

Entrepreneurship in Corporate Literature & Entrepreneurship in Small and Medium Sized (SMEs) Literature and Phenomena in the Society

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Bart Schellekens
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Luuk van der Geest
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Vol. I

Editor

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Editorial

This edited book is a compilation of thirteen (13) literature-based articles for bachelor (undergraduate) thesis of International Business Administration programme at Tilburg University-School of Economics and Management in the Netherlands. The programme is taught and conducted in English to provide the graduates with the knowledge and discipline which can be applicable in the fast-paced business industry and challenging society nowadays. Purposely, this book is focusing on the themes of entrepreneurship, international business administration, strategy, and organisation. In order to undertake this thesis project, the student must precisely conduct the writing up process and finish it off within 6 months duration.

This edited book is divided into *two (2) big domains*, namely *entrepreneurship in corporate literature (i.e. corporate entrepreneurship, strategy, and organisation) and entrepreneurship in Small and Medium Sized (SMEs) literature and phenomena in the society*. These two big domains provide very thought-provoking articles, in which they have challenging common ground and interconnection in the stories, yet they are different in the sectors, actors, applications, and the policy.

Some of the keywords which underlined this edited book are entrepreneurship, corporate entrepreneurship, female entrepreneur, entrepreneurial ecosystem, crowdfunding, and ethnic entrepreneur. Additionally, the geographical boundaries, setting, location, and context are mostly from the Netherlands. Nevertheless, some of the articles also apprehended the international comparison between the Netherlands/Europe with another country. Therefore, the diversity of the narratives from this edited book will be insightful for another reader to gain new comprehension and outlook in studying the entrepreneurship subject, specifically for the bachelor/undergraduate level.

Moreover, this edited book offers a sufficient presentation to start and practice for the academic writing in English. Considering that the programme is bachelor, therefore the writing structure is merely focus on finding the problem statement and research questions, making literature review-based analysis, ability to discuss and critically analyse the subjects, and making reasonable conclusion as well as a suitable recommendation for the theories, business practice, or policy maker. Overall, this thesis is the first academic masterpiece for the student in developing their academic writing skill for their next step ahead.

In view of *the first domain of the subject*, there are six (6) articles which focus, discuss, and analyse the entrepreneurship in corporate sector as well as international business and strategy in practice.

The first article is written by **Tim Ganzeman**. He investigates the influence of corporate entrepreneurship in the financial and non-financial organisational performance of service companies, based on existing academic literature and theories. In his article, he describes how the main effect of corporate entrepreneurship in organisational performance is influenced by organisational culture, organisational structure, and external environmental factors. The reason he chooses this sector because this industry is an upcoming industry which has experienced a lot of growth in the last few years and is therefore interesting to add to this research.

The second article is a cross cultural review between chief executive officers (CEOs) specifically in the Dutch and Japanese context, as evidence is provided there is a linking culture with specific personality traits amongst them. This article is written by **Bart Schellekens**, to show whether or not specific personality traits could influence performance and how different personality traits might influence performance differently in the Netherlands and Japan.

The third article is the analysis on to what extent and how organisational culture characteristics affect corporate entrepreneurship by **Wessel Hijman**. In details, he defines the existing theories about corporate entrepreneurship, he chooses the automotive industry as the sector, then analyses the effects of the recent COVID-19 pandemic on corporate entrepreneurship. He concludes (in line with his research limitations) that the masculine organisational cultures are more likely to support commercial entrepreneurial activities within companies, unlikeness the feminine organisational cultures tend to be more socially interested.

The fourth article is written by **Jorg van der Burgt**. He theoretically analyses how managers and directors can implement corporate entrepreneurship theory into their information technology multinational enterprise. In order to answer this problem statement, academic literatures on corporate entrepreneurship and organisational behaviour have been studied thoroughly. These corporate entrepreneurship theories include sustained regeneration, organisational rejuvenation, strategic renewal, and domain redefinition.

