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Entrepreneurship : practice-oriented perspectives

Chapter 1

Entrepreneurial Creativity and Growth

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Additional information is available at the end of the chapter

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Abstract

The concept of creativity is multidimensional, helping to take advantage of entrepreneurial opportunities and favoring in this way economic growth. Next to this basic argument of neoclassical theory, which ignores the role of entrepreneurship in growth, the present chapter states that entrepreneurship should be included as a contributing factor of growth. Through this key argument, this chapter attempts to clarify the importance of creativity to entrepreneurial activity, concentrating on the factors that influence entrepreneurial creativity that in turn lead to economic growth, as well as to capture the way in which entrepreneurial creativity is affected by this procedure. These factors are knowledge and education, the management of disrupting technologies, spill-over creativity, the role of cultural background and personal characteristics of individuals, the motives and incentives of individuals, the existence of—and access to—resources, and the institutions that delineate the environment of action of the entrepreneur.

Keywords: entrepreneurship, creativity, growth, education, knowledge, institutions, cultural background, resources, motives, incentives, technologies

1. Introduction

One of the major challenges for the economies is to determine which specific factors can lead to economic growth. The basic argument of "Neoclassical Theory" is that economic growth is determined by labor, capital, and the level of technology [1], ignoring any direct effect that entrepreneurship may have.

Entrepreneurship causes economic growth, mainly due to the fact that the entrepreneur is a potential factor of production. Similarly, a country's economic growth promotes entrepreneurship, since it increases total demand and generates needs that create a fertile ground for the development of entrepreneurship.

However, what are the qualitative characteristics that determine the quality of an entrepreneur and lead to business success? Many argue that the key to business success is the entrepreneur's

passion [2, 3]. Others point out that it is the entrepreneur's leadership [4–6] suggesting that the five key characteristics of a successful entrepreneur are vision, work ethic, resilience, positive attitude, and passion. We—among others [7, 8]—suggest that the key is the role of creativity[1].

Creativity is considered a concept that is inherent in entrepreneurship [9–12]. Creativity—not the same with innovation [13], as we could say that innovation is applied creativity—is regarded as putting all brilliant ideas together and thinking of ways to make it happen. It interfaces with psychological factors; when the person feels euphoria and is in a good mood, he/she tends to increase his/her creativity [14]. Creativity is deemed an event of artistic expression, although its impact on the real economy is not exactly determined [15].

The new observed conditions that result from the ever-changing environment, globalization, the changing economic and political structures, new technologies, specialized customer demands, and the emphasis on the quality of products and services have led the economies to appreciate the factors shaping business development and creativity in the increasingly competitive world markets. Thus, in times—such as the recent ones—dominated by conditions of glaring uncertainty and low nominal rates of return, creative cognition plays an important role as it searches for the limited business opportunities and contributes to their successful realization [16]. The firms and the organizations that appear to have a high-level long-term performance are those that are more creative and innovative. Those firms and organizations use innovative ideas from others in order to create something unique, thus avoiding copying their ideas.

Through this general framework, the scope of the chapter is to highlight the way in which entrepreneurship contributes to economic growth through the effects of entrepreneurial creativity and, especially, through the factors affecting entrepreneurial creativity. The concept of creativity is multidimensional, helping to take advantage of entrepreneurial opportunities and favoring in this way economic growth. This is why the present chapter gets a bird's eye view of the most influential factors that determine entrepreneurial creativity.

The present chapter contributes to the relevant literature on the theory of creativity, clarifying creativity's importance to entrepreneurial activity. At the same time, the contribution of the chapter to the literature lies in the fact that it attempts to shed light on the relationship between entrepreneurship and growth, highlighting entrepreneurial creativity as a key factor for the promotion of entrepreneurship. We have the impression that there is no other respective research essay in the literature, grouping together and analyzing the impact of such a multitude of factors on entrepreneurial creativity—as most theoretical essays usually focus separately on a single factor and on how it affects creativity—while also illustrating a more integrated causal relationship between creativity (by researching the factors that affect it), entrepreneurship, and economic growth.

The structure of the chapter is as follows: Part 2 contains a literature review, highlighting the interconnection between entrepreneurship and economic growth. In parallel, great emphasis is

[1]Maybe the key to business success is a combination of all above factors or even more factors. However, in this chapter, we focus on the role of entrepreneurial creativity.

given to the role of entrepreneurial creativity and how it is linked to entrepreneurship and, more broadly, to growth. Then, in Part 3, there is extensive reference to the factors that shape entrepreneurial creativity, which in turn is expected to lead to growth, thereby formulating a model of economic development. The last section, Part 4, presents the conclusions.

2. Entrepreneurship and creativity as growth accelerators

In the literature, conflicting views have been recorded on the role of entrepreneurship in growth. The lack of entrepreneurship in both the thinking and the models of growth is associated with the dominance of neoclassical economics as a mainstream school of thought. Traditional neoclassical theory holds that economic growth is determined by the supply of both labor and capital and the level of technology [1], ignoring, however, the direct effects of entrepreneurship on economic growth [17]. The absence of entrepreneurship in macroeconomic models has created intense concerns among economic theorists in recent decades [18].

Nevertheless, the contribution of entrepreneurship to economic growth is particularly important as it holds a position of causality [19]. The contribution at the microlevel lies in the fact that the entrepreneur is a key factor of production and contributes to any change and economic progress while, at the same time, it is the driving force for the production of innovation [9]. As a result, entrepreneurship causes economic growth. Respectively, at the macrolevel, the economic development of a country promotes entrepreneurship, as it increases demand and generates needs that create a fertile ground in the development of entrepreneurship. Audretsch [20] introduces the notion of "entrepreneurship capital" that refers to the institutions, culture, and historical context that is conducive to the creation of new firms. He points out that these factors, on the one hand, formulate the knowledge filter that stands between investments in knowledge, science and ideas and, on the other hand, formulate commercialization, ultimately driving economic growth [21].

Entrepreneurship is considered a major contributor to economic growth but understanding how creativity impacts on the process is also crucial [22]. Schumpeter's theory [9] of economic development was a very important step for the establishment of the relationship between creativity and entrepreneurship. He proposed that creativity is an important driver for the entrepreneur to discover new business opportunities leading to economic growth. This is why Schumpeter's theory could be considered not only a theory of economic growth but also a theory of creativity.

In recent decades, creativity and entrepreneurship have become increasingly interconnected in the relevant literature [10, 11, 23] even though in the past they were considered separate concepts [24]. Creativity and innovation are at the heart of the spirit of enterprise and provide a gateway for astute entrepreneurship [25]. Lee et al. [23] note that entrepreneurial activity, apart from the existence of an appropriate business climate, requires an environment where creativity and innovation can flourish. Pretorius et al. [26] state that creativity constitutes one of the most important entrepreneurial skills that are required for the successful start of the business process, while its significance is crucial not only during the launch of a new company

but also during the decisions that are taken throughout the entire business creation process [8, 27]. A productive change in a system is brought about by creative people [19].

Creativity constitutes the basic source of innovation and can lead to the creation of new firms and the improvement of existing products so that companies become more efficient and competitive [8]. A successful incorporation of creativity and technology in entrepreneurial activity can lead to the commercialization of the idea, the product or the service, thereby strengthening entrepreneurship [28]. Moreover, creative thinking is a particularly significant tool that allows the leader of a firm to form a business strategy and motivate the employees [29, 30].

3. How is entrepreneurial creativity shaped?

What are, however, the factors that shape entrepreneurial creativity, which in turn is expected to promote entrepreneurship and lead to economic growth? Below, we attempt to present a literature review of the most important factors that shape and influence entrepreneurial creativity, as they are presented in the literature. These factors are not necessarily related to one another, but their common feature is that they constitute factors that affect entrepreneurial creativity, positively or negatively. In this way, a model of economic development through entrepreneurial creativity—and its effects on entrepreneurship—is formed.

These factors—their contribution to entrepreneurial creativity is analyzed below—are as follows: (a) knowledge and education, (b) managing disrupting technologies, (c) spill-over creativity, (d) the role of the cultural background and the personal characteristics of individuals, (e) the motives and incentives, (f) managing resources, and (g) the institutional background.

3.1. The role of education and knowledge

Knowledge is considered a valuable commodity and concepts such as the exchange of knowledge and lifelong learning have become more and more prevalent in business practices and, hence, in innovation activities. The greater the knowledge base of an individual, the more the ideas and combinations of ideas that he can achieve, which in turn lead to the creation of new and innovative products and services.

However, the existence of the knowledge base by itself cannot guarantee the creation of new trends, as creativity includes the following three stages: (a) discovery, (b) invention, and (c) creation [31]. The way in which the education level affects creativity varies among individuals. Of particular importance is the role of the general environment of each person relative to the knowledge level, such as the level of uncertainty, the existence of information asymmetry, the existence of high transaction costs, etc. [21], resulting in the occurrence of differences among individuals in connection with their perceptions vis-à-vis discovery, invention and the production of new innovations [32, 33].

The concept and management of knowledge are subjects of systematic research in the attempt to find the causes of business development [34–37]. Proper knowledge management leads, in

turn, to the achievement of a competitive advantage, as a company or organization becomes more creative and innovative and, thus, more competitive and sustainable. Besides, through working practices, management systems and human resources, businesses, and organizations maintain an integrated wealth of knowledge that they, however, have to manage properly [38]. At the same time, the right management of knowledge leads to conditions under which knowledge spill-over to other companies and organizations is facilitated [39].

High levels of creativity and innovation are associated with high levels of education and positive attitudes toward science [40]. The importance of education lies in the fact that it encourages the individual to think—from an early age—in a certain way, by equipping him/her with the necessary tools that he/she will be able to use in the future so that he/she becomes creative and develops innovative ideas. If knowledge is used and utilized properly, it constitutes a competitive advantage for companies so that they become more sustainable, competitive and innovative. The challenge for companies is to be able to capture that knowledge and leverage it through their operation. Businesses have a built-in wealth of knowledge that is established in working practices, operating systems and human resources.

Finally, it is worth noting that the cognitive skills that a person has affect the level of his/her creativity and the search for business opportunities. The contribution of these skills is particularly critical as far as the utilization of available information and the highlighting of opportunities are concerned. They constitute key intellectual models that people use in order to organize and process the information that they receive [41]. The business process of growth requires a set of mental and cognitive abilities that allow the entrepreneur to search for and implement the opportunities that are presented to him/her. The use of cognitive structures is what might differentiate persons undertaking a business activity from the rest of the population. A number of studies have focused on this issue, examining the way in which traders use mental structures in order to make value judgments and identify market imbalances [42–44].

3.2. Managing disrupting technologies

Technology and innovation are key sources of growth in economic activity [45] and living standards. New technologies, which constitute a sharp change in capabilities or price/performance terms compared with substitute and competing products, or concern developments that drive accelerated rates of change or discontinuous capability improvements, are commonly characterized as "disrupting technologies" [46].

As new technologies now play a significant role in people's lives, it is considered necessary to find constructive ways to use them in a creative direction. New business opportunities, new potential customers, new products, and new investment options are some of the potential benefits of new technologies. A number of empirical studies [47–49] have led to the conclusion that there is a strong correlation between the implementation of scientific and technological creative outputs and entrepreneurial creativity [19]. So, there are optimistic scientists [50], also labeled as new technologists, who assume that the global economy is entering a fourth phase of industrial revolution and believe that new technologies will induce a significant increase in productivity [16].

However, some concerns have been expressed about the fact that the very "smart" and advanced technology kills creativity, even though the development of science and technology has pushed towards the facilitation of economic production and the daily needs of individuals. These critics argue that technological developments are likely to increase significantly and continuously the accumulation of knowledge, affecting the level of innovativeness of people given that the future generations wishing to innovate will face educational and knowledge burdens [51].

3.3. Spill-over creativity

The creativity diffusion level can vary substantially among countries or regions [52–57]. For example, it seems that areas and societies characterized by high levels of creativity achieve a higher level of new firm formation [23], due to a higher level of creativity spillover. Other recent studies have shown that creative activities are more concentrated in the metropolitan areas [58], while others have demonstrated that an artistic community can create conditions of greater creativity spillover [59–61].

Whether the creativity that has been created (creative capital) will be diffused in society or not has significant effects on the level of economic growth [62]. Thus, higher rates of economic growth are achieved by societies that display a greater tendency toward the diffusion of creative capital, have a social and economic environment that supports the exchange of ideas, and are characterized by a business environment that allows for the commercialization of new ideas [62].

3.4. The cultural background and personal characteristics

Constantly, an individual creates a knowledge background that reflects the cultural and institutional environment in which he/she lives but also his/her personal frame of mind, on the basis of which he/she rushes to understand and specify his/her practical needs and desires. When the needs and desires are fixed for a period of time, decisions have to be taken and actions have to be carried out, aiming at their satisfaction.

This procedure is based on the reasoning ability of each person, which is also a subjective capacity as the intellect of each individual presents a different ability to understand in depth all information available in his/her knowledge background, while at the same time he/she has to take this information into account and process it in order to take decisions and proceed with action [63–67]. At this stage, the cultural background offers a range of habits and rules that the person can use either as such, or as a guide in order to find the best solution, or which of the solutions that he/she has found is the best according to the criteria offered by his/her cultural and institutional background, so that he/she then proceeds with action [65, 66, 68]. Additionally, the personal creativity and personal emotional world of every human being come to diversify the reasoning behavior among people over what needs they choose to have and how they intend to go about satisfying them [69–71].

The dimensions of the cultural background comprise the social stereotypes that prevail in a society. The composition of social stereotypes in a society shapes the prevailing portfolio of social behavior. It is extremely important to determine whether the prevailing portfolio of a society or a population group favors conditions of growth or not.

A society or, more specifically, a company or an organization whose members are characterized by a variety of cultural traits, is more likely to be driven towards the production of innovation [72] and encourage creativity. The reason is that groups with different cultural characteristics adopt new ways of perception, a feature that promotes creativity. Also, in groups where creativity and orientation to individual achievements are encouraged, higher rates of innovative activity are observed. Additionally, the greater the freedom of individuals to express their views, the greater the likelihood for the formulation of new ideas and creative effects [73]. In societies with greater emphasis on individualism, a greater diffusion of creativity and innovation is observed, as opposed to in-group collectivistic societies in which diffusion is restricted in the context of the group alone [33].

Thus, the personal creativity of every human being and his/her personal emotional world come to diversify the reasoning behavior among people over what needs they choose to have and how they intend to go about satisfying them [69–71, 68].

Additionally, one of the major factors affecting the level of creativity is the frame of mind of the individual. The following factors affect negatively the frame of mind of individuals with regard to the creativity that they display [74]: (a) The standardization of thought and the absolute dominance of reason. The way in which our productive mental abilities operate is affected by our previous experiences, while the human mind has logical analysis and imagination. During the first years of a person's life, mental activity is dominated by imagination. Critical-rational thinking begins to grow later. However, as the requirements of social adjustment and adaptation to the way the school functions force the person to use logical thinking more, creativity is inhibited and becomes inactive. (b) The lack of confidence and self-esteem in creative skills, under the escort of fear of errors and ridicule. The result is that, gradually, any creative powers of the individual go idle. (c) The social pressure to conform to social norms that fight against the person's predisposition for creative production. (d) The psychological insecurity toward the new and the unknown. This fear, increased excessively in some cases of individuals, makes these people highly insecure to explore new ideas.

3.5. The role of motives and incentives

An "incentive" is something that motivates, rouses, or encourages (when stopped being given, the individual stops being motivated), while a "motive" is an engine inside the individual; an incentive to act; a reason for doing something; anything that prompts a choice of action. Incentives and motives are a key source of stimulation of individual creativity [75, 76]. The lack of incentives, motivation, and rewards is a basic obstacle for the development of creativity [75, 76]. Human needs and objectives are related in the context of a logical sequence that starts from the needs and passes through incentives (remunerative, financial, moral, coercive, or natural) to organize goals and finally have human activity activated [33]. Translating creativity into innovation is a function of multiple incentives [77]. McCraw [78] supports that business incentives are generally equivalent to the incentives for creation.

Motives can be divided into two types, intrinsic and extrinsic, and both kinds of motivations appear to play roles as determinants of creative behavior. Intrinsic motives depend on internal sources of the entrepreneur such as the need for self-actualization or simply the

pleasure that one gains from being creative and producing creativity, wellness, and spontaneity. Conversely, extrinsic motives are the result of pressure and low self-esteem. This is a creative behavior that can become the response to external circumstances and the external environment of the entrepreneur, for example, an experimental requirement or environmental needs. Entrepreneurial creativity requires a combination of intrinsic and extrinsic motivation, which arises when there is a combination of personal interest and the promise to receive a reward, confirming competence, supporting skill development, and enabling future achievement [79].

Motives arise from the needs of the individual [80], guide people to behave accordingly, form the attempt to achieve goals [81] that are set, and depend on the external environment. In this way, they influence the primary startup of human action—the direction, extent, and systematic appearance of free behavior. Simultaneously, goal-setting activates behavior and directs choices and, thus, people get to differ as to the objectives set and how to reach them. Moreover, the motives behind business activity vary widely and define its objectives. These motives are related to the profit potential for livelihood purposes, the identification and utilization of business opportunities, and reasons directly related to creativity and innovation.

In the literature, there is a plenty of discussion concerning the degree to which the effect of rewards on creativity can be positive or negative, making it clear that the motives define to a great extent the creative performance of entrepreneurs. On the one hand, [82–84] state that rewards are appropriate and desirable for creative performance. Nickerson [85] claim that given that an important factor for creative accomplishment is establishing purpose and intention to be creative, rewards can encourage such a creative orientation. On the other hand, Kohn [86] argues that it is not possible to bribe people to be creative and [87] conclude that working for reward can be damaging to both intrinsic interest and creativity.

3.6. Managing resources

The availability of resources is a particularly critical element in order to form creative capital in a company, an organization or a society. For this reason, apart from the existence of the necessary resources, proper management is particularly significant.

In literature, there are differentiations as to what is considered a resource, the proper management of which could lead to creative processes, as some claim that a resource comprises fixed entities [88, 89], while others consider it anything that arises from malleable objects shaped by individuals [90–92]. However, perhaps more correctly, a resource could be defined as an object that is used in a way that renders it useful [90, 92, 93].

The connection of resources with the achievement of creative results [93] is also ambiguous in the literature, as there are researchers who argue that the existence of abundant resources is a key component for the development of creativity [89], while others claim that the limited resources also promote creativity as the difficulty (due to limited resources) in resolving the various processes requires a higher level of creativity [94, 95].

3.7. The institutional background

A key factor influencing the level of entrepreneurial creativity is the institutional environment, which may be economic, political, cultural, and social [96, 19]. The "general national framework conditions"—such as economic, social, political, and cultural factors—create the variety of established business conditions, and "entrepreneurial business conditions"—such as the interventionist policies of governments—create the variety of entrepreneurial activity [97].

The different types of institutional background are interconnected. Originally, the cultural background affects the social institutional environment, which in turn affects the quality and operation of political institutions. Then, the political institutions shape the system of economic institutions, which in turn create structures and incentives for action on individuals. The prevailing economic institutions ultimately determine the distribution of wealth and the degree of economic growth.

In particular, the economic environment is associated with creativity mainly through wealth, economic stability, and the existence of capital and taxation [98–100]. Accordingly, the political environment is related with creativity through political freedom and the degree of the centralization of power [101, 102]. Furthermore, the protection of property rights seems to be fundamental in economic growth [103–106] and then in creativity and, hence, in entrepreneurship, as entrepreneurship thrives through secured property rights that can be used in voluntary exchanges based on contracts. In addition, as pointed out earlier, the cultural environment factors are general attitudes and beliefs about entrepreneurial activity and the presence of entrepreneurial role models [107, 68]. Finally, regarding the influence of the social institutional environment on creativity, we should note that creative thinking is inherent in all people, but the manner and intensity of its cultivation varies from one to the other, as the broader social environment affects decisively whether and how the creative ability of individuals is created.

4. Concluding remarks

The present chapter analyzed the most significant factors that affect entrepreneurial creativity, with entrepreneurial creativity being one of the decisive factors of the concept of entrepreneurship that, in turn, constitutes one of the factors that form the notion of economic growth. Thus, it is an attempt to contribute to the study of the role of entrepreneurship on economic growth, through the study of the effects of entrepreneurial creativity and the factors affecting it, in an effort to register entrepreneurship as a contributing factor of growth, beyond the basic argument of Neoclassical Theory, which ignores its role.

The factors that were analyzed as the primary shapers of entrepreneurial creativity were selected on the basis of the relevant literature on creativity theory. These factors are not necessarily interdependent and do not affect solely creativity, but also other factors of economic activity. Throughout the analysis, these factors are as follows: (a) knowledge and education, which are regarded as valuable concepts, increasingly prevalent in business practices and innovation activities and hence in creativity, (b) managing disrupting technologies,

given that the development of technology, particularly in the last century, is in a position to change the consumption model, create new needs, produce new goods and services, disrupt the status quo, and change the way in which people live, think and work, etc., and so their management is regarded as particularly important, (c) spill-over creativity, given that whether the creativity that has been created will be diffused in society or not has significant effects on the level of economic growth, (d) the role of the cultural background and the personal characteristics of individuals, as it is extremely important to determine whether the prevailing portfolio of cultural stereotypes favors -through creativity—the conditions for growth or not, (e) the motives and incentives, which are the key to the activation of an individual's creativity and the lack of incentives, motivation, and rewards are basic obstacles for the development of creativity, (f) the availability of, and access to, resources that will lead to creativity, and (g) the institutional background that describes the operational environment of the entrepreneur.

The aforementioned factors and the way in which they affect creativity and, thus, entrepreneurship and economic growth can be summarized in **Figure 1**.

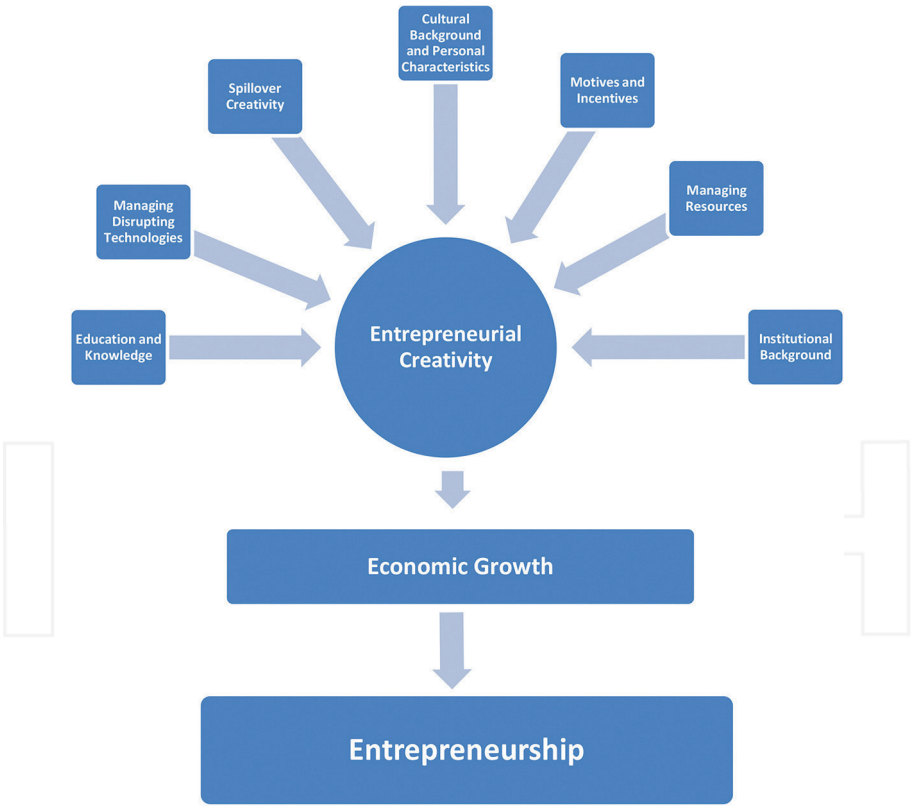

Figure 1. Factors shaping entrepreneurial creativity.

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Thus, the sequence of relations is as follows: the key factors analyzed here form entrepreneurial creativity, which in turn shapes entrepreneurial activity. Now, entrepreneurial activity is in turn considered one of the most significant factors of economic growth.

Apart from the existence of an appropriate business climate, successful entrepreneurial activity requires an environment where creativity can flourish. The notion of entrepreneurial creativity is perceived as one of the most important entrepreneurial skills, during both the start and the operation of an entrepreneurial activity, as well as a factor that leads to greater levels of efficiency and competitiveness, shaping the business strategy and the motives of the employees. The firms and organizations that appear to have a high-level long-term performance are those that are more creative and innovative.

At the same time, the entrepreneurial growth literature is extensive. Entrepreneurship is the engine of growth of the economy and society, as it utilizes the available resources, employs the labor force, secures revenue for the entrepreneurs and the state, and thus improves social welfare and the position of an economy in the global economic environment.

In terms of policy implications, the analysis of the present chapter can be a notable spark for entrepreneurs, business leaders and economic policy-makers, as several factors are presented that, if managed, can lead to the achievement of greater levels of entrepreneurship and, thus, economic growth. So, for example, entrepreneurs, business leaders and economic policy-makers should—through investment in human capital (education, training, and specialization)—try to expand the knowledge base of the employees, in order to lead to more ideas and combinations of ideas, while they should also manage knowledge appropriately through, for instance, the development of proper knowledge management systems. At the same time, in this way, individuals will be better prepared to manage the available resources in a more effective way. Additionally, they must be in a position to provide individuals with the appropriate motives and incentives, given that entrepreneurial creativity requires a combination of personal interest and the promise for the receipt of a reward, thereby confirming competence, supporting skill development, and enabling future achievement. In addition, they must be ready to confront the challenge of the emergence of disrupting technologies and prepare their workforce appropriately for this change, in order to gain a competitive advantage relative to other companies. Furthermore, economic and social policy-makers should be able to create an institutional background that will promote creativity (e.g., conditions of economic stability, existence of capital and effective taxation, political freedom, protection of property rights) that in combination with an appropriate cultural background (e.g., formation of groups with different cultural characteristics or groups characterized by an emphasis on achievements, freedom of individuals to express their views, greater emphasis on individualism) will lead to a greater tendency toward the diffusion of creative capital. Such an environment has to support the exchange of ideas and allow for the commercialization of new ideas.

As mentioned throughout the chapter, entrepreneurial creativity constitutes a driving force of entrepreneurial activity. Other aforementioned characteristics that shape it are registered in the literature, such as the entrepreneur's passion, leadership, vision, work ethic, resilience, and positive attitude. Therefore, perhaps it would have been necessary to take into account the impact of the rest of the characteristics—that lead to business success—on entrepreneurship.

This point might be considered a shortcoming, even though the goal of the present study was to highlight the special role of entrepreneurial creativity—through the factors that affect it—in entrepreneurship and, more broadly, in the key issue of economic growth. Moreover, a shortcoming is that the impact of the factors analyzed in entrepreneurial creativity, the impact of entrepreneurial creativity on entrepreneurship and, thus, the impact of the latter on economic growth are not verified empirically by the analysis of the present chapter.

Future research could try to eliminate the shortcomings of the present chapter by concentrating on an empirical verification of the way entrepreneurial creativity is formed as well as on how it then affects entrepreneurship, which then shapes economic growth. Further topics to be investigated could involve more factors other than entrepreneurial creativity, such as entrepreneur's passion, leadership, vision, work ethic, resilience and positive attitude, thereby achieving a more integrated approach to the shaping of entrepreneurial activity and its impact on economic growth.

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Nurturing Creativity and Innovation in African Enterprises: A Case Study on Kenya

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Additional information is available at the end of the chapter

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Abstract

Innovation and creativity are the backbone of entrepreneurship. Domestic and international competition, changing government regulations and rapidly shifting market conditions demand constant creative innovation for corporations to survive. Despite an increase in the number of innovations from African enterprises and research institutions in the current digital age, there is a lack of investment in innovation and creativity to ensure the sustainability of the continent's enterprises. This chapter seeks to address the problem of how to support innovation and creativity in African enterprises by combining two theories of diffusion of innovation and product life cycle through examples from Kenya. Existing research on innovation and creativity tends to focus on the diffusion of technologies on the continent but fails to question the role of the mindset of entrepreneurs, the role of the individual, and the current trajectory of innovation in Africa as it pertains to the industrial revolutions elsewhere in the world. This chapter focuses on local expressions of innovation or the relationships that exist between their different components. Consequently, it aims to provide an overview of how innovation and creativity can be locally supported as a strategy for building durable and profitable enterprises in Africa.

Keywords: innovation, creativity, entrepreneurship

1. Introduction

Innovation and creativity are the backbone of enterprise development, a reality that is beginning to be absorbed by the African business community. Domestic and international competition, changing government regulations and rapidly shifting market conditions demand constant creative innovation for corporations to stay afloat. On a wider perspective, it is assumed that a combination of innovation and creativity offers solutions to critical social-political challenges such as security, energy, public health, food and water supply, climate stability and poverty. Although many internal corporate innovations in many parts of the

world have dedicated research and development (R&D) units, very few African organizations do. What are common on the continent, however, are product development units, market research units, and sales and market development units.

Promoting technological innovation and its diffusion in Africa remains a farfetched dream. Innovation climates in African countries are, by nature, problematic, characterized by poor business and governance conditions, low educational levels and mediocre infrastructure. Many studies (see e.g. [1, 2]) make the compelling case that in order to survive and be productive, corporations must be innovative [3]. Rogers's [4] theory of innovation diffusion explains how, why and at what rate new ideas and technology spread and is often used by creative corporations to know when to change gears or adapt to a new set of conditions. Most products go through different stages of innovation diffusion that mirror Vernon's [5] concept of product life cycle. These two theories will be explained in more detail below to argue that in order for African businesses to compete globally, much more investment is required in R&D.

2. Background

This chapter explores the conceptualization of new ideas and how they are implemented within African enterprises. Specifically, it focuses on how enterprises regenerate themselves when products reach maturity. It addresses the following questions: where do new products come from? What decision mechanisms lead to new product development? What necessitates change? What is the contribution of the local knowledge? And, how do African organizations respond to competition?

The chapter aims to show why African businesses will need to invest considerably more resources in R&D and focus on building local content in order to increase their competitiveness in the global market place. Sustainable development cannot be assured with abundant resources alone but requires the capacity to convert available resources into new value-added products. The role of policy, participation of institutions of higher learning and industry all play key roles in the realization of this concept on the continent. The study's recommendations point to the gaps that exist in literature on how best to realize creativity and innovation for sustainable business development.

3. Creativity and innovation

Aubert [6] noted that the promotion of innovation in developing countries will soon became a fashionable subject. It is for this reason that throughout the 2000s many African countries developed elaborate plans through their so-called ‘vision documents’ or long-term development plans to position themselves as key players in the world's fourth industrial revolution (explained in more detail in the following section). For each country to play a role in industrialization, creativity and innovation at firm level is central to their strategy. However, Baucus et al. [7] argue that firms face numerous challenges and operate within highly competitive environments in the global economy. Notable challenges include, but are not limited to, lack of speed and flexibility required responding to markets demands [8], lack of operational

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efficiency to affecting business costs, environmental challenges, diverse workforce management issues and the absence of good working relationships with key stakeholders [9].

The challenge to Africa's policymakers and the academia is therefore how to best respond to the concerns above and assist in the creation of sustainable businesses. In reference to various researchers, Baucus et al. [7] notes how academics have responded to many of these competitive challenges by advocating creativity as a solution, whether realized through a learning organization [10, 11], an innovative firm [12] or simply a creative company [13]. Globally competitive firms commonly empower employees to use their own creativity and judgement [14]. At the organizational level, there is increasing recognition that they must engage in ongoing processes of experimentation, rethinking of their design and operations to solve problems creatively and add value [15].

The African organization will have to do more than what research from elsewhere has done. Ndemo [16] elaborated how the change of mindset was necessary to introduce creativity and innovation to the Kenyan Civil Service. In building a new creativity and innovation model, this chapter will draw from firm-level qualitative interviews and the author's experience gained in the transformation of the Information and Communications Ministry of the Government of Kenya as well other organizations in Africa.

4. The African enterprise

The history of African enterprise starts largely with Micro-Small and Medium Enterprises (MSMEs) as well as privatized state-owned enterprises (SOEs). McCormick [17] noted that development in Africa was most strongly tied to small-scale industry or industrialization itself. Most of the large African enterprises in existence today were at one point SOEs that after many years of poor performance were transformed under recommendation from the Bretton Woods Institutions to become private enterprises. Nellis [18] argued 'By the mid-1990s, however, the idea of making SOEs function efficiently and effectively under government management was largely abandoned by the International Financial Institutions (IFIs) and privatization and private participation became the order of the day'.

Some African governments are beginning to embrace innovation and R&D support. In Kenya, for example, Ndemo [19] noted that in the past decade, Kenya has made unprecedented progress in innovation and creativity, one in which the youth have played important innovative roles. The government on their part has shown clear appreciation of innovation and the desire to support the youth in being the drivers of business innovation. This was manifested in a number of government policies and the increased funding going towards research and development as a strategy for creating more jobs for the youth and more so for those involved in innovation.

5. The study problem

A number of African countries have invested in public research and development organizations but in the majority of cases these organizations are not linked to private enterprise or the

country's SOEs. In Kenya, for example, the links between the Kenya Industrial Research and Development, the Kenya Agricultural and Livestock Research Organization and several other sectoral research institutions to industry have been minimal to date. Academic institutions involved in research activities too have minimal links to private enterprise. The lack of a locally structured R&D to assist both the MSMEs and large enterprises has undermined the regeneration of enterprise on the continent. Because their enterprises are largely replication of what exists, most of these MSMEs do not live beyond 5 years. This is largely because they have neither the capacity nor the capability to finance their own R&D activities. The end result is that many MSME's competitiveness is compromised in a rapidly changing world. The Achilles' heel to Africa's growth is thus how the continent can build local R&D capability and simultaneously, the capacity to nurture the mindset to enhance creativity and innovation to sustain entrepreneurial development and economic growth.

