and Lim, 2002), since entrepreneurs can identify opportunities and predict future possibilities that others fail to recognize (Allinson, Chell and Hayes, 2000).

However, since technology is becoming an increasingly important part of entrepreneurship, it is also becoming more crucial in the entrepreneurial process as well. It is important to understand the role of digital technologies that may impact this process in order to better utilize them, improve the results in identification of unique and viable entrepreneurial ideas that can turn out to be successful business ventures. The limited focus on opportunity sources originated in the direct en-

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vironment of the entrepreneur can vastly grow, using technology to access and validate ideas that have been out of his focus. Also, a common problem related to opportunity scanning, the limited attention of competitive efforts that relate to the specific business idea can be reduced by the utilization of digital technology and relevant sources in order to increase the chances of a successful entrepreneurial attempt.

In this paper we examine the entrepreneurial process and we focus on the opportunity scanning phase, identifying the relevant factors that influence it. This will allow us to examine the important components that are being modified in entrepreneurial opportunity scanning by the impact of digital technologies and set the foundation to factors that can improve the success of new venture creation through utilization of digital tools.

The structure of this paper is as following. First, we draw on previous research to discuss the opportunity scanning process. Following, we identify the relevant factors that have emerged from this research in order to develop a model that we utilize in our research. By developing our research model, we move to the next section that describes our research methodology and consequently the results of our research. Finally, we present our conclusions, implications for entrepreneurs and academic research and discuss the limitations of our research providing relevant future research opportunities.

2. Opportunity scanning in entrepreneurship and digital entrepreneurship

The process of starting a new venture is embodied in the entrepreneurial process, which involves finding, evaluating, and developing an opportunity by overcoming the forces that resist the creation of something new. The process has four distinct phases: (1) identification and evaluation of the opportunity, (2) development of the business plan, (3) determination of the required resources, and (4) management of the resulting enterprise (Hisrich, Peters and Shepherd, 2005). Although these phases are progressive, they are not dealt in isolation since they are interconnected.

Identification and evaluation of the opportunity is a crucial stage in entrepreneurship since the field of entrepreneurship involves the study of sources of the opportunities and enterprising individuals that evaluate, discover and exploit them (Scott, Shane and Venkataraman, 2000). Opportunity is defined as a 'future situation which is deemed feasible and desirable' (Eckhardt and Shane, 2003, p. 336). Scott, Shane and Venkataraman (2000) and Campbell (1992) suggest that entrepreneurial opportunities are situations in which new goods, services, markets organizational methods and raw materials can be introduced through the formation of new ends, means or means–ends relationships.

Entrepreneurship involves new value creation by recognizing and seizing opportunities, and transforming them into marketable goods or services, assuming risk, and realizing rewards (Hull et al., 2007). Digital entrepreneurship is a subcategory of entrepreneurship in which some or all of what would be physical in a traditional organization has been digitized. Many researchers call for a deeper analysis of this phenomenon (Matlay and Westhead, 2007; Walker and Webster, 2006; Warren, 2002), since digital transformation is occurring in several industries. Common activities, processes, boundaries, and relationships associated

with the digitization of the firm involve the degree of digital marketing undertaken by a firm, a firm's digital sales, the digital nature of a firm's value proposition, the digital distribution of this value proposition, collaboration and interactions with key external stakeholders within the value chain in digital form and the potential of digitization of internal activities associated with a firm's operation (Hull et al., 2007).

Digital technologies can assist opportunity scanning by use of digital technology in the entrepreneurial process. Recent research has illustrated that digital technologies give rise to a vast potential for product and service innovation (Nylén and Holmström, 2015) and that digital technology expanded beyond internal dimensions, penetrating firms' product and service offerings (Yoo, Boland, Lyytinen and Majchrzak, 2012) vastly altering several industries (e.g., Evans, Hagiu and Schmalensee, 2006). To this end they provide a significant amount of new opportunities that can assist the process of entrepreneurial opportunity scanning by providing new sets of triggers and opportunities.

3. Research model development

In order to utilize the key factors that affect opportunity scanning we examined previous research and identified information seeking and utilization, skills and experience, and motivation among the most dominant factors that influence the process.

Scholars have tried to understand entrepreneurial opportunity while using four distinct approaches. They have looked at it empirically and conceptually and for both the opportunity itself and opportunity-related processes. Moreover, scholars have debated exactly what constitutes an entrepreneurial opportunity and in doing so, they have generated a wide variety of definitions, resulting in significant variance in perspectives (Mitchell et al., 2007). Prior knowledge, creativity and motivation are important for opportunity scanning process. The opportunity recognition in the digital field can try to capitalize on the global trends and skills sets of an entrepreneur, while the opportunity identification often occurs when someone notices something concrete in everyday life which can be conceptualized online.

Opportunity scanning includes information seeking, which is usually considered an antecedent to interpretation and to action. Research shows that information plays a very crucial role in the opportunity scanning process and it is a common theme in opportunity recognition research. A successful entrepreneur possesses the ability to identify opportunities. Gaglio and Katz (2001) argued that 'understanding the opportunity identification process means one of the core intellectual questions for the field of entrepreneurship. Research shows that knowledge (education) seems to facilitate opportunity recognition and different types of knowledge cause the recognition of different types of opportunities. Furthermore, knowledge related to opportunity recognition can be internal to the entrepreneur plus it can be provided by external sources like the venture capital investors. The entrepreneurs' prior knowledge plays an important role in the cognitive process of structural alignment that 'connects the known with the unknown' and in doing so, can facilitate opportunity recognition. The prior knowledge, the one gained through education, can help the individuals to accumulate and integrate the new knowledge, which in turn opens a wider opportunity set (Gimeno, Folta, Cooper and Woo, 1997). Davidsson and Honig (2003) found that the years of education positively influence someone's opportunities identification.

Shane (2003) identified three basic dimensions of prior knowledge that are very important to the process of an opportunity identification. The first one is the prior knowledge of the markets, that enables people to understand demand conditions, therefore facilitating opportunity discovery. Secondly is the prior knowledge of how to serve the markets, that helps identify the opportunities because people know the operations and rules of the markets. Finally, the marketing processes gained from introducing a new service or product. Moreover, the prior knowledge of the problems of the customers or their needs stimulates the opportunity identification because knowledge like this would help trigger a new product or service in order to solve the customer problems or to satisfy unmet needs (Urban and von Hippel, 1988).

Information seeking and utilization is expected to be different among digitally and non-digitally oriented entrepreneurs, since the second are expected to have more information technology-oriented backgrounds and utilizing them to more efficiently collecting and processing information that is related to market analysis in terms of understanding and serving specific markets and utilizing digital tools to optimize the process.