The fifth article is written by **Luuk van der Geest** on the importance of understanding why national levels of entrepreneurial intentions differ. He argues that entrepreneurial intentions differ quite a lot when comparing between countries. Differences in the degree of the entrepreneurial intentions can be explained by various rationales. In this article, the uncertainty avoidance and risk are proposed as possible antecedents of entrepreneurial intentions.

The sixth article is written by **Hidde Leendert Harm Ceelen**. He argues that without entrepreneurial and risk engagement within the business model of corporate entrepreneurship, the organisations feasibly tend to fall behind the competitors and then risk for bankruptcy. For this study, he chooses to review the Volkswagen AG and Toyota Motor Corporation on how these two giant automotive firms embraced the concept of entrepreneurial behaviour (i.e. disruptive innovation and new technology) to be incorporated in their business model.

In view of *the second domain of the subject*, there are seven articles which focus, discuss, and analyse the entrepreneurship in small and medium sized enterprises (SMEs), the female entrepreneurship, entrepreneurial ecosystem, and other entrepreneurial occurrences/movement in the society.

The first article is written by **Colin Tan**. He focuses on the relationship between personality traits, unemployment benefit systems, and entrepreneurial intention in studying entrepreneurship. Additionally, he examines the role of government in nurturing the entrepreneurship, though on the other hand the benefit system from the government may also impede the entrepreneurial intention.

The second article is written by **Khetab Mashhadi**. He is very passionate about writing up this topic as he has a personal connection of this study. He writes that his article explains how immigration and integration policies in The Netherlands and the US will influence the job participation levels, as well as the entrepreneurial behavior among immigrants in that country. This will allow the countries to learn from one another, to eventually develop more effective processes of immigration and integration.

The third article is written by **Femke Janssen**. She writes that in the past years, it has been a given that women are hindered from fully participating in entrepreneurial activities due to gender-specific constraints. Therefore, men are still dominating in this field. Consequently, she aims her article to focus on female entrepreneurship in the technology industry to find out more on the process and the narrative.

The fourth article is written by **Sam Niesten**. He writes the relationship between entrepreneurial orientation (EO) and the performance of sports entrepreneurs' active in Europe. EO is divided into three elements: risk taking, innovation, and proactivity. Any sort of enterprise or entrepreneurship in a sport setting is classified as sport-based entrepreneurship. Athletes or persons who work in sports enterprises might be considered sports entrepreneurs under this concept. The article concludes that EO does have a positive impact on both sport and financial performance of sports entrepreneurs.

The fifth article is written by **Koen van Rixtel**. He writes an international review of crowdfunding and its implications on entrepreneurship. This article aims to collect and process the patterns found in existing which can be used in a crowdfunding context. A very topical article in studying more on crowdfunding movement in the society.

The sixth article is written by **Rick Bos**. He writes the Entrepreneurial Ecosystems (EE), specifically in Europe on a regional scale. He then argues that these further called EEs play a crucial role in the productivity of value creation on a regional level through start-ups, scale-ups and intrapreneurship. EEs consist of ten elements. He then extends the review on each of these EE elements by mapping and identifying regional ecosystems to set up entrepreneurs in more efficient system, so as to create high growth potential and eventually well-established businesses.

The seventh article is written by **Amber Meijering**. She highlights the decision-making process within the Small and medium-sized enterprises (SMEs) in the e-commerce industry, particularly during COVID-19 pandemic times. However, little is known about the decision-making process of SMEs in the e-commerce industry. Therefore, she aims to find out more on the process and the system within this sector.

In summary, this edited book is more than just the writing up process between the student and the supervisor. In fact, the learning process from the scratch, mind mapping, brainstorming, crystallising the ideas, the academic conversation, revise and review, all those things happened in a very intensive and encouraging journey for everybody. It takes time and persistent consistency to produce a piece of academic writing. In the end, the students have passed and finished their bachelor programme with flying colours. That is not the end of the journey, indeed that is the beginning of more challenging endeavours.