6. The history of industrial revolutions and innovation

The world's industrial revolutions are some of the most celebrated watersheds in human history [20]. The first industrial revolution, which took place between 1800 and 1899, ushered in machine automation impacting positively on the construction of bridges, roads and railway lines. The second industrial revolution came about as a result of machine automation leading to mass production with high efficiencies. The second industrial revolution was characterized by productive connectivity through road and railway networks as well as the specialization of the labour force. The third industrial revolution was propelled by the rise of the digital age, of more sophisticated automation and by increasing connectivity between and within humanity and the natural world. And finally, the fourth industrial revolution is being driven by extreme automation and connectivity. A future feature of the fourth (and coming) industrial revolution will be the wider implementation of artificial intelligence (AI).

These earlier industrial revolutions have been thought of by some as essentially consisting of the arrival of the first of what have been called general purpose technologies, propelled by technological innovations [21]. General purpose technologies refer to innovations that have been applied pervasively throughout the economy, that go through prolonged periods of improvement and that spawn further innovation in the sectors they are employed in. Following this logic, it is clear that innovation is the central driving force behind the industrial revolutions.

6.1. First industrial revolution and innovation

The first industrial revolution is often viewed as the beginning of modern economic growth in Europe. Mokyr [22] observed that in Britain, more than anywhere else, technological innovation was largely confined to the private sector, with the state remaining in the background and only playing a more interventionist role sporadically. Supporting Mokyr's assertions, Berg [21] noted that the pivotal individuals who facilitated the innovation process in Britain were entrepreneurs.

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The industrial revolution was fundamentally a technological revolution, and progress in understanding it can be made by focusing on the sources of invention and innovation [22]. While Mokyr elucidates this theory by focusing on the context in which invention took place and the essence of information flows, our understanding of the industrial revolution can be enhanced by paying more attention to the perceived incentives to the entrepreneurs and the context in which they worked. Using this approach, Crafts [23] concluded that the reason the industrial revolution happened in Britain in the eighteenth and nineteenth centuries was not because of luck or British genius but it was Britain's success in the international economy that set in motion the economic developments that presented Britain's entrepreneurs with unique and highly remunerative possibilities. The industrial revolution was thus an innovative response to an opportunity.

Scholars have argued that product innovations were a sole cause of the industrial revolution [21]. Trade with other countries introduced new products to Britain such as cotton fabrics, porcelain, coffee and tea. Equipped with a variety of new products, Britain's market attracted more entrepreneurs and business people. This had a huge impact on the demand for labour resulting in high wages, which meant that the demand for these goods was not confined to the middle classes but included skilled workers and even labourers. The British market was far more inclusive than in much of Europe. British manufacturers on their part attempted to manufacture these products or imitations of them in order to meet growing demand. At the same time, there was also much product innovation going on. Manufacturers developed materials, products and designs that could effectively compete with the international products [24]. While some scholars view the industrial revolution as an exercise in import substitution, others think that process innovations were important in their own [25].

Whilst the first industrial revolution was taking place in Britain, Africa and the rest of the world were inactive. There is paucity of accounts and historical records about the economic and innovation activities taking place. As Allen [20] succinctly argued, the African cultural practices and value systems, unlike the European ones, were inhibitive to and incompatible to innovative technology.

6.2. Second industrial revolution and innovation

Baumol [26] differentiated the second industrial revolution from the first industrial revolution on the basis of three factors namely higher levels of automation via the development of mass production, efficient connectivity in production through the division and specialization of labour force, and progress in the use of electricity and petroleum sources of energy.

In the same vein, Baumol [26] argued that while at first the second industrial revolution was limited to internal organizational supply chains, automation and connectivity provided firm grounds for supply chains to evolve and grow into the complex systems as we know them today. Notably, the supply chains rapidly grew and expanded across different industries. Equally, automation extended to the agricultural sector boosting agricultural yields through massive industrial fertilizer production, thus resulting in the introduction of industrial food storage methods via refrigeration.

Standardization was one of drivers of the achievements of the second industrial revolution. Standards were introduced in product quality and in transportation systems. Legal and trade protections were also needed to assure innovators that they would be able to enjoy the financial rewards of their creativity, without being exposed to early competition from rivals copying their technologies.

6.3. Third industrial revolution

The rise of the digital age characterized the third industrial revolution [27]. The third industrial revolution is largely associated with massive connectivity which began in 1969 when the first message was sent over ARPANET, an equivalent of today's Internet. Berg [21] posted that the scope for automation was greatly enhanced by the postulations of Moore's law, which observed that the number of transistors on an integrated circuit doubled approximately every 2 years. These rapid changes in automation coupled with the growing appreciation of the environmental deterioration caused poor farming methods raised concerns resulting in the rise of a green revolution [21].

Moore's law was all about electronic circuitry, which was the foundational technology during the third industrial revolution. The law as it was commonly referred to captured the wider phenomenon of output growing as an exponential function of input. In this sense, Moore's law suggested that greater computing power had the ability to automate more complex tasks.

6.4. Fourth industrial revolution

In his model, Mokyr [29] observes that the fourth industrial revolution is characterized by both extreme automation and extreme connectivity. Extreme automation will expand the range of jobs ranging from highly repetitive low-skill jobs to highly routine medium-skill jobs. He further asserts that artificial intelligence will be expected to be a pervasive feature of the fourth industrial revolution. Extreme automation via AI will increasingly automate some of the skills that formerly only humans possessed. In the same spirit, Baumol (2007) contends that AI is poised to make the greatest gains in large data processing, having the potential to include processing language and images, which have far been off-limits for computers to understand for a long time. Extreme automation has the ability to allow for more robots and AI to produce more outputs, quickly analyse results, make complex repetitive decisions and provide conclusions.

On the flip side, Berg [21] argues that a great number of industries will likely be disrupted by the advances associated with the fourth industrial revolution. Entrepreneurs will most likely be tempted to pursue disruptive trends by investing in the beneficiaries of extreme automation and connectivity, including robotics technologies, artificial intelligence and in social media firms.

Large data are arguably the result of both extreme automation and extreme connectivity. Mokyr [29] argues that large data are a “child” of the fourth industrial revolution. Large data provide a good example of how extreme connectivity is going to give rise to new business models and expanding economic supply in ways previously thought impossible. Key among

the most prominent potential beneficiaries of the fourth industrial revolution are organizations that are able to harness large data, provide effective data analysis and promise protection from the threat of cyber crime.

7. Evolution of African indigenous innovation and technology

The evolution of innovation and technology everywhere in the world including Africa is an age-old phenomenon. Innovation is scientific knowledge that is put to practical ends. This knowledge is in then used in turn to design machinery, materials and industrial processes, generally known as engineering.

7.1. Pre-colonial innovation in Africa

African innovations and technology such as western innovation and technology have unfolded since the dawn of human history [27]. This is evidenced by the presence of tools used by African ancestors interred in valleys across Sub-Saharan Africa. Africa before colonialism was not economically isolated from the rest of the world. Many African states were actively engaged in some form of innovative international trade. As far back as the time of the pharaohs of ancient Egypt, West Africa had developed extensive international trading systems. This is evidenced during the eras of Ghana, Mali and Songhai empires extensively captured in the ancient history of Africa. These empires relied heavily on the taxing of foreign trade to finance their government expenditures. The wealth derived from the international trade was used in the administration of their kingdoms and to some extent maintenance of trade routes that criss-crossed the African ragged terrain.

Prior to the colonial period, Africa practiced indigenous innovation and technology expressed in the local systems [30]. Remarkable technological innovations were made by Africans in traditional iron melting, wood curving and ivory working as well as in simple cloth weaving, pottery and indigenous medicinal and herbal development. Most of the innovative techniques involved in these processes were, however, either disoriented or discontinued but were, at the time, environmental friendly and acceptable within the cultural value system of the people [30]. African technology emphasized on the quality of life as measure in human, cultural and spiritual terms as opposed to purely material terms. Its primary objective was to equip everyone with the knowledge of how all essential tasks of life are carried out. In this regard, Andah (1992) contends that everybody was instilled and equipped with a feeling of self-respect and belonging borne out of confidence. But this confidence came to an abrupt end as it was eroded by the invasion of European religion and new forms of modernization.

Mokyr [22] acknowledges the fact that before Africans came in contact with Europe in the fifteenth century, African technological systems may have been underdeveloped. This underdevelopment provided firm grounds for exploitation of the African continent and her resources for the benefit of the outsiders (Arabs and Europeans). The African resource exploitation was first unleashed with the commencement of slave trade, where Arabs and Europeans legitimized the trade. This was followed by the scramble and partitioning of Africa giving rise

to colonization and neocolonialism. European colonization and imperialism fuelled the decay of African technological and innovation development. This dealt a deadly blow to the African innovation and technology and offers an explanation to the decline of African technological development [28].

After independence, successive governments in Africa embraced foreign-imported technology at expense of the indigenous technology. This discouraged the development of the indigenous technology greatly. Foreign-imported products found their way into the local market stifling out any meaningful innovative production locally. The tendency towards the establishment of wholesomely imported technology commonly referred to as technology transfer has been, sadly, a dream of most African states. On the part of Africans, the general feeling of inferiority generated by this massive importation syndrome has given rise to negative ideas about products of indigenous technology and innovation, while foreign products are seen as superior. At the extreme and as sad as it may sound, Africans prefer imported second-hand garments to new locally manufactured garments. As rightly argued by Mokyr [22], all these factors have had adverse effects on the development of African innovation and creativity.

7.2. Innovation in Africa after independence

After independence, the colonial legacies and the reasons for which Africa agitated for self-rule were still rife. Various ideological thinking and postulations were available on sale and buy basis. Socialism and capitalism ideologies made inroads to African leaders promising to help in state building and economic development. These, among a combination of other factors, propelled the development of innovation and creativity on the continent.

A brief overview of the African economic picture reveals a paradox where the continent that has rich mineral resources, nearly a billion people and a land mass larger than the size of China, USA, India and Western Europe, Argentina combined but still dependent on foreign aid from donors. This occurs despite the huge endowments of resources on the continent, both known and yet to be known. Backed up by these resources, the African continent should have been a production and innovation centre and not a charity centre of the world where national ownership has been substituted with foreign aid.

Over the years, Africa's levels of innovative productivity have been low and overall competitiveness has remained stagnant for a long period of time. This has been a concern voiced by most African leaders. There is need to address economic development using science and technology backed-up innovations. Few countries in Africa have demonstrated that this is possible. The success of the electronic money transfer mobile phone application called Mpesa in Kenya provides a good example on how innovative technology can be used in economic development.

8. Theories of change and innovation

Two key arguments on innovation by Allen [20] that African cultural practices and value systems, unlike the European ones, were inhibitive to and incompatible to innovative technology and Andah (1992) that everybody was instilled with a feeling of self-respect borne out of

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confidence in their own ability to help themselves informed the choice of the theoretical underpinning to this study. Roger's [31] diffusion of innovation theory and Vernon's (1997) concept of product life cycle are used to interrogate if changes brought by industry are enabling creativity and innovation to assess the responsiveness of firms when their products reach maturity.

8.1. Method

This study is underpinned by the qualitative case study method of data gathering and analysis with inductive approach. This is consistent with Yin's [32] postulations. Yin posits that the use of qualitative approaches in research studies can help in explaining the ultimate outcomes because the analysis technique consists of matching empirically observed events to theoretically predicted events, which is the interest of this study. In the same spirit, case study research is viewed as an integral approach for studying innovation and creativity. However, its usefulness, relevance and quality will depend on the evaluation situation and the skills of the researcher.

An examination of the literature reveals that creativity and innovation played a key role in the past industrial revolutions. The research for this paper therefore concentrated on 12 manufacturing enterprises in Kenya selected randomly from the Kenya Association of Manufacturers and one service sector firm randomly selected from the Kenya Private Sector Alliance. Qualitative interviews of teams were conducted with senior managers responsible for either operations or strategy in each organization from R&D and (where applicable) product development, market development and marketing and sales departments to understand their ideation processes and whether or not they led to any form of creativity and innovation. Interviews were conducted using a discussion guide. Although the data were largely collected through interviews, some observations and prior experiences of the authors are drawn upon to explain some of the missing links in the research.

A detailed content analysis of verbatim interview transcripts gave rise to three major themes that cantered on individuals or enablers that nurture creativity and innovation: challenges that undermine creativity and innovation, and opportunities that foster creativity and innovation. These individuals or enablers of creativity and innovation included supportive policies, networks with research institutions and incentives. In challenges of innovation and creativity, the interviews focused on building and retaining R&D human resource, financing R&D and safeguarding intellectual property (IP). Lastly in opportunities for creativity and innovation, the focus was on competitiveness, growth and scaling enterprise.

9. Findings and discussions

Table 1 shows that virtually all firms that have been in business for more than 20 years had some form of R&D unit. Firms that have been in business for more than 20 years and had no R&D unit produced products that rarely face the risk of product life cycle, such as food items whose recipes hardly change with time. All respondents had some form of process innovation in most cases necessitated by new manufacturing equipment from suppliers. Similarly, all

	Organization	*Industry*	*Years in operation*	*Presence of process innovation*	*Presence of product innovation*	*R&D department*	*Marketing research*	*Knowledge management system*	*Level of risk taking*	*Level of proactiveness*	*Level of competitive aggressiveness*
	The Beehive Kenya	**Mfg**	**11**	**Yes**	**Yes**	**No**	**No**	**None**	**Low**	**Low**	**Low**
2	Tuskys Supermarket	Service/Mfg	26	Yes. Very often	Yes, yearly	Yes	Yes	Yes-SAP	High	Moderate	High
3	Freesher Ltd.	Mfg	7	Yes	No, it takes 10 years	No	Yes	Yes	Average	Average	Average
4	Daima (Sameer)	Mfg	7	Yes	Yes	Yes	Yes	Yes, QMS	Average	Average	Average
5	Trufoods	Mfg	57	Yes	Yes	Yes	Yes	None	Low	Low	Low
6	Premier Cooks	Mfg	27	Yes	Yes	No	No	None	Low	Average	Average
7	Kevian Kenya Ltd.	Mfg	24	Yes	Yes	Yes	Yes	None	High	High	High
8	Tincan Manufacturers	Mfg	20	Yes	Yes	Yes	Yes	None	Average	Average	Average
9	Frigoken Ltd.	Mfg	27	Yes	Yes	No	Yes	Yes	High	Average	Average
10	Fayaz Bakers	Mfg	4 months	Yes	Yes	No	No	None	Low	Low	Low
11	Mini Bakers (Superloaf)	Mfg	40	Yes	Yes	No	No	None	Low	Low	Low
12	New KCC	Mfg	31	Yes	Yes	Yes	Yes	Yes	Average	Average	Average
13	KenaAfric	Mfg	29	Yes	Yes	Yes	Yes	Yes	High	Average	Average
14	Darling	Mfg	New	Yes	Yes	Yes	Yes	None	Low	Low	Low

Table 1. Validating innovation capacity data tabulation table.

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respondents have at some point developed new products and except for three firms, the rest conduct market research on a regular basis sometimes to monitor their market share or customer needs. With respect to knowledge management, most of the corporations that have R&D units have some form of system such as quality management system (QMS) or SAP's Knowledge Management and Innovation system in place.

Corporations that have been in business for more than 25 years take a higher risk and in terms of proactiveness, and are the only one among high-risk takers that is highly proactive. Only one manufacturing company and the service sector firm seemed aggressive in competitiveness. The entrepreneurial orientation of the service sector firm was extremely high owing to the fact that the competition in the sector is exceedingly high. The competition in the manufacturing sector is not as intense as the service sector. Manufacturing in the dairy sub-sector is moderate and perhaps explains why Kenya Corporative Creameries (KCC) is beginning to invest in R&D to fight the emerging competition. **Table 1** lists organizations that were part of the research.

10. Emerging issues

The views of the respondents can be collapsed into four thematic areas: enablers of creativity and innovation, challenges that undermine creativity and innovation, opportunities that foster creativity and innovation, and the missing local contribution to creativity and innovation.

11. Enablers of creativity and innovation

The common thread in all the interviews was the role of the state in enabling closer collaboration between research institutions, industry and the state. A significant number of the interviewees were aware of the progress that has been made to bridge the gap between research and industry owing to the fact that policy and institutional frameworks are in place. Since 2006 when Kenya's Vision 2030 was developed, the discourse on innovation intensified and as a result, as Ndemo [19] noted, institutional reforms, human resource development and enhanced R&D as well as improved science and technology infrastructure were getting to be in advanced stages. An emphasis was also placed on pursuing more and better collaborations and partnerships. The Ministry of Education, Science and Technology was created to spearhead capacity building and innovation.

These initiatives resulted in the development of institutions that support innovation, including but not limited to the Kenya National Innovation Agency, the National Research Fund and the National Commission for Science, Technology and Innovation. The Kenya Education Network is also a key institution within the innovation ecosystem, which facilitates the sharing of educational and research resources through a government-subsidized national broadband network. It also serves as the National Research and Education Network.

Further to strengthen R&D networks and incentives, a policy on Technology, Science and Innovation Strategy was developed in 2009. Policy seeks to mainstream the application of

technology, science and innovation in all sectors of the economy to ensure that all Kenyans benefit from all available capacities in order to achieve the objectives of Vision 2030. The policy prioritized several sectors for intervention, including health and life sciences, agriculture and rural development, trade and industry, physical infrastructure, human resource development, natural resource management, energy, environment, and information and communication technologies (ICTs).

As if to address Andah's (1992) concerns of colonial disruption of African institutional and cultural forms, Kenya's 2010 constitution recognized the role of African indigenous innovations in development. This is captured in Article 11, Section 2b and c of the Kenyan constitution, which states: '… recognise the role of science and indigenous technologies in the development of the nation; and promote the intellectual property rights of the people of Kenya'. To support and operationalize the constitutional requirements for the recognition of indigenous innovations, a sessional paper on technology and science was published in 2012, which was followed by an Act of parliament on Science, Technology and Innovation.

12. Challenges that undermine creativity and innovation

Although the Kenyan government is spending on human resource capacity development, the greatest concern of virtually all interviewees was the retention of the human resource, financing in-house R&D and safeguarding their intellectual property. The salary scales in many African countries can rarely sustain good researchers. The competition for quality human resource especially from developed and newly industrialized countries is thus enormous and one that a firm based in Africa cannot win. It is even harder to find enough resources to invest in R&D. Many of the firms cannot attract external funding of R&D since the level of technologies they have in place while at the same time global competitors threaten the little market they have. To overcome this problem, business entities must be creative and come up with disruptive products that can scale beyond the local market and attract venture capital to sustainably grow.

Even where there are disruptive products, many believe that danger lurks in safeguarding their intellectual property. Institutions to protect IP are not well developed on the continent. They are slow to review new innovations and respond. Yet, IP is a dynamic and ever-evolving field. Lack of ethics also undermines the trust that organizations need to collaboratively work in research activities. Even more disruptive are the delays in judicial processes in emerging economies caused by business entities under fire for replicating products and branding them as their own. Respondents concluded that for emerging economies to be successful, there is need for reforms across the board, including intellectual property rights.

13. Opportunities that foster creativity and innovation

In spite of all the challenges in the Kenyan and African case more generally, the opportunity to become competitive exists. Some of the interviewees have overcome the challenge and are

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effectively competing not just with the local competitors but with international firms too. Their argument especially when competing with multinationals is that they know the terrain and the customer better. This, however, is no excuse for not becoming more creative and innovative. Some do indeed come up with innovative solutions to remain relevant in the market. It is for this reason that some of the firms interviewed have begun to scale up their enterprises into regional markets. None, however, have moved beyond the African market into international markets. The author's experience in the past indeed witnessed products that moved from the local market and scale into the global stage. This was mainly software and applications that quickly attracted international research funding leading to a global product.

As stated earlier, many African firms started as MSMEs and few have climbed the ladder to become large enterprises. Interviewees thought their failure to grow was attributable to lack of finance, market, technology, leadership and poor customer relations but increasingly they have noted that those companies that introduce new products or new ways that respond to customer needs succeed. Tuskyes (one of the firms interviewed), for example, is said to have grown into a large company because of its innovation especially with the introduction of new and popular gluten-free breads and the introduction of milk dispensers that lower product price.

14. The missing local contribution

The common thread in diverse expressions of local knowledge is the recognition it can indeed add value to a largely Western-style R&D script. They say Africa has unique problems whose solutions would somehow find their way to the international markets. A classic example is the innovation of Mpesa in Kenya, the peer-to-peer money transfer app for mobile phones that has found its way into the global market. Such innovation would never have happened in the Western world, owing to the fact that banks are accessible everywhere and the use of credit card is widespread. As such if Kenya had followed the Western script, the challenge of sending money to rural areas would still require a solution.

A number of survey respondents mentioned they had in the past tried to do things differently but always ended up in trouble because they departed from the 'norm' by not following the script. This thinking curtails creativity when the mindset of corporate leadership is such that some innovation is only good if it came from the West. This view emanates from the colonial past whose impact on the African entrepreneurial mindset has not been widely studied. The length of time colonial or pro-West mentality lingers depends on the entrepreneurial orientation (ability to take risk, proactiveness and innovative and independent thinking) of the African individual or company. The mindset change to think independently is occurring, however, as the example of the Tuskys Supermarket chain shows. Their affordable milk dispensers that in the absence of packaging materials saw the price of milk dropped by as much as 40%.

The local knowledge input to innovation is critical to the survival of the enterprise, as has been demonstrated by the Tuskys case. Respondents cited many other cases where local knowledge has led to better product development. KCC, for example, through market research too has had to change the packaging of milk as a response to customer preferences. Multinationals

operating in Kenya too have used local knowledge to bring new products. Sometimes, it is said that if you are able to make and sell a product in Africa, it can sell anywhere. This is in reference to the fact that when you manufacture in Africa, you may have to take into consideration price, functionality and the effective use case a little more effectively than in other parts of the world.

15. Discussion

The findings of this study and the earlier empirical review have indicated striking similarities, differences and new perspectives. African enterprises face similar growth paths to enterprises in other parts of the world, as explained by Rogers' [4] diffusion of innovation theory and Vernon's [5] concept of product life cycle. What are not envisaged in the trajectory of these two concepts are the behaviour patterns of two different markets. For example, whilst in the Western world landlines were in the late majority state in terms of innovation diffusion, Africa was getting up speed with the early adoption of technology. Demand for landlines was at fever pitch. So, it was natural for companies to leapfrog to mobile telephony. With some local knowledge inputs, Africa suddenly became a player within the innovation space in a fairly short period of time.

Of great concern is the hesitation common among business leaders to take risks in order to adapt and improve innovations. The entrepreneurial orientation in Africa is seemingly held back by a lack of confidence, a matter raised by Andah (1992). Africa may have fought for independence but not the systems it needs to take itself forward. The systems currently in place perpetuate dependence that moves from generation to generation that the effects of colonialism will be felt for centuries. Although it is virtually impossible to change systems within a short period of time, efforts should be made to start a process of mindset change to accommodate enhanced entrepreneurial orientation in Africa. It does not help that most of the products are imports or being produced under foreign script. There are far less new products created out of local input and the decision mechanisms that lead to new products are mostly decided elsewhere.

In a situation where ideas to make local products emanates from somewhere other than Africa, it will take longer to not only change the African mindset but also build the confidence to grow an enterprise that scales beyond the borders of Africa. In order to sustainably grow scalable enterprises, policymakers in Africa have to deliberately support local R&D.

16. Conclusion

This paper and its accompanying research identified the convergence of four key areas that foster creativity and innovation and issues that undermine the same. These include enablers of creativity, opportunities that foster creativity and innovation, gaps that need to be filled and the challenges. In summary, there is great potential for Africa to exploit local knowledge that can contribute to global solutions. The sore thumb, however, is the lack of capacity to retain the

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human resource that is key to creativity and innovation. Hence, there is need to build research capacity through the development of R&D units as a strategy for greater creativity and innovation. There is dire need for governments to work closely with the private sector and the research institutions to provide research support to many MSMEs. The competitiveness of firms as well as countries of Africa depends on new innovations. Although Kenya has the institutional framework and the policies in place, there is need to work on human resource retention to stall the brain drain to high-paying countries of the developed world. The paper highlighted a number of gaps such as financing of R&D and failure to take the risk of incorporating local knowledge that if addressed would significantly impact individual firms that are held back by lack of these resources.

17. Implications for policy theory and practice

This research has significant implications for policy, theory and practice. Governments, especially from emerging countries, would immensely benefit from greater attention paid to the needs of entrepreneurs, their challenges, and so hopefully the recommendations this paper lays out. One of the aims of the study is to develop a new narrative around creativity and innovation in Africa that could be used to help organizations understand the approaches needed to develop effective R&D units within their enterprises. Further, the findings are meant to provoke the research community, practitioners and policymakers into an informed discourse on creativity and innovation as a strategy for sustainable enterprise and economic growth.

Other objective of this paper is to identify how creativity and innovation can be supported in the African context, to establish the role of local knowledge around global innovation systems and how it can be incorporated into enhancing local R&D capability for product development.

18. Shortcomings of the study

This was a qualitative research study with a very small number of firms participating. Hence, the study's findings may not readily be generalizable. There is need for more in-depth quantitative and large N research into the key areas identified in this study to realize more generalizable outcomes relevant to the African continent.

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INTECH

Chapter 3

Should Mentors of Entrepreneurs be Trained or their Experience is Enough?

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Additional information is available at the end of the chapter

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Abstract

Entrepreneurial mentoring is the support of novice entrepreneurs by experienced professionals in the business world. Despite this practice gaining popularity, a question remains: is it necessary for these organizations to train mentors or is the mentor's experience sufficient? To answer this question, we analyzed the effect of the mentor's training, as well as his/her profile in terms of experience, on the mentee's degree of satisfaction and learning. Our results show that the more a mentor is trained, the more he/she develops relational competencies, thereby creating a favorable (trusting) environment and developing an appropriate mentoring style (maieutic), which allows the mentee to learn and become more autonomous. However, the mentor's experience in entrepreneurship does not have an impact on the quality of the mentoring relationship, nor does it impact the novice learning. Our results also show that, contrary to our expectations, mentoring experience has a negative impact on most of the psychological functions of the mentor. We found that this negative effect is neutralized by continuous training of mentors. This suggests that entrepreneurship support organizations should implement specific training sessions for experienced mentors.

Keywords: mentoring, novice entrepreneur, entrepreneur's support, training, mentoring experience

1. Introduction

For many years, several forms of support to entrepreneurs have emerged in most industrialized countries, with the aim of helping them in the start-up phase or facilitate the growth of their business. Among the many packages proposed by the authorities and other organizations helping entrepreneurship, mentoring is gaining in popularity. A mentoring relationship

essentially consists of matching experienced business people with a novice entrepreneur [1]. Research in this field indicates that mentoring enables the novice to develop cognitive and affective learning, such as the capacity to spot opportunities and develop a coherent vision of his[1] entrepreneurial project [2–4].

From the perspective of the organization coordinating such programs, the focus is directed not only toward the results for the novice but also toward the "black box" of mentoring. Indeed, if mentoring seems to generate positive results as a whole [e.g., 5–8], it has been demonstrated that some mentoring relationships, in contexts other than entrepreneurship, can lead to inappropriate behaviours on the part of the mentor, which sometimes leads to undesirable outcomes for the mentee [9, 10]. We can hence consider that some entrepreneurial mentors may be inappropriate, or even harmful, in the functions we would expect of them [5]. Putting aside the toxic behaviors, some mentors reveal themselves to be of limited use, providing help that produces a very marginal effect [11].

We can, therefore, ask whether becoming an efficient mentor implies appropriate preparation, requiring then prior training, or whether a personal or a professional experience in entrepreneurship is sufficient for the emergence of positive results for the mentee. In this instance, it seems that no study has yet shown the consequence of recruiting specific mentors' profiles and providing them with training on mentees' results. Our paper will, therefore, focus on this particular question.

To do so, we will first present past research about mentoring for entrepreneurs and the role of training mentors within this context. Second, we will present and discuss the results of our empirical study. These results have established a strong correlation between mentor training and mentee outcomes in terms of learning. We will conclude with a discussion and recommendations for organizations.

2. Literature review

2.1. Defining mentoring

Inspired from Greek mythology, the term "mentor" generally refers to a person with certain qualities or who is in a position of power who benevolently watches over a younger or a less-experienced individual, who in turn benefits personally and professionally of the advice and support of his/her mentor. In the entrepreneurial context, although many definitions may exist, mentoring is the creation of a supportive relationship between a novice entrepreneur (called a mentee) and an experienced business people (called a mentor), the latter allowing the former to develop as a person (i.e., both personally and professionally). As suggested by Paul [12], mentoring differs from coaching, tutoring, and apprenticeship since it is primarily oriented toward the quest for meaning, as opposed to the acquisition of techniques. Mentoring differs from counselling, consulting, and mediation, as it is action-oriented, but to a lesser degree than

[1] Masculine form used merely to simplify the text. No discrimination is intended.

sponsorship. Therefore, the underlying idea behind mentoring is to educate, where the mentor is "driving" and "guiding," and differs from coaching, which is based on motivating, or counselling and based on a psychological help [13]. To recognize a mentoring relationship, as suggested by Haggard et al. [14], three dimensions need to be present: there must be a reciprocal relationship, involving mutuality of social exchanges, developmental benefits for the mentee, in particular for his career, and frequent and significant interactions with a long-term perspective.

2.2. Conceptual framework for mentoring

In their exhaustive review of mentoring in its intraorganizational context, Wanberg et al. [15] established several dimensions allowing the *protégé* to develop positive outcomes[2]. First, the *protégé*—as much as the mentor—contributes to the success of the mentoring relationship, whose specific characteristics can be critical. The relationship dynamics thus created will enable the mentor to execute his functions, which in turn will allow the *protégé* to learn. Hence, he will receive distal outcomes such as job satisfaction, professional retention, salary increases, promotions.

It is widely known in different mentoring contexts that trust is essential to allow the relationship to develop, and therefore, maximize the developmental potential of the mentee [16, 17]. There also needs to be a positive "alchemy" between the members of the dyad [6, 18]. This could refer to the mentee's perceived similarity with the mentor, an essential component to ensure the success of the relationship [15, 19]. These elements are essential but not sufficient for the appearance of results for the mentee.

The mentor's functions are the different roles played by the mentor in the relationship [16]. These functions allow the mentee to receive outcomes from this relationship [15], such as learning development [15, 20]. The different mentor functions studied in an organizational context are generally grouped into three categories: psychological, career-related, and role model [21, 22]. In the context of the novice entrepreneur, the content of these functions is slightly different from mentors in large organizations, but they are grouped into the same categories [23]. Hence, there are psychological functions: when the mentor gives feedback to his mentee, reassures, and motivates and acts as a confidant. These functions appear to be the most important for the mentee to see the benefits of the relationship [24]. There are also entrepreneurial career functions at play when a mentor gives the mentee information about the business world, introduces the mentee to someone in his network, confronts the mentee's ideas in order to test their maturity and guides the mentee toward appropriate solutions. Finally, there is the role model function, where the mentor shares his entrepreneurial experiences with the mentee in order to give him inspiring examples. Here again, it obviously seems useful for the mentors to understand the functions they are expected to perform so that they can be more efficient in their role.

[2] The word "*protégé*" is used in the literature to designate the one being helped by a mentor in an intra-organizational context, whereas "mentee" specifically designates the entrepreneur accompanied by a mentor.

To maximize the various outcomes, it is recognized in the entrepreneurial context that the mentor should ideally adopt a maieutic style (i.e., oriented toward questioning the mentee), coupled with significant engagement in his mentoring relationship [25]. In such a context, this makes sense, since the mentee needs to maintain independence with regard to decision-making and learn to find solutions by himself. Furthermore, mentors being generalists (as opposed to coaches who can be specialists, for example), unaware of all of the sectors of the industry, need to direct their efforts toward questioning in order to avoid giving bad advice to the mentee. That said, it appears that many mentors adopt a rather directive style in (as opposed to maieutic) and are not very engaged in the relationship [25]. Knowing that mentoring style could considerably hinder the development of relationship outcomes, especially in terms of increased entrepreneurial self-efficacy and other learnings for the mentees, this seems more desirable for mentors to learn developing a style that better meets the mentees' needs.

Lastly, it has been shown that mentoring can increase a novice entrepreneur's learning [4, 26]. According to Choueke and Armstrong [27], mentoring is nevertheless the fourth source of learning in order of importance (43%), ahead of graduate studies. According to Clutterbuck and Megginson [28], the mentor brings to the mentee a reflexivity space in which the latter takes the opportunity to develop new ideas through purposeful and uninterrupted thinking activities. This can then allow him to make sense of critical events he is confronted with in his firm [29], which highlights the importance of mentoring for the inexperienced entrepreneur.

2.3. The role of mentor training

Most researchers on intraorganizational mentoring agree on the need to train all formal mentoring program participants in order to prepare them for this relationship [28, 30–34]. Participants, mentors, and mentees must understand their role and the framework defined by the organization initiating the program [35]. Studies have shown that mentoring relationships have three times more chances to succeed if the mentors and mentees have been trained [32]. According to Allen et al. [30], participants training have been positively correlated to stronger mentor engagement, a better understanding of the program, and perception of its results.

Mentor training could have an impact on several levels: it defines the relationship framework and rules of the game by clarifying the roles and responsibilities of each individual and helps the mentors develop the necessary relational skills for a better knowledge and experience transfer in a maieutic style.