Opportunity recognition also depends on the entrepreneur's skills and experiences. As we have already mentioned, entrepreneur's personality plays a key role in making opportunity scanning evaluations. Prior experiences and personal characteristics also help to constrain the evaluation of opportunities. Some opportunities are the result of a process of enactment where an entrepreneur has an idea and gives it a meaning. Others are located and discovered. Differences in performance arise from the quality of opportunities, the creativity of modes of exploitation entrepreneurs use or their location. Explanations for how new opportunities emerge include prior experiences, personal disposition, changes in the broader environment, gaining specific information, and being an unsatisfied user (Gaglio and Katz, 2001; Shane, 2000; Tripsas, 2008).

Furthermore, discovering new opportunities has to do with skills, personal awareness and insights (Kirzner, 1999; Kaish and Gilad, 1991). Very important among skills is creativity, since it is very important in developing and elaborating these skills into something exploitable. Besides prior knowledge, creativity is directly related to a person's technical, managerial, entrepreneurial and strategic skills and competencies that have a strong bearing on what a person perceives within an environment. This influenced the prior knowledge people have and the fundamental assumptions of the world. Connection and association reflect the entrepreneurs' ability to piece together unconnected information. This association should be related to the individuals' creativity, or their ability to generate appropriate ideas, processes, products or solutions (Shalley, 1995). We expect to identify several differences in terms of entrepreneurial skills and experiences among digitally and non-digitally oriented entrepreneurs since we expect the former to utilize digital tools to enhance the process and eliminating the need for increased creativity in order to connection and associate relevant opportunities.

Finally, motivation could be described as what energizes or drives people to move from one action to another in behavioural process (Nuttin, 1984). The motivation factor has been studied in order to answer three kinds of different questions: what really activates a person, what makes him or her to choose one thing over another thing and why different people respond differently to the same situations. These questions give a rise to three important aspects of motivation that are selection-direction, activation and preparedness of response (Pervin,

2003). In this study motivation refers to what Nuttin (1984, p. 14) defines as 'the dynamic and directional (i.e. selective and preferential) aspect of behaviour.' It is the motivation that is responsible for the fact that a behaviour moves towards one category of objects rather than another category. We hypothesize that different types of motivation will have a different impact on digitally versus non-digitally oriented entrepreneurs.

In our research we try to assess these three types of influences by examining two distinctive groups of entrepreneurs. The first group is consisted of entrepreneurs engaged in digital related entrepreneurship. Digital entrepreneurship can be defined as entrepreneurship in which some or all of the entrepreneurial venture take place digitally instead of taking place in traditional formats (Hull et al., 2007). The workplace, products, distribution and more like this could take digital form in an entrepreneurial venture. The second group consisted of entrepreneurs engaged in non-digital entrepreneurship. We hypothesize that entrepreneurs creating ventures related to digital entrepreneurship face different opportunities and challenges and need to act differently in their entrepreneurial ventures.

4. Research methodology

For the purpose of this study we identified a sample of 213 newly created companies originated in Greece in order to examine differences between the characteristics of digitally and non-digitally oriented entrepreneurs in terms of information seeking and utilization, skills and experience, and motivation. All companies were contacted through electronic means and the ones who were willing to participate in the research were interviewed either in person or through teleconference software. 60 of them initially agreed to participate in this research and finally 52 of them were interviewed.

We choose a semi-qualitative research approach and more specifically a qualitative research interview in order to describe and understand the meaning of what the interviewees say (Warren, 2002). A qualitative research interview seeks to cover both a factual and a meaning level, though it is usually more difficult to interview on a meaning level (Kvale, 1996). Interviews are particularly useful for getting the story behind a participant's experiences, since the interviewer can pursue in-depth information around the topic. Interviews may be useful as follow-up to certain respondents to questionnaires, e.g. to further investigate their responses (McNamara, 1999). In order to eliminate bias, since the interviewer can control the quality of the result, we trained all the interviewers (2 persons) and organized in detail and rehearsed the interviewing process before beginning the formal study. All interviewers had been informed on the background of the study and why the study is important (apart from simply knowing how to conduct the interview itself) and the sampling was done by external experts based on data available to the researchers.

The interview questionnaire consisted of the four constructs, information seeking and utilization in opportunity scanning, skills and experience usage in opportunity scanning, motivational factors that affect entrepreneurs in opportunity scanning and demographics. The first (information seeking and utilization) and the second construct (skills and experience usage) were based on the work of Tang, Kacmar and Busenitz (2012) and asked questions such as: I have frequent interactions with others to acquire new information, I am an avid information seeker, I often make novel connections and perceive new or emergent relationships between

various pieces of information and I often find differences between the way I see certain situations and the way other people see them. The third construct (motivation) had to do with motivation regarding becoming an entrepreneur. The construct was based on the work by Elfving, Brännback and Carsrud (2009) and is consisted of questions related to the motivational drive such as: I wanted to reach my goals in life and I wanted to continue a family tradition. The final set of questions is related to the demographic characteristics of the respondent (e.g. sex, age, years of working experience, etc.).

52 semi-structured interviews were conducted during the first semester of 2018 based on a pre-developed questionnaire. For each group (digitally and non-digitally oriented entrepreneurs) the same number of semi-structured interviews we conducted (26) in order to ensure two independent samples with the same amount of observations. In order to validate the findings, additional sources of data were used, namely semi-structured interviews, e-mail correspondence and video calls with key participants, and reviews of internal presentation materials. The informants were start-up founders directly related to the formation of the start--up and our goal was to examine the differences between the two types of respondents. Each interview was coded using a set of pre-determined questions based on previously developed research tools and additional questions we asked in order to elaborate where there were questions of misinterpretations. Our final set consisted of two sets of answers that were carefully examined in order to identify differences between the two groups. We deployed t-test in order to statistically examine the difference between the two groups. The results are presented in the following section.

5. Results

All results collected were aggregated for each group and compared in order to see if there were any significant differences. Independent-samples t-test was conducted to compare the differences between digitally oriented and non-digitally oriented entrepreneurs in all three types of influence in opportunity scanning process. We present the results for each construct separately.

To begin with, there was a significant difference in the scores for digital entrepreneurs and non-digital entrepreneurs for almost all items regarding information utilization as seen in Table 1.