Thank you and with all the best wishes

Summer 2022, Tilburg, The Netherlands

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DOMAIN

1

The Effect of Corporate Entrepreneurship on the Organisational Performance of Service Companies

Tim Ganzemen

Abstract

This research investigates the influence of corporate entrepreneurship on the financial and non-financial organisational performance of service companies on the basis of existing academic literature and theories. In this research, it is described how the main effect of corporate entrepreneurship on organisational performance is influenced by organisational culture, organisational structure and external environmental factors. For clarification purposes, corporate entrepreneurship has been divided into the three main elements entrepreneurship, innovation and creativity, which are all discussed in a separate chapter. Furthermore, the external environment is divided into dynamism and hostility, and organisational performance is divided into financial and non-financial performance indicators. The reason for conducting this research is that many (service) companies nowadays lose their successful position in the market due to the success syndrome. By implementing corporate entrepreneurship, companies can renew their business through innovations to survive and maintain their successful position in the market. It is therefore vital for companies and managers within companies to gain insight into the effects corporate entrepreneurship has on organisational performance and how internal and external business factors influence these effects. Two examples of companies active in the service sector are included in this research to evaluate their degree of corporate entrepreneurship and the effect of internal and external organisational factors. It is decided to add Walmart and Amazon because they are both active in the grocery delivery (e-grocery) industry. This industry is an upcoming industry which has experienced a lot of growth in the last few years and is therefore interesting to add to this research. Both companies show similarities with the literary theories surrounding corporate entrepreneurship.

With regard to the main effect of corporate entrepreneurship on organisational performance, according to this research the conclusion can be made that corporate entrepreneurship positively influences service companies' financial and non-financial performance indicators via all three elements. However, the strength of this effect depends on internal and external organisational factors.

Keywords: corporate entrepreneurship, organisational performance, organisational culture, organisational structure, external environment, service companies, grocery delivery

1. Introduction

1.1. Problem Indication

In the highly competitive business environment nowadays, successful companies face uncertainty about sustaining their success and position in the market. Over the years, well-known, established service companies have lost their successful market position due to the lack of innovation and the strength of innovative competitors. The service sector is one of the fastest-growing sectors globally, characterised by rapid changes and disruptive innovations.

According to Tushman and O'Reilly (1996), the cause of established companies losing their success is often specified as the success syndrome. This can be described as the phenomenon of successful, established companies focussing too much on their existing business. Companies invest in the traditional business instead of innovations which causes these companies to remain successful in stable markets but fail if the market shifts.

The success syndrome causes that established companies often have to deal with inertia, which according to Tushman and O'Reilly (1996), can be divided into structural inertia (aversion to changes in business operations due to established organisational structures and processes) and cultural inertia (aversion to changes in norms, values and social networks). In combination with a shifting market, inertia caused by the success syndrome can decrease the organisational performance of established companies.

1.2. Problem Statement

It is imperative to increase or maintain organisational performance while markets shift. Therefore, companies need to become more entrepreneurial, innovative and creative. A vital foundation for becoming more innovative is implementing entrepreneurship in the business. McFadzean et al. (2005) argued that it is a driving force that stimulates innovation and creates new opportunities for companies. However, the extent to which corporate entrepreneurship can be realised depends on internal and external organisational aspects.

This research examines the effect of corporate entrepreneurship (IV) on service companies' organisational performance (DV). For clarification purposes, corporate entrepreneurship is divided into three main dimensions: entrepreneurship, innovation and creativity. Besides that, organisational performance is also divided into financial and non-financial performance.