Defining a framework right from the beginning of the relationship is essential, since it can avoid some dysfunctions, as mentioned by Eby [36], and some frustrations described by mentees when the mentor becomes too directive [31]. The framework allows the mentor to fully understand his/her role, relationship, functions, differentiating mentoring from coaching, training, counselling, and other forms of support, as well as understanding the limits of his/her intervention. Training also enables the mentor to develop the necessary relational skills he/she may not have acquired during his/her career, such as communication, questioning, and listening skills, or how to build rapport and a trusting relationship [32, 37].

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If we more specifically consider the entrepreneurial context, and in particular, the mentor's functions [23], it becomes obvious that his/her experience allows him/her to perform the career functions: integrating the mentee into a network, giving information about a specific sector or an industry, confronting/challenging and guiding. As an experienced entrepreneur, he/she can also serve as a role model. Training could also help mentors to be more effective with the different kind of mentees they may support [38]. Experience, however, is not necessarily a good indicator that he/she has the capacity to provide the psychological functions (reflector, reassurance, motivation, and confidant), which are directly linked to the relational skills mentioned above.

Furthermore, in their seven case-study research, Mitrano-Méda and Véran [39] concluded that one of the three key success actions of an entrepreneurial mentoring program coordination team was the "preparation of mentors and mentees." They showed that among the many actions coordinators could make, only three had a positive impact on the success of the mentoring programs (measured in terms of satisfaction, learning, and goal achievement): the creation and facilitation of a network, the preparation of mentors and mentees, and the coordination of the matching process.

To summarize, the literature on intraorganizational mentoring and recent research on entrepreneurial mentoring strongly suggests that mentors need to be trained to understand the framework and to develop relational skills in order to create an efficient mentoring relationship [40]. Furthermore, to perform an important part of the mentoring functions, mentors need to have some relational competencies that may not have been acquired during his/her professional life. Lastly, it is important that mentors be prepared to support the mentee's experiential learning. These considerations lead to the following hypothesis:

H1: Mentor training has a positive effect on the relationship developed with the mentee as well as on intervention style, functions, and the novice's learning.

2.4. The role of mentor profile

In the majority of mentoring programs implemented by support organizations in several countries, mentors are volunteers coming from the business world. For entrepreneurship support organizations, this has not only obvious advantages, such as lower support costs, but also major drawbacks. Indeed, it is more difficult to manage a volunteer who wants to help than to impose a procedure on a recruited employee. In this context, in order to have enough mentor-volunteers to provide the mentoring service, organizations accept not only mentors with experience as entrepreneurs but also others who have never started a business, such as bankers, consultants, professional coaches, senior executives from large firms.

We may wonder whether the experience as an entrepreneur can impact the various elements of the mentoring relationship. For example, knowing that the role model function is more significant among mentors who have been entrepreneurs themselves in comparison with others [23], this may have an impact on the mentee's learning. In addition, knowing that mentors can help mentees identify opportunities [2, 3], it would be logical to think that a mentor with experiences in identifying opportunities himself could more easily help a mentee develop

efficient cognitive patterns [41]. In mentoring for youth at risk, mentors with previous experience with youth in their communities were able to buffer the negative effect of environmental stress on match duration or negative perception of relationship quality [42]. However, as suggested by St-Jean and Audet [25], it could be more difficult for experienced entrepreneurs to assume a maieutic style (based on questioning) as their experience allows them to quickly identify the "solutions" to communicate to the novice, thereby using a more directive style. In spite of this, knowing that perceived similarity is important in establishing the relationship [43] and that a mentor who has never been an entrepreneur could be seen by the mentee as being less relevant, we suggest the following hypotheses:

H2: Mentor experience as an entrepreneur has a positive impact on the relationship with the mentee, as well as on the mentoring functions and mentee learning.

H3: Mentor experience as an entrepreneur has a negative impact on the mentor's style of intervention.

Furthermore, the mentoring experience a mentor accumulates could also be beneficial. Intuitively, it is logical to think that a mentor who is new to this role would be less effective than one who has mentored several entrepreneurs. Furthermore, several studies take mentoring experience into consideration as an exogenous variable whose effects on mentoring results need to be controlled [e.g., 11, 20, 44]. More specifically, in the context of a large organization, it has been shown that prior mentoring experience allows the mentor to practice the career functions with more intensity [45] and, occasionally, the psychological functions [46]. Knowing that the intensity of the mentor functions are positively correlated with results, especially in terms of mentee learning, everything converges toward mentoring experience procuring greater mentee results. Similarly, a mentor with mentoring experience could learn from his past mistakes and improve his ability to initiate a trusting relationship, while adopting a style of intervention more appropriate to entrepreneurs (i.e., maieutic and engaged). These considerations lead to the following hypothesis:

H4: Prior mentoring experience has a positive impact on the relationship with the mentee, intervention style, functions, and mentee learning.

3. Methodology

3.1. The program studied

We collected data through the *Réseau M*[3], a business-mentoring program created in 2000 by the *Fondation de l'entrepreneurship*, an organization dedicated to economic development in the Province of Québec (Canada). It is offered to novice entrepreneurs through a network of 70 mentoring cells spread out across the province. These cells are generally supported by various economic development organizations, such as *Centres locaux de développement* (CLD), *Sociétés d'aide au développement des collectivités* (SADC), and the local chambers of commerce. These

[3] For more information: http://www.entrepreneurship.qc.ca/mentorat-pour-entrepreneurs.

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organizations ensure the local or regional development of the program, while subscribing to the business-mentoring model developed by the *Fondation*. More precisely, local organizations employ a cell coordinator in charge of recruiting mentors, organizing training sessions for them, promoting the program to novice entrepreneurs, pairing participants, and supervising the ensuing mentoring relationship. The novice entrepreneurs may benefit from mentor support for a minimal price, a few hundred dollars annually, and in some cases, free of charge. In order to supervise local development correctly, the *Fondation* provides development workshops on the mentor–mentee relationship to give novice entrepreneurs a clear idea of the mentor's role. Based on an intervention code of ethics where relationship confidentiality is of capital importance, the business mentoring service has also created a standard contract to guide the parties in determining the terms and conditions of their relationship and the desired objectives. This program thus falls under the category of formal mentoring.

In order to support local development, the *Fondation de l'Entrepreneurship* has implemented improvement workshops focused on the mentor–mentee relationship to clarify the role of mentors with new entrepreneurs. Thus, various training sessions offered by the *Réseau M* allow the mentors to better define their ideal style of intervention, as well as their roles, and other activities are organized to enable them to develop their listening and questioning skills, etc. Some local cells suggest that their mentors follow basic training (3 h) on the mentor's roles before being matched. Other cells do not. Using the data collected from this mentoring program, we aim to verify whether these mentor-training sessions benefit the mentees.

3.2. Sample and design of the dyad analysis

In spring 2008, 981 mentees from the *Réseau M* of the *Fondation de l'Entrepreneurship* with a valid email address were contacted to participate in the study. Of that number, 360 completed the online questionnaire, for a response rate of 36.9%. They had to reply to a large number of questions regarding sociodemographic and company characteristics, their psychological profile, mentoring relationship, perception of the mentor, and certain mentoring outcomes. We also asked them if they agreed that their answers be matched anonymously to the answers of their mentor to enable a dyadic analysis. Out of the 360 respondents, 216 accepted. We matched their answers and indicated the name of their mentor.

In spring 2010, the *Réseau M* provided a list of 1004 mentors with a valid email address. According to the *Réseau M*, there were a total of 1200–1300 mentors. Each mentor with an email address received a personalized invitation to reply to an online questionnaire as well as two reminders for the nonrespondents. In total, 366 mentors agreed to participate, for a response rate of 36.4%.

For both the samples, we compared early respondents—the ones who had replied before the first reminder—to those who responded after a reminder was sent, following the argument developed by Armstrong and Overton [47] to estimate the nonrespondent bias. No significant difference appeared between these two groups (i.e., mentors and mentees) in terms of sociodemographic characteristics (age, gender, education, etc.) and the variables of interest for this study. This suggests that nonrespondents were similar to the respondents.

Out of the mentors who responded to the 2010 survey, 78 were identified (named) in the mentee survey, and could therefore be matched to their mentee's responses (corresponding to a sample of 21.5% of the mentees). Thus, in this dyadic study, both the mentor and the mentee responded anonymously to the questionnaire at different times, which excludes all possible interference between the responses of one with the other.

The questionnaire was administered online through a professional Web-based survey provider (www.surveymonkey.com). It was administered in French, and we translated all of the measures that were previously developed in English. Translation was done by two bilingual researchers separately and then compared. No major differences were found. The online questionnaire was pretested, and no changes were necessary.

3.3. Measures

3.3.1. For mentors

Questions were asked about the number of hours of training they had received through the *Réseau M* and how many they had received elsewhere: "How many hours of training relevant to your function as mentor have you received until now (if none, please indicate "0")?" We will verify the influence of these two variables on the relationship components with the mentees.

For the measure of the mentor's entrepreneurship experience, the mentors were asked to indicate the number of years they had spent as "entrepreneur (self-employed, in business)" as their main activity.

For the measure of mentoring experience, the mentors indicated the number of mentoring relationships (more than three meetings) they had had as a mentor within the *Réseau M*.

3.3.2. For mentees

Several measures were used for the mentees (see the details at **Table AI** in Appendix 1).

As an indicator of relationship quality: the level of trust the mentee had toward the mentor—based on Rempel and Holmes [48]—(three items); the perceived similarity—inspired from Ensher et al. [19]—(four items); and satisfaction with the mentor—Ragins and Cotton [49]—(four items). The measures are unidimensional (throughout an exploratory factorial analysis) and Cronbach's Alphas are 0.741, 0.897, and 0.937, respectively, which is considered excellent [50].

As an indicator of the style of mentoring intervention: the maieutic approach (three items) and the degree of engagement in the relationship (three items)—two measures based on St-Jean and Audet [25]. The measures are unidimensional and Cronbach's Alphas are 0.688 and 0.90, respectively.

As an indicator of the functions of the mentor: the nine functions of the mentor—St-Jean [23]—(35 items in total). The measures are unidimensional and Cronbach's Alphas vary between 0.882 and 0.953.

As an indicator of the outcomes for the mentee: the learning acquired during the relationship—developed by Allen and Eby [20]—(5 items). The measure is unidimensional and Cronbach's Alpha is 0.910.

3.4. Data analysis

Dyadic analysis is a strong research design, as it is based on measures taken from both sides of the dyad. All the variables are continuous variables. Some of them are not normally distributed. As we want to highlight the impact of mentor's characteristics on mentee's mentoring relationship, we used correlation analysis and specifically, Spearman's correlations (nonparametric).

4. Results

4.1. Portrait of the mentor training

First, we need to underscore the fact that the number of declared training hours within the *Réseau M* varies from 0 to over 50 h[4], as was the case for the training sessions outside the *Réseau M*. Some exceptional mentors exceeded the 50 h of training, whether it was within *Réseau M* (7 cases) or elsewhere (19 cases). The average number of hours of training within the *Réseau M* was 9.2 (8 as a median), with a standard deviation of 10.36. The average number of training hours outside the *Réseau M* was 11.36 (3 as a median) with a standard deviation of 15.54. We observe that the distribution curve is not normal, especially for the training received outside the *Réseau M*, where an extreme group had received a very large number of hours of training and a strong majority had only received a small number of hours of training, or sometimes none at all.

Regarding entrepreneurship experience, the number of years varies between 1 and 54, with an average of 23.56 years (median at 23) and a standard deviation of 11.49. The distribution is normal.

The number of mentoring relationships (i.e., mentoring experience) varies between 0[5] and 21, with an average of 5.96 (median at 4) and a standard deviation of 4.39. The distribution is a "count" type, meaning that a large concentration of the sample had just had a few relationships, and the count declines progressively until 21. Indeed, 90% of the sample had had fewer than 10 relationships in total.

[4] It should be mentioned that the scale used was graduated by categories where the maximum was "over 50 hours".

[5] The data described the total sample of mentors, rather than the dyad, in order to illustrate the *Réseau M*. situation. This is why we note that some mentors have never been in a mentoring relationship, which would not be the case with those who were paired as a dyad, since they would necessarily have had at least one relationship; that for which the analysis was conducted.

4.2. Impact of mentor training, mentor career, and mentoring experience on the mentee

We checked whether the training received by the mentors had an impact on the answers of the mentee regarding the outcomes of the relationship, the mentor's functions, the mentoring style deployed, and the quality of the relationship. The results are very remarkable and revealing. As shown in **Table 1**, the training the mentor received via the *Réseau M* and elsewhere is positively and significantly correlated with two out of three components of the quality of the relationship: trust in the mentor and perceived similarity. However, mentor training has no effect on general satisfaction toward the mentor.

	Hours of training *Réseau M* (n = 77[b])	**Hours of other training (n = 51)**	**No. years of experience as entrepreneur (n = 55)**	**No. mentoring relationships (n = 66)**
Quality of the relationship				
Trust toward the mentor	**0.322****	**0.386****	0.128	0.059
Perceived similarity	**0.269***	**0.329***	–0.063	**–0.223***
Satisfaction with the mentor	–0.001	–0.061	0.036	0.162
Mentor's style				
Maieutic approach	**0.229***	**0.271**†	–0.016	–0.001
Mentor's engagement	**0.242***	0.167	–0.107	–0.149
Psychological functions				
Reflector	**0.216**†	0.206	–0.059	**–0.226**†
Reassurance	**0.299***	0.141	–0.079	**–0.342****
Motivation	**0.349****	0.187	–0.046	**–0.229**†
Confidant	**0.236**†	0.156	0.053	**–0.293***
Career functions				
Integration	0.109	0.066	0.092	–0.024
Informational support	0.055	–0.006	–0.111	–0.102
Confrontation	0.197	0.073	–0.063	–0.154
Guide	**0.263***	0.091	0.006	**–0.302***
Role model function				
Role model	**0.238**†	0.069	0.087	–0.134
Relationship outcomes				
Mentee's learning	**0.209**†	–0.004	0.082	–0.091

[a]Spearman's correlations (nonparametric) were used since the variables were not normally distributed.
[b]Some data were missing and the smaller "n" is indicated.
†= $p \leq 0.10$
*= $p \leq 0.05$
**= $p \leq 0.01$
***= $p \leq 0.001$

Table 1. Correlations[a] between the hours of training received by the mentor and his characteristics and the answers from the mentee about components of the relationship.

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As for the mentoring style, we know that the style combining a maieutic approach and strong engagement from the mentor provides the best results [25]. We observed that attending training sessions via the *Réseau M* allows the mentor to understand and implement the ideal style since the correlations are positive and significant. The training provided outside the *Réseau M* helps the mentor develop a maieutic approach, but not engagement.

In terms of the mentor's psychological functions (reflector, reassurance, motivation, confidant), the more the mentor is trained via *Réseau M*, the more these functions are fulfilled. This is not the case for the training sessions outside the *Réseau M*. For the other functions, only the "Guide" function (i.e., suggesting courses of action to the mentee) and the Role Modeling function are stronger when the mentor is trained within the *Réseau M*, which is not the case for training sessions outside the *Réseau M*.

Lastly, we observed that training mentors via *Réseau M* is positively and significantly correlated ($p \leq 0.10$) with mentee learning.

As far as the level of the mentor's entrepreneurship experience is concerned, there is no significant correlation with the variables of interest. Hence, entrepreneurial experience does not positively influence the quality of the relationship, the psychological, career, or role model functions, and has no effect on learning. We, therefore, reject hypothesis 2 (H2). Furthermore, there is no relation between the mentor's intervention style and his career (via the number of years of entrepreneurship experience). We, therefore, cannot confirm hypothesis 3 (H3). Lastly, the number of mentoring relationships has a significant impact on perceived similarity, on all psychological functions and the guide function. This impact being negative, we cannot confirm hypothesis 4 (H4).

4.3. Can mentor training neutralize the negative effect of mentoring experience?

These results have triggered this study's researchers' curiosity and reflection. If mentor training has a positive impact, and experience has a negative impact, could training neutralize the negative effect of mentoring experience? This initially unplanned research question is crucial for entrepreneurship support organizations offering mentoring services. To find the answer, we created two groups using the median of the number of mentoring relationships (four relationships) as a separator, in order to compare the effect of training on mentors with little experience (four relationships or fewer) to its effect on experienced mentors (five relationships or more). The results are shown in **Table 2**. In the group of mentors with less mentoring experience, training only improves the reassurance function. However, in the group of experienced mentors, training can increase trust and perceived similarity, which in turn allows for a more appropriate style of mentoring (maieutic), thereby increasing the intensity of all psychological functions, as well as the guide and role model functions, in addition to enhancing mentee learning.

	Hours of training *Réseau M*	
	Less experienced mentor (≤4 relationships) *n* = 23[b]	**Experienced mentor (≥5 relationships) *n* = 42**
Quality of the relationship		
Trust toward the mentor	0.054	**0.467*****
Perceived similarity	0.051	**0.421****
Satisfaction with the mentor	–0.018	0.009
Mentor's style		
Maieutic approach	0.148	**0.296***
Mentor's engagement	0.282	0.234
Psychological functions		
Reflector	0.093	**0.346***
Reassurance	**0.407**†	**0.381***
Motivation	0.258	**0.429****
Confidant	0.171	**0.345***
Career functions		
Integration	0.074	0.112
Informational support	–0.037	0.141
Confrontation	0.162	0.251
Guide	0.299	**0.364***
Role model function		
Role model	0.046	**0.404****
Relationship outcomes		
Mentee's learning	0.079	**0.311***

[a]Spearman's correlations (nonparametric) were used since the variables were not normally distributed.
[b]Some data were missing and the smaller "*n*" is indicated.
†= $p \leq 0.10$.
*= $p \leq 0.05$.
**= $p \leq 0.01$.
***= $p \leq 0.001$.

Table 2. Correlations[a] between the hours of training received by the mentor and the answers from the mentee about components of the relationship, based on their level of experience as a mentor.

5. Discussion

The results indicate that to be a good mentor, one needs to be trained. The studies on mentoring show that the first outcome of mentoring (proximal outcome) is the learning a mentee gets from the relationship [15]. Learning is of great importance for a novice entrepreneur, and it becomes evident that training mentors is important in order to maximize the novices' out-

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comes. Beyond the achieved mentee's learning, outcomes for training mentors are also meaningful, especially in terms of developing abilities to implement a quality relationship with the mentee, which will allow him/her to generate various outcomes. Thus, it seems that training serves as a basis for starting and maintaining a quality relationship. We have noted that *Réseau M*'s training has better results than training delivered by other organizations. Here, it seems that the particular nature of the entrepreneurial mentoring relationship requires the development of tailored training (via the *Réseau M*), rather than general training sessions (via other nonentrepreneurship-specific organizations) which only seem to be useful in the establishment of quality relationships (creation of trust and development of perceived similarity) based on questioning (maieutic approach).

Training enables the mentor to put his accumulated entrepreneurial experience to good use so that he can assume an appropriate mentoring style, as well as an approach that allows the creation of trust and support as the relationship progresses. Without appropriate support (training and documentation), the implementation of a mentoring program for novice entrepreneurs could be less efficient on several levels.

Our results do not allow us to assert that a mentor who has had prior entrepreneurial experience will provide better mentoring support than those who have had a career in the civil service or large organizations. Contrary to our initial expectations, it seems that the mentor's career does not impact the mentoring relationship. Here, we need to mention some limitations. It is possible, for some novice entrepreneurs requesting mentoring, that the entrepreneurial past of the mentor be especially important to them. Thus, by specifying this aspect to the program coordinator, the matching can be impacted as the mentee will be paired with a mentor with the corresponding profile. For other mentees for whom the mentor's career has no importance, they will be matched with different profiles, some of whom may not have had an entrepreneurial career. Results seem to show that once the mentee has accepted the mentor's career profile (entrepreneur or nonentrepreneur), it will no longer impact the ensuing relationship.

This result is important for entrepreneurship research. A mentor with experience as an entrepreneur is not giving better mentoring that unexperienced ones. Based on our results, it is not obvious that unexperienced entrepreneur could develop his/her cognitive schemas when being mentored by an experienced entrepreneur [41], not as he/she will have better information to identify opportunities [2], better networking, or more insightful learning [51]. It seems that mentors with experience in the business world, but not necessarily as being themselves entrepreneurs, would be enough to develop mentoring outcomes for the novices, as it was observed on a student sample [52]. As long as the preparation for being a mentor is more important that previous entrepreneurial experience, research should focus on mentor's capacity to mentor, as marginal mentoring could occur and blur the effectiveness of mentoring on novice entrepreneurs.

The negative impact of mentoring experience is an important result to underscore. Where, in other contexts, the literature has shown positive impacts of prior mentoring experience, our study reveals a negative effect, more specifically on psychological and guide functions, as well as perceived similarity. These results suggest that, initially, mentors could be less confident in their ability to properly mentor novice entrepreneurs. Thus, they could be more attentive to

the mentee's needs and the psychological aspects of mentoring in particular. With more experience, they could be less attentive to the psychosocial needs of entrepreneurs and focus more on business issues.

This finding is relevant for entrepreneurship research. Mentoring that occurs naturally outside of formal programs for novice entrepreneurs would probably bring mentors without specific training. As long as mentees (or researchers) are looking at career-related outcomes, untrained mentors could be as good as mentors trained and part of formal mentoring programs. Because novice entrepreneurs could select any mentor in their own network in informal setting, they will likely choose trusting and similar ones. However, for novices with psychological needs, but unwilling to disclose them to an informal mentor, trained mentor in formal program could be more effective to fulfil their needs.

As for the interaction between training and experience, our results enable us to better understand the mechanisms to optimize results for novice entrepreneurs. Hence, mentor training is only marginally useful for new mentors, but is crucial for experienced mentors and can help neutralize the negative effect of accumulated experience. It would therefore appear that training allows mentors to question their intervention and help them maintain an awareness of the psychosocial aspects of mentoring. Without continuous training, the quality of their intervention could decrease in these areas.

5.1. Limitation of the study

Our results have an important limitation: we have not identified the most effective training. Although we know that training has a major impact, it is not yet possible to target the most useful or appropriate training sessions. We can easily think that basic training sessions on the role of the mentor, including the most effective styles, as well as others allowing the mentor to ask questions to the mentee—enabling the mentee to further his thinking and develop the expert's cognitive patterns for example—could be the most appropriate [41].

Furthermore, the dyad analysis only involved 78 cases in total. This could create a bias in our results, where an existing significant relationship among some variables would not appear in the data set, creating a type II error. This is why the significance thresholds at $p \leq 0.10$ were indicated. Despite this limitation, the results from the dyad analysis are even more valid since the relationship is significant despite the small number of cases. Another limitation concerns the notion of time, which was not considered. Indeed, a mentoring relationship evolves over time. The 2008 mentee survey collected answers from mentees interested in responding to the questionnaire, some at the beginning of the relationship and others after the relationship had ended. Matching these with the mentor responses in 2010 could create biases regarding the relationship of cause and effect between the mentor training received and the surveyed relationship. This would suggest that a longitudinal study of dyads would be appropriate to observe the effect of mentoring over time, with variables such as the characteristics of the mentor, and more specifically, the training he has received.

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5.2. Recommendations to entrepreneurship support organizations

The outcomes of this research are of utmost importance for organizations that support entrepreneurship via a mentoring program. First, if a mentee accepts the career profile of a mentor, it is not necessary for the mentor to have been an entrepreneur in the past; related experience in business can be sufficient. This knowledge may dispel some myths and beliefs held by practitioners, such as the idea that only a mentor who has prior entrepreneurial experience can mentor another entrepreneur. This does not seem to be the case.

We note that dedicated and entrepreneur-specific training is more appropriate to improve a wider range of mentoring elements (quality of relationship, style, functions, and results). Thus, basic training on communication and how to establish quality relationships through listening and questioning can be provided by various organizations, even if they do not have in-depth knowledge of the novice entrepreneurs' issues. However, to further their skills, especially regarding the psychosociological aspects of entrepreneurship (and their corollary, the mentor's psychological functions), such knowledge is necessary and mentor trainers need to be competent in this regard.

Although our results show the positive impact of training, this outcome does not necessarily indicate that only "knowledge transmission" training should be provided to neutralize the negative impact of mentoring experience. Indeed, a professional codevelopment approach to training [53] could be appropriate for mentors. In this regard, the mentors of *Réseau M* are grouped into regional cells where they can discuss their practices, under the supervision of a chief mentor elected by their peers. With the knowledge of this study in mind, such groups could beneficially replace traditional "knowledge transfer" training, even though our results cannot confirm this.

Training has been shown to be more useful to mentors who have more mentoring experience. Although this does not suggest that training mentors who may initially lack certain skills is unimportant, we generally observe that training can neutralize the negative effect of a mentor's accumulated experience. This clearly indicates the need for organizations offering mentoring programs to implement continuous training for mentors. Failure to make the required investments to achieve this could result in a decrease in the quality of the mentoring relationships, particularly with regard to the psychosocial support provided to novices by the mentors.

6. Conclusion

Our research on the connection between mentor training and mentee outcomes in terms of relationship effectiveness and learning has allowed us to identify one of the success factors in the entrepreneurial mentoring process. Although there are clearly others, this factor appears to be important for organizations that use mentoring to support entrepreneurship. Such organizations can use mentor training to improve the effectiveness of the relationship without encroaching on the relationship itself, thereby letting the dyad manage its own progress.

Our results show the importance of mentor training, especially regarding the development of their relational competencies, and particularly for mentors who have accumulated several mentoring experiences. These skills allow mentors to use or share their experience and avoid harmful behaviours. Training can provide an ethical and relational framework by informing mentors about their roles and responsibilities, their limitations and the rules of the game. It also allows the mentor to develop competencies such as listening skills, empathy, and how using a maieutic approach.

Training is only one of the success factors in the entrepreneurial mentoring process, so we suggest that researchers delve deeper into the overall process and investigate other factors that could contribute to a successful mentoring relationship. Not limited to, such factors as mentor selection, mentee training, the matching process and the follow-up procedures could be managed by the program coordinators and impact the mentoring relationship. This could be potential research extension to this research.

The practice of entrepreneurial mentoring is well developed, while research on the subject is still in its infancy. This research contributes to a better understanding of the specific mechanics of mentoring in the entrepreneurial context, is showing some results which are going against the popular belief that to mentor entrepreneurs you need to be an experienced entrepreneur and is hinting to further the research on the question of what makes a good entrepreneurial mentor.

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Appendix 1

Measure	Items	Scale
Trust toward the mentor		
	I can trust my mentor.	Likert 1–7
	My mentor is reliable.	
	My mentor behaves in a predictable way.	
Perceived similarity		
	My mentor and I share the same values.	Likert 1–7
	My personal interests are in agreement with those of my mentor.	
	My mentor's personality is similar to mine.	
	My mentor and I see things in the same way.	
Satisfaction with the mentor		
	My mentor is someone I am satisfied with.	Likert 1–7

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Measure	Items	Scale
	My mentor fails to meet my needs (reverse-scored).	
	My mentor has been effective in his role.	
	My mentor disappoints me (reverse-scored).	
Maieutic approach		
	He helps me find my answers on my own.	Likert 1–7
	He asks the right questions to make me think.	
	He doesn't tell me what to do.	
Mentor' engagement		
	He is available quickly when I need him.	Likert 1–7
	I feel he is involved in the mentoring relationship.	
	He follows up on our meetings and discussions.	
	He makes sure I'm making progress.	
Reflector function		
	He enables me to have a clear image of myself and my business.	Likert 1–7
	He highlights my strengths and weaknesses.	
	I know how he perceives me very well.	
	He allows me to get *feedback.*	
Reassurance function		
	He calms me when I'm nervous.	Likert 1–7
	He reassures me.	
	He helps me to take some perspective on my issues.	
Motivation function		
	I feel he has confidence in my abilities.	Likert 1–7
	He motivates me.	
	He encourages me to persist.	
	He believes I can succeed as an entrepreneur.	
Confidant function		
	He is a good confidant.	Likert 1–7
	He is someone I can confide in.	
	I consider him a friend.	
	He is more than just a professional acquaintance.	
Integration function		
	He connects me with people he knows.	Likert 1–7
	He introduces me to people in his network.	

Measure	Items	Scale
	He suggests people who can help me.	
	He is willing to share his contacts.	
Informational support function		
	He gives me information about the business world.	Likert 1–7
	He shares his knowledge.	
	He gives me technical information.	
	I can benefit from his expertise.	
Confrontation function		
	He highlights the consequences of my decisions.	Likert 1–7
	He wouldn't hesitate to contradict me if he disagreed.	
	He forces me to demonstrate the accuracy of my ideas.	
	He constructively criticizes my decisions.	
Guide function		
	He suggests new options.	Likert 1–7
	He proposes other perspectives.	
	He give me advice regarding my issues.	
	He helps me clarify the issue at hand.	
Role model function		
	He is a model for me.	Likert 1–7
	He shares his success and failures.	
	He is a good example of entrepreneur.	
	He talks about his professional and life experiences.	
Mentee's learning		
	I learned a lot from my mentor.	Likert 1–7
	My mentor gave me a new perspective on many things.	
	My mentor and I were "co-learners" in the mentoring relationship.	
	Reciprocal learning took place between my mentor and I.	
	My mentor shared a lot of information with me that helped my own professional development.	

Table AI. Details of the measures used in the mentee questionnaire.

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Chapter 4

Management Teams' Composition and Academic Spin-Offs' Entrepreneurial Orientation: A Theoretical Approach

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Additional information is available at the end of the chapter

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Abstract

This chapter has been designed with the purpose of providing a theoretical approach regarding the influence of both the composition of academic spin-offs' management teams and the entrepreneurial orientation exhibited by such firms on the performance of academic spin-offs. To this end, we have drawn on the main theoretical premises of the upper echelon theory, and we have specifically focused on the impact exerted by the proportion of nonacademic managers within management teams, the heterogeneity of such teams with respect to the age and main educational area of their managers, as well as the potential mediating role of the entrepreneurial orientation. From the literature review carried out and the main arguments of the chapter will be expected a further empirical development.

Keywords: academic spin-offs, management team composition, nonacademic managers, upper echelon theory, management team age heterogeneity, management team educational heterogeneity

1. Introduction

Throughout the last few decades, the creation of academic spin-offs has gained critical importance as a consequence of the relevant role that these organizations develop in the transfer and commercialization of the knowledge generated in universities and of their

positive implications for the social and economic development of the context where they operate. Specifically, academic spin-offs facilitate the start-up of projects with a high component of tacit and specific knowledge, and therefore hard to transfer to the business context; they are an important source of income for universities and the founders; they constitute an important source of high-qualified employment; and they actively take part in the spreading of innovation and the creation of wealth [1–4]. All of this has led academic spin-offs to be considered, on the one hand, as a mechanism with a high potential to make profit, greater than the potential of the traditionally employed patent licenses, when it comes to transferring the knowledge generated in universities [5–7] and, on the other hand, as one of the main instruments to increase regional and national competitiveness [8, 9].

As a response to this increasing acknowledgment of the impact of academic spin-offs on the social and economic context, the authorities and policy-makers have started to develop diverse programs of support, to build infrastructures and to design investment strategies, with the purpose of encouraging the commercialization of the results of the research conducted in the university. Concurrently, and with the purpose of adapting to this new socioeconomic reality, universities have seen themselves equally forced to modify the roles and responsibilities they have traditionally developed, thus taking on, together with the traditional tasks of teaching and research, a third one, which consists of the direct contribution to innovation, social change, and territorial development [10].

In this new perception of the university, knowledge transfer plays an essential role within its functions and responsibilities [11]. In this context, in which the university faces the challenge of designing policies and actions that respond to the aim of satisfying the new relationship with its social environment, encouraging the creation of academic spin-offs, as a way of transferring the knowledge generated through research, has been found to be one of the main instruments used by universities.

Thus, as a consequence of the increasing acknowledgment of the role performed by academic spin-offs in the economic and social environment, and of the important encouragement provided by universities concerning their creation, it is possible to observe a considerable increase in the number of spin-offs that have been set up in the last few years. This increase, which has been seen firstly in the United States, has also reached, although later, the European context.

Concurrently, with the rise in setting up academic spin-offs, it has been noticed, in the last few years, an increasing interest from the scientific community in the analysis of the academic entrepreneurial phenomenon from different points of view [8, 12, 13]. In this sense, and taking as a reference the literature reviews by Rothaermel et al. [14] and Djokovic and Souitaris [15], it is possible to infer that the majority of these studies have been developed mainly at three different levels: *macro*-level (governmental), *meso*-level (university and support mechanisms), and *micro*-level (academic spin-off and founders).

Nevertheless, and despite this recent increase in the number of studies focused on the specific field of academic spin-offs, the review of the literature shows that it is at a rather emerging state. In this sense, it is possible to state the existence of some lines of research at an early stage,

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offering interesting research opportunities. In particular, one of the fields that could require a greater effort from the scientific community is that of determining the factors of success and the main challenges faced by academic spin-offs throughout their creation and development [14]. In this sense, the factors that have traditionally been considered include, on the one hand, the role performed by universities and other institutions that belong to the academic environment, as providers of resources and promoters of intellectual property policies and strategies of support; on the other hand, the access to financial capital; and finally, diverse aspects related to academic spin-offs' human capital and social capital [3, 16, 17]. However, it is noteworthy the scarce attention that academics have paid to the analysis of both strategic behavior, in general, and more specifically, entrepreneurial behavior adopted by academic spin-offs, as a possible crucial factor of the success of these firms.

The exhibition of an entrepreneurial strategic orientation reflects the attitude of the organizations toward entrepreneurial decisions and actions [18, 19], and it is usually conceptualized through entrepreneurial orientation [18, 20]. This construct has been analyzed consistently from both a theoretical and an empirical perspective [21, 22], and it has been linked frequently to both the firms' success [23] and the encouragement of entrepreneurial activities [24]. This interest, however, has hardly reached the field of academic entrepreneurship, since there are few studies devoted to the analysis of the factors that foster the academic spin-offs' adoption of entrepreneurial orientation, or to the effect it has on the performance of the organizations [25, 26].