Table 1. Differences in information seeking and utilization between digital and non-digital entrepreneurs

Specification		N	Mean	Std. Deviation	t	Sig. (2-tailed)
While going about day-to--day activities, I try to look for new business ideas	Digital Entrepreneur	26	4.00	1.020	2.560	0.014
	Non-Digital Entrepreneur	26	3.31	0.928		
I am an avid information seeker	Digital Entrepreneur	26	4.54	0.706	4.691	0.000
	Non-Digital Entrepreneur	26	3.27	1.185		

Specification		N	Mean	Std. Deviation	t	Sig. (2-tailed)
I am always actively looking for new information	Digital Entrepreneur	26	4.58	0.504	2.454	0.018
	Non-Digital Entrepreneur	26	4.12	0.816		
I always keep an eye out for new business ideas when looking for information	Digital Entrepreneur	26	4.35	0.745	2.808	0.007
	Non-Digital Entrepreneur	26	3.62	1.098		
I have frequent interactions with others to acquire new information (personal)	Digital Entrepreneur	26	4.27	0.667	3.040	0.004
	Non-Digital Entrepreneur	26	3.50	1.105		
I have frequent interactions with others to acquire new information (online)	Digital Entrepreneur	26	3.73	1.218	3.214	0.002
	Non-Digital Entrepreneur	26	2.65	1.198		
Offline acquisition of new information	Digital Entrepreneur	26	3.96	1.148	0.974	0.335
	Non-Digital Entrepreneur	26	3.65	1.129		
Online acquisition of new information	Digital Entrepreneur	26	4.38	0.983	5.000	0.000
	Non-Digital Entrepreneur	26	2.85	1.223		
I regularly seek information from physical resource centres	Digital Entrepreneur	26	3.50	1.068	0.132	0.895
	Non-Digital Entrepreneur	26	3.46	1.029		
I regularly seek information from online resource centres	Digital Entrepreneur	26	3.96	1.113	3.593	0.001
	Non-Digital Entrepreneur	26	2.77	1.275		

S o u r c e: Author's own elaboration.

Regarding looking for new business ideas in day-to-day activities, being an avid information seeker, actively looking for new information and keeping an eye out for new business ideas when looking for information there was a significant difference in the scores for digital and non-digital entrepreneurs ($p<0.005$). For all cases, digitally oriented entrepreneurs exhibit a higher mean in scores. Regarding frequent personal and online interactions with others to acquire new information, online acquisition of new information and seeking information from online resource centres, there was also a significant difference in the scores for digital and non-digital entrepreneurs ($p<0.005$). In these items, digitally oriented entrepreneurs exhibit a higher mean as well. Concerning offline acquisition of new information and seeking information from physical resource centres, no significant difference between the two groups was indicated.

However, for the next construct regarding almost all items related to skills and experience usage we see almost no difference between the two groups, as presented in the Table 2.

Table 2. Differences in skills and previous experience between digital and non-digital entrepreneurs

Specification		N	Mean	Std. Deviation	t	Sig. (2-tailed)
I often see connections between previously unconnected domains of information	Digital Entrepreneur	26	3.62	0.852	0.648	0.520
	Non-Digital Entrepreneur	26	3.46	0.859		
I often make novel connections and perceive new or emergent relationships between various pieces of information	Digital Entrepreneur	26	3.81	0.939	0.798	0.429
	Non-Digital Entrepreneur	26	3.58	1.137		
I often find differences between the way I see certain situations and the way other people see them	Digital Entrepreneur	26	4.23	0.908	2.824	0.007
	Non-Digital Entrepreneur	26	3.54	0.859		
I often think 'outside the box'	Digital Entrepreneur	26	4.31	0.884	1.272	0.209
	Non-Digital Entrepreneur	26	3.92	1.262		
I see links between seemingly unrelated pieces of information	Digital Entrepreneur	26	4.15	0.675	2.409	0.020
	Non-Digital Entrepreneur	26	3.50	1.208		
I had enough industrial knowledge	Digital Entrepreneur	26	3.65	1.231	1.903	0.063
	Non-Digital Entrepreneur	26	3.08	0.935		
I have sufficient digital skills	Digital Entrepreneur	26	3.96	1.113	2.952	0.005
	Non-Digital Entrepreneur	26	3.00	1.233		
I have sufficient Communication skills	Digital Entrepreneur	26	2.73	1.373	0.308	0.759
	Non-Digital Entrepreneur	26	2.62	1.329		
I have sufficient Business Networking skills	Digital Entrepreneur	26	2.65	1.325	−0.414	0.681
	Non-Digital Entrepreneur	26	2.81	1.357		
I have sufficient Risk Taking skills	Digital Entrepreneur	26	2.85	1.461	−0.983	0.331
	Non-Digital Entrepreneur	26	3.27	1.638		
I knew how to start a business	Digital Entrepreneur	26	2.65	1.093	1.059	0.295
	Non-Digital Entrepreneur	26	2.38	0.697		

S o u r c e: Author's own elaboration.

The only three items that display significant differences ($p<0.005$) are understanding differences between the way they see certain situations and the way other people see them, seeing connections between previously unconnected pieces of information and having sufficient digital skills. For all three questions, digitally oriented entrepreneurs exhibit a higher mean

than non-digitally oriented ones. On the other hand, regarding making novel connections and perceiving new or emergent relationships between various pieces of information, thinking 'outside the box', having enough industrial knowledge, communication, business networking and risk taking skills and having knowledge to start a business we see no significant difference between the two groups.

Regarding motivations that lead to starting a business we also observe that only limited items exhibit significant difference between the two groups (Table 3).

Table 3. Difference in motivations to start a business between digital and non-digital entrepreneurs

Specification		N	Mean	Std. Deviation	t	Sig. (2-tailed)
I wanted to reach my goals in life	Digital Entrepreneur	26	4.58	0.643	1.893	0.064
	Non-Digital Entrepreneur	26	4.00	1.414		
The independence appealed to me	Digital Entrepreneur	26	4.31	0.884	1.554	0.127
	Non-Digital Entrepreneur	26	3.88	1.071		
It was a way to get a job	Digital Entrepreneur	26	2.04	1.113	1.067	0.291
	Non-Digital Entrepreneur	26	1.73	0.962		
I wanted to become rich	Digital Entrepreneur	26	3.35	1.093	−0.415	0.680
	Non-Digital Entrepreneur	26	3.46	0.905		
I had a good business idea	Digital Entrepreneur	26	4.23	0.992	2.155	0.036
	Non-Digital Entrepreneur	26	3.54	1.303		
I believed in my own abilities	Digital Entrepreneur	26	4.62	0.852	2.448	0.018
	Non-Digital Entrepreneur	26	3.92	1.164		
The model set by my friends encouraged me to become an entrepreneur	Digital Entrepreneur	26	2.35	1.093	−0.736	0.465
	Non-Digital Entrepreneur	26	2.54	0.761		
The model set by my family or relatives encouraged me to become an entrepreneur	Digital Entrepreneur	26	1.85	1.047	−1.022	0.312
	Non-Digital Entrepreneur	26	2.23	1.608		
I wanted to continue a family tradition	Digital Entrepreneur	26	1.69	0.928	0.246	0.807
	Non-Digital Entrepreneur	26	1.62	1.299		
I had suitable partners	Digital Entrepreneur	26	3.19	1.415	1.376	0.175
	Non-Digital Entrepreneur	26	2.73	0.962		

S o u r c e: Author's own elaboration.