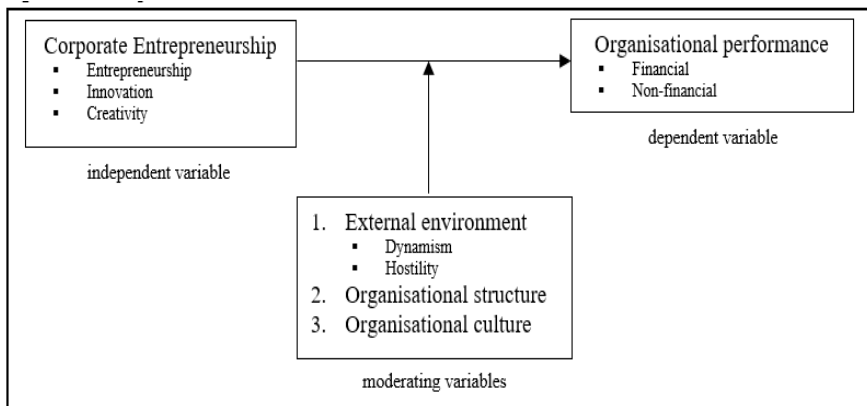
Additionally, this research includes both internal (structure and culture) and external (external environment) moderating variables to examine their influence on the main effect. Because of the limited time range of this research, the external environment variable is divided into dynamism and hostility.

Furthermore, this research includes two examples of service companies (Walmart and Amazon) to compare them on the variables of the conceptual model. Both companies are active in the grocery delivery industry, which is an upcoming and innovative industry.

For conducting this research, one central research question is formulated:

- To what extent is corporate entrepreneurship related to the organisational performance of service companies, and how is this relationship influenced by organisational culture, organisational structure and external environment?

Figure 1: Conceptual model



1.3. Research Questions

Four sub research questions are composed following the problem statement to ensure research clarity.

Research questions

RQ1. How can corporate entrepreneurship be defined, and to what extent is it useful to overcome the success syndrome?

RQ2. To what extent is entrepreneurship related to the organisational performance of service companies, and how does the external environment influence the level of entrepreneurship within a company?

RQ3. To what extent does innovation affect the organisational performance of service companies, and how can organisational culture and structure support innovation processes?

RQ4. To what extent does creativity influence the organisational performance of service companies, and how is this relation positively influenced by organisational culture and structure?

1.4. Academic Relevance

This research is drawn up based on existing academic literature. Several studies have been conducted into the interrelationship between the used variables, but none of the studies incorporated the variables from the conceptual model altogether. Therefore, the academic relevance of this research can be seen as the integration of scattered existing research.

1.5. Managerial Relevance

Maintaining good organisational performance is a requirement for managers in service companies. Therefore, this research has a high degree of managerial relevance. Managers could gain insights into how corporate entrepreneurship affects organisational performance and what influence organisational culture, structure and external environment have on this relation. Since two internal organisational aspects are added as moderating variables, this research could be relevant for managers who consider implementing changes in a company's organisational culture and structure.

1.6. Research Methods

Existing literature is used as scientific theoretical support to indicate relationships between the variables used in this research. The literature is obtained via Google Scholar, Tilburg University Library and Worldcat.com, which are sources that offer an extensive and clear overview of scientific articles. The search method for finding the literature is characterised as the snowball method.

1.7. Research Structure

This research starts with the literature review part, in which the three dimensions (entrepreneurship, innovation and creativity) of corporate entrepreneurship are covered in chapters 2, 3 and 4. In chapter 2, the external environment variable and its effect on the entrepreneurship–performance relation is described. Subsequently, in chapter 3, the impact of organisational culture and structure on innovation is described, followed by the effect of organisational culture and structure on creativity in chapter 4. Chapter 5 is part of the discussion section of this research, where Walmart and Amazon are compared on the variables of the conceptual model (section 1.2).

Ultimately, chapter 6 is included as a conclusions chapter, in which the conclusions, limitations, implications and recommendations of this research are covered. The references can be found on the last four pages of this research, drawn up according to APA guidelines.