With the purpose of identifying the factors that could promote the exhibition of higher degrees of entrepreneurial orientation by academic spin-offs, this chapter puts its focus on the role exerted by the composition of academic spin-offs' management teams.

While it is true that previous literature has recognized that management teams can play an important role in the successful development of academic spin-offs [27–29], it is not less true that the research that analyzes the influence of the composition of academic spin-off management teams on academic spin-offs' development and success is quite limited when compared to the research carried out in other contexts (e.g., see [30–32]). Moreover, most of these contributions agree on two main aspects. First, there is a significant lack of research that takes into account the specific particularities of academic spin-offs' composition. In this vein, it is noteworthy the scarcity of works that specifically consider the impact exerted by the mixed presence of managers with nonacademic and academic backgrounds within management teams. Second, research has usually focused on examining the link between academic spin-off management teams' composition and financial and economic measures such as net cash flow or employment growth [28, 30]. Nonetheless, we should take into account the specific nature of academic spin-offs, and for this reason, it could have more sense to address the analysis toward the firm-level behavior, where the role of management teams has a greater influence. Specifically, the establishment of the focus on the entrepreneurial orientation exhibited by academic spin-offs may be particularly appropriate. This is due to the hostility, ambiguity, and extreme competitiveness that characterize the environments in which academic spin-offs usually operate. In such circumstances, previous literature has pointed out the relevance of adopting entrepreneurial behaviors by firms [25, 33, 34].

Drawing on the main premises of upper echelon theory [35], which posits that management teams exert a decisive influence on the strategic choices of their and consequently, on their performance [36], this chapter examines theoretically the potential influence of three specific compositional measures of academic spin-offs' management teams on the entrepreneurial orientation reported by such firms. To this respect, the presence of professional (nonacademic) managers, as well as the heterogeneity of management teams in terms of both age and educational backgrounds of their members, is specifically examined.

The chapter is structured as follows. In the next section, we delimit the concept of academic spin-off. The following section is devoted to present the theoretical arguments that sustain our propositions. Finally, the main contributions of the chapter are offered.

2. Academic spin-offs

The conceptualization of academic spin-offs has been the subject of intense debate, and it has also been the source of divergence and controversy in the academic entrepreneurship literature. The lack of an agreement on a definition has brought about the appearance of several problems when it comes to setting limits to the concept and as a result, on the one hand, the disagreement of various authors, bodies, or institutions when defining the criteria to classify a company as an academic spin-off and, on the other hand, the difficulty in achieving perfect accuracy when cross-checking the results from various studies [37].

The main differences and similarities are related to certain individuals being regarded as academic entrepreneurs because of the type of link they have with the source institution, and the knowledge or technology that form the base of the organization [37]. Regarding the first of these factors, some studies have taken into account academics, researchers, or PhD students only [38, 39], whereas others have also included students or graduates as potential founders of academic spin-offs [40, 41]. On the other hand, when considering the technological component, most of the studies have agreed on emphasizing technology as an essential component of academic spin-offs [38, 40, 42, 43], although they have not reached an agreement on the nature of the knowledge or the technology that must be transferred from the university.

The disparity of definitions and different approaches to the academic spin-off concept shows the complexity when it comes to properly setting limits to this type of company. That is why the proposal for a proper definition is necessary, in order to avoid vagueness and for it to help set the direction for this research.

Hence, for the purpose of this study, academic spin-offs are defined as a specific type of companies, which are set up either by researchers that belong to the university research groups or projects or by academics who are directly connected to the university, and based on the knowledge and/or technology developed at the core of the academic institution, in order to commercially exploit the findings of the research. In addition, by taking previous literature as a reference, it is possible to note a set of specific guidelines that help identify and differentiate academic spin-offs from other types of organizations. The guidelines are the following:

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- *New company*: The spin-off must have the same legal structure a new company has. However, they will not be considered academic spin-offs those which arise from the transformation of existing companies or exceptional subcontracting agreements between universities and companies that operate in the markets.
- *Parent organization*: The new company must have emerged from a Spanish public university. With regard to this, they will not be regarded as academic spin-offs those which have been set up based on research developed in private universities, laboratories, or research institutes.
- *Knowledge and technology transfer*: The scientific knowledge marketed by the academic spin-off could include technological innovations, patents, and individual know-how. The transfer of that knowledge can be developed in various ways, such as the direct immersion of the researchers in the spin-off, the transfer of intellectual property through a sale, or through license agreements.
- *The aim of making profit*: The achievement of financial and economic performance must be one of the main objectives of the academic spin-offs, and consequently, nonprofit organizations are excluded of the consideration of academic spin-offs.
- *Social purpose*: One of the purposes of academic spin-offs is to contribute to the economic and social development of the regions, by turning the research findings generated in the university into useful products and services for society.

3. Entrepreneurial orientation and academic spin-offs' performance

Within the broad field of entrepreneurship, entrepreneurial orientation is considered as the sustained exhibition of firm-level entrepreneurial behavior [24]. Some researchers have highlighted that entrepreneurial orientation is closely linked to the strategic decision-making process [18, 44]. Particularly, the concept of entrepreneurial orientation makes reference to the strategic process by which organizations identify new opportunities and implement entrepreneurial actions [45] and specifically describes the firm's organizational autonomy, its willingness to take risks and to innovate, its competitive aggressiveness and proactive assertiveness [18, 25]. In this sense, autonomy is regarded as the degree to which the members of the organizations remain free to act independently, to make key decisions, and to pursue opportunities. On the other hand, risk taking makes reference to the firms' tendency to support projects with uncertain results. The willingness to innovate reflects the propensity of a firm to engage in new ideas and creative processes that may result in new products, services, or technological processes. Competitive aggressiveness concerns the organizations' tendency to challenge their competitors in order to enter new markets or to improve their position. Finally, being proactive is defined by adopting initiatives in advance, the pursuit of new business opportunities, and taking part in emerging markets [46].

Since the influential work by Miller [47], many studies have regarded entrepreneurial orientation as a core concept of the entrepreneurship literature and it has received a substantial

amount of theoretical and empirical attention [21, 22]. Scholars have highlighted the crucial role performed by this strategic orientation in the success of firms [23] as well as in the encouragement of entrepreneurial activities [24]. Entrepreneurial orientation has been studied predominantly through its connection to new firms' performance and has been proven consistently to be highly significant [19, 22, 48]. To this respect, previous research has shown that this relationship could be especially noteworthy in environments characterized by high levels of uncertainty, hostility, and technological sophistication, in which the constant search for new opportunities and the development of innovative actions are major challenges [33]. As Zahra and Covin [49] have noted, the firms that exhibit a proactive behavior could exert a significant control on the market. For its part, entrepreneurial orientation allows companies to think in an innovative way, which results in the exploration and launch of new products, the development of creative processes, the process of constant innovation, and ultimately, in the achievement of important benefits [50]. Similarly, the companies that report high levels of entrepreneurial orientation encourage autonomous behavior of their employees and management teams, which could result in a constant pursuit of new opportunities and, consequently, positive results for organizations [25]. Finally, entrepreneurial orientation also allows companies to take greater risks when carrying out their strategies and to more aggressively position their products and services in markets [22, 25]. These theoretical arguments have also been empirically supported by research. To this respect, the works of [19], [21] and [22] have demonstrated the positive impact of EO on performance or growth of firms operating in highly dynamic and competitive environments.

In the specific context of academic entrepreneurship, entrepreneurial orientation could play a particularly important role in the survival and successful development of academic spin-offs [25]. In this sense, these firms often operate in extremely dynamic and uncertain environments, in which they are often forced to develop their own markets as a result of the specificity and high technological content of the products and services offered [34]; challenge markets, companies, and established technologies in order to commercialize highly innovative products and services [25]; and protect their own innovations from other potential competitors that could try to imitate such innovations or even acquire the firms [25]. Moreover, the reduced size of the academic spin-offs [51] could also be a determining factor when considering the relevant role of entrepreneurial orientation for these companies. As Vanaelst et al. [52] point out, smaller organizations show greater flexibility in their strategies and actions, allowing them to adapt more easily to environmental changes and take advantage of new opportunities in the markets. In this sense, the meta-analysis conducted by Rauch et al. [22] showed that the influence of entrepreneurial orientation on firm performance is significantly higher in firms with fewer than 50 employees.

In view of these arguments, it seems reasonable to argue that the exhibition of high degrees of EO could result in an improvement in the academic spin-offs' performance. Nonetheless, the number of studies devoted to the analysis of this relationship in the context of academic spin-offs is extremely limited. Therefore, it is only possible to mention the analyses carried out by Walter et al. [25] and Tietz [26]. The first of these works examined the relationship between the EO reported by a sample of 149 German academic spin-offs and various performance meas-

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ures. The results demonstrated the presence of a significant and positive relationship between the EO and the subjective view of managers about both the quality of the relationship maintained between the firm and the customers, and the achievement of competitive advantages. Meanwhile, Tietz [26] examined the individual impact of each of the dimensions of EO on the growth and profitability of a sample of 193 German academic spin-offs, although the results were not absolutely conclusive.

In view of the previously established arguments, the following proposition is formulated:

Proposition 1: There is a direct and positive relationship between entrepreneurial orientation and academic spin-offs´ performance.

4. The influence of the composition of academic spin-offs' management teams on entrepreneurial orientation

The management teams of academic spin-offs show some peculiarities that make them different from the teams of other startup companies, or from the top management teams of well-established companies, and also require them to be analyzed from a specific perspective. Some of these distinctive components stem from the background of the members of these teams, most of who come from the academic or research environment where the knowledge for the basis of the academic spin-off was created. Thus, diverse studies, such as the ones developed by Visintin and Pittino [32] and Clarysse and Moray [42], or Vanaelst et al. [52], have pointed out that, firstly, these academic entrepreneurs, who have been trained at the core of the university, usually stand out because of their knowledge and skills in the technological, scientific, or research context, but normally lack the necessary skills and experience to manage an entrepreneurial initiative properly and to lead their colleagues efficiently. In addition, the composition of these teams usually highlights because of its high degree of inherent homogeneity concerning educational and functional experience, and range of skills [30], which has been constantly reported by the literature as a burden for the performance of the firms and their adoption of entrepreneurial behaviors [30, 53, 54].

On the other hand, as Ensley and Hmieleski [30] notes, academic spin-offs usually experience two processes that affect the composition of their management teams: coercive isomorphism and mimetic isomorphism. The first one arises from the formal and informal pressures put on the firms by the organizations they depend on Guler et al. [55]. In this context, academic spin-offs could shape their teams depending on the policies and precepts of the universities, which could mean a redundancy of similar academic profiles in the core of the teams. On the other hand, mimetic isomorphism concerns the tendency of the firms to shape themselves by following the example of other organizations within their environment [56]. This process, which takes place especially when the goals and the environment are uncertain, could lead the organizations to create their own management teams by using as a reference the academic spin-offs within their environment, which could also bring about, as a consequence, an increase in the degree of homogeneity that these teams show in their composition.

Finally, another distinguishing feature that defines the management teams of academic spin-offs is the evolution they experience throughout time. This way, by bringing to the company external professionals or managers, the knowledge, skills, experience, and contacts that are necessary in order to reduce the shortcomings of academic entrepreneurs in issues related to business areas could be gained, and therefore the likelihood of success could be increased [32]. In this sense, some authors such as Clarysse and Moray [42] or Vanaelst et al. [52] have identified this process of change with the various stages that can be identified in the life cycle of academic spin-offs.

Taking into account these arguments, it seems reasonable to expect that the design of appropriate management teams becomes a relevant topic for the entrepreneurial development and success of academic spin-offs. In this vein, and considering the previously described features that surround the composition of academic spin-offs' management teams, the efforts of these firms should be focused on building management teams that are balanced in terms of scientific and business orientation [32]. Therefore, attracting professionals from business contexts, as well as members with diverse academic backgrounds, could provide academic spin-offs with prominent advantages, since management teams could substantially increase their levels of cognitive diversity and professionalism. In this vein, as previous literature has noted [57–59], firms with heterogeneous management teams could be more likely to report high levels of entrepreneurial orientation, since they have the ability to both consider a greater range of strategic options and take innovative and proactive strategic decisions.

4.1. The proportion of nonacademic managers within management teams and academic spin-offs' entrepreneurial orientation

Previous research has pointed out that the entry of nonacademic members in academic spin-offs' management teams could be beneficial for academic managers to help them obtain the stock of abilities, resources, and knowledge they usually lack [31, 42, 65]. Additionally, it is expected that the integration of individuals with previous entrepreneurial or management experiences could positively impact the adoption of entrepreneurial and proactive behaviors by academic spin-offs because outside managers could incorporate new entrepreneurial and business perspectives [52]. Some researchers have pointed out the relevance of the professionalization of management teams to help firms recognize and exploit entrepreneurial opportunities [66], enhance their degree of entrepreneurial behavior [67], and ultimately exhibit higher degrees of entrepreneurial orientation [68].

An additional argument could explain why the entry of nonacademic managers into management teams is expected to enhance an academic spin-offs' entrepreneurial orientation. The incorporation of managers with prior entrepreneurial or industrial experience could significantly increase the stock of human capital directly related to entrepreneurial attitudes, since such outside members may possess relevant abilities to recognize entrepreneurial opportunities [69] as well as high levels of entrepreneurial self-efficacy [70] as a result of knowledge and abilities acquired through work experience, networks, workshops, and specific training [71]. Relevant empirical studies have highlighted that both the ability to recognize opportunities and entrepreneurial self-efficacy are antecedents positively related to the development of

entrepreneurial behaviors and orientations [72, 73]. Therefore, the presence of nonacademic managers exhibiting prominent levels of these cognitive factors could influence the entrepreneurial orientation of academic spin-offs.

Taking into account these premises, we expect that counting with nonacademic managers within academic spin-offs' management teams with attitudes, knowledge, and experience related to the business world will positively impact the entrepreneurial orientation reported by academic spin-offs and ultimately, on the performance of such firms.

Consequently, the following proposition is formulated:

Proposition 2. Entrepreneurial orientation mediates the relationship between the proportion of nonacademic managers within academic spin-offs' management teams and academic spin-offs' performance.

4.2. Management team heterogeneity and entrepreneurial orientation

The heterogeneity of management teams has been frequently analyzed by previous literature, being traditionally described as the degree to which members of management teams differ with respect to certain traits such as education background, previous experience, gender, age, or tenure [36, 74].

Starting from the main upper echelon's premises, heterogeneous management teams could be more likely not only to consider a greater range of options, but also to make highly creative, innovative, and entrepreneurial strategic decisions [75, 76]. Moreover, heterogeneous teams have been shown to be more likely to manifest entrepreneurial and innovative behaviors and enter new product markets than homogeneous teams [67]. Consequently, heterogeneous management teams could be especially beneficial in management processes that require creative thinking, innovative decisions, and entrepreneurial attitudes [77, 78].

However, the positive influence of management teams' heterogeneity on the development of entrepreneurial orientation has not been consistently demonstrated. This is because the empirical evidence is scarce and not conclusive and is nonexistent in the specific context of ASOs. Some empirical evidences, such as Sciascia et al. [53], found a positive relationship between functional heterogeneity of family firms' management teams and entrepreneurial orientation. On the other hand, the study of Auh and Menguc [79], carried out in the context of manufacturing firms, reported that top management teams' functional heterogeneity negatively influenced the entrepreneurial orientation of such firms.

In this chapter, our focus is specifically on both age heterogeneity and educational heterogeneity, which have been traditionally noted as relevant predictors of the manifestation of entrepreneurial decisions and attitudes by firms [54]. Besides, and considering the expected predominance of academics and researchers within management teams, the analysis of other heterogeneity measures such as professional background heterogeneity or educational level heterogeneity could be meaningless. In this vein, previous researchers such as Bjørna°li [31] or Mosey and Wright [80] have pointed out the relevant impact of both age and educational heterogeneity in the context of ASOs. Therefore, we expect that ASO management teams with

broad perspectives and visions provided by managers with heterogeneous ages and educational backgrounds could significantly influence the strategic orientation reported by such firms.

4.2.1. Management team age heterogeneity and entrepreneurial orientation

Previous literature has frequently pointed out the relevance of the age of management teams' members as a relevant demographic variable affecting firms' decisional processes [35]. However, when analyzing the effects of the heterogeneity of management teams' age on both entrepreneurial behaviors and firms' performance, it is possible to find conflicting arguments and nonconclusive empirical results [81].

On the one hand, management teams could benefit from having managers with a broad range of ages because age heterogeneity within management teams reflects a varied set of experiences, perspectives, belief systems, affiliations, and social ties [31] that can increase the variety of perspectives on strategic issues facing firms [81]. The underlying assumption is that differences in age reflect an important variety of cognitive resources as a result of the multifaceted experiences and backgrounds of individuals who have lived in different social, political, and economic settings [82]. This breadth of perspectives enhances cognitive information processing and allows teams to be more effective in solving complex and nonroutine problems, as well as addressing strategic issues and the challenges imposed by turbulent environments [83–85]. The teams could develop higher abilities to search entrepreneurial opportunities through the employment of the broadmindedness provided by heterogeneous management teams in terms of ages [86]. Similarly, they could respond more effectively the environmental demands [87]; identify the need for changes in strategic orientation [82]; and, ultimately, provide academic spin-offs, the appropriate entrepreneurial orientation for developing innovative and proactive behaviors with the potential for contributing positively to firms' performance.

However, the literature is not entirely conclusive to this respect, since some studies have found null or negative effects of diverse management team ages on both entrepreneurial orientation and firms' performance. In this vein, Bantel and Jackson [88] and Coff [89] were not found a significant relationship between management team age heterogeneity and innovative performance, whereas Olson et al. [90] reported a negative relationship between such variables. For this part, Wiersema and Bantel [81], Naranjo-Gil and Hartmann [82], and Wu et al. [91] were not able to demonstrate the existence of a significant relationship between management team age heterogeneity and the adoption of an entrepreneurial strategy by firms.

The argument traditionally employed for explaining these controversial findings is the emergence of relationship conflicts as a result of age heterogeneity [90, 91]. Previous literature has argued that heterogeneity based on relatively impermeable attributes such as race, gender, or age is more likely to cause a pernicious conflict through the tendency of team members to sort each other into different social categories [92]. This tendency may have its origin in the differences in values, attitudes, and perspectives reported by team members with diverse ranges of ages. In this vein, previous literature has noted that younger managers are usually

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more risk-oriented, may have less commitment to the status quo, and therefore may be more willing to undertake novel and entrepreneurial strategies [35, 81, 93]. Moreover, it is generally accepted that as people grow older, they become less flexible with regard to change and tend to take fewer risks [94].

In light of these arguments, it seems reasonable to propose the existence of a mediation relationship between management team age heterogeneity, entrepreneurial orientation, and firms' performance. In the specific context of academic spin-offs, management team age heterogeneity may be a relevant predictor of entrepreneurial orientation. However, as a result of the potential emergence of pernicious levels of conflict within management teams that such heterogeneity could provoke [60–64], we suggest that the impact of age heterogeneity on entrepreneurial orientation would be negative and consequently, that academic spin-offs' performance would be hindered.

Therefore, the following proposition is established:

Proposition 3. Entrepreneurial orientation mediates the relationship between management team age heterogeneity and academic spin-offs' performance.

4.2.2. Management team educational heterogeneity and entrepreneurial orientation

Educational heterogeneity can be defined as the extent to which management team members have received training in different academic fields [30]. In this chapter, we put our focus on team members' academic disciplines because it is expected that, as a result of their academic origins, members of management teams of academic spin-offs possess high and similar levels of academic degrees.

A number of empirical studies carried out in different contexts have pointed to the positive impact of management teams' educational heterogeneity on both firms' performance [30, 54, 95] and firm-level behavior [54, 81, 82]. This research has relied on the consideration of educational heterogeneity as a task-related heterogeneity, which may be particularly beneficial for firms. Specifically, this positive impact has been attributed to the task conflict emerged from such heterogeneity [92]. Therefore, management teams with high degrees of cognitive diversity could be highly likely to experience task conflict, which could promote the exchange of ideas, debate among members, the synthesis of diverse perspectives into balanced and well-reasoned decisions, and the effective identification and creative exploitation of opportunities [53, 96].

In spite of its potential beneficial effects, some research has shown that educational heterogeneity can be detrimental and, consequently, that the aforementioned positive effects could be hindered. In this sense, it is possible to find both null effects [97] and negative effects [98]. The limited research in the academic spin-off context reveals the same nonconclusive results. Visintin and Pittino [99] found that the educational heterogeneity of academic spin-offs' management teams was negatively related to employment growth. Ensley and Hmieleski [30] was not able to demonstrate the influence of management teams' educational heterogeneity on firms' net cash flow and Müller [28] found a null impact of educational heterogeneity on academic spin-offs' employment growth.

In an attempt to explain the controversy of previous empirical evidence, some researchers have noted the task conflict emerged from higher educational diversity as the reason of the existence of such counter-productive effects. In this vein, task conflict and dysfunctional conflict have been found to be strongly and positively correlated, in such a way that the relation is more intense when the level of conflict within management teams increases [96]. Some researchers have shown that when task conflict and dysfunctional conflict are examined simultaneously, the effect of task conflict beyond dysfunctional conflict is weak or nonexistent [100, 101], and consequently, the beneficial effects of task conflict could be completely nullified by high levels of dysfunctional conflict [102].

Therefore, we consider that a mediation relationship exists between management team educational heterogeneity, entrepreneurial orientation, and academic spin-offs' performance. We hold that educational heterogeneity is necessary and beneficial to the development of entrepreneurial orientation. Nonetheless, as educational heterogeneity may result in the emergence of high levels of conflict, we suggest that academic spin-offs' performance could be affected positively and negatively by the degree of entrepreneurial orientation exhibited by firms.

Proposition 4. Entrepreneurial orientation mediates the relationship between educational team age heterogeneity and academic spin-offs' performance.

4.3. Theoretical model

The previously formulated propositions can be graphically summarized in the following conceptual model, which is described in **Figure 1**. As we suggested, Proposition 1 notes the existence of a positive relationship between the entrepreneurial orientation reported by academic spin-offs and its performance, while Propositions 2–4 point out the mediating role of entrepreneurial orientation in the relationships between the proportion of nonacademic managers (Proposition 2); the management team age heterogeneity (Proposition 3); the management team educational heterogeneity (Proposition 4); and academic spin-offs' performance.

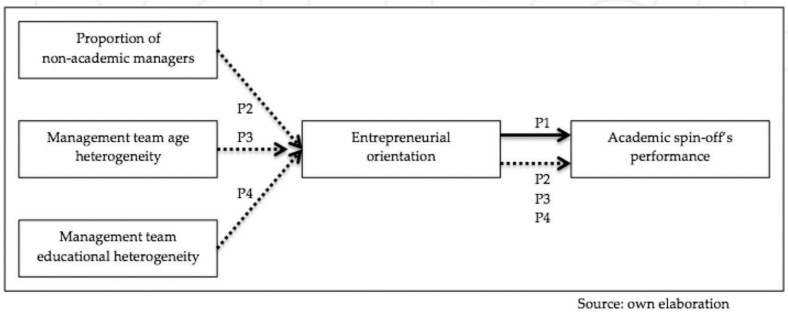

Figure 1. Conceptual model.

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5. Conclusion

The creation of academic spin-offs is one of the major mechanisms of transfer of technology and knowledge from universities to society, and moreover, it is an important source of wealth creation for its environment. For this, academic spin-offs are being subject of increasing interest, both from governmental and from academic institutions. However, in spite of this rising importance, academic spin-offs have not been analyzed intensely in the literature yet and previous studios have not been able to demonstrate the influence of certain factors on the success of such firms.

In an attempt to fill this gap and drawing on the crucial role that the composition of management teams and entrepreneurial orientation could exert on the performance of academic spin-offs, the aim of this chapter has been focused on proposing a theoretical framework for analyzing the relationships that could exist between the composition of academic spin-offs' management teams, the entrepreneurial orientation reported by such firms, and its performance.

Our chapter contributes to the upper echelon and entrepreneurship literature in different ways. Firstly, our theoretical approach may contribute to clarify the existing debate in the entrepreneurship literature regarding the factors that limit the development of academic spin-offs. To this respect, we highlight the relevance of taking into account the specific and idiosyncratic composition of their management teams in order to analyze the entrepreneurial behavior of academic spin-offs and their latter performance. Secondly, we extend the scope of upper echelon perspective. Most research that is based on the main premises of this theoretical framework is traditionally focused on established firms' top management teams [54, 103] and more recently, on new ventures' management teams [98, 104]. However, our chapter could be considered as one of the first attempts of considering the specific nature of academic spin-offs through the lens of upper echelon theory.

Equally, our chapter could provide some important practical implications to academic spin-offs' management teams. In general terms, our arguments could lead to reflect about the convenience of designing balanced management teams in terms of scientific and business profiles, in order to both enhance academic spin-offs' entrepreneurial orientation and channelize such strategic orientation on higher performance. To this respect, academic members could be forced to change their traditional isomorphic orientation and address their efforts toward the incorporation of other management team members with complementary attitudes, values, knowledge, and experiences, who may provide a broad range of innovative and entrepreneurial perspectives and ideas. At this point, the role of some university institutions such as technology transfer offices (TTOs) or technological parks could be crucial, since such units are more closely linked to business contexts and therefore, they could provide academic spin-offs with the tools and contacts for attracting valuable outside professionals. However, academic managers could be conscious that the presence of managers with diverse values and profiles could have some pernicious consequences on management teams' internal dynamics, in such a way that it could be recommendable the development of appropriate contexts of

debates and exchanges of ideas, in which the emergence of proactive and innovative points of views could be facilitated.

Finally, this chapter could be considered as the starting point for further research. To this respect and with the purpose to check the validity of our arguments, the following step should be the empirical development of the propositions formulated. Moreover, it would be interesting to expand the further focus of the research and extrapolate the potential results obtained to academic spin-offs of different regions and countries. This could allow us to corroborate the potential impact of the national culture and institutional factors on the theorized relations. Lastly, and drawing on previous research that analyzes academic spin-offs under the lens of the perspective of life cycle stage [52], a possible further research line could aim to identify academic spin-offs' differentiated behaviors depending on whether academic spin-offs are recently established or are consolidated in markets.

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INTECH

Chapter 5

Entrepreneurial Intention: Theory of Planned Behaviour and the Moderation Effect of Start-Up Experience

Senay Sabah

Additional information is available at the end of the chapter

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Abstract

Entrepreneurial activity is considered to be an intentionally planned behaviour. Consequently, entrepreneurial intention (EI) may be evaluated via theory of planned behaviour (TPB). According to Ajzen's TPB, EI is explained by three antecedents: attitude towards entrepreneurial behaviour, perceived social norms and perceived behaviour control in other words, self-efficacy. Although this model is widely tested empirically, new research regarding moderation effects may be valuable [1]. Moreover, [2] argues that personal factors such as previous start-up experience are relevant concerning the model. Accordingly, in this study, moderation effect of start-up experience is added in TPB model from a convenience sample of 528 undergraduate business administration students from the three most economically developed cities in Turkey. Hypotheses are tested by means of hierarchical multiple regression analysis. Coefficients are estimated using ordinary least squares. In order to test the moderator effect, significance values of the interaction term is assessed. According to the results, all of the relations within the model are significant. Ajzen's TPB holds for the Turkish case. Moreover, for the students with a past start-up experience, the effect of both self-efficacy and personal attitude towards entrepreneurial behaviour on entrepreneurial intensity increases. This is a promising result for the future studies.

Keywords: entrepreneurial intention, theory of planned behaviour, moderation, start-up experience

1. Introduction

Entrepreneurship is considered to be the discovery/creation, evaluation and exploitation process of opportunity [3], and it requires the preparedness to realize and/or create that

opportunity [4, 5]. Within this perspective, entrepreneurial intention is considered to be the best predictor of this behaviour in comparison with other factors such as, demographic and trait variables. This is because entrepreneurship is taken to be an intentionally planned behaviour likewise all other strategic decisions [6]. Accordingly, within the entrepreneurship literature, cognitive research gain considerable popularity and most of this attention is given on intention models [6].

Theory of reasoned action, which is a widely used intention-based theory, explains intention via a formulation considering subjective norms of significant others and personal attitude towards the related behaviour as the antecedents of intention. Theory of planned behaviour (TPB) is an extended form of theory of reasoned action, with the addition of a new variable, perceived behavioural control (PBC) [7]. TPB is used extensively within different study areas besides the entrepreneurship literature, and it still provides a rich potential for the area [8].

In addition to the theoretical importance of TPB, it has also practical importance. According to the model, these perception-based intentions and beliefs may be learnable not inborn [4]. Besides, it is a widely accepted fact that personal differences such as past experience, knowledge, etc. may affect the evolution of the intention [9]. As a result, studying intention may provide policy makers the opportunity to realize the cognitive frameworks of individuals who are considering to engage in entrepreneurial behaviour, which is more beneficial for policy-making purposes compared to those who have already started up a business [10]. This is important because entrepreneurial behaviour acts as an important and locomotive force of innovation within an economy [11].

This paper is following the entrepreneurial intention model of Ajzen's TPB. There are many studies in the literature following this path; however, it is argued that a lot of work is needed for figuring out the factors effecting entrepreneurial intention [12]. Moreover, although this model is widely tested empirically, it is argued that new research regarding moderation effects may be valuable [1]. Additionally, [2] asserts that personal factors such as cognitive short-cuts, self-related concepts and previous start-up experience are relevant concerning the relation between entrepreneurial intention and perceived behavioural control plus personal attitude towards entrepreneurship. One of the most important factors that are proposed to add the TPB is past experience [13, 14]. Accordingly, in this study, moderation effect of start-up experience is added in TPB model.

Consequently, the aim of this paper is to test the effect of previous start-up experience on the entrepreneurial intention within a revised model of TPB. Recent studies on TPB take prior actions into consideration [15]. However, studies considering for moderation effects [1] and past experience [16] are still asked for. Because it is claimed that the effect of past behaviour is not a direct one, accordingly, it is suggested to add past behaviour as an indirect factor for intention instead of a direct link [17–21]. This addition is important both theoretically and practically. Theoretically, both examining a widely tested model—TPB—within an eastern cultural context is important for the generalizability of the theory. Moreover, revising the model may also be valuable in order to strengthen the explanation

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capability of the theory. For this issue, we have rested on the past experience, which is considered to be one of the most important explanatory factors for behavioural intention. Practically, adding the past experience may shed light to practitioners and politicians for new opportunity exploitation activities, such as empowering behavioural experiences of entrepreneurs via initiatives, etc. These issues stand as the theoretical and practical importance of the paper.

Within this study, first TPB will be explained in brief, and then the effect of past behaviour within the TPB model will be discussed. Thereafter, the study held in Turkey, on 528 undergraduate students will be presented. Terminally, conclusion and practical and theoretical implications of the study is initiated.

2. Theory of planned behaviour

Theory of planned behaviour (TPB) that "predicts and explain behaviour in specific contexts" [7] is a frequently used theory in different disciplines [22]. This is also true for entrepreneurship research since to become an entrepreneur is considered to be a conscious activity and intention is taken to be a cognitive state [22]. Moreover, it is argued that entrepreneurial decision is a complex one and need intentional cognitive process [18]. As a result, instead of personality traits or demographic studies, cognition contains more and significant information regarding the entrepreneurial behaviour, since it is a "closer antecedent" for behaviour [6, 23]. The outcomes of the previous work also suggested that theory of planned behaviour is an applicable theory for entrepreneurial research [12]. Consequently, intention-oriented researches within the entrepreneurship literature are gaining popularity.

For infrequent behaviours/unstable contexts (which is true for entrepreneurial context), the explanatory power of intention regarding behaviour is increased [16, 24–26]. Because, it is argued that strategic entrepreneurship is taken to be an intentionally planned behaviour, and this is true for even necessity motivated and unexpected entrepreneurship [16]. Therefore, studying the decision-making process for entrepreneurial behaviour via theory of planned behaviour (TPB) seems reasonable [12].

There are two known attitudes for individuals that are intuitive and rational [27], and the main assumption for Ajzen's intention-behaviour relation is human behaviour is rational [28]. Intention means how much a given behaviour is tended to be tried plus how much effort is made for this behaviour [7] and the stronger the intention the chance of the behaviour to be realized is increase [28]. Intention provides a link between the beliefs of an individual and corresponding behaviour [29]. It is considered to be typical for entrepreneurial context, even though the new venture start-up process may evolve suddenly due to an opportunity realization [16].

According to TPB, there are two major sources of intention: desirability (motivation to act for the intended behaviour) and feasibility of the given behaviour [16]. To be more precise, perceived behavioural control (PBC) stands for feasibility; subjective norms and personal

attitude towards entrepreneurial behaviour together define the desirability part of the entrepreneurial intention. These are three kinds of conceptually independent [30] beliefs which are behavioural, normative and control beliefs, respectively [31]. Although this model is a generic one that holds across cultures and contexts, the relative importance of the factors may change [7]. In generic form, intention may increase when there is a positive attitude towards the behaviour, subjective norms regarding the behaviour is favourable and individual has a belief that he/she can accomplish the behaviour effectively [32].

Subjective norms (SN) represents the perception of significant others about a given behaviour. The main assumption for adding this factor to the model is the argument that human behaviour is adopted according to other people's attitude towards given behaviour [24]. Although the effect is taken to be effectual across cases and cultures, the significant others differ for different individuals [4]. For instance, for individuals holding a job, the co-workers or other work-related networks are important. On the other hand for students, family and friends may be important. The effect of subjective norms within the model is questioned due to insignificant and non-systematic previous results regarding it. However, it is argued that, when intention is measured appropriately, there appears a strong relation between norms and intention [25]. By definition, regarding this factor, the belief of others is weighted by individuals' readiness and willingness to act according to these beliefs [17]. As a result, it is argued that especially within collectivistic cultures such as Turkey, subjective norms play a positive and important role for explaining the intention [2, 6, 12]. Accordingly following hypotheses are proposed:

H1: Subjective norm positively affects entrepreneurial intention.