Digital entrepreneurs tend to more often believe that having a novel idea and believing in their own abilities is directly related to their motivation than non-digital ones and so we can see a significant difference in the scores of the two groups ($p<0.005$). However, regard-

ing willingness to reach goals in their life, pursuit of independence, finding a job, becoming riches, following a model set by their friends, their family or relatives, following a family tradition and having suitable partners pose no significant difference between the two groups. Finally, some demographics of the two groups are presented in Table 4.

Table 4. Demographic data of the sample for digital and non-digital entrepreneurs

		Digital Entrepreneur	Non-Digital Entrepreneur	Total
Gender	Man	20	18	38
	Woman	6	8	19
Total		26	26	52
Age	18–25	2	0	2
	25–30	7	6	13
	30–35	7	13	20
	35–40	3	0	3
	40+	7	7	14
Total		26	26	52
Education Level	Bachelor	5	14	19
	Master	17	12	29
	PhD	4	0	4
Total		26	26	52
Field of Education	HealthTech	0	3	3
	Information and Technology	15	3	18
	Education-EduTech	2	0	2
	Audio Visual	2	3	5
	Other	7	17	24
Total		26	26	52
Years of working experience	1–3 years	1	0	1
	3–6 years	7	3	10
	6–9 years	7	14	21
	More than 9 years	11	9	20
Total		26	26	52

S o u r c e: Author's own elaboration.

As we can see, most characteristics in the two groups are similar; with the exception of education level were digital entrepreneurs who seem to have higher academic degrees. This allows us to assume that both groups share similar characteristics and can be compared.

6. Conclusions, limitations and future research

Based on the results presented in the previous section we can assume that the opportunity scanning process poses partial differences between digital and non-digital entrepreneurs. We examined three types of influences in the opportunity scanning process by examining two distinctive groups of entrepreneurs. The first group consisted of entrepreneurs engaged in digital related entrepreneurship, where some or the entire entrepreneurial venture takes place digitally instead of taking place in traditional formats and the second consisted of the entrepreneurs engaged in non-digital entrepreneurship where most of the entrepreneurial venture takes place in traditional formats.

These three types of influences regarded information seeking and utilization, previous skills and experience and motivation of the entrepreneur. Our results indicate that while digitally and non-digitally oriented entrepreneurs significantly differ in the first type of influence by exhibiting much more active behaviour in information seeking and utilization, they are more or less similar regrading skills and experience and motivation.

This can be explained by the fact that digital entrepreneurs utilize more actively digital tools to increase their reach in terms of acquiring information to find or enhance their business opportunities. They have been exposed to more avid information seeking experiences and exhibit this in both digital activities (e.g. online interactions with others to acquire new information, online acquisition of new information and seeking information from online resource centres) and non-digital ones (e.g. personal interactions with others to acquire new information). In non-digital related activities (e.g. offline acquisition of new information and seeking information from physical resource centres) both groups exhibit similar behaviour. What is more important is that active information seeking (e.g. looking for new business ideas in day-to-day activities, being an avid information seeker, actively looking for new information and keeping an eye out for new business ideas when looking for information) is more important for digital-related entrepreneurs and can be related to the fact that digital entrepreneurs are more willing to globally compete and have to be able to spot opportunities not directly related to their adjacent competitive environment. Moreover, since previous education is directly related to information seeking and recognition, we have to take into consideration that the digitally oriented entrepreneurs group has higher academic degrees.

We also see that what is not related to information seeking and utilization is not significantly different between digital and non-digital entrepreneurs. They both rely on similar skillsets and experiences and have common motivational characteristics. As expected digital related entrepreneurs are more skillful regarding digital skills, but both groups have good communication, business networking and risk taking skills and knowledge regarding both their respective industry and how to start a business. We can also see that in some questions related to creativity digital entrepreneurs seem also more capable but in many cases this applied for non-digitally oriented ones as well. This indicates that starting a business requires strong skills and experience, regardless its digital focus.

The same applies for motivation. Both groups seem to be driven by similar motivational characteristics as they are willing to reach their goals, prefer independence and are not very concerned in seeing entrepreneurship as a way to get a job or getting rich. Both groups do not seem to follow a model set by their friends, their family or relatives, or a family tradition. They also tend to believe that having suitable partners is important in order to pursue their business idea. Digital entrepreneurs tend to believe that they have a novel idea and believe more in their own abilities since they have to rely on technical innovation most of the times to compete in their respective industry. These findings also indicate that digital and non-digital entrepreneurs have common motivational characteristics, something that was to be expected, since they share common values and beliefs.

Our research poses some limitations. The sample size is limited and originated in a single country. Also, we have not sufficiently tested our research instrument for validity before its application, although relying on already validated constructs. The research could also be extended in order to in depth analyze more characteristics that affect the opportunity scanning process. However, this research is mainly exploratory and can become a starting point for examining both differences and similarities in digital and non-digital entrepreneurs. Although the basis for many of their actions might be the same, we can expect that digital technologies will have an increasingly important role in seeking information and framing their decisions.

This research also has implications for academia and entrepreneurs. We can expect academic wise to better understand the role of digital technology in framing the entrepreneurial process and understand the unique characteristic of digital entrepreneurs, as well as what can lead them to increased chances to develop a successful business venture. Regarding entrepreneurs our findings are important, especially for non-digitally oriented ones, since they can better apply digital tools to information seeking and utilization in order to have improved results in identification of unique and viable entrepreneurial ideas that can assist them in opportunity scanning. The limited focus on opportunity sources originated in the direct environment of the potential entrepreneur can be enhanced using technology to access and validate ideas that have been out of their focus.

Further research can focus on connecting the results of the opportunity scanning process with economic, growth or funding related results and validate whether differences in the opportunity scanning process between digital and non-digital entrepreneurs can increase or not their chances to lead successful business ventures. Moreover, other processes related to entrepreneurship beyond opportunity scanning can be examined to see if we can also witness differences or similarities between digitally and non-digitally oriented entrepreneurs.

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Badanie możliwości przedsiębiorczych ery cyfrowej

Abstrakt: W niniejszym artykule skupiamy się na prześledzeniu części procesu przedsiębiorczego oraz na zbadaniu, czy przedsiębiorcy zorientowani na technologie cyfrowe różnią się od tych, którzy nie są cyfrowo ukierunkowani. Analizie podlegały sposoby poszukiwania informacji i ich wykorzystanie, umiejętności i doświadczenia oraz motywacja. W tym celu przeprowadziliśmy 52 częściowo ustrukturyzowane wywiady w nowych greckich przedsiębiorstwach, wyłonionych równomiernie z grup o przeciwnym podejściu do wykorzystywania technologii. Wyniki wskazują, że chociaż istnieją znaczne różnice w zakresie wyszukiwania i wykorzystania informacji, zarówno przedsiębiorcy ukierunkowani na technologię, jak i ci niechętnie ją stosujący mają podobne umiejętności i doświadczenia oraz odpowiednią motywację do badania i wykorzystywania możliwości. Wierzymy, że należy przeprowadzić dalsze badania dotyczące procesu przedsiębiorczego, aby zbadać wpływ technologii cyfrowych i stworzyć fundament dla czynników, które mogą zapewnić sukces w tworzeniu nowych przedsięwzięć z wykorzystaniem narzędzi cyfrowych.