2. Entrepreneurship

2.1. Defining Entrepreneurship

According to Barringer and Bluedorn (1999), entrepreneurship is described as a specific behaviour which creates new opportunities and stimulates innovation for companies. Entrepreneurial behaviour is created by entrepreneurs, known as people with particular characteristics such as a high need for achievement, aversion to bureaucracy and risk-takingness (Segal et al., 2005). Weber et al. (2002) argue that those people's skills differ from other people's skills. Due to the limited time range, this research is focused only on the internal aspect of entrepreneurship.

It is challenging for most companies to make their business more entrepreneurial. Choices have to be made in two extreme areas: the successful existing business must continue to exist, and there must be a focus on how the company can maintain this success in the future (doing something new/innovating). Therefore, an ambidextrous organisation needs to be created. A detailed description of this term can be found in section 3.3.2 of this research.

2.1.1. Corporate Entrepreneurship and Intrapreneurship

Both corporate entrepreneurship and intrapreneurship contribute to stimulating innovations and creating new opportunities for companies. However, there is some difference regarding the methods. Research by Amo (2010) has indicated that corporate entrepreneurship mainly focuses on the company itself and the strategy of the company to make it more entrepreneurial. Entrepreneurship is implemented at the managerial level in the company in order to create an entrepreneurial business model that supports innovation and business growth. The way in which corporate entrepreneurship is embedded in the company can be characterised as top-down.

On the other hand, intrapreneurship is characterised by Amo (2010) as bottom-up. From the employee level, entrepreneurial behaviour is exercised to create innovations and opportunities for the company.

Employees are the drivers for encouraging renewal and exploring activities to improve the existing business model.

2.2. External Environment

According to Otache and Mahmood (2015), the external environment is described as the uncontrollable external factors in a business environment which influence organisational processes and performance. Companies can respond to these factors by making internal strategic decisions. Due to the limited time frame for this research, the decision is made to only investigate the effect of the external environment variable on the degree of entrepreneurship within companies.

2.2.1. Dynamism

In the research of Dess and Beard (1984), the definition of environmental dynamism is specified as the degree of change in an organisation's external environment. It relates to the speed of changes in the environment and the unpredictability of these changes. Eisenhardt and Bourgeois (1988) describe dynamic environments as high-velocity environments. In these environments, changes are specified as changing technologies, changes in legal regulations and changes in the competitive environment. These changes can result in a shift in the demand for products or services of organisations, which causes uncertainty.

Zahra and George (2002) argue that dynamic changes in the environment slow down the learning process within companies, resulting in reduced development of entrepreneurial behaviour. Besides that, an entrepreneurial role conflict could arise at the management level of a company when a company faces dynamic changes in the environment. This is because managers need to focus on activities other than entrepreneurial activities, which slows down the development of corporate entrepreneurship. Ultimately, Hirschman (1970) states that organisations tend to use too much information to make decisions when the environment is highly dynamic. The overload of information slows down the development and implementation of entrepreneurship because it is more difficult to achieve consensus in decision making.

2.2.2. Hostility

According to Werner et al. (1996), a hostile environment is an environment with forces that have a disadvantageous effect on a company. Examples of forces are fierce competition, product/service demand changes, governmental actions (regulatory burdens), and radical innovations. Furthermore, Khandwalla (1977) argues that an environment can be categorised as hostile when it has a high risk level, high stress level and when it is dominating.

A high degree of hostility in a company's external environment negatively influences the impact of entrepreneurial activities on organisational performance. Both financial performance as well as non-financial performance is affected: high levels of environmental hostility cause a decrease in the contribution of entrepreneurship to achieve customer loyalty and improvement of the market position (Zahra & Garvis, 2000).

In environments characterised by a high level of hostility, the profits generated by entrepreneurial activities will be lower than in environments characterised by a low level of hostility. Research by Zahra and Garvis (2000) has shown that this is caused by the fact companies need to focus more on retaining their current market position, which can be a high effort process in a hostile environment. Due to the need to retain the business, companies are more focused on protecting and exploiting the current business than exploring new possibilities through entrepreneurial activities.