Perceived behavioural control (PBC) refers to the "perceived ease or difficulty of performing the behaviour" [7]. PBC is a perception instead of an actual control and can be operationalized via self-efficacy [7]. Self-efficacy (SE) is considered to be an appropriate measure for PBC since both deals with the "perceived ability to perform a behaviour" [7, 31, 32]. To put it another way, both PBC and SE copes with the perception not the actual skills or abilities [33]. Self-efficacy does not only improve goal setting but also provide persistency for the pre-set goals as a result strengthen the intention [34]. In other words, self-efficacy positively affects various stages of entrepreneurial behaviour [33]. Other factors such as role models effect intention if they affect the self-efficacy [16]. It is argued that, the greater the self-efficacy, the entrepreneurial intention will be stronger. Contrary to subjective norms, self-efficacy is considered to be an important factor for entrepreneurial intention universally [2]. Besides, it appears to be the most powerful antecedent of intention within the literature and, moreover, under the conditions intention explains little regarding the entrepreneurial behaviour, perceived behavioural control and self-efficacy accordingly has an influence for separately predicting the behaviour [25].

H2: Self-efficacy positively affects entrepreneurial intention.

Personal attitude refers to the people's "favourable or unfavourable evaluation of the behaviour in question" [7, 35]. In other words, personal attitude explains the "personal" desirability of any given behaviour, in comparison with the subjective norms that refers to the desirability

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of significant others [16]. According to the model, personal attitude is not an inherent position for an individual but can be learned [17]. As a general rule, the favourable the personal attitude towards a behaviour, the stronger the intention to perform that behaviour.

H3: Attitude towards entrepreneurial behaviour positively affects entrepreneurial intention.

Insofar, the generic model of TPB is explained and related hypotheses are developed within the entrepreneurial context. Now, the effect of previous start-up experience will be added as a moderator to the generic model.

3. Effect of previous experience

Learning is an important factor for cognitive theory including Ajzen's framework [24]. Accordingly, it is a very common argument that the past behaviour is a strong predictor for the future behaviour. To be more specific, past behaviour is told to explain additional 13% of future behaviour variance [26] since it serves as the most important "human capital variable" [36]. However, the formulation of how this may be true within an intention-based model is controversial [32]. Past behaviour somehow change the intention [37] and this relation is told to be not linear and unidirectional [38]. There appears to be a two way relation, that means attitudes and intentions influence behaviours and behaviours also influence the intentions back [38].

Effect of past on future behaviour is controversial within the Ajzen's theory of planned behaviour (TPB) also. It is argued that although TPB is a well-formulated model to explain intention, one major weakness of the model is it does not consider past behaviour [26]. However, [7] argues that, the past behaviour is inherently considered within the model since the information gained via past experience is processed on the antecedents of intention. As a result, past behaviour has no helpful value for future behaviour while considering the direct effect of past experience. However, the significant effect of past behaviour for entrepreneurial intention models contradicts this perspective [37].

To put it briefly, regarding the previous experience-intention relation, there are two main approaches [8]: one, which follows Ajzen's path and argues that past behaviour is irrelevant for the intention model since it is already absorbed via the antecedent factors of intention. Second approach, that is started to be adopted widely argues that past behaviour may be added to the model and improve the explanatory power of the model [8]. Accordingly, the past knowledge is checked for the inclusion within the entrepreneurial intention and behaviour framework.

This is because it is argued that two kinds of knowledge may be gained from past experience, which are tacit and explicit knowledge [8]. Although tacit knowledge is embedded in the beliefs (i.e. self-efficacy/control beliefs, personal attitude towards entrepreneurial behaviour/behavioural beliefs and subjective norms/normative beliefs), explicit knowledge may provide more variance that cannot be explained via these beliefs [8]. And if the situation is not stable, due to reasons such as experience, the intention model may not work well.

Moreover, one's cognition depends on his own experience providing him/her information regarding the relevant behaviour and its consequences [39], because, individuals do not realize the worth of all opportunities around them [40]. In other words, different people discover and realize different opportunities, due to the possession of different prior knowledge and experience [40]. Besides, this experience provides the related behavioural skills via affording relevant setting for essential training [32]. Because, direct experience affords different information compared to the indirect one [30]. Related to entrepreneurial behaviour and value creation context, this relation is significant [6]. In addition, these cognitions are more stable compared to the cognitions formed via indirect sources of information [39]. These results support the idea that the previous experience amplifies the relation between entrepreneurial intention and its antecedents, namely self-efficacy and personal attitude towards entrepreneurial behaviour.

It is argued that the relation path that is proposed to be added to the TPB model is not a direct one [6]. This is because the direct effect is absorbed through the antecedents of intention. Prior start-up experience does not affect personality or entrepreneurial potential of the individual, but it changes the "individuals' perceptions about the opportunities available" [15]. As a result, it may be argued that prior experience provides knowledge that amplifies the relation between both personal attitude and self-efficacy to entrepreneurial intention. In other words, with the experience, even if the attitude and self-efficacy levels are same, the cognitive process works different to shape the relation regarding these factors with entrepreneurial intention positively.

For instance, although individual's attitude towards entrepreneurship may be low, due to past experience he/she may knows that if he/she does not realize the opportunity, someone else will do it [8]. As a result, without increase in the attitude, intention may increase due to this "explicit" information gained through past experience. Similar situation may also be hold for the SE. for instance, individual may not be "confident" about his/her control regarding the situation but due to past experience he/she may be aware of resources to cope with the situation [8]. In other words, without an increase in SE, with the knowledge and experience gained through the past behaviour, the intention level may increase. Moreover, with past experience, individuals expend minimal effort for intention although this is not due to an increase in the antecedents [20].

To sum up, past start-up experience may provide individuals this explicit knowledge that is not reflected through the antecedents, and the effect of this knowledge and experience on intention is not a direct one, but a moderator effect exists. As a result, following hypotheses are suggested:

H4: With the moderation of start-up experience, the relation between self-efficacy and entrepreneurial intention increases.

H5: With the moderation of start-up experience, the relation between attitude towards entrepreneurial behaviour and entrepreneurial intention increases.

4. The study

In this study, the effect of past start-up experience is added to the Ajzen's theory of planned behaviour (TPB), as a moderator factor between entrepreneurial intention and personal attitude

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	Description	
1	Self-efficacy positively affects entrepreneurial intention	SE → EI
2	Attitude towards entrepreneurial behaviour positively affects entrepreneurial intention	PA → EI
3	Subjective norm positively affects entrepreneurial intention	SN → EI
4	With the moderation of start-up experience, the relation between self-efficacy and entrepreneurial intention increases	SE → EI+ (with the moderation of start-up experience)
5	With the moderation of start-up experience, the relation between attitude towards entrepreneurial behaviour and entrepreneurial intention increases	PA → EI+ (with the moderation of start-up experience)

Table 1. Hypotheses.

towards entrepreneurial behaviour plus self-efficacy. **Table 1** figure out the proposed model and relations of this study. Now, the empirical analysis of the proposed hypotheses will be realized.

5. Methodology

5.1. Measures

All of the factors except past start-up experience is measured by seven-point scales that ranged from 1 (strongly disagree) to 7 (strongly agree) in relation to entrepreneurial behaviour. The scales used revealed adequate reliability among undergraduate students in the past studies. For avoiding the response bias, some items for each measure are negatively worded [14].

For the entrepreneurial intention and personal attitude, Ref. [12]'s scales are applied. For entrepreneurial intention six items, for personal attitude five items that ask for the level of agreement is used. It is argued that there is a lack for reliable measures for entrepreneurial intention [41], and this study argues to be statistically robust and theoretically sound for applying different cultures. Related to intention there are three kinds of measures: desire ("I want to…"), self-prediction ("How likely it is…") and behavioural intention ("I intend to…"), and the last one is told to have better results for behavioural prediction [12]. Moreover, for the entrepreneurial intention concept, it is appropriate to measure via a reflective measure not a formative one [41], which is true for this scale. Accordingly, we also use the behavioural intention measure. For attitude, an aggregate scale is used consistent with Ref. [7].

For subjective norms, identification of the appropriate significant others is important [17] and within this study, two questions are formulated that are about the decision of family and friends. These two are considered to be the significant others for undergraduate students. Accordingly, following two items to agree/disagree are asked "My family/friends would see it as very positive if I would start my own business". For self-efficacy, Ref. [42]'s scale, which is widely assessed, is used.

	Cronbach alpha
Self-efficacy	0.933
Personal attitude towards entrepreneurship	0.879
subjective norms	0.853

Table 2. Constructs' Cronbach alpha values.

For past start up experience, a direct "yes or no" question asking for "whether they initiate a start-up experience before" is used. This question is considered to be a dummy variable as a moderator in the classic TPB model.

All of the scales have high reliability scores within the past studies. According to Ref. [43], 0.80 reliability level is required. This is also true for this study since all constructs' reliability scores are higher than 0.80 (**Table 2**).

5.2. Sample

Data are collected from a convenience sample of 528 third and fourth year undergraduate business administration students (232 male, 296 female) from the three most economically developed cities in Turkey: Istanbul, Ankara and İzmir. Using a student sample is not an issue for this study because, the study deals with the entrepreneurial intention of "potential entrepreneurs" [33], which is consistent with our sample.

It is argued that university graduates between 25 and 34 ages are the closest group toward entrepreneurial behaviour, and third and fourth year students which are soon-to-graduate are close to this age group since they are close to their career choice [6, 12, 16]. This is because they may see entrepreneurial career as a smart option compared to wage employment [11]. Moreover, when the time between intention and behaviour is close, the relation may be more reliable [44] and our sample suits for this issue. This sample is convenient with the previous-related literature [6].

5.3. Analysis

Hypothesis are tested by means of hierarchical multiple regression analysis using PASW Statistics 18. Coefficients are estimated using ordinary least squares (OLS). In order to test the moderator effect of start-up experience, significance values of the interaction term is assessed. Correlation values for the model are presented in the **Table 3**.

Correlations between the constructs are all statistically significant at the $p < 0.01$. All of the correlation values between independent variables are ranging between 0.320 and 0.460 that corresponds to low-moderate correlation levels. This level indicates to ignore the presence of multicollinearity [45]. Moreover, VIF and tolerance values are checked in order to look for multicollinearity. For all of the factors, these two values indicate for point out for overlooking multicollinearity.

The model's regression results are given in the **Table 4**. According to the **Table 4**, all of the relations within the model are significant for the significance value of 0.000 and the adjusted

	1	2	3	4
1. Entrepreneurial intention	1			
2. Self-efficacy	0.268**	1		
3. Personal attitude towards entrepreneurship	0.639**	0.320**	1	
4. Subjective norms	0.432**	0.322**	0.406**	1

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

Table 3. Correlation results.

	Beta/Sig. (*T* value)	VIF (tolerance value)
Self-efficacy	0.271/0.00 (4.084)	4.032 (0.248)
Personal attitude towards entrepreneurship	0.545/0.00 (14.701)	1.256 (0.796)
Subjective norms	0.182/0.00 (4.870)	1.278 (0.782)
Self-efficacy × start-up experience	0.130/0.00 (2.483)	2.495 (0.401)
Personal attitude towards entrepreneurship × start-up experience	0.169/0.00 (2.871)	3.182 (0.314)
R^2	0.462	
Adjusted R^2	0.457	
Standard error of the estimate	1.27751	
Sig. *F*	0.000	
Y = entrepreneurial intention		

Table 4. Regression results.

R^2 is 0.457. Previous studies find that the generic TPB model explains 30–45% of the variance for intention [46] which is consistent with our results.

In order to test for the correlation between the error terms, the Durbin-Watson value is checked. According to Ref. [46], the Durbin Watson value needs to be between 1.5 and 2.5, for independency of the observations. It is 1.864 for this study.

6. Results

Findings of regression analysis supported all of our five primary hypotheses. Both the model of Ajzen's theory of planned behaviour (TPB) and the moderation effect of past experience are supported by our sample. In other words, TPB holds for the Turkish case. Besides, the moderator effect of past start-up experience between entrepreneurial intention and both self-efficacy plus personal attitude towards entrepreneurial behaviour holds.

In the model, the most influential factor for entrepreneurial intention is personal attitude towards entrepreneurial behaviour and self-efficacy along with subjective norms follows it.

The effect of personal attitude towards entrepreneurial behaviour and self-efficacy on entrepreneurial intention is valid for most of the past studies.

According to past research, subjective norms are not hold in general and provide complex results. In other words, some of researches the effect is so small, and for some others, it is insignificant. For this study, subjective norms have a significant effect on entrepreneurial intention. This may be due to the collectivistic nature of Turkish culture. Because, within the collectivistic cultures, the perceptions of significant others are important in general. For the entrepreneurial context, it is also the case [2, 6, 12].

Moreover, the relation between entrepreneurial intention and the attitude towards entrepreneurial behaviour is moderated by start-up experience. Additionally, start-up experience has a moderator effect on the relation between entrepreneurial intention and self-efficacy. In other words, for the students with a past start-up experience, the effect of both self-efficacy and personal attitude towards entrepreneurial behaviour on entrepreneurial intensity increases. We may interpret this result with the existence of explicit knowledge gained through past start-up experience which provide more variance that cannot be explained via antecedents of entrepreneurial intention [8]. As far as our research, this moderation effect is not studied within the relevant literature. This is a promising result for the future studies.

7. Discussion

Theory of planned behaviour (TPB) is an extensively adapted model in many different research areas. Besides, there are a lot of studies that tries to modify TPB via adding new antecedents or moderation/mediator effects. Regarding these factors, past behaviour is argued to be one of the most important ones that contain information about the intention. Moreover, although TPB is widely tested empirically, new research regarding moderation effects may be valuable [1]. Accordingly, within this study, the moderation effect of past experience within the TPB model is evaluated. This issue stands for the theoretical importance of this paper.

The results figure out that the model of theory of planned behaviour is supported via Turkish sample. Moreover, the moderation effect of past start-up experience between entrepreneurial intention and personal attitude towards entrepreneurial behaviour is also supported. For instance, without any increase in individual's attitude towards entrepreneurship, with past experience he/she may identifies that if he/she does not realize any opportunity, he/she may lost it forever since someone else will do it [8]. As a result, without increase in the attitude, intention may increase. This happens due to the experience and "explicit" information gained through past experience.

The similar moderation result is gained for past start-up experience between entrepreneurial intention and self-efficacy. Accordingly, although individuals are not positive about her/his control over any given situation, past start-up experience may provide the awareness of the resources to cope with the situation [8]. Similar to the attitude towards

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entrepreneurial behaviour, the intention level may increase without any increase in the self-efficacy levels. This also happens due to the knowledge and experience gained through the past behaviour.

As far as our research, with the addition of the past experience as a moderator between the antecedents and the entrepreneurial intention, this study is within the first studies in the entrepreneurial intention literature. These studies are important due to the fact that intention is the most representative antecedent of entrepreneurial behaviour and in order to understand this behaviour specifying the effective factors is essential. As a result, it is hoped that this may be a positive contribution for the relevant literature. These are promising results for the future studies. Additional study is needed in order to sustain the generalizability of the results. More studies within different cultures are also appreciated. Because, our results may be due to cultural factors and as a result for different cultures, they may not hold. Besides, similar studies with non-student samples would also be fruitful in order to check the results for different sample groups.

General limitation for the intention-based models of behaviour is hold within our case also. In other words, intention may not always end up with behaviour and sometimes even it does, there may be a significant time lag [10]. Accordingly, some longitudinal studies are welcomed to check for intention-behaviour relation [32].

Besides the academic implications, there are also some practical implications for this paper. The first one is regarding the intention-based nature of this study. For public policy makers, the initiatives just affect intention and its antecedents will be helpful for new business formation [16] in order to decrease the perceived barriers for students [11]. This is because, in order to change behaviour, one needs to change the intention first [35]. Besides, the perception of the potential and existing entrepreneurs is more important compared to the reality [47]. As a result, intention-based studies are helpful for the practitioners.

Moreover, according to TPB, both self-efficacy and attitude towards behaviour may be developed and learned via formal education or experience [17]. Accordingly, courses for increasing self-efficacy and emphasizing the advantages of entrepreneurship would be helpful for increasing the entrepreneurial intention [48]. Because it is argued via empirical studies that courses regarding entrepreneurship and skills related to entrepreneurial behaviour encourage undergraduate students for entrepreneurial career [11].

Besides, with the addition of past experience effecting the self-efficacy/entrepreneurial intention relation, practically oriented courses that may be helpful for students to gain entrepreneurial experience may also empower the self-efficacy and entrepreneurial intention [49]. Because it is argued that, within the TPB, the explorative power of direct experience is greater compared to the indirect one [30]. Further, since observing may also increase the self-efficacy [5], internship practices may also be helpful regarding entrepreneurial intention.

Above and beyond, since past start-up experience indirectly effect the entrepreneurial intention, initiating a new business may also be supported via credits and training via public policy makers. Because, supporting potential and existing entrepreneurs will be helpful [4] according to our model since past experience increases the intention.

To sum up, this study following the antecedent studies has both theoretical and practical implications regarding the entrepreneurial intention literature and to be more specific studies based on the theory of planned behaviour model. Hence more following researches are welcomed.

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INTECH

Chapter 6

The Impact of Cognition on New Value Creation within the Institutional Theory Perspective

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Additional information is available at the end of the chapter

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Abstract

This study aims to assess the effects of optimism and self-efficacy on entrepreneurs who intend to reform their market. Drawing on cognitive and institutional theory, the factors of optimism and self-efficacy were selected to better understand the association between entrepreneurial cognition and opportunity creation. This is a qualitative, multicase study where six Turkish entrepreneurial firms in the process of reforming and redefining their markets through new value creation, were selected on the basis of purpose sampling. While both optimism and self-efficacy significantly motivated entrepreneurs to create new value propositions, the effects of these factors varied across cases. In the sampling, all firms associated value creation with innovation. Moreover, firms tended to use informal/formal networks to create new value propositions and change current legitimacy. Only limited studies have reported on the effects of institutional environments and cognitive structure of entrepreneurs on value creation, particularly within emerging markets. Moreover, the concept of value creation, which involves redefining and reshaping the present market, is not recognized within either cognitive or institutional theory. Optimism and self-efficacy have previously been considered as independent concepts in the literature. However, in the current study, the two concepts are interrelated, thus contributing to the literature of entrepreneurship.

Keywords: optimism, self-efficacy, institution theory, multiple case study

1. Introduction

Opportunity and innovation are products of the entrepreneurial-institutional environment, as well as the cognitive and creative processes of entrepreneurs [1]. In this sense, cognitive theory can explain how entrepreneurial cognition affects the way complex information is managed toward the end of identifying and exploiting new opportunities [2]. This is true because

cognitive theory views entrepreneurship as "a way of thinking" [3], while cognition itself "advances our understanding of how entrepreneurs evaluate business opportunities" [4]. At the same time, it is known that some entrepreneurs will exert cognitive effort toward creating opportunity, and some will not [5]. As such, entrepreneurial cognition is related to "understanding how entrepreneurs use simplifying mental models" essential for identifying and realizing entrepreneurial opportunities [6]. Many such mental shortcuts or models for entrepreneurial thinking have been noted, including, for example, self-efficacy, optimism, planning fallacy, overconfidence, self-justification, or locus of control. Since self-efficacy and optimism have been associated with opportunity creation [7], they were selected in the present study to better understand the association between entrepreneurial cognition and opportunity creation. Both self-efficacy and optimism have previously been examined in the entrepreneurial literature, but as independent concepts, empirically and theoretically [8]. These factors have been, however, combined in the present study, thus extending previous studies.

Institutional theory, which involves the institutional environment, also affects opportunity creation and entrepreneurial cognition [9]. Institutional theory and cognitive theory together suggest that both external (i.e., institutional framework) and internal (i.e., self-efficacy and optimism) factors can affect value creation [6] and that a continuous relationship exists between the two [10]. In other words, these two theoretical frameworks stand for the two different aspects of entrepreneurship phenomena and bringing together it is aimed to do the jigsaw. In order to do this, the key term is legitimacy. Insofar as legitimacy is related to institutional theory, it is also related to new value creation.

While previous studies have examined entrepreneurial cognition, its effects on new value creation in the context of self-efficacy and optimism have not been well studied [9]. Also, while opportunity has been widely researched, its application within the institutional context is mostly absent in the literature with only a few exceptions [11]. Since, as defined above, legitimacy is closely associated with social approval, it has been used as a framework within the present study to examine the effects of cognition based on self-efficacy and optimism combined with neoinstitutional theory on new value creation. To accomplish this, the authors follow the thinking of Kim and Mauborgne [12], who argue that new value is created through factors to be eliminated, reduced, raised and created. It is traditionally argued that high levels of self-efficacy and optimism are more significant in institutional environments where these activities are legitimate [10]. In general, however, this is not true for entrepreneurial firms because while creating new value/markets, entrepreneurs generally shed present legitimacy in the process of creating new legitimacy upon becoming successful. This is consistent with neoinstitutionalism.

Moreover, entrepreneurship is considered to be a multidimensional phenomenon and there are so many theories that try to explain its different dimensions. Accordingly, studies that based on supplementary theories that are bringing these dimensions together may be fruitful. For this reason, the authors have taken the position that cognitive theory and neoinstitutional theory both possess many conceptual tools with which to explain entrepreneurship phenomena. It has been argued that reformation of an entrepreneurial institution in the context of opportunity creation, especially within an emerging market, is an important and interesting case to study [13].

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Therefore, based on a foundation of cognitive theory and new value creation, the present study seeks to explore the effects of optimism and self-efficacy on entrepreneurs who intend to reform their market. To accomplish this, neoinstitutional theory that presumes change within the institutional framework and legitimacy with the help of entrepreneurial push is a key framework. Accordingly, six cases have been selected, as representing active creation or recreation of value propositions within their respective markets in accordance with the value creation formulation of Kim and Mauborgne [12]. It is proposed that such entrepreneurs are recreating legitimacy within their environment/institutions and cognition is a key enabling them to successfully navigate this process [14]. There are limited researches in entrepreneurship literature on the effects of institutional environments and cognitive structure of entrepreneurs on value creation, especially within an emerging market. Moreover, the value creation concept, covering redefining and reshaping the present market, is not recognized within both cognitive and institutional theories. Therefore, these two aspects are important contributions of this study to the literature.

2. Theoretical and conceptual framework

2.1. Institutional theory

Institutions define the incentives for entrepreneurial activities within a given market. According to institutional theory, the dynamics of such concepts as legitimacy force firms to become alike in time, thereby increasing their chances to attain the resources and capability required to survive [15]. Institutional changes may occur for both internal and external reasons. According to Scott [16], traditional institutionalism generally focuses on external factors that result in the creation and reformation of legitimacy through technological or legal dynamics. Indeed, although early theory highlighted the uniqueness of legitimacy and its formation [16], later works use institutional theory to explain changes at both firm and market levels. More recently, neoinstitutionalism has shifted to a focus on culture, cognition and social processes [17].

Here it is argued that certain types of cognition are affected by the institutional environment [9]. Besides, institutions are no longer constrained by the environment in which they are found, but rather, they can be actively shaped, reshaped and recreated by individual entrepreneurial firms [11]. In institutional theory, many attempts have been made to categorize legitimacy. For example, in neo-institutionalism, Scott [18] stated that legitimacy derives from regulatory, normative and cognitive sources, not "values or moral" frameworks, emphasizing that "cognition … is important" [19]. Accordingly, an institution may be considered as a cognitive framework shaped by social reality [20]. Although institutional theory comprises a galaxy of different approaches with different assumptions, this study is primarily informed by the concepts of neoinstitutionalism.

In neoinstitutional theory, change mostly depends on a proactive actor in the environment [21]. Since environment is defined by "what is appropriate and meaningful behavior" [18], firms operating within a certain market reflect a socially constructed reality [22] within which

the environment shapes entrepreneurial preferences. Scott [16] stated that the actions within an environment are socially formed by the actors within the environment in order to gain competitive advantage. Therefore, entrepreneurial activities can cocreate institutional norms, opportunities and value frameworks [11]. In this sense, the entrepreneur, as cognitive actor, is thrust into a constantly changing environment to which he/she must also constantly adapt [20]. In other words, a constantly changing environment forces cognitive adaptation on the part of entrepreneurs, and, conversely, as entrepreneurs exert cognition over their environment, the actions they take will change the environment [23]. Accordingly, even though different firms may be in the same sector, their response to the same environmental stimulus, based on the actions of entrepreneurs, may not be the same by the differences of internal dynamics affecting their cognitive structure, again, based on the actions of entrepreneurs [19]. A traditional institutionalist views his environment as one that can be guided by norms, rules and other frameworks. However, while the character of change is less frequent in neoinstitutionalism literature, it is also more radical and revolutionary [21].

By the addition of a cognitive factor, neoinstitutionalists no longer act on the basis of rules or obligations, but rather, they can actively recreate their market in order to exploit an opportunity. Institutions, cognitive framework and values may be drivers of this change [24]. Conceptual adaptations in response to change and resultant new value creation afford legitimacy. Thus, proactive change of value proposition in the market by the actions of entrepreneurs may be the result of some internal institutional dynamics. This change process starts with discarding previous structure, i.e., a deinstitutionalization of the previous market value and the creation of a new one [24]. Such institutional reformation by a value-creating entrepreneurial firm forces others to change their value propositions as a pure matter of survival and competition [18]. Accordingly, Davidsson et al. [25] argue that firms, in the process of restructuring their market presence, may abandon present legitimacy and replace it with a new one.

Alternatively, since some institutional environments encourage/discourage entrepreneurship, the socioeconomic and cultural environment may shape the cognitive framework within a given environment, as mediated by entrepreneurs [9]. The proactive creation of new value and the initiation of change required to produce it may have a disruptive effect on the institutional framework itself, resulting in overall uncertainty [11], which, in turn, affects the cognitive framework and corresponding response to the environment [9]. For instance, entrepreneurs with high self-efficacy tend to reduce risk and uncertainty, resulting in an improved opportunity to identify and create new value [26]. This is also true for optimism [27]. As a result, in dynamic, risky and changing environments, high levels of optimism and self-efficacy correspond to high levels of new value creation. In other words, dynamism positively moderates the relationship between both optimism and self-efficacy and new value creation [8].

In terms of institutional theory, an entrepreneur seeks opportunities for change within the existing institutional environment and, thereby, acts as a change agent to obsolesce the status of the current institution [28]. Entrepreneurs will use a variety of tools to accomplish this goal, including both formal and informal networks. However, the discourse underlying the building of these networks must include different players, including government officials, competitors, suppliers, buyers and consumers who must all agree to the terms and conditions of the

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changes required to realize new opportunities [11, 13, 29, 30]. In general, only one principal in an organization can lead the effort to reform the present cognitive legitimacy to take advantage of a new opportunity [29]. As explained by McBride et al. [30], opportunities are perceived to be created in the mind of the entrepreneur through the interaction of the entrepreneur and the environment, and as a result, they are under the control of the cognitive framework of the entrepreneur [14]. Moreover, creating new value through seizing opportunities changes the environment; therefore, entrepreneurial control over the cognitive framework is the key to a successful outcome [14]. As a result, the bonding between the cognitive and institutional framework is essential to the successful creation of new value.

2.2. Self-efficacy

Self-efficacy involves the belief in one's own ability to overcome specific tasks and produce high levels of performance [31]. The belief in one's abilities, rather than one's actual abilities, is more relevant to human activities [26]. For entrepreneurial activity, self-efficacy is essential for innovation, opportunity identification and realization [32]. Self-efficacy plays a key role in new value creation. While low levels of self-efficacy may be positively related to opportunity identification, this is generally not true for the realization phase, since if a person perceives an opportunity beyond his/her personal ability, he/she won't be able to meet the demands of the challenge [33]. Besides, self-efficacy supports the innovation capability of the firm [34]. Moreover, entrepreneurs believe that they can reduce risk by self-efficacy [26] and, hence, be able to recover easily from failure [8]. As a result, people with high self-efficacy tend to take more risks by focusing only on the opportunity, not the risk associated with it [26].

As a result, it could be argued that self-efficacy is positively related to new value creation, since self-efficacy increases the expectation of success through decreasing risk and uncertainty [26], a relevant factor for institutionally unstable environments. Because new value creation is associated with changing the institutions or legitimacy [18], self-efficacy is an important positive element for new value creation.

2.3. Optimism

Entrepreneurial optimism can be understood as an "inside view," whereby the entrepreneur anticipates his/her potential high performance in a new venture based on self-evaluation of skills, creativeness and knowledge [35]. The literature also equates good economic prospects, in general, with optimism [36].

Entrepreneurs generally express higher optimism than nonentrepreneurs [37]. However, it is proposed that optimism in relation to entrepreneurial performance is curvilinear in that both high and low levels of optimism correspond to negative entrepreneurial outcomes, but a moderate level of optimism corresponds to a more balanced view and is the more welcomed attribute [38]. New value creation is a dynamic process, and, as such, it produces high levels of both self-efficacy and optimism, even in the face of potentially low performance, suggesting that the relationship between risk perception and optimism is a complicated one. Indeed, Trevelyan [39] argues that risk-taking intensity and optimism are positively related. Optimists tend to be more alert to new opportunities [38]. Entrepreneurs

who exploit opportunities generally have a positive perception regarding their chance of success, which may, however, not be justified by the facts on the ground [40]. Conversely, if entrepreneurs can view themselves and the market situation from a more objective perspective, they may be more apt to judge outcomes more realistically [35]. As argued by Monsen and Urbig [27], it is because of optimism that entrepreneurs may overestimate the possibility of success and, as a result, overlook the real risks associated with a specific opportunity. This tends to suggest that entrepreneurs with high levels of optimism may perceive any opportunity as less risky [35]. Nonetheless, it is also true that optimistic entrepreneurs tend to be more growth oriented [39].

Moreover, Hmieleski and Baron [8] also argue that the relationship between optimism and new value creation is a systematic one and it is moderated by the tendency toward dynamism and change within the environment. High levels of optimism are associated with heuristic thinking instead of rational thinking, and this may have positive outcomes within a dynamic environment [8]. In other words, high levels of optimism are positively related to new value creation if the institutional environment is a dynamic one [8], for example, when entrepreneurs are actively changing the environmental scripts, which is true in our case.

3. The study

Self-efficacy is taken as a powerful and strong predictor of behavior, including entrepreneurial-related tasks [41]. It is argued that a person can identify and realize a new venture opportunity only if he/she meets the expected self-efficacy criteria for a specific opportunity [33]. Entrepreneurs with high self-efficacy may expect positive potential for the new projects and value propositions since entrepreneurship is closely related to value creation [42]. Moreover, they are ready to perform more challenging tasks, set higher goals and commit to higher performance to realize them [43]. Parallel to self-efficacy, optimism is also considered to be a predictor of behavior [44]. In the context of new value creation, optimism is said to be positively related to opportunity recognition [45], especially within dynamic environments.

In addition, the relationship among self-efficacy, optimism and new value creation may be considered from an institutional theory perspective, especially in the context of legitimacy. Klyver and Thornton [10] note the limited literature regarding the collective effect of cognitive frameworks such as self-efficacy and institutional legitimacy on entrepreneurial value creation. They further argue that entrepreneurial self-efficacy is more accurate when such behavior is taken as legitimate in the society. Nonetheless, it is also true that entrepreneurs with high self-efficacy are ready to actively create new value [43] at the expense of legitimacy within a given environmental setting or the impact of complete change in a given institution. Moreover, innovation may be taken as the link between self-efficacy and entrepreneurship in terms of new value creation [42]; in particular, radical innovation is considered to be breaking the present rules of the market [46], an argument which can shed more light on the relationship between self-efficacy and legitimacy. Moreover, entrepreneurial self-efficacy brings personal traits and environmental factors together, which can be explained via institutional theory perspective [47].

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Similarly, institutional theory and optimism may have a collective effect on entrepreneurial intention and behavior. During a revolutionary change in the market, prior legitimacy is destined to be replaced. Over the course of such replacement of legitimacy, optimism is an important tool supporting a risky new value idea [48]. Without the support of optimism during this time of institutional change, the risk lies in returning to old habits [48]. It is proposed that optimism leads firms to ignore the risk factor and focus only on value creation [49]. To this point, Koçak et al. [35] have argued that optimism about an entrepreneur's ability to attain specific goals (i.e., self-efficacy) is unrelated to optimism in the context of risk-taking. Organizational research also confirms that higher levels of perceived self-efficacy correspondingly lead to higher levels of optimism [49]. As a result, these entrepreneurs tend to focus more on opportunities than the downside of taking the risk required to achieve them. Consequently, both self-efficacy and optimism lead to an increase in entrepreneurial value-creating activities [50]. This is especially true for dynamic environments undergoing change and the replacement of previous legitimacy through the actions of entrepreneurs. Based on the concepts and theories as outlined above, the following research questions are proposed:

Research Question 1: Are high levels of self-efficacy positively related to new value creation and recreation of institutions and legitimacy within the environment?

Research Question 2: Are high levels of optimism positively related to new value creation and recreation of the institutions and legitimacy within the environment?

Furthermore, as explained in detail above, entrepreneurs recreate institutions and legitimacy while creating an opportunity. To accomplish this, the literature has proposed some tools. For example, it is argued that discourse through networking between entrepreneurs and their suppliers, government agencies or consumers will cement the viability of new opportunity and legitimacy [11, 13, 29, 30]. As such, the authors of the present study will look for the use of such tools within the sample. Therefore, the following research question is proposed.

Research Question 3: Which tools are used by entrepreneurs in order to recreate the institutions and legitimacy while creating an opportunity?