Słowa kluczowe: przedsiębiorczość, technologie cyfrowe, przedsięwzięcia biznesowe

Spanning the boundaries through creative deployment of social capital: A study of Russian SMEs

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Abstract: This paper examines the role played by the structural dimension of organizational social capital in exploring developmental opportunities available to Russian SMEs. The study presents an analysis of horizontal and vertical relational ties established and maintained by traditional small and medium-sized firms in order to grow their business. Statistical analysis of 71 SMEs shows that horizontal bridging relations support and enhance SME development, and increase the likelihood of SME internationalization. Environmental uncertainty also contributes to SMEs involvement in building extensive business networking. Supplementary follow-up interviews were conducted with the owners and managers of SMEs to advance the results of hypotheses testing. The findings indicate that the boundary-spanning effect of bridging ties is consistent across both emerging and developed economies. SMEs use their bridging relations as resource-accumulating tool that may gradually lead to internationalization. Horizontal ties support collaboration with business partners and customers, and vertical ties provide stability in risky and uncertain environment. This study contributes to the growing body of social capital research highlighting the important role played by bridging connections in supporting SME resourcing and development across multiple industry settings, and in various types of economic conditions.

Key words: bridging social capital, networks, relational ties, SME development, partnerships, Russia, emerging markets

1. Introduction

This paper analyzes the role played by the different elements of organizational social capital in development of traditional small and medium size enterprises (SMEs) in Russia. The concept of social capital has been widely used in management and sociology, yet researchers take somewhat different approaches in defining and measuring the construct of social capital (Adler and Kwon, 2002; Coleman, 1988; Nahapiet and Ghoshal, 1998). Three dimensions of social capital suggested by Nahapiet and Ghoshal (1998) describe its structural, relational, and cognitive elements. The struc-

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tural dimension manifested through the network of external (i.e. bridging) ties developed by SMEs will be in focus of this paper.

The overall body of research on social capital is extensive, especially in the context of developed economies (Coleman, 1988; Collins and Clark, 2003; Covin and Slevin, 1991; McDonald, Khanna and Westphal, 2008; Musteen, Francis and Datta, 2010; Tang, 2011; Varelas and Georgopoulos, 2017). These studies have acknowledged that external networks allow to create unique resources and develop capabilities required to respond to the multitude of organizational challenges. The literature on network relations of small and medium-size enterprises (SMEs) operating in Russia is fairly fragmented, with limited number of studies addressing the specifics of Russian business environment and organizational practices in establishing bridging ties and building networks (Afanassieva, 2015; Ledeneva, 2013; Titov, 2013). Yet Russia represents one of the major emerging markets, together with Brazil, China, India and South Africa. The purpose of this work is to investigate the role played by the structural dimension of SMEs social capital in fostering the opportunities to explore their developmental options and expand their business operations.

Recent studies reflect the interest towards better understanding of social capital in development of socially responsible, technology-intensive, innovative and globalizing SMEs (Phillips and Oliveros, 2018; Tian, Nicholson, Eklinder-Frick and Johanson, 2018; Sahinidis and Kavoura, 2014). This paper will contribute to this stream of research by investigating relationships between the structure of SME social capital and the scope of SME activities and partnerships. The context of Russia as an emerging economy with underdeveloped institutions and higher level of risk and uncertainty of doing business represents a setting in which the role of bridging social capital as a unique resource is especially visible. This study will investigate the effects of external networking on the scope of SME development. The influence of environmental uncertainty will be also addressed as part of this research. To approach these research questions, we continue with brief literature review and hypotheses development. The third section of this paper will focus on the methods, sampling, and analytical procedures. Finally, this paper will conclude with presentation of results, discussion, limitations, and implications of this study.

2. Theory development

As literature suggests, most of emerging countries suffer from institutional voids and fail to provide stable and supportive business environment (Hitt, Lee and Yucel, 2002). Therefore, firms resort to social capital and various types of networking as important component of organizational growth and development (Batjargal, 2007; Boissevian, 1974; Khanna and Palepu, 1997). In Asian countries inter-organizational networks are often build upon strong ties, including personal ties, common birthplace or social background (Lu and Beamish, 2001; Nahapiet and Ghoshal, 1998; Tian et al., 2018). It seems that in evolving economic and institutional environment of emerging markets social capital helps to leverage SME's industry position and maintain the resistance to unexpected external and internal changes (Xu, Huang and Gao, 2012). Since SMEs have limited resources in comparison with larger business organizations, they often rely on business networking to improve their competitiveness. Thus,

the scale of SME development in terms of diversity of business ties and partnerships may be large. SMEs that are involved in extensive networking may even try internationalization as a long-term developmental option.

Hypothesis 1: Extensive networking is more likely to lead to the utilization of more complex partnerships.

Like other organizations, SMEs operate in an external environment where multiple forces define socio-economic, political, and legal conditions, and shape the behaviour and outcomes of economic actors. Market size and level of competition, industry growth, economic and political uncertainty and even geographic location are among the factors that influence a firm's processes and outcomes. It is hard to estimate the multiple effects of external environment of firm growth (McDonald and Westphal, 2003). Therefore, greater uncertainty may lead to more cautious networking strategies.

Hypothesis 2: Environmental uncertainty will negatively moderate the relationship between networking and the complexity of SME partnerships.

3. Sample and methods

The target sample includes Russian manufacturing SMEs (up to 500 employees). 300 firms were contacted about participation in this study; 71 firms agreed to participate, making the response rate 23.6%. This response rate was relatively low, but it was similar to response rates reported in prior research conducted in emerging markets that ranged from 18% to 26% (Batjargal, 2007; Manolova, Brush, Edelman and Greene, 2002). The selection of firms was made using a combination of random and convenience sampling. This sample represents a mix of manufacturing firms from high- and low-tech industries. Young firms up to 3 years old comprise 18% of the sample, and mature firms of 20 years or more represent 11% of SMEs in the study. After excluding incomplete questionnaires, 65 firms comprised working sample. To compensate for the small sample size, 8 in-depth interviews have followed statistical data processing.

Both the density and the strength of ties measured the structure of firm-external networking. *Density* (i.e. number) of ties was measured by verifying if potentially existing ties do actually exist as proposed by Boissevian (1974). Drawing upon analysis of external ties of emerging market firms (Cao, Simsek and Zhang, 2010; Xu et al., 2012), respondents were asked about 8 horizontal and 7 vertical ties. *Horizontal ties* included connections with customers, suppliers, business partners, competitors, professional associations, chambers of commerce, foreign commercial structures, and ethnic associations. *Vertical ties* included connections with banks, financial agencies, government agencies, and also federal, regional, municipal and foreign government structures. *Strength* of ties was measured by their reciprocity. On a dichotomous scale, reciprocity was coded as 1 for close relationships and 0 for distant relationships (Granovetter, 1973). *Environmental uncertainty* was measured using 6 items assessed on a 7-point Likert scale (Xu et al., 2012), with responses varied from 1 (disagree very strongly) to 7 (agree very strongly).

Complexity of partnerships was used as dependent variable. It was measured by the scale and sophistication of SME business dealings, using previously tested measure of interna-

tionalization (Manolova et al., 2002). Research participants were asked about their SME's involvement in any of the following activities: import, direct export, export through intermediaries, licensing (product or service), contracting (agency or distribution), franchises, direct sales and direct purchasing. Each of these 8 items was measured dichotomously (1 if yes, 0 otherwise). Answers were later coded in 3 categories reflecting the complexity of SME partnerships. If a SME was only involved in direct domestic sales or purchasing, it was coded as 1. If in addition to that the SME had any agency or distribution agreements, it was coded as 2. And finally, if the SME was involved in all the previously mentioned types of relations, and had any foreign contracts or partnerships, it was coded as 3. These three categories allowed for the assessment of the overall complexity of SME business dealings, from direct contacts with customers and suppliers to contacts through domestic and foreign intermediaries, namely agents or alliance partners.

Control variables were introduced to minimize the effect of confounding variables in this study. Firm age was measured by the number of years as of SME founding, and firm size was measured as the natural logarithm of the number of full-time employees, following Lu and Beamish (2001). Industries represented by SMEs in the sample were coded as high to medium-technology (1) or medium to low-technology (0), following OECD's Frascati Manual (2015) for classification of manufacturing industries into categories based on R&D intensities.

The CEOs of selected firms were contacted to solicit their participation, and as a result, the questionnaires were filled in either by the CEOs themselves, or by one of the top managers, who were well informed of the firm's market development and growth. In addition to questionnaires, industry codes were validated through statistical reports collected by the Russian Federal State Statistics Service. SME-level data on external business relations and various partnerships was also verified via firm web pages, booklets and catalogues. Firm age data was verified through an on-line database of the Federal Tax Service of Russia.

4. Results

Table 1 presents the descriptive statistics and correlation matrix for all the variables in this study.

Table 1. Descriptive statistics and zero-order correlations for variables in the study

No.	List of Variables	Mean	Std. Dev.	1	2	3	4	5	6	7	8
1.	Density of Horizontal ties	4.310	1.310	1							
2.	Density of Vertical ties	2.980	1.858	0.336**	1						
3.	Strength of Horizontal ties	2.520	1.480	0.633**	0.128	1					
4.	Strength of Vertical ties	0.803	0.306	−0.323**	−0.490**	−0.296*	1				
5.	Complexity of contracts	1.785	0.781	0.433**	0.019	0.424**	−0.115	1			

No.	List of Variables	Mean	Std. Dev.	1	2	3	4	5	6	7	8
6.	Environmental Uncertainty	25.531	6.430	0.320**	0.124	0.299*	−262*	0.349**	1		
7.	LN_Size	3.78	1.649	0.163	0.233***	0.082	−0.088	0.236***	0.216***	1	
8.	LG_Age	0.8999	0.409	0.061	−0.077	0.001	−0.073	0.280*	0.299*	0.381**	1

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
*** Correlation is significant at the 0.1 level (2-tailed).

S o u r c e. Author's own elaboration.

Multinomial Logistic Regression Analysis using SPSS was performed to examine the main effects between dependent and independent variables. Hosmer and Lemeshow (2000) recommend that for logistic regression models, and especially for those using small samples, it is more appropriate to use the level of significance of .15 or .2. Thus, in performing hypothesis testing with multinomial stepwise logistic regression analysis, we chose a p-value of .2 as a variable removal probability. Two models were tested: one for the density of ties, the other one for the strength of ties. All predictors were mean-centred and entered in the model step by step. Assessment of direct effects was followed by addition of the moderator to each model, and checking for moderation effects. In both models adding uncertainty has resulted in model improvement, but interaction effects were not retained. Therefore Hypothesis 2 was rejected.

Table 2 presents the test results for the density of networking and environmental uncertainty. Density of horizontal ties made a unique statistically significant contribution to the model, and recorded an odds ratio of 2.204 for the model, comparing the first and the second outcome, and 3.616 for the model, comparing the first and the third outcomes. This indicated that the SMEs that developed at least one horizontal bridging tie above the mean were 2–3 times more likely to be involved in more complex business dealings at domestic and international levels, controlling for all other factors in the model. Density of vertical ties had much weaker and negative effect on expanding partnerships. Environmental uncertainty made a statistically significant direct contribution to the model comparing the choice between domestic partnerships only versus developing all types of partnerships (i.e. domestic and international). The odds ratio of 1.241 indicated that SMEs chose to add international partnerships to their portfolio of contracts 1.2 times more likely if environmental uncertainty was one unit above mean level, controlling for other factors in the model.

Table 3 provides the outcomes of testing the strength of ties and environmental uncertainty as predictors. Strength of horizontal ties made a unique statistically significant contribution to the model. With an odds ratio of 3.011, strength of horizontal ties was the strongest predictor of utilization of complex contracts that included domestic and foreign partnerships. This indicated that SMEs with a higher than average strength of horizontal ties were 3 times more likely to develop various domestic and international contractual relations than just domestic direct contracts, controlling for all other factors in the model. And again, environmental uncertainty (odds ratio 1.220) had stimulated SMEs to develop international direct and indirect partnerships.

Hypothesis 1 stated that extensive business networking would be more likely to lead to the utilization of complex partnerships. Summing up the test results, we can conclude that both density and strength of horizontal ties increase the likelihood of developing complex relations with business partners, including international partnerships, especially encouraging international business endeavors. Vertical relations to various regulating organizations decreased the odds of expanding SMEs portfolio of domestic partnerships and had no effect on internationalization. Thus, Hypothesis 1 was partially supported. Hypothesis 2 predicted that environmental uncertainty will moderate the relationship between SME social capital and development of complex partnerships. This hypothesis was not supported, as environmental uncertainty did not show any moderating effects. Instead, uncertainty had a positive direct effect on the odds of being involved in the most advanced category of partnerships: both domestic and international contractual relations. Overall, the greater number of horizontal ties increased the odds of SMEs having diverse and complex contractual relations. Domestic and foreign sales and purchasing contracts, agency partnerships or joint venture agreements illustrate the type of activities pursued by traditional Russian SME. SMEs with strong horizontal ties (i.e. those relying on close, informal relationships) were able to have business dealings that were riskier and required more time and commitment of resources. Vertical ties had no effect on building broad partnerships and developing complex contractual relations. One explanation to this outcome is that hierarchical institutional structures have less interest to be directly involved in networking with traditional SMEs. Environmental uncertainty seems to have had the direct effect on stimulating SMEs to diversify their business relations, add intermediaries and foreign firms as their partners.