4. Methodology

In order to understand the phenomena, a qualitative-based multicase study was applied. It is argued that, although the acquisition of knowledge has been attributed to quantitative research in this field, there is still a need for "indigenous theory" gathered through a qualitative design [14]. Multiple case study, similar to experimental logic, enables repeatability [51]. Therefore, with the help of purposeful sampling, six Turkish entrepreneurial firms in the process of reforming and redefining their markets through new value creation, as described by Kim and Mauborgne [12], were selected for the present study. The value-related actions of the firms are presented in **Table 1**. Different from theoretical sampling, purposeful sampling includes predetermination of the number and properties of

the cases, time and other factors [52]. As argued by Davidsson and Wiklund [53], entrepreneurship should be examined on a multilevel analysis basis because it is multilevel in nature. To address this concern, the present work focuses on both the individual, as the creator of new value (i.e., self-efficacy and optimism), and the organization, as the grantor of legitimacy.

Business owners and "opportunity recognizers," if different from owners, were also interviewed. The research team conducted in-depth, semi-structured interviews, as suggested by Yin [51]. For firms having an active Internet site, it was used to understand the firm's stated mission and business strategy. The collected data via interview were compared against public information, such as news from the firms' Internet sites, when available. The interviews lasted around 1–1.5 h. To confer reliability and validity, immediately after the interviews, researchers discussed and interpreted the subjects that arose during the meeting. After the initial discussions, one more meeting was held among the researchers to discuss the facts learned in detail [17]. In this way, researcher bias tried to be minimized. Moreover, for analytical generalizability of the results, triangulation in terms of researcher and data source was applied [54].

With the aim of analyzing the data, the Miles and Huberman's [55] technique was applied. During data collection, every piece of information was compared to the proposed theoretical background. Then, based on the suggestion of Miles and Huberman [55], upon completing the entire analytic process, similarities and differences between and among cases were presented, as shown in **Table 1**.

Firms	Four actions for new value creation				
	Factors to be eliminated	**Factors to be reduced**	**Factors to be rise**	**Factors to be created**	**Created value through**
A				New distribution channel	Proposing a totally new experience
B		Price compared to competitors	Increasing value to be presented through changes in the product		New value-price proposition and proposing better value for customer in continuous terms
C			Continuous innovation	New product idea	Proposing better value for customer in continuous terms
D				New product idea	Proposing a totally new experience
E				New product idea	Differences in the product and make their customers to feel special
F			Continuous innovation	New product idea	Differences in the product in continuous terms

Table 1. Firm information.

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5. Findings

5.1. Self-efficacy

The relationship between self-efficacy and value creation is relatively consistent in the literature. Entrepreneurs with high self-efficacy tend to be opportunity seekers, and this leads to an increase in value creation activities [49]. All of the entrepreneurs, except Firm F, emphasized a tendency toward self-efficacy (**Table 2**). Firms A, C and E underscored their capabilities or know-how in relation to self-efficacy. Firms B, D and E emphasized their experience in related sectors. Firm E mentioned their talent, as given by Allah, as a source of self-efficacy. This is consistent with our first research question.

"I realize an opportunity within the market. Then I turn back to the firm and see strength, a strong engineering capability. I match them. It is definitely my own idea." Firm A

Firms	Self-efficacy	Optimism	Institutional legitimacy and new value creation	How they change the institutions and legitimacy
A	Due to a strength—the engineering capability—of the firm		The sector was not defined separately but within a different sector. With Visco, changed the "orthopedic" perception in the market and market accordingly. Competition was based on price but now shift to being "orthopedic"	DiscourseTies with suppliers
B	Due to the experience in a similar market	Belief on everything will go well somehow and they will benefit from the economic crises	Change the perception of what kind of buildings can be constructed with light steel	Economic crisisTies with competitorsTies with universities
C	Due to the belief in the capability to discover opportunity	Belief that, if one works enough Allah will help and everything will be positive	Form the legitimacy in the market, since the first firm in the market was too small and ineffective	Government agencies Ties with competitors
D	Due to the experience in a similar market with the main raw material		Form the legitimacy in the sector since he/she is the first mover	Organization and production concept
E	Due to know-how, experience of three family generation, being innovator, talent given by Allah	Belief that the sector will go well	Combine the features that were taken as contradiction and change the furniture sector accordingly	Organization and production concept
F		Belief that focusing on positive sides result with positive things come true	With the technology and innovativeness, make the competitors follow	Ties with competitors

Table 2. Results.

"We were dealing with some other things. He (her husband and the firm's consultant) explained to us that 'there is such a machine.' We thought that there is no reason to hesitate importing the machine and getting into the market. We thought we could easily overcome this as a result of our experience in the construction sector." Firm B

"We see the gaps, opportunities of the market and then go into that market. When natural gas was first imported, there was no product; we were importing the pipes also." Firm C

"These are all about paper and paperboard, the stuff that I know a lot about. That's why I never hesitated in getting into this market." Firm D

"In 2003, I became the CEO after my dad. My dad was the best furniture producer of his time. I targeted to be the best around Turkey. We started to this job with the idea that we could produce more quality furniture compared to our foreign competitors because we have production experience, the know-how and the background. (…) In order to be successful, one needs to differentiate from others and add something different. We have this talent also. This is not just related to being in the furniture sector for years, but there need to be a gift given by Allah. There is some artistic dimension." Firm E

According to Kickul et al. [56], self-confidence and self-efficacy tend to lead firms in the direction of taking high levels of risk. However, Ardichvili et al. [49] argue that "risk" is an irrelevant concept for entrepreneurs since they mostly focus on opportunity recognition. All of the entrepreneurs emphasized opportunity, while none of them mentioned risk-related concepts. Furthermore, all of the entrepreneurs mentioned either monitoring or reforming/leading the present sector, which is an idea related to institutional theory. This supports the argument proposed in our first research question, that is, the self-efficacy/new value relationship can be understood in terms of institutional theory.

5.2. Optimism

Optimism in relation to value creation is complicated by the fact that those with high levels of optimism may perceive less risk in potential opportunities, thereby leading to possible failure [27]. However, in our research sample, all entrepreneurs demonstrated success in changing value proposition in the market. Specifically, with the exception of Firms A and D, all entrepreneurs seemed to have high levels of optimism. Firm B believed that they would benefit from the economic crisis and that everything would go well. Firm E considered that their whole sector would do well in the future. Firm F mentioned, as a philosophy of life, that "if you focus on positive sides, positive things come true." Differently, Firm C remarked about the effect of religion on his/her optimism.

"We said, somehow everything will go well. Economic crisis may pave way to the success of some firms, if you can see the opportunities." Firm B

"God will also help those who work properly. We always thought everything would turn out positively." Firm C

"Furniture will be one of the locomotive industries in Turkey, and we will be the main firm within this sector." Firm E

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"If you focus on the negative sides, you also realize them. One needs to read and analyze the subjects positively." Firm F

Hmieleski and Baron [8] argue that the relationship between optimism and new value creation is a systematic one and that high levels of optimism are positively related to new value creation if the institutional environment is a dynamic, as in the samples recorded above, where it can be seen that entrepreneurs are actively changing environmental scripts. Based on these transcription excerpts, it can be argued that a positive relationship exists between optimism and new value creation, which parallels our second research question.

5.3. Legitimacy

In the literature, legitimacy is associated with high levels of entrepreneurial self-efficacy [10], and this is, in turn, identified with a high level of entrepreneurial activity [49]. This relationship is accepted by the early works of institutional theory. However, neoinstitutionalism argues that entrepreneurs deny the present legitimacy within the market and actively reform it [25]. Some of the entrepreneurs in the sample mentioned legitimacy within their market as it related to value creation process.

"There was no 'bed' sector. Bed was taken within the furniture sector. There is a bed sector now. It is said that this was done by Firm A. The rest of the sector says this; the suppliers say this. The term orthopedic changed. We have changed this view in Turkey. In the past, since firms cannot create value except price, the competition was always based on price. Now, this is not the case. They also began to emphasize the term orthopedic." Firm A

"There are such large machines in the market. We mobilized the machines. Now, most of the construction firms producing prefabricated buildings are using our machine. The first firm that used light steel in Turkey started to make villas. As a result, the accepted idea about light steel was that just villas could be constructed with it. After we got into the market, this idea has changed. Then we constructed schools with light steel in Turkey. (…) Engineers who are working in our firm insisted that engineering degrees be offered in light steel. We have recommended that universities consider this area as an academic discipline." Firm B

"We want to define our standard as the standard of the market and change it continuously. Being innovative is a must; you cannot do anything without it. An innovative firm will clear off you. Our competitors follow us. We formed the market." Firm C

"We are unique in Turkey. It is certain that there will be firms and some will be successful. However, we have come a long way since discovering this opportunity. We made some changes on a machine and now using for totally different purposes. I did it myself." Firm D

In order to change the legitimacy, a totally new value concept may be offered by the entrepreneurial firms [57]. Firm E do this by combining the previously exempted value propositions and Firm F do this by creating a new value for the market [12].

"Very cheap, very aesthetic and very strong. If you cannot make this real, your product would become ordinary. This is too utopic, but if you cannot realize this, you cannot be a leading firm. We determine in our market and the rest of the market follow us." Firm E

"If everyone is using the same way, it may not be healthy to follow that path. One has to look for his/her own way. Some competitors started to use our new technology." Firm F

Firms A, B and E changed their market by changing the value proposition in the market. Firms C and D are the first movers of their market, and as a result, they defined the market according to their propositions. In this sense, both self-efficacy and optimism played an important role. This result supports both of the first two of the research questions.

In the sample, all of the firms somehow related the value creation process to their innovative activities. In the literature, innovation is taken as an important value-creating activity [58], and as a result, both innovation and creativity are taken as the traits of entrepreneurs [49]. Moreover, these value-creating activities are associated with radical innovation that creates a leap in market value.

"The term orthopedic changed. So we changed the sector. (…) We are leading the market nowadays, but we will make another jump; we need to do that. While they are running after the value we created yesterday, we will shift the value curve once more." Firm A

"There is no end to technological change. We have a checklist for the changes on the machine. When our competitors reach our current level, we will have already done the items on the check-list. We are 3–5 steps ahead of our competitors." Firm B

"As days pass, we add new products, renew our old ones. We have been the firm making the most patent applications during the year 2011. Our innovations come from both customers and the innovative capability of our R&D department. I hate copying; this won't get you anywhere. The innovation needs to be applicable and market-oriented." Firm C

"Our firm is the first that has developed such a process. There aren't any machines to cut the puzzle into pieces. I made some changes on another machine and it's now in use." Firm D

"We were producing kitchen furniture when no other firm knew the area. They are coming from behind; however, we set a higher standard before they reach our present level." Firm E

"We are the first firm to produce foam soap in Turkey. We have another product that can be used in different cleaning areas. There is a gap in this area, and we are producing a new product. It is not sufficient to look for how a product is produced by a competitor. One needs to look for what else can be developed." Firm F

As previously noted, Firm F is using a network that is motivated by religious beliefs. According to Manolova and Yan [59], if the institutional environment is not a supportive one for entrepreneurship, firms tend to use their informal/formal networks in order to create new value propositions and change the current legitimacy.

5.4. Recreation of institutions

In order to create an opportunity, entrepreneurs simultaneously recreate the institutions and the legitimacy within the environment. The literature provides some insight about tools proposed to accomplish this. Accordingly, it is argued that the discourse underlying the building

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of these networks must include different players, including government officials, competitors, suppliers, buyers and consumers who must all agree to the terms and conditions of the changes required to realize new opportunities, as well as the corresponding new legitimacy [11, 13, 29, 30].

"We started this process with the following motto: Adapting the global technological advancements to our sector. The term orthopedic changed, we changed the sector." Firm A

"After we go into the market, this idea changed. Then we constructed 20–30 schools with light steel in Turkey. (…) We have successfully convinced universities to consider this area an academic discipline." Firm B

"When natural gas was first imported, there was no product, we convinced government to accept our pipe standards. We want to define our standard as the standard of the market, and we want to change it continuously." Firm C

"Our firm is the first to develop such an organization and production process. There aren't any machines that can be used to cut the puzzle into pieces." Firm D

"Very cheap, very aesthetic and very strong. We determine a path, and the rest of the market follow us." Firm E

"Some competitors started to use our new technology." Firm F

Entrepreneurial discourse is an important tool with which to reshape institutions [11, 30]. In the sample, Firm A explained how they used discourse to accomplish this. Another tool is the ties with different actors within an environment. Firm A uses its ties with suppliers [29, 30], Firm B uses its network ties with competitors [13] and universities [29], Firm C uses its informal ties with government agencies [11] and competitors, and Firm F uses its ties with competitors in order to reshape the institutional environment. Unexpected situations, such as disasters, may also be used to reshape the institutional environment [13], and Firm B uses the economic crises in this sense. Lastly, breaking organizational isomorphism may also result in changing the present legitimacy and institutions [29]. Accordingly, in our sample, Firms D and E changed the dominant organization and production concept within the market. These

Tool used for reforming the institutions	Case(s)
Entrepreneurial discourses	Firm A
Ties with suppliers	Firm A
Ties with competitors	Firm B, Firm C and Firm F
Ties with universities	Firm B
Ties with government agencies	Firm C
Economic crises	Firm B
Changing the dominant organization and production concept within the market	Firm D and Firm E

Table 3. Change in institutions within market.

findings provide explanation for the third research question that investigates the tools that are used by entrepreneurs in order to recreate the institutions and legitimacy while creating an opportunity (**Table 3**).

6. Discussion

Grounded in institutional theory and entrepreneurial cognition, it was found in this study that both optimism and self-efficacy are positively related to opportunity creation and reforming both institutions and legitimacy within the environment. Tools used to reform and redefine institutions also varied across cases. Accordingly, six cases were selected among entrepreneurs actively creating or recreating value propositions within their Turkish market. Although the concept of value creation is not recognized within either cognitive or institutional theory, these two ideas make important contributions to the literature of entrepreneurship.

Krueger et al. [60] indicate that the perception of self-efficacy for entrepreneurs may be taken as an antecedent of opportunity recognition. Firms A, C and E underscored having some kind of capability or know-how in relation to value creation. In particular, Firms B, D and E emphasized experience within their sector related to self-efficacy. In terms of optimism, Firm B believed that everything would go well for them, and Firm E considered that their whole sector would do well in the future. As a philosophy of life, Firm F noted that "if you focus on positive sides, positive things come true." In contrast, Firm C highlighted the effect of religion on his/her optimism.

In the study, it can also be argued that a high level of both optimism and self-efficacy is associated with high levels of the intention to create new value propositions. Moreover, Monsen and Urbig [27] state that the evaluation of entrepreneurial opportunity depends on the perception of self-efficacy perception, corroborating our findings. Apart from cognition, it is evident that new value creation activities are related to radical innovation in a way that creates new legitimacy. According to the literature, legitimacy is understood to be an important factor for entrepreneurial self-efficacy. However, in our sample, although all of the entrepreneurs had high levels of self-efficacy, most of them create or recreate a new value and legitimacy accordingly. Firms A, B and E mentioned that they changed their market by reforming the value proposition in the market. Firms C and D are the first movers of their market, and as a result, they defined both market and legitimacy according to their propositions.

Thus, using the work of Kim and Mauborgne [12], who defined four actions of new value creation, the "Factors to be Created" label is relevant in different senses for all cases studied. For instance, for Firm A, the source of new value is a new distribution channel, whereas for Firms C, D, E and F, it is new product idea. Similarly, for Firms B, C and E, the "Factors to be Raised" label is relevant. For Firm B, this label involves increasing value to be presented through changes in the product, and for Firms C and E, it is achieved through continuous innovation. For Firms C and E, it is achieved through continuous innovation. For Firm B, the "Factors to Raised" label involves price compared to competitors.

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With respect to reforming institutions, firms within the sample used entrepreneurial discourse (Firm A), ties with suppliers (Firm A), ties with competitors (Firm B, Firm C and Firm F), ties with universities (Firm B), ties with government agencies (Firm C), economic crises (Firm B), and changing the dominant organization and production concept within the market (Firm D and Firm E) [11].

7. Conclusions

Entrepreneurship is a multidimensional phenomenon, and there are a large number of theories aiming to explain some part of it. In this study, two different theoretical aspects of entrepreneurship—cognitive and institutional theories—are brought together. In order to do this, legitimacy is considered to be a key element within the neoinstitutionalist perspective. Accordingly, entrepreneurs are considered to be dynamos for change within the institutional framework and legitimacy. Moreover, their cognitive framework is considered to be an important element to understand this phenomenon within a holistic perspective. However, the collective effect of institutional environment and cognitive structure as they affect the value creation undertaken by entrepreneurs has been neglected in the literature.

Grounded in these two theories, it was found in this study that both optimism and self-efficacy are positively related to opportunity creation and reforming both institutions and legitimacy within the environment. In other words, within the market/value recreation context, entrepreneurial cognition and institutionalism in terms of legitimacy are brought together in this study. It was further argued that entrepreneurs use different tools to achieve these goals. Accordingly, neoinstitutionalism perspective that involves a change in legitimacy, instead of the static legitimacy of the classic institutionalism view, is applied. There is limited literature in entrepreneurship literature on the effects of the neoinstitutionalism and cognitive structure of entrepreneurs on value formation within an emerging market such as Turkey. Besides, the value creation concept, covering redefining and reshaping the present market, is not recognized within both cognitive and institutional theory. Therefore, these two aspects are important contributions of this study to the literature.

Implications for public decision makers could also be derived. Irrespective of institutional condition, the results of this study confirmed that entrepreneurs who have a high level of self-efficacy and optimism can successfully create or recreate new markets, allowing legitimacy to be established later on. Thus, in order to motivate entrepreneurs to create a new market or radical innovation, optimism should be encouraged through supportive programs. In addition, since intuition is defined to be the most powerful determination of behavior, supporting courses for self-efficacy to enhance entrepreneurial intention in undergraduate and graduate level will be efficient for the new value creation. Moreover, some tools for forming the institutional environment, such as discourse ties with suppliers, ties with competitors, ties with universities, ties with government agencies, economic crises, and changing the dominant organization and production concept within the market are proposed for entrepreneurial firms. It should also be noted that the results obtained from this study are valid for the six cases, but perhaps not universally applicable. Therefore, further research on different types

of entrepreneurial institutions and different cognitive concepts, such as overconfidence, is suggested.

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Chapter 7

Trust and Networking in Entrepreneurial Relations: A Cultural Perspective

Phefumula Nyoni

Additional information is available at the end of the chapter

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Abstract

The chapter focuses on the utility of the concepts of trust in understanding the relations among entrepreneurs. In this case, trust is viewed as social capital and functional for the day-to-day operations of entrepreneurs. It provides arguments that explore the contexts under which cooperation prevails in what one can call 'trustful conditions.' The chapter is based on a qualitative research, which utilized in-depth interviews, key informants, and direct observation. The target group is that of remittance transporters popularly known as *malayisha* (a Zulu concept derived from the bulkiness of the goods they ferry). The concept of trust and how it creates and sustains a culture of networking is explored particularly from classical views of scholars like Durkheim in which case it is likened to 'social facts.' The chapter further examines the utility of trust in institutional settings such as in families, friendships, and group alliances. The role of trust is viewed as inclusionary and exclusionary in networks. The chapter also highlights some of the challenges related to using the concept of trust in theory and practice.

Keywords: trust, social capital, networks, entrepreneurship, *malayisha*

1. Introduction

Trust can be viewed from many angles that include social, economic, political, and psychological. In this chapter, relations and social norms that result in the creation and sustenance of trust between drivers and clients leading to so-called 'trust full' conditions are not only contextualized but also complex. This line of argument can be illustrated by a quote from the research carried out in 2008 where a client preferred to stick to the old *malayisha* despite having been disappointed earlier on. In such instances, trust cannot be reduced to a mere cultural phenomenon as it is hard to measure the amount of disappointment that may ultimately lead to cutting of ties between parties involved. This was also noted in instances where cooperation persisted even where a client would have been wronged and expressed dissatisfaction with

malayisha conduct. In one of such instances, a *malayisha* pointed out that he has continued dealing with his client because they are from the same area of origin, and instead of parting ways, they have resolved to be extra careful when handling transactions with her. The explanations relating to the difficulties in measuring what holds or breaks a trustful relationship that point to the complex and contextualized nature of trust are not in any way meant to suggest that contextualizing trust relations leads to the creation of knowledge boundaries around the subject as the situations may be cross cutting and overlapping.

It follows that methodologically, the chapter is informed by the work of Yin [1] where there is emphasis on the importance of interacting with real-world situations and the persons in them but also ensuring that the researcher uses formal means in entering and exiting the field. In addition, there is emphasis on the importance of the researcher to make every effort to be familiar with the research setting. The ideas of Yin further became valuable within the context of dealing with my research group since they enabled me to approach the *malayishas* from a vantage point of a group of persons who share a common bond just as noted in Ref. [1]. This was of importance in that this group is also located within the inner-city setting just as Yin noted that such spaces could become valuable targets for ethnographic research. In terms of getting permission, formal letters were given to the gate keepers of these spaces known as *ezibayeni* (a concept taken from the cattle byre) where the *malayishas* operate from, and consent was obtained in written form. Being a part of the interactions enabled me to ensure that the data collected and the observation are a best representation of the lived realities of the group. On the theoretical side, the research draws from the work of Thornton [2], in which case a conclusion is presented on the Iraqw studies pertaining to the subject of unbounded and contextualized cultural knowledge in interpreting issues within that community. In essence, this inherently influences interpretations of *malayisha*-client relations that can notably be seen as characterized by a degree of complexity, especially focusing on remitter behavior that cannot be adequately explained and understood in general cultural or group behavior terms. A flexible approach does not, however, imply a complete dissolution of knowledge boundaries, but it points to a dilution of classical theorizing in order to ensure that the knowledge boundaries can be shifted for allowing easier explanation of seemingly complex and strange scenarios. This can be illustrated by data extracted from a *malayisha* who explained that clients are calculative in coming up with a decision of trusting or not trusting somebody. He thus noted that when it comes to being entrusted with people's remittances, the relationship of trust does not just emerge from nowhere, especially during first-time encounters as clients prefer to rather ask around in order to get information about the individual *malayisha* they intend to deal with and if one has higher proportion of social capital, chances are also high that clients will refer other potential clients to him.

2. An overview on the concept of trust in *Malayisha* relations

The study also revealed that there are instances when exploring trust relations among *malayishas* themselves reveals that while there may be general common reasons of cooperation such as being in the same field of operation, there tends to creep in tendencies of exclusion

based on demand for higher levels of trust not only on aspects involving financial transactions but also where handling of client goods is concerned. The complexity and fluidity resulting in a shift of knowledge boundaries in this case can be noted in the dependence on the so-called closeness between the two remittance transporting drivers which tends to be more personal than cultural. This implies that solely relying on rationalizing the knowledge boundary in explaining the closeness between two individuals involved in a relationship established and sustained through trust would be limited in scope and inadequate. This can be shown through a response from one of the *malayishas* who noted that they do in fact have what they can refer to as 'close friends' although that does not entail excluding those falling outside that sphere from being assisted. He importantly noted that the nature of assistance being requested at a particular moment together with historical experiences with that individual does in many instances determine whether the person could be trusted and assisted. He therefore noted that in instances where money is involved, some closer friends might fail to get help while some not so close persons might get the help depending on how trustworthy they have been in previous transactions.

It is also crucial to note that the commonality of statements such as 'most people cannot be trusted' as argued by Nyoni [3] in which the writer sees this as a part of how people's perceptions on trust can be understood, and it is equally important to note that on another level such uttering say rather little about the nature and limits of trust itself. The implication in the line of arguments pursued thus far in relation to the establishment and sustenance of trust relations points to that inasmuch as it might appear as though a relatively common pattern might exist in defining such relations, it does not reflect the holistic notions as can be found in day-to-day interaction realities. The ambiguity is further revealed when one tries to understand for instance what a *malayisha* would be implying when they say they trust or do not trust another *malayisha* or a police officer. Worse still the complexity plays itself when it comes to understanding what remitters may prefer to refer to as trustworthy or nontrustworthy *malayishas*. It is also of importance to focus on other interpretations of trust as is highlighted by Durkheim [4] where it is pointed out that trust in these accounts can be viewed as a kind of social fact, a feature of collective action that is effective and in principle measurable in comparative terms. At the other end of these large-scale analyzes, however, stand individuals who trust some people, in some situations and some of the time as noted in Ref. [5] where it is argued that on the other sharp end, questions of trust relate to associations between individuals.

According to Refs. [6–8], it is importance to note that it does not always automatically follow that certain interactions would relate to general accounts of social trust. Instead the scholars posit arguments similar to those of Ref. [9], where it is indicated that the best way of understanding trust is to explore it in line with theoretical approaches of trust that begin with freely chosen and essentially private interactions, as depicted in a typical scenario of friendship or love. While friendship provides the ideal, such a notion of trust can be applied more broadly to interactions between individuals that are not secured by contract or enforced by law. This would range from those individuals who are closest to us to those who are strangest. In this study, one of the *malayishas* was bailed out by a 'closer' friend through a somewhat morally secured repayment agreement that was verbally secured. In the incident in question, a friend

was bailed out through the 'verbally sanctioned' agreement, and he had to trust that the verbal assurances would be honored, and he will be reimbursed the bailout money he was owed. In narrating his ordeal, the *malayisha* pointed out that he got detained at Lindela repatriation center for three months, and when he had lost hope that he would find somebody to help him, one of his friends came, and after they talked about the matter, the friend requested an undertaking that he would be reimbursed whatever he was to spend. Although he was not sure of how fast he was going to raise the amount he agreed, the required amount was settled.

Some writers such as Nyoni and Lin [3, 10] have noted that individuals rely on trust, basically, in situations of uncertainty of their situation as well as precariousness of their relations with those they are interacting with. The implication is that trust is a means of mediating the risks associated with social interaction as noted in Ref. [10]. According to some scholars, in its everyday usage, the concept of trust embraces the assumption that 'those one does not know and those who do not know you are nevertheless not dangerous' just as is explained in Refs. [11–14]. The response from a *malayisha* informant in this study presents a contradictory view that indicates that strangeness between interacting persons reduces trust. This means that those 'one does not know' and 'those who do not know you' are in fact perceivably 'mistrusted' and 'dangerous' in the context of relations governing interaction with the remittance transportation industry. This explanation can best suite the assessment of relations between remittance senders and their clients since 'strangeness' carries with it an ugly tag of mistrust. The implication here then is that trust is cemented and sustained by the closeness and length of the relationship between the remitter and the *malayisha*. A *malayisha* had this to say pertaining to the significance of trust in his relations with clients:

'…My clients have very high trust on me because we have been working together for quite a long time…'

Seligman's assumption that those one does not know and those who do not know you are nevertheless perceivably not dangerous is therefore one sided and limited in scope as it does not adequately explain the complex incidents located in the practices of *malayishas* and the clients as indicated in Ref. [15]. This can be illustrated by the presence of incidents where a client rarely goes to a 'strange' (new *malayisha*) *malayisha* due to a lack of knowledge on his dealings that consequently lead to lack of trust on such persons. It is in that regard that a female remitter indicated that she does not favor doing business with people she 'does not know' due to the risks of them failing to fulfill their side of bargain, that is, delivering remittances to the intended destinations or recipients and deliberately switching contact details.

One may therefore reach a conclusion that is such types of 'low-level trust', as well as the complexities surrounding measuring levels of trust involved in establishing and sustain relations that not only facilitate day-to-day interactions but also ensure that every day social action and interaction take place while also permitting individuals to get involved in so-called 'hidden' day-to-day practices, or even to use dark streets and in the process entrusting their safety to strangers as noted by Nyoni [3], Hancock and Algozzine [11], Mungiu [14]. Trust in this sense is both generalized and highly contextualized, consequently implying that one

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draws on resources of trust routinely and often involuntarily, but always in the context of specific settings and social encounters.

3. Trust as social capital among *Malayishas*

A lot of networks and relations in the study were shown to be built on family ties where in certain instances remitters tended to be close to the driver or else sharing the same neighborhood in Zimbabwe. The importance of family ties among migrant populations has also been emphasized by Landau and Haupt [13] where it is noted that these networks enhance the survival of the migrants in various ways. A remitter was also quoted emphasizing trust drawn from family when she had this to say:

'I had every reason to trust him as I knew that he was my uncle and we come from the same place at home.'[1]

The arguments related to the conceptualization of trust can be linked to how trust may be used in understanding notions of social capital, especially in terms of its position of a moral necessity on the one hand and an economic asset on the other. In such a line of argument, trust can therefore be viewed as an end in itself as well as a lubricant for social and economic action as noted in Ref. [16]. This view highlights the dimension of trust as a goal in itself as well as 'oil' for socio-economic action. This can be highlighted through information from a *malayisha* who noted that his relationship with remitters is held by trust, and he has to sustain the trust by ensuring that all the goods of the remitters are not only delivered but also timeously and without being damaged. In addition, he noted that such an approach not only establishes trust but also sustains the relationship thereby protecting his client base. Of importance in his statement is his emphasis that physical action through delivering remitter's goods timeously and intact is not good enough as 'respect' is also important in dealing with the clients.

The study revealed cases where the establishment and sustenance of trust relations among *malayishas* themselves are done through moral obligations that may in future not only bring economic returns but also create and sustain important networks. These networks that are usually established through fulfilling obligations largely involving assisting other *malayishas* indicate the importance of networks in the creation and sustenance of relations in informal communities. It becomes important to note that network creation is central in informal arrangements such that without them it would be hard for the group activities to succeed. In highlighting the significance of networks in the remittance transportation business, one of the *malayishas* revealed that they assist each other in many ways such sharing remittance loads and that becomes an important test of the network as one is obliged to ensure that they deliver the remittances without disappointing both the *malayisha* friends who would have topped up the load as well as the remitter.

[1]Interview 3 with a maphathisa, November 11, 2008, Johannesburg, South Africa.

The significance of recognizing the agency presented by individual players where they draw from trust as a form of social capital as posited through *malayisha* information indicates that 'structure' is as essential as 'people' as noted in Refs. [10, 17]. In essence, it therefore implies that inasmuch as individual actors may be seen as important and active, they can mainly do so within the context of a community within which they exist. This argument can further be extended toward understanding the role of ties within remittance transportation, in which case the close ties are usually perceived as playing an important role in connecting individuals and groups as well as enhancing access to external resources. This argument in essence also implies that comparatively close ties tend to be more important than loose ties in this respect as they lead to heightened trustworthiness. In analyzing this argument further, one can also indicate that despite the illuminating arguments by Granovetter [18] where emphasis is put on the importance of weak ties, people in local communities would tend to shy away from weak ties and prefer avoiding any related transaction instead of risking with such ties. This argument explains why *malayishas* always find it important to ensure that good relations are maintained with their colleagues as it is a part of the stronger ties without which one has to either deal with risky weak ties or having no relations at all. It is also important to note that the obligation of ensuring sustenance of strong ties depends on the effort that each *malayisha* puts into the process. This was highlighted by some of the *malayisha* informants who noted that it is important for an individual to have reliable friends who would assist when they are in need of help. They pointed out that this is made possible through ensuring that good working relations with remitters and other *malayishas* are always maintained as an investment for those times when assistance would be required.

It is also important to explore how this study tends to present an opportunity of putting into question scholars such as Granovatter whose idea, despite being importance, seems to be overemphasizing the importance of weak ties since for instance being assisted by a friend indicates the significance of 'strong ties' and networks which one can equate to 'networks of reciprocity.' This is largely due to the fact that individual's future actions and relationships highly depend on the assistance and interactions within *malayishas* and remitters, something which can be highly dynamic. It is therefore such a relationship which is largely depended on reciprocal means that may lead to strengthening of previously weak ties and turning them into stronger ties or else weakening of stronger ties. This explanation constitutes an important feature that classical explanations as noted in Ref. [18] fall short in clearly explaining. This means that in reality so-called weak ties may not essentially be weak.

It must, however, be noted that many close relationships extend over a number of potential arenas for action, including across more than one community or organization, and bridging opportunities are said to be found in abundance in such instances as noted in Refs. [19, 20]. It is also important to consider the views expounded in Refs. [21–25] who have suggested a shift from bonding to bridging networks, and the responses from the *malayishas* reveal that bridging and bonding in practice coexist as much as inclusion and exclusion tendencies informing these networks work hand in hand. In light of these arguments, the paper argues the very source of cooperation and inclusion among *malayishas*, that is, remittance transportation is on the other hand a source of conflict with exclusionary tendencies attached to it. It must, however, be noted that while competition for clients among *malayishas* is perceivably responsible for

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inducing tendencies of mistrust thereby leading to exclusion of certain persons in a cluster, there exist other 'hidden factors.' It is the so-called other hidden factors that sometimes manifest in conflicts among *malayishas* that tend to underlie the complex nature of interpretations related to the *malayisha-malayisha* and *malayisha*-remitter relations. It is thus in relation to this situation that some *malayisha* informant decried the lack of good relations among themselves as a group in which case they went further by blaming this on the subtle competition characterizing their business.

4. Challenges in using trust and social capital

One of the main challenges arising when using trust and social capital in analyzing social action relates to the multiple networks and relations that a *malayisha* may belong to as noted in Refs. [19, 20] who have pointed out that in instances of multiple networks existing, it becomes difficult to measure the degree of that individual's commitment to any one network thereby reducing the explanations to personal levels which is rather difficult to assess in Anthropology, a discipline deeply entrenched in ethnography. Some *malayisha* informants highlighted reliance on a multiplicity of networks whose strengths remain difficult to measure when they revealed the impossibility exclusive belonging to a particular network, especially considering that in reality one draws from several networks at different periods depending on circumstances. This is something which they explained as being useful to them as it broadens their sources of assistance in particular and social capital in general.