Table 2. Multinomial logistic regression analysis for relationship between *density* of horizontal and vertical ties, and *complexity of partnerships*

Model #1	Outcome: Complexity of contracts[a]	Variables	B	Std. Error	Wald	df	p	Odds Ratio	95% C.I. of Odds Ratio	
									Lower	Upper
Step 1	Domestic direct and through intermediaries	Intercept	−0.081	0.321	0.064	1	0.800	—	—	—
		Density of horizontal ties	0.801*	0.309	6.707	1	0.010*	2.227*	1.215	4.082
		Density of vertical ties	−0.405*	0.201	4.035	1	0.045*	0.667*	0.450	0.990
	International direct and through intermediaries	Intercept	−0.892	0.432	4.268	1	0.039	—	—	—
		Density of horizontal ties	1.354**	0.401	11.393	1	0.001**	3.872**	1.764	8.497
		Density of vertical ties	−0.304	0.237	1.636	1	0.201	0.738	0.463	1.175
Step 2	Domestic direct and through intermediaries	Intercept	−0.084	0.326	0.067	1	0.796	—	—	—
		Density of horizontal ties	0.790**	0.311	6.438	1	0.011**	2.204**	1.197	4.057
		Density of vertical ties	−0.415*	0.204	4.145	1	0.042*	0.661*	0.443	0.985
		Environmental uncertainty	−0.002	0.053	0.002	1	0.967	0.998	0.899	1.107

Model #1	Outcome: Complexity of contracts[a]	Variables	B	Std. Error	Wald	df	p	Odds Ratio	95% C.I. of Odds Ratio	
									Lower	Upper
Step 2	International direct and through intermediaries	Intercept	−1.271	0.527	5.816	1	0.016	—	—	—
		Density of horizontal ties	1.285**	0.461	7.776	1	0.005**	3.616**	1.465	8.925
		Density of vertical ties	−0.491	0.278	3.122	1	0.077	0.612	0.355	1.055
		Environmental uncertainty	0.216*	0.092	5.480	1	0.019*	1.241*	1.036	1.486

[a] The reference category is: Domestic direct partnerships.
* $p < 0.05$
** $p < 0.01$

S o u r c e: Author's own elaboration.

Table 3. Multinomial logistic regression analysis for relationship between *strength* of horizontal and vertical ties, and *complexity of partnerships*

Model #2	Outcome: Complexity of contracts[a]	Variables	B	Std. Error	Wald	df	p	Odds Ratio	95% C.I. of Odds Ratio	
									Lower	Upper
Step 1	Domestic direct and through intermediaries	Intercept	−0.160	0.309	0.266	1	0.606	—	—	—
		Strengths of horizontal ties	0.444	0.237	3.504	1	0.061	1.558	0.979	2.479
		Strengths of vertical ties	−0.401	0.307	1.713	1	0.191	0.669	0.367	1.221
	International direct and through intermediaries	Intercept	−1.114	0.461	5.832	1	0.016	—	—	—
		Strengths of horizontal ties	1.097**	0.345	10.145	1	0.001**	2.996**	1.525	5.886
		Strengths of vertical ties	−0.079	0.297	0.071	1	0.790	0.924	0.516	1.654
Step 2	Domestic direct and through intermediaries	Intercept	−0.146	0.317	0.211	1	0.646	—	—	—
		Strengths of horizontal ties	0.443	0.237	3.500	1	0.061	1.558	0.979	2.479
		Strengths of vertical ties	−0.473	0.323	2.149	1	0.143	0.623	0.331	1.173
		Environmental uncertainty	0.018	0.053	0.116	1	0.733	1.018	0.918	1.130
	International direct and through intermediaries	Intercept	−1.404	0.535	6.876	1	0.009	—	—	—
		Strengths of horizontal ties	1.102**	0.402	7.508	1	0.006**	3.011**	1.369	6.625
		Strengths of vertical ties	−0.324	0.343	0.894	1	0.344	0.723	0.370	1.415
		Environmental uncertainty	0.199*	0.082	5.901	1	0.015*	1.220*	1.039	1.433

[a] The reference category is: Domestic direct partnerships.
* $p < 0.05$
** $p < 0.01$

S o u r c e: Author's own elaboration.

5. Qualitative analysis using follow-up interviews

To elaborate further on the findings of statistical analysis, 8 in-depth interviews were conducted to shed more light upon the results of hypotheses testing. Interviews were audio-recorded and translated from Russian to English. Respondents were asked to comment about the types of relational connections important for establishing their businesses, and for developing them at later stages. They were also asked about general approaches to doing business in Russia, about various factors that were contributing to SME growth and success. Computer-based textual analysis using Linguistic Inquiry and Word Count (LIWC) software was used for processing interview data. Content analysis is widely used in management literature to examine various psychological aspects of decision-making on firm outcomes. LIWC software has variety of dictionaries available for linguistic analysis, and those standard dictionaries were used for analysis of interviews and terms associated with the role and use of social capital. Due to the small number of interviews only the manifested content related to the role of relational ties was analyzed. The respondents referred to vocabulary from categories related to positive associations and outcomes, such as 'achieve', 'social', 'power', 'reward', etc. 7 out of 8 respondents have emphasized that connections with suppliers, partners, customers help to transform and develop their businesses, and that mutually beneficial cooperation is the key to building relationships. Only one informant reported the importance of relations with government (regulatory organizations) as their products had to undergo the process of federal certification.

Most of respondents have noted that close, or long-term relationships were preferred as mutually beneficial, and that close partners were trustworthy. Respondents also noted that close relations can be built upon initially formal contractual ties, and by using variety of tools:

> Our partners are people and organizations who are interested in working with us. We try to disseminate information using both business and personal contacts, word of mouth. Some people find us online and then come with offers about cooperation to us. From the very beginning, we tried to create a powerful information channel, online promotion, etc.

> Connections with suppliers of services and spare parts (plants and factories that produce the parts of a good quality and charge stable prices) are important, connections with large buyers allow to transform them into loyal customers and increase repeated sales.

> Regarding the suppliers, quality and trust are crucial. Our own stores are important because of the transfer of [our] goods into a more expensive (luxurious) market segment. It is more effective in this market segment to have our own stores than rely on dealers.

Thus, the interviews supported the notion that overall firm-external networking improved competitiveness, and helped SMEs to establish stronger market position. These results were consistent with prior social capital studies that noted the link between enhanced social capital and more efficient process of SME growth and internalization (Phillips and Olivero,

2018). Administrative ties could help getting into specific market segments with tighter regulation. At the same time relying on business-to-government networking restricted developmental options, especially for SMEs that were seeking to expand their scope of activities, and achieve faster growth. This particular finding is somewhat similar to prior studies conducted in European settings, where hierarchical relations and reliance on government support helped SMEs to overcome their resource constraints (Tomlinson and Fai, 2013). At the same time bureaucracy, corruption, changing legislation, lack of actual support for local businesses, and unfair competition were strongly associated with vertical relational ties. These factors were named by all respondents as major elements undermining the opportunities for business development. Business-to-government relations and comments were in line with other research conducted in Russia, indicating that the imperfections of post-Soviet institutional environment persist for a long time.

When asked about the role of firm-internal social capital, respondents noted that internal relations played essential role in creating a healthy working environment; but those ties could be both weak (formal) or strong (informal):

> I believe that in the team at workplace it is necessary to have a healthy positive constructive spirit without excess emotional and personal attachment, but with mutual respect and aspiration to reach the mutual goal. Creation of such social capital guarantees the maximum high results in work.

6. Discussion and conclusion

The number of social capital studies is growing, but despite that fact, the current literature does not fully answer the question of whether the benefits of business networking pertain to all levels of analysis, and to variety of industry and institutional settings. The research addressing social capital of firms, and in particular SMEs, is still fragmented. There are multiple studies dealing with the role of social capital in emerging markets, but their focus is mainly on the Asian context. Hence, the most important contribution of this study is to add more information on the value of networking for traditional manufacturing SMEs operating in the emerging economy of Russia. By doing that, this study provides more empirical evidence for the less explored areas of firm development in unstructured institutional environments. This paper also contributes to the less developed stream of organizational social capital research, linking the firm-specific configuration of networking ties and their developmental outcomes.

The findings indicate that horizontal network connections facilitate the utilization of diverse and sophisticated contractual relations with SME partners. This particular aspect of SME development has not been tested in the literature. Yet the level of contractual diversity allows for an estimation of the overall approach to SMEs' business partnerships, and the state of those partnerships. The results support the previously established positive association between horizontal bridging ties and firm growth, this time taking it to a qualitative level of assessment. This study also brings into focus an important distinction between the role of horizontal and vertical networking. The results received for vertical ties indicate that hierar-

chical relations are not important for building SMEs business networks and complex partnerships. Horizontal ties are essential for expanding SME activities, recognizing collaborative and other entrepreneurial opportunities and creating intangible and non-financial benefits. Finally, this study contributes to the research by providing some insight into the role of contextual factors in firm strategic actions and outcomes. Uncertainty of external environment had directly contributed to SME qualitative growth.

As with any piece of research, there are *limitations* to this study. The small sample size has limited the choice of analytical options, and raised the question of the generalizability of research findings. Another issue relates to having only one informant per firm, so the answers to survey questions and follow-up interviews may be biased towards that person's view. Yet it is a common practice to only collect SME data from one source; and the data for this study was received from either the CEO, or another senior SME manager. Not all data was self-reported: dependent variables were verified through secondary sources. As a result, we believe the right steps were taken to reduce the influence of potential common method bias. Another potential limitation was the cross-sectional nature of this study, with no longitudinal considerations given to the relationship between bridging ties and building contractual relations with domestic and foreign partners. Thus, based on the issues listed above, the results should be taken with some caution, especially when generalized to a larger population of firms or to other countries.

Implications and future research. This study extends our understanding of the specific role of business networking for emerging markets SMEs. It adds more support to the research on the importance of business networking for firm development. Another important implication of the study relates to the effects of external environment. The results indicate that the environmental uncertainty stimulates SMEs for building complex partnerships. More studies are needed to identify other important environmental contributors to, or inhibitors of SME development. It is also essential to test this particular finding in the various institutional contexts.

In addition to the theoretical contributions, this study provides important *practical guidelines* on the benefits of networking. Namely, owners and managers of SMEs may benefit from a better understanding of the role played by bridging connections in fostering specific strategies of growth. SMEs should pay more attention to creation and maintenance of horizontal bridging ties, and use variety of relational connections for achieving their developmental goals.

To conclude, the present study has answered the question of whether relational connections have specific effects on SME development in Russian emerging market. This study has also supported prior findings regarding the multidirectional effects of the external environment on SME development. Taken together, these findings help to improve our understanding of social capital and its outcomes for firm across different institutional settings.

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Łączenie granic poprzez kreatywne rozmieszczenie kapitału społecznego – na podstawie małych i średnich przedsiębiorstw w Rosji

Abstrakt: Artykuł analizuje rolę, jaką w badaniu możliwości rozwojowych rosyjskich małych i średnich przedsiębiorstw odgrywa strukturalna budowa organizacyjnego kapitału społecznego. Opracowanie przedstawia analizę powiązań poziomych i pionowych, nawiązanych i utrzymywanych przez tradycyjne małe i średnie przedsiębiorstwa, w celu rozwoju ich działalności. Analiza statystyczna 71 MŚP pokazuje, że horyzontalne relacje pomostowe wspierają i wzmacniają rozwój przedsiębiorstw oraz zwiększają prawdopodobieństwo ich internacjonalizacji. Niestabilność środowiskowa przyczynia się do zaangażowania małych i średnich przedsiębiorstw w budowanie rozległych sieci biznesowych. W celu przyspieszenia analizy wyników testowanych hipotez przeprowadzono dodatkowe, uzupełniające wywiady z właścicielami i menedżerami badanych przedsiębiorstw. Wyniki wskazują, że łączący granice efekt powiązań mostkowych jest spójny zarówno w gospodarkach wschodzących, jak i rozwiniętych. MŚP wykorzystują relacje pomostowe jako narzędzie gromadzenia zasobów, umożliwiających stopniowe wprowadzanie internacjonalizacji. Powiązania poziome wspierają współpracę z partnerami biznesowymi i klientami, a więzi pionowe zapewniają stabilność w ryzykownym i niepewnym środowisku. Taka analiza przyczynia się do wzrostu liczby badań nad kapitałem społecznym i pozwala podkreślić rolę, jaką odgrywają powiązania pomostowe we wspieraniu, pozyskiwaniu i rozwoju MŚP w środowiskach branżowych, podległych różnorodnym warunkom gospodarczym.

Słowa kluczowe: pomostowy kapitał społeczny, sieci, więzi relacyjne, rozwój MŚP, partnerstwa, Rosja, rynki wschodzące

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