It can also be noted that although within the remittance transportation business social capital is an undeniably desirable feature, it becomes equally important to avoid over-romanticizing it because in some instances it has been difficult to explain the challenges where social capital and its associated networks may lead to undesirable effects and fail to accommodate the broader interests of the group as argued by Molm et al. [26]. This question needs to be explored even if such capital would have accrued benefits to a section of society. It therefore follows that within the context of remittance transportation, what one may call the 'gloomy side' of capital would relate to criminal acts as perpetrated such as human trafficking and smuggling illegal items by some *malayishas* on the one hand as well as rapes, robberies, and murders by groups such as the '*impisi*'[2] and '*amagumaguma*.'[3]

In further understanding the social capital among the *malayisha* business, one's attention is drawn to the coexistence of formality and informality within the activities involved in remittance transportation. In essence, *malayishas* find themselves in situations where they have to draw from their multiple sources of capital whose categorization may present misrepresentation if one were to make efforts in categorizing them as formal or informal since there is always

[2]The word 'impisi' refers to destitutes who are found in forests but whose main aim is to rob travelers. The concept is drawn from its ordinary usage where an 'impisi' is a hyena.

[3]'Amagumaguma' are groups of criminals found at the Beitbridge border post who rape, rob, and murder unsuspecting travelers.

a complex integration of the two that leaves the lives highly blurred. The complex interactions range from state regulations to group sanctions that they have to deal with in their day-to-day activities. The data further show that the whole process of interaction involves strong negotiation in order to reduce the mistrust, and otherwise, mistrust causes problems for the *malayishas*. This confirms what Ref. [27] described as the intangible nature of trust. This is partly reflected in some of the informant responses where *malayishas* described how their interactions with state agents such as the police and customs officials by the border posts as well as encounters with police always lead to the issue of mistrust being leveled against either party. In instances they described how they have to subvert paying fines through bribes, an indication of how notions of formality and informality may present challenges within the context of remittance transportation.

It can further be emphasized that the moral regulations and expectations governing so-called informal relations do not require the support of formal structures for regulatory backups as these informal arrangements in themselves constitute a set of sanctions that can be in the form of exclusion or threats of exclusion or isolation or even assault that are enough to deter would-be violators from dishonoring their morally bound cooperating obligations. Similarly, it is important to note the limitations of modernist-oriented views from Ref. [28] with a tendency to reduce the specificity of culture and society into abstract and essentializing frameworks, which are then deemed broadly applicable to all cultural contexts. The arguments raised in this paper are aligned to efforts aimed at challenging essentializing explanations by borrowing views from scholars such as Thornton who embrace the flexible approaches in theorizing about the Iraqw culture. Drawing from the arguments by Thornton on the Iraqw culture, one can possibly find an important angle to understand the complex nature of interactions between *malayishas* and state agents. The flexible approach therefore enables us to view issues from a perspective that acknowledges the blurred nature of boundaries, something that classical theory has always failed to adequately offer.

5. Conclusion

It can therefore be argued that the period covering Zimbabwe's economic downturn is characterized by a notable shift to informal remittance systems. The unavailability of basic commodities in Zimbabwe particularly during the 2007–2008 period has saw a group of *malayishas* engaging in and cashing in through ferrying remittances from Zimbabwean remitters in South Africa. The period of the study encompassed the remittance of basic commodities more than the cash remittances as was the case prior to shortages. The study revealed the importance of drawing from various arguments surrounding the concept of trust as social capital in explaining the emerging relations among *malayishas* as a group as well as the remitters and various state agents. Theoretically, the study became an eye opener in as far as it established that the understanding of relations formed and sustained through trust cannot be clearly understood through the essentializing and bounding interpretations that some classical scholars tend to present. Instead, it was noted that an assessment of the role of trust in relations created and sustained through trust ought to be explored within a framework of

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interpretations that acknowledge an appreciation of the existence of fluidity and complexity in understanding knowledge boundaries.

The study revealed how complex trust relations among various actors are within remittance transportation. In essence, inasmuch as various actors were seen as active agents who could draw from various levels of trust, it became clear that this concept together with social capital is fluid and complex. One can by no means be able to tell how much trust is needed to establish and sustain a particular relationship or how much of it lacks to result in a break of relationship. Trust therefore not only remained fluid by indicated features of dynamism as well. It is therefore important to note that trust as social capital occupies an important position in determining the strength of relations and networks. While trust has previously been restricted to informal relations that lack so-called formal contractual obligations, to the contrary, the study noted that the moral regulations that are reinforced by fear of punishment or exclusion can act as deterrents for the would-be violators within *malayisha-malayisha* relations where reciprocity and obligations are closely policed. While notions of formality and informality arose, it is important to note that it is not a matter of formality or informality that counts as far as relations in remittance transportation are concerned but rather the capacity in which the individual participants as active agents make use of their position in efforts to either strengthen their ties with others or to derive maximum benefits from a multiplicity of existing ties.

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INTECH

Chapter 8

Organized Industrial Zones and their Effects on Regional Development

Sonyel Oflazoğlu

Additional information is available at the end of the chapter

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Abstract

It has been observed that in the industrial sector parallel to the development of the flexible production process, the tendency of firm aggregation increases, especially in countries where the traditional modes of production are valid as it is in Turkey. Organized industrial zone (OIZ) enables firms to select appropriate locations for establishment, discover new opportunities and obtain competitive capacity, leading many researchers to investigate the enterprises functioning in those areas, of their nature. In this frame, the scope of this study is to analyse the relations between social network approach, entrepreneurs and network activities, social capital components and firm novelty, and social capital. Within the scope of the research, a questionnaire was carried out by face-to-face interviews with 121 OIZ firms while the number of interviews with firms from a similar factor, which are not active in OIZ, is 116. The results of the research support the fact that the social capital components are effective in the innovation of the firms. It was found that the social capital indicators are highly important for OIZ firms and that there are important differences between firms inside and outside of OIZ, in terms of innovation.

Keywords: social capital, social network approach, organized industrial zone, firm novelty, entrepreneurs

1. Introduction

The establishment of enterprises functioning in different fields is important for regional development. The aggregation of enterprises based on knowledge and technology is a critical means of gaining a sustainable competitive advantage at a national level through social capital dimensions [1]. Social relations among entrepreneurs strengthen cooperation and increase the

learning opportunities, which are regarded as one of the economic benefits of social capital. Cooperation between individuals and organizations leads to the emergence of scale economies. Risks that uncertainties may bring along are reduced by trust that helps to take action. Exchange of information is also facilitated by trust. The entrepreneurs in high-trust relations have a higher learning capacity due to their wider and richer information flow. Information exchange serves as a 'mediator' between the dimensions of social capital (trust, networks and recurrent exchanges) and economic performance [2]. In short, social capital contributes to economic growth by ensuring more productive and rational use of available production factors [3].

This study aims at examining the impacts of the dimensions of social capital on innovation capacity of a firm and in this respect, identify the difference between firms functioning in organized industry zones (OIZs) and others. The relevant literature mainly focuses on the resources providing competitive advantage and increasing innovation capacity of the firms. However, in this study, the literature has been reviewed to identify the impacts of social capital dimensions on innovation capacities of the firms by their locations. At this point, this study attempts to examine not only the impacts of social capital dimensions on the innovation capacities of the firms, but also the dependence of these impacts on the locations of the firms. In this sense, this study may contribute to bridge the gap in the relevant literature.

Organized industrial zones emerged as an idea in the United Kingdom and the United States of America, respectively, in 1896 and 1899; however, their implementation occurred around 1950s. First OIZ practices in the USA were carried out by the private sector with the aim of profit; on the other hand, with the Second World War, OIZs were organized as public investments to contribute for the development of SMEs in the developing countries. In Turkey, the first OIZ was established in Bursa province in 1962. According to the Ministry of Industry and Trade, OIZs can be defined as settlements which meet the necessary physical requirements for the foundation of factories of a specific economic scale, provide an environment for the improvement of networks among industrial enterprises, and direct entrepreneurs to the appropriate areas. Within this context, it would not be wrong to accept OIZs as a means of development and space arrangement [4]. Having enterprises of similar economic scales and activities in the same settlement has many positive effects on firms. At this point, since firms are located together, they can create synergy and increase their productivity; and through the networks they have built, they can increase their capacity for innovation [5].

On the other hand, Morgan and Hunt [6] emphasized that it is necessary to establish network connections, which can provide competitive advantage among enterprises, to help them increase their competition capacity in the global economy. In fact, this advice may serve as a strategic idea for the SMEs that operate within the small-scale economies and look for alternatives for competitive advantage [7] because these connections and collaborations contribute to the process of learning and innovation among enterprises. Through the networks between enterprises located in close areas, the natural development and modification of knowledge can be ensured. In this context, the concept of agglomeration introduced in the literature by Marshall has in fact no technological purpose, but rather, brings spatial and industrial advantages. In the definition proposed by Asheim, organized industrial zones are

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considered as a network of small and medium enterprises (SMEs) in geographically determined production systems; they are based on practices which support the local and social structure, dense information modification, and innovation among the enterprises in the region [8]. Although aggregation and industrial zone are interchangeably used in the relevant literature, it is accepted that while each organizational zone is an aggregation, an aggregation is not necessarily an industrial zone.

2. Relation sources and innovation in organized industrial zone

According to the interaction model, relations are changing with time and these changes do not occur without a cost; relations are processes in which enterprises utilise their sources and time [9]. At the same time, relations can also be composed of basic elements such as collaboration, trust resulting from the intimateness or distantness of relations, and loyalty [10]. Relations can also be in horizontal and vertical structures. While vertical relations emphasize the 'loyalty' element, horizontal relations emphasize the 'dialogue' element. In all these processes, the 'trust' element has a central role. Since interactions between enterprises are different from each other in horizontal and vertical relations, trust can also develop differently in these structures [6].

In his study on the relations between enterprises, Rindfleisch concludes that enterprises in horizontal relation show a lower level of corporate trust compared to the enterprises that have vertical relations [11]. The biggest challenge for these inter-enterprises relations occurring in different ways is to create collaboration among the participants, who activate these relations, and to ensure the sustainability of this collaboration. The competition between enterprises, which are located in a specific geographical region (such as organized industrial zones), is directly proportional to their ability to connect the innovation network typology emerging in inter-enterprises relations. On the other hand, there is a significant differentiation in regional innovation systems with regard to the extent of Small and Medium Enterprises (SMEs) relations with their cooperation partners and the realization level of this cooperation with local partners [7, 12, 13].

2.1. Social capital, social network and innovation

Social capital refers to the sum of the actual and potential sources, which exist in the relation owned an individual or a social unit; they are accessible by and based on that relation. The key premise of social capital theory is that relation networks are valuable sources for social works [14]. For this reason, social capital is composed of assets, which are movable in that relation network; and since it increases the innovation capacity of enterprises, it can create competitive advantage [15]. Social capital can be effective in the important activities of an enterprise, such as in the exchange of internal sources, in the creation of intellectual capital, in internal learning, and in innovation [16]. Social capital, which also provides the opportunity for technological information and market for an enterprise, is a significant source for enterprises [17]. At the same time, through the use and dissemination of sources of an enterprise, social capital

contributes to the increase of innovation capacity the enterprise [18] and as a result, positively affects the performance of an enterprise.

There are many different theories and approaches in the literature with regard to enterprise networks. As one of these approaches, social networks approach is important especially for the entrepreneurship literature and for those enterprises, which are shaped by entrepreneur's own relations [19]. Social networks are social structures, which are generally established by the owner of the enterprise and accordingly, shaped depending on the personality and activities of the owner [20]. According to the social network approach, social networks of an entrepreneur affect the formation and development of the enterprise [21]; in addition, they emerge as the fundamental determinant of the potential collaboration with the other enterprises [22]. Accordingly, social networks provide the opportunity for enterprises to take advantage of the sources that they do not have [15]. People in firms can have different social group behaviours or identities, and these differences can change how they access and make use of the opportunities.

In the social network literature, there might be strong or weak relations with regard to the structure of relations in the network. While the relation is dependent on the trust element in strong relations as in the relationships with family and close friends, weak relations tend to involve weaker emotional bonds and higher risks, and a concern of mutual benefit [19]. In strong attachments where people know and are familiar with each other, the sense of trust is achieved in the relation; and, this trust is regarded as the social capital that is essential for the entrepreneur enterprises. For entrepreneurs who have the minimum information about each other, have some common points, and have the same ethnic/religious/denominational identity with each other, trust comes to the forefront as a social capital. With the feeling of trust based on similarity and/or familiarity, enterprises that have the same ethnic/cultural structure can access to the social networks easier than other enterprises [23]. Besides, Kadushin states that people who are geographically close to each other and sharing similar social characteristics have more opportunity not only in the access to the existing social networks but also in the creation of new social networks [24]. In addition, no matter how strong or weak their relations are, the sense of trust strengthen with time enriching relations among enterprises.

In response to the perspective, which suggests that the strong relations within social networks create advantage of trust, and hence enterprises should create this kind of relations, Burt [25] draws attention to the structural gaps, which mean lack of connection between the actors in the network. According to this, instead of close connections, the importance of structural gaps in the determination and revelation of opportunities is emphasized. It is stated that since the enterprises, which can fill the structural gap, can access the new and strategically important information in a shorter period of time compared to the other network components, they can get the competitive advantage [26]. The reason is that there are people who have different kinds of information in the social networks where the relations are not strong, and with the help of their social networks, enterprises can have access to different kinds of information; because, as mentioned, the processes of entrepreneurship, determination and utilization of opportunities are directly related to the filling the connections within the network [26]. According to this, it is stated that the enterprises, which confine themselves only to their religious and cultural

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social networks, cognitively shut themselves down for the opportunities existing in the world, apart from the ones in their subject network [27]. Generally, the enterprises, which have different cultural structures and are unknown in the present market for offering new customer value, can fill in the structural gaps existing in the general networks apart from the networks that have similar cultural structures in this sense [23]; and in relation to this, they play an important role in the determination and utilization of the opportunities that are not known in the general cultural structure of the market.

As mentioned in the relevant literature, social networks between enterprises and the created social capital have positive effects on the innovation capacities of enterprises. Innovation and information is indeed comprised of internal and external sources; however, it is emphasized in the recent strategy and innovation literature that firms create innovation from external sources. In this context, knowledge acquisition, learning and creating opportunities are based on intra-organizational relations; access to external innovation sources, on the other hand, are related to the relationship between the firm and the actors in social networks [28]. This approach accepts that the firm is embedded in the social structure granted with the social capital. Social networks enable the relations, trust, and information flow between firms; therefore, they function as sources, which can prevent fraud and enable the utilization of opportunities for the firms. These strategic sources can positively affect the abilities and performances of firms [29].

Geographical proximity is expected to create strong relations and to produce strict structures hence it can shape social networks. Thus, through the existing social networks, firms can share quality and reliable information, and they can utilize the market opportunities in a more productive way because geographical distribution determines the frequency and density of the communication between the actors in the same structure. Apart from this network, firms can also develop networks through local institutions. This topic is also discussed a lot in the literature. It is concluded that these local institutions (universities, research institutes, vocational education centres and development agencies) positively affect the performance of the firms.

3. Hypotheses

The effect of social capital to create value in terms of innovation has been studied by Tsai and Ghoshal [30] and various dimensions of the social capital in the literature have been dealt with [15]. In this study, from the dimensions of the social capital; social interactions, trust and shared vision have been used. In addition, the role of social institutions is added to the study as a feature of local aggregates with the view of their ability to mediate the firms' external networks [25, 31].

3.1. Social interactions and innovation

The popularity of a social networks and interactions of a firm is actually accepted as a sign of the social capital. Social interactions are the channels for the actors in the market to reach the

information sources [15]. At the same time, social interactions are tools to destroy the boundaries between firms. The lack or rarity of these interactions and bounds, both make it hard to reach some of highly important information resources and define the boundaries. In this case, within the context of creating and spreading productive research innovations in the literature, a great deal of importance is attached to social interactions. At this point, as the social interactions of the firms increase, through facilitating the access to the resources in the subject network structure and abolishing the boundaries between firms, firms will be more advantageous in terms of opportunities; and, all these tools will have a positive effect on innovation opportunities of the firms because these interactions will enable firms to reach specialised information and resources in the network structure. As a result, through social interactions, a firm will have more advantages to exchange resources with other actors and will be in a more advantageous position to combine talents. This situation will enable them to increase their innovation capacity [30].

H1: Social interactions of the firm will be positively associated with innovation.

3.2. Trust and innovation

Trust plays the role of a control mechanism between the actors in the networks and it is also a dimension of the social capital. At this point, it is not quite wrong to say that trust is actually a mechanism that manages embedded relationships and if trust cannot be managed, the access to the information and resources will become harder. Dakhli and De Clercq put forth that the trust between firms also feeds the innovation [32]. When trust comes out in the relation between firms, an institutional behaviour appears between actors as sharing the resources and information is voluntary without any concern. Ultimately, trust is a social process and when trust is achieved for one actor, it will be easier for other actors. In the literature, many studies have revealed that the perceived trust level and reliability may cause different results with regard to sharing of information and resources among the firms in the same network. At this point, we propose that:

H2: The level of trust of a firm is positively associated with innovation.

3.3. Shared vision and innovation

Shared vision is accepted as the latest mechanism that enables the flow of sources via a network. It is also a way to ensure a common language between actors as a feature of social capital. In other words, it can be defined as a common code in the social system and involves the expectations and targets of the network members [15]. The shared expectations and targets among the network members go beyond the boundaries of the firm and facilitate access to the information and resources of the other units [30]. When it is accepted as a mechanism to help different firms to combine resources, the shared vision, which is used to combine different firms or to separate the firms from each other, will increase the innovation capacity. At this point, we propose that;

H3: Sharing the firm's vision with the rest of the firms will be positively associated with innovation.

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3.4. Local institutions and innovation

Local institutions are of great importance in providing specific information in the networks and they take the role to supply new resources and opportunities. They have a major role in decreasing research costs, spreading the information, and in gaining the ability to compete. Creating a connection with external networks contributes to innovation to increase the abilities of the firms. Thus, the firms get advantage in having networks and since they reach information resources via local institutions, it causes an increase in firm's capabilities. Local institutions have some ways that ease the creation of value for firms [31].

1. It supports the technological services (quality control, standardisation, etc.) and these services enhance quality managements of the firm.
2. It organizes training activities for the workers of the firm and it increases the human capital of the firm.
3. It takes the duty of mediation between local and external firms, so that it provides attendance to congresses, different solutions for problems, and partnership for projects. In this way, regional firms establish access to information sources not only to increase the research costs but also to increase their abilities for opportunities.
4. By encouraging the attendance to common research projects, it provides the formation of formal and informal communication channels and this increases the innovation capacity of the firms.
5. It mediates the access of regional firms to the international markets with minimum risk, enabling the circulation of products and services of the firm in national and international markets. Besides, it has a positive impact on the innovation capacity of firms by introducing the firm's brand with co-operative advertising on behalf of the country. At this point, we propose that:

H4: Firm involvement in local institutions will be positively associated with innovation.

Name of OIZ	Surface area (Decare)	Industry parcel (Decare)	Number of parcel (Qty)	Number of the parcel assigned (Qty)	Number of workers
ANTAKYA OIZ	1520	881	66	66	1221
İSKENDERUN OIZ	2080	1140	75	75	4771
PAYAS OIZ	530	429	42	42	1913
İSKENDERUN II OIZ	780	513	7	7	–

Table 1. Hatay organized industrial zones.

3.5. District affiliation and innovation

It is important to have face-to-face regional membership relations to construct common norms and values. Social interactions, trust and shared vision form the dimensions of social capital;

and, when external firms are compared to the regional ones, it is expected to be at a higher level than the regional ones. Bianchi and Bellini asserted that geographical closeness is an important supporter of innovation from the side of social solidarity through continuous communication [33]. However, it cannot be said that every firm in the industrial zone is taking the advantages equally because their level of using these sources may affect their structural features (see **Tables 1** and **2**).

H5: District affiliation will be positively associated with a firm's innovation.

Name	Year of operation	Total area (m^2)	Total number of workplaces	Total number of full capacity workplaces
ANTAKYA	1967	805,000	1529	1529
İSKENDERUN	1967	300,000	700	700
DÖRTYOL	1978	75,237	146	143
KIRIKHAN	1994	270,000	200	190
PAYAS	1986	78,841	151	148

Source: www.dogaka.gov.tr [34].

Table 2. Hatay organized industrial zones.

3.6. Collecting data

There are three organized industrial zones in the province of Hatay, Turkey where 194 firms are active. While the firms in the OIZ in Antakya district are mainly active in manufacturing olives, food, flour and daphne; the firms in the OIZ in the district of Iskenderun focus on filters, machinery, iron and steel [34]. The addresses and the contacts are taken from Hatay, organized industrial zone; a pilot study was conducted with 10 firms and tested whether or not there are any incomprehensible questions in the questionnaire form; and then, a part of the questionnaire was sent via e-mail, the other part of the questionnaire was used in face-to-face interview. Exactly 121 firms from organized industrial zones, and 116 firms outside the organized industrial zones, gave feedback and meetings were held. The questionnaire used in research is attached in the Appendix.

4. Research design

4.1. Independent variables

4.1.1. Social interactions

Social interactions represent the communication of firms with other firms or actors for the use of sources or the access to the information. For the measurement of this variable, the study of

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Tsai and Ghoshal is taken into consideration and four questions were prepared in the questionnaire form [30].

4.1.2. Trust

Trust is defined as a phenomenon, which has been constructed with firm's new or old experiences, used by the firms to exchange information or to use of sources. Firms, either construct the trust for the other firms or there will be the exact opposite. This phenomenon also affects the quality or intension of shared or changeable sources. For the measurement of this variable, the study of Tsai and Ghoshal is taken into consideration and four questions were prepared in the questionnaire form [30].

4.1.3. Shared vision

Shared vision is related to the cognitive perception of the other firms in the market. It is constructed with the commonly used language, beliefs, manners and cultural values. Shared vision may not be perceived the same by all firms. For the measurement of this variable, the study of Tsai and Ghoshal is taken as the reference [30].

4.1.4. Involvement of local institutions

Not only the firms that are active in the organized industrial zones but also those outside these regions can cooperate voluntarily with local institutions. By taking McEvily and Zaheer's study as the basis, we designed four questions in the questionnaire about this dimension [31].

4.1.5. Industrial district affiliation

In this study, we analysed this dimension through four questions, inspired by the relevant studies of Geringer et al. [35]. Despite a number of other relevant studies in the literature, based on the study of Becattini, data are gathered from the managers of the firms who are members and non-members of industrial regions [36].

4.1.6. Dependent variables innovation

In this study, the term of innovation refers to the successful introduction of a practice or an idea to the market by a firm. To measure this variable, the studies of Tsai and Ghoshal and Meeus et al. are used to create four questions [30, 37].

4.1.7. Control variables

In this study, the size of the firm [38] and the efforts of its Research and Development (R&D) [39] are determined as control variables [40].

5. Results and discussion

As a result of the conducted analyses, first, data on the firms' field of activities and cooperation choices is presented based on whether or not they operate in the industrial zone (see **Figure 1**). Although it is not given as a chart, in 95 of 121 firms, the number of employees is between 11 and 50; and in 26 of them, the number of employees is between 51and 250. In 116 firms, which operate outside the industrial zone, the number of employees is between 11 and 50. As can be observed in **Figure 2**, it is clear that firms located in the industrial zone can get higher support from the regional development agencies and better cooperation from universities. Despite this, it is found out that firms outside the industrial zone use neither university sources nor foreign sources, which indicates that for the firms, already located in the same zone, it becomes essential to have more opportunities of cooperation for innovation and establish relations with regional/foreign/other institutions.

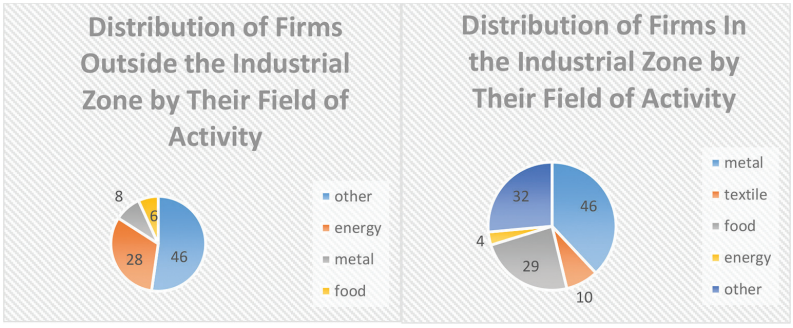

Figure 1. Statistics of Firms With Regard to Their Field of Activity.

Figure 2. Statistics of Firms' Cooperation Choices.

Reliability and validity of the scales used in the study were tested, and they were found to be within the acceptability limits indicated in the literature. Descriptive statistics and Cronbach's

alpha multiple item variables are presented in **Table 3**. It is seen that the acquired results are within the limits of toleration as indicated in the literature. As can be seen in **Table 3**, social capital values are found to be at high levels and significant in the firms operating outside the industrial zone. Significantly high values were acquired for the firms operating in the industrial zone by the dependent variables we identified (product and process innovation). When control variables are analysed (the number of employees and R&D investments), it is observed that R&D investments are different in accordance with the firms operating in or outside the industrial zone. In addition to this, it would not be wrong to state that the number of employees has no connection with innovation; it is completely related to the capacities of firms.

Variable	Mean (District Members) *N* = 121	S.D.	a	Mean (No District Members) *N* = 116	S.D.	a
Product Innovation	4.54	0.45	0.97	1.980	13	0.77
Process Innovation	4.02	0.51	0.74	1.00	0.00	0.83
Social Interactions	4.43	0.40	0.74	4.71	0.47	0.82
Trust	4.38	0.40	0.94	4.72	0.44	0.93
Shared Vision	4.52	0.39	0.73	4.87	0.32	0.86
Local Institutions	4.51	0.45	0.79	4.45	0.53	0.92
Size	1.21	0.83	–	1.00	0.00	–
R&D	3.00	0.41	–	2.00	0.09	–

a = Cronbach's alpha for all multiple-item variables.

Table 3. Descriptive Statistics, Means, Standard Deviation, Cronbach's Alpha.

According to the results of regression analysis conducted after descriptive statistics, it is found out that first, second, third, and fourth hypotheses, social interaction, trust, shared vision, and cooperation with local institutions positively affect the innovation capacity of firms; therefore, these hypotheses are accepted. According to the results of the same regression analysis, it is observed that corrected R^2 value (D Adjusted R^2) of the variable, being located in the region, changed from 0.203 to 0.261 for product innovation, and from 0.061 to 0.074 for the process innovation. There are some differences between the variables of social capital and of being or not being located in the organized industrial zone. The most important difference is observed to be the collaboration with local institutions. In our model, the results of Durbin-Watson test, which shows whether or not there is autocorrelation, are expected to be around 1.5 and 2.5; and according to the results of the analysis, these values are found within the acceptable limits as (1.514), (2.370), (2.404) and (2.047). It is clearly seen that firms located in the zone are highly in cooperation with institutions. Low tolerance and high VIF values indicate that there are multiple connections between independent variables [41]. According to this, tolerance (0.918) and VIF (1.089) are within the acceptable limits. Finally, for the fifth hypothesis, it is found out

that regional membership positively and significantly affect the firm innovation. In such case, the hypothesis is accepted.

Especially because the firms located outside organized industrial zones have limited capacities and attach less importance to Research and Development, they do not pay attention to the product or process innovation unlike the firms located in organized industrial zones. Therefore, they can be weak with regard to the cooperation with local/foreign institutions. However, to increase the innovation capacity and market opportunities of firms, it should be taken into consideration that risk levels of firms will be less through the collaboration with local institutions. Results acquired from the study show that social capital variables affect the firm innovation. Within this context, it can be concluded that connections of firms are significantly important. Including the firms, which are located either inside or outside the zone, into the study enables the discussion of different parameters that can be effective on the innovation.

There are some limitations in our study. These limitations were experienced in the communication with owners and managers of the firms located in the organized industrial zones, and in time. Since the firms located outside the industrial zone were in different areas, time limitation created a pressure on the researchers. It is found that especially the firms located outside the industrial zone are not properly informed about the local institutions in the area where the research was held. At this point, it can be another issue to discuss that reach out of the local institutions should be increased to make more use of their roles as mediators in the access of new information sources and regional networks. Especially, it is suggested that studies should be conducted on the models, in which different cultural elements are also included in addition to the elements of social capital and of the firms operating in the organized industrial zones. When the cosmopolitan nature of Hatay province and the different cultural, ethnic and religious background of the firm owners and employees are taken into consideration, the importance of these elements in terms of trust and social capital can be another subject of research. In addition to these suggestions, limitations of the positive effects of social capital and trust can also be investigated.

Appendix

Social interaction: (1) People from your company spend a considerable amount of time on social occasions with people from other firms. (2) People from your company spend a considerable amount of time on social events organised by the local community. (3) A local origin and common academic background of the employees at local firms allow social interactions to take place. (4) There is an informal network among customers, suppliers and competitors.

Trust: (1) Other firms can rely on your company without any fear that you will take advantage of them, even if the opportunity arises to do so. (2) In general, your company will always keep the promises it makes to others. (3) Suppose your company is seeking to be a business partner in a joint project. You are confident that you will do what is required in the agreement (i.e., what partners believe you should do) even without a written contract that clearly specifies your obligations. (4) You consider that other firms feel a special duty to stand behind you in times of trouble, so you consider it only fair that your company should also give support to other firms.

Shared vision: (1) You and the people in your company share the same ambitions and vision as other companies in your local area. (2) People in your company are encouraged and motivated to pursue the collective goals and mission of the whole local area. (3) You consider that your company's future is related to other firms in the area. (4) There is some kind of collective strategy or plan for firms in the whole area.

Involvement of local institutions: (1) Your company has received significant support for R&D activities from local institutions. (2) You or your employees have received specific training by local academic institutions. (3) Your company has received considerable information about products and markets from local institutions. (4) You consider that you cannot receive support from external firms directly, instead of through local institutions.

Product innovation: (1) Number of developments or introductions of new materials. (2) Number of developments or introductions of new intermediate products. (3) Number of developments or introductions of new components. (4) Number of developments or introductions of new attributes of the products.

Process innovation: (1) New developments or introductions of new equipment. (2) Improvements in the level of automation. (3) Number of new organizational methods of the productive activities. (4) Use of new energy sources.

Responses were scored on a 5-point Likert scale, where 1 = fully disagree and 5 = fully agree.

Size: Size was operationalised as the number of employees (1 = 11–50 employees; 2 = 51–250 employees; 3 = +250 employees).

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Chapter 9

Comparative Study of the Perception of Financial and Credit Risks among Slovak and Czech Entrepreneurs: Impact of Gender, Level of Education and Business Experience on SMEs

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Additional information is available at the end of the chapter

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Abstract

Financial and credit risk has become a widely discussed topic in relation to the recent financial and economic crisis. The aim of this chapter is to bring statistical evidence about the impact of the selected factors (gender, level of education and business experience) on the perception of financial and credit risks by the entrepreneurs in Slovakia and the Czech Republic and to identify whether the entrepreneurship in these regions is influenced by identical or different factors. The research data were obtained through the surveys carried out in 1579 small- and medium-sized enterprises (SMEs) in these countries in 2016. Pearson´s chi-square analysis was applied to confirm statistically significant dependencies. Our results show that while the gender and the level of business experience of the entrepreneur could be considered as factors with the substantial impact on the perception of financial risk in both countries, the level of education (university degree) does not have a significant impact in the researched data sample.

Keywords: access to finance, small- and medium-sized enterprises, gender, education, business experience, Slovakia, the Czech Republic, financial risk, credit risk

1. Introduction

Small- and medium-sized enterprises (SMEs) are considered to be a backbone of each market economy [1] and the most important component of all world economies [2]. They are being marked as an engine of the economic growth [3, 4]; they are often more innovative than the larger enterprises; and they play an extremely important role in the employment in the developed countries. Their importance for the development of knowledge economy of each country is undiscussable.

Their smaller size and some specific characteristics are the reasons why they have to face special types of business risks, while financial risk in access to finance and also credit risk belong to the most frequent and important ones [5–13].

Many researchers examine the factors that have a significant impact on SME finances [5–8, 10, 14–27, etc.]. Factors such as the size of the company, the gender and the level of education of the entrepreneur are often marked as the most important.

Financial and credit risks belong to intensively discussed topics in relation to SMEs, especially after the burnout of the financial and economic crisis. This chapter compares the perception of financial and credit risks among Czech and Slovak SMEs. Presented scientific research specifically investigates the impact of the gender, the level of education and the length of doing business on the perception of the specified risks. The aim of this research is to show statistical evidence about the impact of the selected factors on the perception of financial and credit risks, and to identify whether the entrepreneurship in the Czech Republic and Slovakia is influenced by identical or different factors.

2. Literature review

The share of SMEs in the total amount of enterprises usually reaches more than 99% in the developed countries, with more or less equal values in the European Union and the United States [28]. According to the data of Slovak Business Agency [29], their share is 99.9% in Slovakia, where SMEs create 53.3% of state added value and employ 72.7% of the work force. Their share in the Czech Republic is 99.84% [30], with the share on the added value of 53.11% and the share on the total employment of 59.39%. The most important factors of the entrepreneurial success of SMEs and the reasons of their substantial market share in the developed countries are their innovation policy and proactive approach [31].

As presented in the previous paragraph, SMEs are considered an essential part of each developed economy, and Slovakia and the Czech Republic are not the exceptions. The access to external sources of financing is considered to be one of the most important factors, influencing the development of SMEs with growth potential in the developed countries [32]. The fact that the access to finance is necessary for the growth and further development of SMEs is proved by many authors [33, 34]. Financial risks are closely related to the access to finance, and SMEs face many different types of these risks [35]. The lack of finance is one of the types

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of financial risk, which is considered to be the main problem for their growth [36]. SMEs face the external financial risks of the dependence on changes on the financial markets on the one hand, and the internal financial risks, where the company itself is their source, on the other hand. External financial risks are based on risk factors such as the exchange and interest rates, as well as on the commodity prices. These kinds of internal financial risks are financing risk, solvency risk and liquidity risk [35].

Small- and medium-sized enterprises have problems with many obstacles in doing business. However, bank lending has an undiscussable positive effect on the growth of the companies [37], and is considered for the dominant form of external form of financing used by German SMEs [38], the problems with the access to the bank financing prevail. In comparison with the large companies, SMEs usually do not have enough real estate or other assets to be used as a bank collateral which is often a main condition for getting a loan [39]. The lack of collateral of guarantees is mentioned in several studies [1, 40]. The fact that SMEs do not have sufficient collateral as compared with the larger enterprises indicates that the size of the company should be an important factor in the assessment of credit risk. The smaller and younger the company is, the more financing constraints it will face. The availability of credit information and the bank concentration ratio have a significant impact on SME financing [14]. SMEs severely suffer in the countries with the less developed financial system or the countries with the unstable currency, where the prices of the loans are basically unaffordable for most of them [41].

The economic crisis has reduced the profitability of SMEs in Slovakia [20] and the Czech Republic, whereas SMEs perceive the financial risk as one of the major barriers for them [42]. Slovak SMEs mostly use internal sources of financing, and have a primary problem with guarantees [1]. Insufficient financing is often mentioned as one of the barriers for young entrepreneurs in Slovakia [43].

Similar findings were presented in the survey among Czech entrepreneurs where three-fourth of the SMEs in the Czech Republic claimed that they perceive the intense effect of financial risks [44]. The problem with the lack of collateral is interrelated with a weak capital power of SMEs [45]. Weak capital power and the degree of credit worthiness belong to the most substantial problems in SME financing. Additionally, it is proven that small and growing firms in the UK are likely to have higher interest rates for credit than large firms [17, 18, 45].

The size of the company has also an impact on credit risk and interest rate risk [46, 47]. The rejection of the loan or higher interest rates are common problems of small firms. The smaller the company is, the higher the interest rates usually are. While larger companies usually have a relatively easy access to bank or internal financing, smaller companies frequently offering higher rates of return of their business projects and requiring substantially less investments are often forced to attract groups of smaller investors through the specific financing instruments, such as mezzanine financing [48].

The impact of gender on financial and credit risks was researched by many authors. Literature research brings the evidence [49] that there is a significant difference in risk taking between male and female entrepreneurs. Men are usually more aggressive in entering the market (starting doing business) when they identify a competitive business opportunity.

Women are not so interested in the growth of their companies; they are satisfied when the company is in a stable condition. However, women are found to be more innovative than men, which is one of their advantages in the opening of new enterprise. In this context the evidence [50] that women are more risk averse than men, and that higher riskiness does not prevent men from starting the business is not surprising. According to the authors [5] women are more discouraged from bank financing than men due to the reason that they are in fear of rejection due to the lack of education and the lack of personal assets or collateral. Another study informs [44] that women to a lesser extent perceive the fact that financial risk intensively acts on the business environment, but surprisingly to a bigger extent present the opinion that they can properly manage financial risks of their company. According to the other research women more intensively perceive that the intensity of business risks grew during the crisis [44].

All authors do not agree with the statement that gender has a significant impact on SME financing [10, 11, 51]. Some authors present the evidence that gender is not a significant factor in access to credit loans [10, 11, 52].

Several studies present the evidence in relation to the credit risk that the gender has a significant impact on the demand for credit, and its availability [6, 7]. The gender also has an influence on access to finance of venture capital firms [8, 53].

The researches by the different authors state that while men have a better orientation in the credit conditions and more widely agree with the statement that credit conditions in commercial banks are transparent [24], women tend to perceive ethical standards and support philanthropic projects of their banks more than men [54]. The research conducted in 2014 focussing on the factors that influence the financing of young entrepreneurs in Slovakia [55] presented the finding that gender can be considered as the statistically significant factor in the segment of young entrepreneur [55] and has an intensive impact on the access to bank finance of UK SMEs. The study [39] informs that men are more financially constrained than women. Next research [56] confirms this argument stating that SMEs that needs financing and is owned and managed by women are more credit constrained than the men-owned SMEs due to the reason that women entrepreneurs assume that they will be refused by banks and due to that reason they do not even try to apply for a loan.

Contrary to the assumption of the refusal of the loan, presented by female entrepreneurs, some authors provide evidence that female entrepreneurs have a higher probability to get the credit. The empirical research [57] found that male-owned enterprises are less credit rationed than the female-owned enterprises, where the result shows a 2.8% more credit rationing possibility for the female-owned enterprises than the male owned. They also found that women are more risk averse than the male, and hence they are not willing to take more risk and to take the loans.

The level of education of the entrepreneur is the next researched factor with an impact on the financial and credit risks. People with higher level of education are more interested in having their own business [58]. They can attract more educated employees to their businesses, and educated employees can positively affect the output as well as productivity of the business [59].

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Higher level of education of the entrepreneur or the employee, including university or college degree, is significantly related with the higher performance of enterprises in relation to sales, profitability and sustainability [60]. People with higher education actively seek for new opportunities, which are positively related with higher growth. The level of education has an impact on the familiarity with the conditions under which the banks provide loans in case of micro-enterprises [61]. Higher level of education of entrepreneurs is in negative relation with their company's business failure. Higher education is an advantage for the entrepreneur to maintain sustainability of the company, which is the opposite case for those without a higher formal educational background [62]. On the other side, the study from the Czech Republic did not identify any significant differences in approaches of the SME entrepreneurs to financial risk management in relation to gender and level of education [52].

Some authors [12] declare that there is a significant positive relationship between favourable commercial banks' lending terms, financial knowledge of the SME owners and credit availability to SMEs. The education seems to be really important in obtaining bank loans [13].

The level of business experience of the entrepreneur represented in the length of doing business was the last observed factor with the impact on the perception of financial and credit risks. SMEs have different capital structures because of their specific characteristics. The study of the role of the owner's characteristics in the performance of agritourist farms [26] declares that the length of doing business have a positive impact on company performance. The major finding of the analysis of the impact of business experience on China´s non-governmental businesses [27] was that business experience has a small impact on the elasticity of output with respect to labour, but large impact on the elasticity of output with respect to capital. There is a positive correlation. Other studies on the impact of business experience on the financial risk are missing in the scientific and academic environment. This is the reason why we consider findings of our research to be valuable and rewarding.

3. Research methods

The research, presented in this chapter, is based on the questionnaire surveys that were conducted in Slovakia and the Czech Republic. While our research was focused only on a group of small- and medium-sized enterprises, it was decided to select them in accordance with the recommendation of the European Commission no. 2003/361/EC, which states that micro-enterprises should employ 0–9 employees, small enterprises employ 10–49 employees and medium-sized enterprises employ 50–249 employees. The questionnaires of the presented surveys were set up according to this recommendation.

3.1. Data sample and the process of data collection in Slovakia

According to the newest official Slovak statistical data published by the statistical office of Slovakia, 554.743 of small- and medium-sized enterprises were operating in Slovakia in 2014. Their share on the total number of companies reached the value of 99.8%. Our obtained data

set of Slovak SMEs included data from 438 enterprises of the different size, while the share of SMEs reached the value of 93.8% of the total number of respondents.

The comparison of the different characteristics of the basic data set and our selected sample indicates striking similarities, while the differences between them are insignificant. For instance, the basic data set contains 99.8% of SMEs, while our sample contains 93.8% of them (the difference is only 6%); the data about the regional structure and the area of economic activity of the selected companies are also close to each other.

While comparing the regional structure between the selected sample and the basic data set we have identified the approximate differences to be around 2–4% only, except for Bratislava and Košice regions of Slovakia. The smallest difference between the sample and basic data set was in the Trenčín region (1.7%), and the biggest in the Bratislava region 10.7%.

The research focused on the actual situation in the Slovak business environment was carried out in 2016. The questionnaire called financial risks of SMEs in Slovakia was distributed online and is available online at:https://docs.google.com/forms/d/1Fhob6avbfQq4DcaYG44mxNYyohzcqZWDICXkUgFbNq4/viewform?c=0&w=1.

Research data were collected in three specific ways. First of all a random selection of the appropriate companies was made from the free database of Slovak companies available on www.vsetkyfirmy.sk. Selected companies were contacted by our research team by email. In case the selected company did not reply the email, it was contacted by phone. The questionnaire was also placed on the specialized economic web portals, focused on the SMEs. Finally, the sample of companies selected by the team experts was contacted directly by the researchers. A total of 438 questionnaires were collected during the research. This number of respondents fulfils the requirements for stochastic selection.

3.2. Data sample and the process of data collection in the Czech Republic

The survey of the quality of the business environment was carried out in the first half of 2015 through a questionnaire on a sample of 1141 respondents in the Czech Republic. The method of choosing companies was as follows. We randomly selected a total of 1650 companies from the Albertina database. These companies were contacted via email, where the business owners were asked to complete a questionnaire, which was placed on the website: https://docs.google.com/forms/d/1U9coaC5JRL0N2QOOO6Xb8j3mnaZXdSM47Kugt4EDGFo/viewform?usp=send_form. If these companies had not responded to our mail, we addressed them by telephone.

The structure of the respondents was as follows: 75% men, 25% women; 48% of respondents reported that they have secondary education, 34% had the university degree and 18% reported that they have secondary education without graduation; 65% of the total number of companies are micro-enterprises, 27% are small enterprises and 8% are medium-sized enterprises. Note that 62% of companies' owners stated that the company exists for more than 10 years, 21% of them stated that they have operated for a maximum of 5 years and 17% of them reported that the company belongs to an interval of 5–10 years of existence. Respondents were representing

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the following sectors: trade (33%), manufacturing (23%), construction (14%), transport (6%), agriculture (3%) and other services (39%).

In both cases, the research team assumes that the calculated sample and the data are representative, and have the reliability of 95%. The sampling error of ±5% should be considered. In both researches the minimum size of the sample was calculated according to the formula $n = (196)^2 \times \sqrt{p} \times (1 - p) / 0.05^2$, where p is the share of the sample.

3.3. Definition of alternative hypotheses and research methods

Our research involved instruments such as the tools of descriptive statistics (averages and percentage), Microsoft Excel (Office 2007) software as an important tool for data analysis due to its possibilities in data processing using pivot tables, the methods of comparison and deduction in data analysis. The statistical method of Pearson´s chi-square at the significance level of 5% was applied by using the statistical software available at www.socscistatistics.com for the verification of the existence of the statistically significant dependences and differences between the selected factors. If the calculated p-value was lower than 5%, the null hypothesis was rejected, and the alternative hypothesis was adopted. Due to the length limitations the chapter presents the results of some selected problems. The arguments were constructed according to the experience and estimations of the research team.

We defined two basic alternative working hypotheses H1 and H2 the accuracy of which was verified by statistical methods. H1 is related to the observance of the intensity of financial risk and H2 is related to the observance of the intensity of credit risk. The impacts of three basic factors (gender, level of education and business experience) were researched in each of the alternative working hypothesis. Null hypotheses assuming there are no statistically verifiable differences between the observed groups were supplementing the alternative hypotheses. Null hypotheses state that there is no statistically significant dependence among the chosen factors and the intensity of the perception of financial risk/credit risk.

Null hypothesis: $\pi_1 = \pi_2$

so, $\pi_1 = \pi_2 = 0$

Alternative hypothesis

$$\pi_1 = \pi_2 \neq 0 \tag{1}$$

Two basic alternative working hypotheses related to the chosen factors and defined by the method of expert estimation were established in the research:

H1: There is statistically significant impact of a chosen factor—(a) gender, (b) education or (c) business experience—on the perception of the importance of financial risk and the opinion that the importance of financial risk has increased during the crisis. We assumed that there are statistically differences between Slovak and Czech SMEs.

H2: There is statistically significant impact of a chosen factor—(a) gender, (b) education or (c) business experience—on the credit risk, resp. on the opinion that the importance of credit risk has increased during the last 3 years. We assume there are statistically differences between Slovak and Czech SMEs.

4. Research results and discussion

4.1. Observing the impact of gender, level of education and business experience in relation to the opinion that the importance of financial risk has increased during the crisis

H1 focused its attention on the relation between the selected factors and the financial risk. In observing the impact of gender on the perception of financial risk we found that this factor has a significant impact on the perception of the financial risk in Slovakia (**Table 1**). Slovak male entrepreneurs perceived the increasing intensity of the financial risk during the crisis more intensively than female counterparts. The value of chi-square statistic is $\chi^2 = 7.8996 = \chi^2\ 0.05$ with 2 dgf.[1] The *p*-value of 0.019258 indicates that the result is significant at $p < 0.05$. This fact allows us to confirm working alternative hypothesis H1a for Slovakia with the level of probability of 95%.

Factors/answers	Slovakia (SK) in %		The Czech Republic (CZ) in %		SK vs. CZ	SK vs. CZ
	ME	FE	ME	FE	ME	FE
Agree	78.03 (238*)	65.41 (87)	67.13 (578)	65.36 (183)	–/–	–/–
Neutral att.	16.07 (49)	24.06 (32)	27.29 (235)	29.64 (83)	–/–	–/–
Disagree	5.90 (18)	10.53 (14)	5.57 (48)	5.00 (14)	–/–	–/–
Total	100.00 (305)	100.00 (133)	100.00 (861)	100.00 (280)	–/–	–/–
Pearson´s χ^2 statistics	7.8996		0.6465		15.5247	5.0711
P-value	0.019258		0.723776		0.000425	0.079216
Level of significance (LoS)	***p* < 0.05**		$p > 0.05$		***p* < 0.01**	$p > 0.05$

Notes. **n* = absolute value.
–/– = data were in previous columns.
ME = male entrepreneurs, FE = female entrepreneurs.

Table 1. Comparison of chi-square calculation in relation to the gender in the Czech Republic and Slovakia.

The situation in Czech Republic was quite different. At the base of chi-square statistic value $\chi^2 = 0.6465 = \chi^2_{\ 0.05 \text{ with } 2 \text{ dgf.}}$ and *p*-value of 0.723776 we have to reject the alternative working hypothesis H1a for the Czech Republic with the level of probability of 95%. Male and female entrepreneurs present no statistically significant differences in the perception of financial risk among the Czech entrepreneurs.

[1] Degrees of freedom.

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Table 1 concurrently presents the results of the comparison of the opinions of the Czech and Slovak entrepreneurs between each other according to gender. We found statistically significant differences between the Slovak and Czech male entrepreneurs. Slovak male entrepreneurs statistically significantly more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. Value of chi-square statistic is $\chi^2 = 15.5247 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$. The p-value of 0.000425 indicates that the result is significant at $p < 0.01$. It is quite interesting to know that the differences between Slovak and Czech female entrepreneurs were not identified ($\chi^2 = 5.0711 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, p-value = 0.079216).

The observed results correspond with the theoretical studies and relevant researches [5–8, 44, 49, 50, 52, 53, 55] that declare that gender has a significant impact on the financial risk, but it should be taken into consideration as several authors present the opposite results, presenting gender to have no significant impact on SME finance [10, 11, 51].

The relation between the level of education and the perception of the financial risk was the second researched factor in H1. **Table 2** presents the related results of the research. Application of the research methodology showed that there are no statistically significant relations between the presented combinations. In researching the level of education in Slovakia and the Czech Republic the p-values were always above the level of $p > 0.05$. The value of chi-square statistic was $\chi^2 = 1.5566 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$ in Slovakia, and p-value of 0.459185 indicates that we have to reject the alternative working hypothesis H1b. The analysis of the data of the Czech SMEs provided the same results ($\chi^2 = 1.5114 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, p-value = 0.469688), so hypothesis H1b was rejected in case of Slovakia and the Czech Republic. These scientific findings are contrary to the findings of many theoretical studies declaring education to be a relevant factor in relation to the business and financial risks [12, 13, 58–60, 62].

Factors/answers	**Slovakia (SK) in %**		**Czech Republic (CZ) in %**		**SK - CZ**	**SK - CZ**
	UE	**OE**	**UE**	**OE**	**UE**	**OE**
Agree	72.98 (*208)	76.47 (117)	64.80 (254)	67.69 (507)	–/–	–/–
Neutral att.	18.60 (53)	18.30 (28)	30.10 (118)	26.70 (200)	–/–	–/–
Disagree	8.42 (24)	5.23 (8)	5.10 (20)	5.61 (42)	–/–	–/–
Total	100.00 (285)	100.00 (153)	100.00 (392)	100.00 (749)	–/–	–/–
Pearson´s χ^2 statistics	1.5566		1.5114		13.0663	4.9965
P-value	0.459185		0.469688		0.001454	0.082227
LoS	$p > 0.05$		$p > 0.05$		$\mathbf{p < 0.01}$	$p > 0.05$

UE = university education, OE = other types of education.

Table 2. Comparison of chi-square calculation in relation to the level of education in the Czech Republic and Slovakia.

A surprising finding was made while comparing the responses of the Slovak and Czech respondents with the university degree. Slovak respondents with university education more statistically significant often agreed with the opinion that the intensity of the financial risk

increased during the crisis than their Czech counterparts. Slovak entrepreneurs from a category of SMEs are more sensitive on the intensity of financial risk than Czech SMEs (χ^2 = 13.0663 = χ^2 $_{0.05 \text{ with 2 dgf}}$, p-value = 0.001454). The result is statistically significant with the level of probability of 99%. The interpretation of this result might evoke the theory that either Slovak respondents are better educated and more informed about the financial risk, or they are only more sensitive, resp. more intensively perceive constraints of financial risk in Slovakia.

Statistically significant differences between the Slovak and Czech respondents with the different types or levels of educations (χ^2 = 4.9965 = χ^2 $_{0.05 \text{ with 2 dgf}}$, p-value = 0.082227) were not identified.

The level of business experience was the third observed factor in relation to the financial risk. Research team assumed that entrepreneurs with longer business experience more intensively realize (perceive) the fact that financial risk increased during the crisis than the representatives of the younger companies. This assumption was confirmed. In both countries it was found that there are statistically significant differences in relation to the length of doing business and the business experience (**Table 3**). The value of chi-square was χ^2 = 20.9644 = χ^2 $_{0.01 \text{ with 2 dgf}}$, p-value = 0.000028 in Slovakia, calculation in Czech was quite similar with the value of χ^2 = 27.4573 = χ^2 $_{0.01 \text{ with 2 dgf}}$, p-value = < 0.00001. In both cases, we confirm the alternative working hypothesis H1c with the level of probability of 99%.

Factors/answers	**Slovakia (SK) in %**		**Czech Republic (CZ) in %**		**SK-CZ**	**SK-CZ**
	10+	**10–**	**10+**	**10–**	**10+**	**10–**
Agree	83.41 (*176)	65.64 (149)	71.91 (507)	58.26 (254)	–/–	–/–
Neutral att.	9.95 (21)	26.43 (60)	22.41 (158)	36.70 (160)	–/–	–/–
Disagree	6.64 (14)	7.93 (18)	5.67 (40)	5.05 (22)	–/–	–/–
	100.00 (211)	100.00 (227)	100.00 (705)	100.00 (436)	–/–	–/–
Pearson´s χ^2 statistics	20.9644		27.4573		16.033	8.1366
P-value	0.000028		<0.00001		0.00033	0.017107
LoS	***p* < 0.01**		***p* < 0.01**		***p* < 0.01**	***p* < 0.05**

Table 3. Comparison of chi-square calculation in relation to the length of business experience in the Czech Republic and Slovakia.

These data correspond with the studies focused on the impact of business experience. It was confirmed fact that the length of doing business has a positive impact on company's performance [26, 27].

The surprising findings were made while comparing the Czech and Slovak entrepreneurs. There are statistically significant differences between the Czech and Slovak entrepreneurs with the length of business experience over 10 year (χ^2 = 16.033 = χ^2 $_{0.01 \text{ with 2 dgf}}$, p-value = 0.00033). Slovak entrepreneurs are more sensitive on the financial risk in comparison with the Czech colleagues, which is similar with the results of H1a. While 83% of Slovak entrepreneurs agree

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with opinion that the importance of the financial risk increased during the crisis, only 72% of their Czech colleagues agreed with this statement.

The research team also identified statistically significant differences in the responses of the group of the respondents with the length of doing business under 10 years (χ^2 = 8.1366 = χ^2 $_{0.05 \text{ with } 2 \text{ dgf}}$, p-value = 0.017107). Note that 66% of the Slovak companies agreed with the presented opinion in comparison with only 58% of the Czech counterparts.

The percentage analysis presented in **Figure 1** shows obvious significant differences between the countries in the groups of better and less experienced entrepreneurs. In the group of the entrepreneurs with 10+ years of experience the difference with the value of 11.5% was identified, while the second group presented the difference of 7.38%. These significant different values indicate that the attitude of the respondents in chosen countries is different. Data presented in **Table 3** confirm this statement.

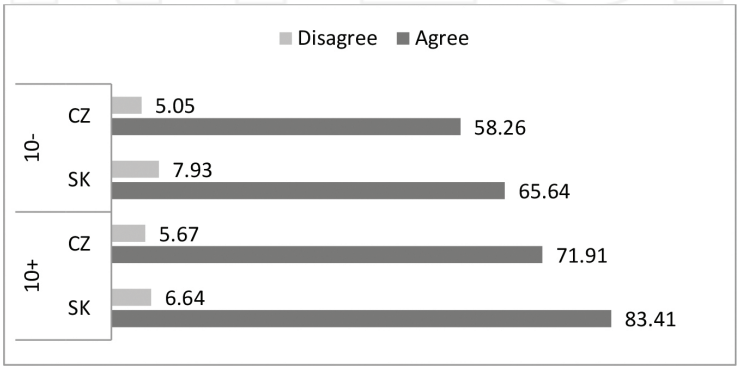

Figure 1. Percentage analysis of the comparison of the answers of the respondents in 10 + and 10– groups in the question of the financial risk.

4.2. Observing the impact of gender, level of education and business experience in relation to the opinion that the importance of credit risk increased during the past 3 years

This part of the chapter focuses its attention on the comparison of the credit risk perception between the Slovak and Czech entrepreneurs and observes the impact and power of gender, the level of education and business experience on it.

In relation to the gender the research team supposed that male entrepreneurs are less sensitive on credit risk in both researched countries. But the findings of the research team were different (**Table 4**). No statistically significant differences were identified and proved in both the countries. The value of Pearson's chi-square statistic was χ^2 = 0.373 = χ^2 $_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.829865 in Slovakia. The data from the Czech Republic were quite similar: χ^2 = 0.0309 = χ^2 $_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.984686. These findings allow us to reject H2a on the 95% of probability and provide the evidence that gender has no significant impact on the opinion of the Czech and Slovak entrepreneurs that the importance of credit risk increased

during the last 3 years. The gender presented to statistically significant impact also in comparing results of the group of male (χ^2 = 3.2999 = χ^2 $_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value 0.192062) and female (χ^2 = 2.4265 = χ^2 $_{0.05 \text{ with } 2 \text{ dgf,}}$ and p-value 0.297232) Slovak and Czech entrepreneurs together even assuming the fact that the gender was a factor with strong significant impact on the perception of the financial risk for Slovak entrepreneurs.

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	SK-CZ
	ME	FE	ME	FE	ME	FE
Agree	58.03 (*177)	56.39 (75)	63.53 (547)	63.21 (177)	–/–	–/–
Neutral att.	30.49 (93)	30.08 (40)	27.53 (237)	27.50 (77)	–/–	–/–
Disagree	11.48 (35)	13.53 (18)	8.94 (77)	9.29 (26)	–/–	–/–
Total	100.00(305)	100.00 (133)	100.00 (861)	100.00 (280)	–/–	–/–
Pearson´s χ^2 statistics	0.373		0.0309		3.2999	2.4265
P-value	0.829865		0.984686		0.192062	0.297232
LoS	$p > 0.05$		$p > 0.05$		$p > 0.05$	$p > 0.05$

Table 4. Comparison of chi-square calculation in relation to the gender in Czech and Slovak Republic.

These findings are contrary to many theoretical studies [5–8, 44, 49, 50, 52, 53, 55] which declare that gender has a significant impact on the financial risk, but they agree with opposite results of several authors [10, 11, 51].

Factors/answers	Slovakia (SK) in %		Czech Republic (CZ) in %		SK-CZ	SK-CZ
	UE	OE	UE	OE	UE	OE
Agree	54.04 (*154)	64.05 (98)	60.20 (236)	65.15 (488)	–/–	–/–
Neutral att.	31.58 (90)	28.10 (43)	29.59 (116)	26.44 (198)	–/–	–/–
Disagree	14.39 (41)	7.84 (12)	10.20 (40)	8.41 (63)	–/–	–/–
Total	100.00(285)	100.00(153)	100.00 (392)	100.00 (749)	–/–	–/–
Pearson´s χ^2 statistics	5.6541		2.8414		3.7164	0.2055
P-value	0.059187		0.241543		0.155954	0.902338
LoS	$p > 0.05$		$p > 0.05$		$p > 0.05$	$p > 0.05$

Table 5. Comparison of chi-square calculation in relation to the level of education in the Czech Republic and Slovakia.

The impact of the level of education level on the perception of the intensity of the credit risk was the last researched factor. At the base of the data presented in **Table 5**, the alternative working hypothesis H2b was rejected. Pearson's chi-square calculation brings the evidence that there is no statistically significant difference between the Slovak and Czech entrepreneurs

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in relation to the level of education. This finding is similar with the evidence in case of the impact of the level of education on the perception of financial risk but they are contrary to the findings of many theoretical studies declaring education to be a relevant factor in relation to risks [12, 13, 58–60, 62].

The value of Pearson's chi-square statistic was $\chi^2 = 5.6541 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.059187 in Slovakia and $\chi^2 = 2.8414 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.241543 in the Czech Republic. The results in the group of the respondents with the university degree between the Slovak and Czech entrepreneurs do not indicate any significant differences. Findings in the group of the respondents with other types of education are similar.

The last observed factor of the hypothesis H2 was the level of business experience. In the previous part focused on the financial risk the strong impact of business experience on the perception of the financial risk in Slovakia and also in the Czech Republic was confirmed. We expect it was confirmed in the Czech Republic because of the greater sample size. In comparison with theoretical studies it was found that the results in Slovakia are contrary to theoretical studies that declare the impact of length of doing business on company's risk perception [26, 27] but the data from the Czech Republic present affirmative results.

While researching the impact of the length of the business experience on the credit risk the result is not as obvious as in the previous case. No statistically significant differences were found between the groups of Slovak respondents with the business experience below and above 10 years. The value of Pearson's chi-square statistic was $\chi^2 = 4.3233 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.115137. This result leads to the rejection of the hypothesis H2c. The findings in the Czech Republic are the opposite. Chi-square calculation returned the value of $\chi^2 = 8.4245 = \chi^2_{0.05 \text{ with } 2 \text{ dgf}}$, and p-value = 0.014813. H2c was confirmed with the probability of 95% (**Table 6**).

Factors/answers	**Slovakia (SK) in %**		**Czech Republic (CZ) in %**		**SK-CZ**	**SK-CZ**
	10+	**10–**	**10+**	**10–**	**10+**	**10–**
Agree	59.72 (126)	55.51 (126)	66.67 (470)	58.26 (254)	–/–	–/–
Neutral att.	26.07 (55)	34.36 (78)	24.82 (175)	31.88 (139)	–/–	–/–
Disagree	14.22 (30)	10.13 (23)	8.51 (60)	9.86 (43)	–/–	–/–
Total	100.00(211)	100.00(227)	100.00 (705)	100.00 (436)	–/–	–/–
Pearson´s χ^2 statistics	4.3233		8.4245		6.6899	0.4885
P-value	0.115137		0.014813		0.035262	0.783273
LoS	$p > 0.05$		$\mathbf{p < 0.05}$		$\mathbf{p < 0.05}$	$p > 0.05$

Table 6. Comparison of chi-square calculations in relation to the length of business experience in the Czech Republic and Slovakia.

4.3. Discussion and contribution of the study

The results of the final comparison of the impact of all selected factors on the perception of the financial and credit risks are presented in **Table 7**. These scientific findings are considered for

the main theoretical contributions of the study. From the theoretical point of view special characteristics of SMEs in relation to the financial and credit risks in the Czech Republic and Slovakia that allow to identify vulnerable groups of SMEs (for example, groups that are not able to effectively manage financial risk, groups that are more sensitive to credit or financial risk, etc.) were identified. At the base of the research results female and young entrepreneurs in Slovakia and young entrepreneurs in the Czech Republic are considered to be the most vulnerable groups of SMEs in relation to the financial and credit risks. This empirical contribution indicates substantial managerial implications of the findings due to the fact that better knowledge of the characteristics of the businesses allows companies offering products related to these groups to manage them more effectively from the owner level, and also allows the state authorities to identify the main focus of the state support for the mentioned groups in order to better develop entrepreneurship in the specified region. Better knowledge of the SMEs characteristics and their perception of financial and credit risks in both countries allows the governments to set financial instruments and means of support more effectively because this type of studies makes it possible to identify vulnerable groups of SMEs.

Risk	**Financial risk**		**Credit risk**	
Factor/country	**SK**	**CZ**	**SK**	**CZ**
Gender	$\chi 2 = 7.8996$	$\chi 2 = 0.6465$	$\chi 2 = 0.373$	$\chi 2 = 0.0309$
	p-value **0.019258**	*p*-value 0.723776	*p*-value 0.829865	*p*-value 0.984686
Education	$\chi 2 = 1.5566$	$\chi 2 = 1.5114$	$\chi 2 = 5.6541$	$\chi 2 = 2.8414$
	p-value 0.459185	*p*-value 0.469688	*p*-value 0.059187	*p*-value 0.241543
Business experience	$\chi 2 = 20.9644$	$\chi 2 = 27.4573$	$\chi 2 = 4.3233$	$\chi 2 = 8.4245$
	p-value **0.000028**	*p*-value **< 0.00001**	*p*-value 0.115137	*p*-value **0.014813**

Table 7. Final comparison of the results.

In relation to the perception of the intensity of financial risk it was identified, that factors such as the *length of the business experience and gender* have the significant impact on the Slovak entrepreneurs. Slovak male entrepreneurs more intensively perceive the increasing intensity of the financial risk during the crisis than female. This is one of the empirical contributions of the study that indicates that young and female entrepreneurs perceive the financial risk less intensively than 10+ and male entrepreneurs. This fact could indicate that state should not focus its attention on young and female entrepreneurs because their perception of financial risk is probably insufficient and they can be considered as the least vulnerable groups of SMEs in both countries. For comparison, in the Czech Republic the length of the business experience was the only significant factor. In the field of theoretical studies these results correspond with the relevant studies [5–8, 44, 49, 50, 52, 53, 55] that declare that gender has a significant impact on the financial risk, but it should be taken into consideration that several authors present the opposite results, presenting gender to have no significant impact on SME finance [10, 11, 51].

While researching the impact of gender we found statistically significant differences between the Slovak and Czech male entrepreneurs. Slovak male entrepreneurs statistically significantly

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more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. In each country length of the business experience was identified as a factor with significant impact on the financial risk. Research team correctly assumed that entrepreneurs with longer business experience more intensively perceive the fact that financial risk increased during the crisis than the representatives of the younger companies. This fact could indicate that older entrepreneurs realize financial risk more intensively and they are more cautious and prepared to manage it as young entrepreneurs without experience. It suggests to governments of both countries that young entrepreneurs are vulnerable group of businesses that should be more supported.

There are statistically significant differences in the perception of the financial risk between the Czech and Slovak entrepreneurs with the length of the business experience over 10 years. Slovak entrepreneurs are more sensitive on the financial risk in comparison with the Czech entrepreneurs. In the group of the respondents with the length of the business experience below 10 the research team identified the same state. This fact is the partial contribution in theoretical area. These data correspond with the studies focused on the impact of business experience. It was a confirmed fact that the length of doing business has a positive impact on company's performance [26]. The next study [27] informs us that business experience has a small impact on the elasticity of output with respect to labour, but large impact on the elasticity of output with respect to capital. There is a positive correlation.

Even taking into consideration the levels of education did not show any significant impact on the perception of the financial risk a surprising finding was identified while comparing the Slovak and Czech respondents with university degree. These findings are contrary to the findings of many studies declaring education to be a relevant factor in relation to the business and financial risks [12, 13, 58–60, 62]. Slovak respondents with university education statistically significantly more often agreed with the opinion that the intensity of the financial risk increased during the crisis than Czech. It seems that they are more informed.

The perception of the credit risk was similar in both researched countries. Only the length of the business experience could be considered as a factor with the relevant impact on credit risk perception by SMEs. This fact indicates that in both countries are groups of young entrepreneurs vulnerable to businesses.

5. Conclusion

Despite the common history of both countries the research data indicate considerable differences between their SMEs. These finding have the significant potential managerial implications for the companies that offer financial products oriented on these groups of costumers on because better knowledge of SMEs characteristics and factors that influence them helps to manage them more effectively on the owner and management level. Better knowledge of the perception of financial and credit risks by SMEs in both countries also might help governmental institutions to tune up the system of the state support for these businesses more effectively. In the group of the Czech entrepreneurs only the length of doing business had a

significant impact on the monitored questions. Slovak entrepreneurs are more sensitive to the financial risk in relation to the gender and level of business experience. Slovak male entrepreneurs statistically significantly more often agree with the opinion that the financial risk increased during the crisis than male entrepreneurs in the Czech Republic. An interesting finding is that in the field of the credit risk the differences were only minimal.

The strength of the presented research is in the homogeneity of the sample with basic data set and the size of the sample. The research also has some limitations. The most important limitation is the fact that respondents filled the questionnaire online, and the research team was unable to organize a more detailed face-to-face interview. The next limitation was territorial focus of the research and the size of the sample. The analysis of several questions required a greater number of the respondents for a trustful statistical verification of the results. The future direction of the presented research will be focused on a comparative analysis of the entrepreneurial perception of financial and credit risks in a wider geographical area of the countries of V4—the Czech Republic, Slovakia, Hungary and Poland.

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