2.3. Entrepreneurship and Organisational Performance

2.3.1. Financial Performance

According to Zahra and Covin (1995), entrepreneurship is a valuable resource for renewing an established business that can positively affect a company's financial performance. Through entrepreneurial behaviour and entrepreneurial activities, companies can increase their financial performance, which is supported by the research of Kuratko et al. (2001), where revenue increases are described for a large service company. An increase in revenues is accompanied by higher market dominance, leading to economies of scale, a more extensive clientele, and a better reputation.

The risk-taking and proactive character of entrepreneurship supports companies in creating new products or services to renew the business. In many cases, companies become pioneers because they are the first to introduce a new unique product or service. Pioneering companies can achieve high profitability because they can charge high prices and can create an industry standard. However, external factors in the environment of an organisation, like high levels of dynamism and hostility, may reduce profitability. Zahra and Covin (1995) indicate that the effect of entrepreneurship on financial performance indicators is particularly noticeable in the long term because entrepreneurial actions may not have the full effect in the short term.

2.3.2. Non-Financial Performance

When entrepreneurial behaviour is performed at all levels of an organisation, an entrepreneurial culture can arise. Kassa and Tsigu (2021) argue that creating such a culture could positively influence employee engagement. In an entrepreneurial culture, employees are encouraged to think about new ideas that could be beneficial for companies. Therefore, they have a lot of freedom to think “outside the box” and are supported by entrepreneurial managers. They work on something that could create a competitive advantage, which is a motivating and engaging process. Employee engagement ensures that employee labour productivity increases, which could maximise competitive advantage. Additionally, according to Hanaysha (2016), increased productivity could increase the quality of products and services.

3. Innovation

3.1. Defining Innovation

Innovation is a broad phenomenon regarding the renewal of the products or services of a company that supports business renewal. This research focuses on innovation by service companies. According to O'Cass and Viet Ngo (2011), service innovation can be divided into supportive and interactive innovation. To clarify, supportive service innovation focuses on organisational changes in sourcing or producing the service and is internally focused. In contrast, interactive service innovation is more external front-end based and focuses on the service's value for the customers.

According to Sundbo (1997), innovation is an essential factor for the survival of established service companies. Companies need to innovate because otherwise, they may lose their successful position in the market to innovative competitors. In addition, according to Hipp and Grupp (2005), innovation is an essential foundation for the growth of companies in the services industry. Through this growth, the market position can be strengthened. Research by Clarke et al. (2016) has shown that innovation can create a unique service that differs from services offered by competitors, which can generate value for both the company and customers. However, internal organisational factors (organisational culture and structure) influence the innovation ability of companies.

3.2. Organisational Culture

In the research of Sun (2008), organisational culture is described as the beliefs and values that people in a company live up to. It is seen as the way how people behave with each other in the organisation. Besides the internal view of organisational culture, it can also be described externally: organisational culture is how the company exemplifies itself to customers and competitors. Due to the limited time frame, this research focuses only on the internal part of organisational culture.

Organisational culture is one of the fundamental elements of the organisational architecture (Burns, 2020). Therefore it has a significant moderating influence on innovation processes. To enhance the innovation ability of established companies, an innovation promoting culture needs to be created.

3.2.1. Innovation Promoting Culture

In the research of Dombrowski et al. (2007), seven elements of organisational culture are described that promote innovative activities in the company. The first element is the mission and vision statement of the organisation. A clear goal must be specified so that all employees know what goal is being worked towards and how this is done. Employees need to share important information and knowledge about the mission and vision to ensure that the innovation processes run as smoothly as possible. By communicating jointly about specific information and knowledge, employees can learn from each other and work together to innovate the organisation.

The second element is democratic communication. Within a company, it is essential that everyone can communicate with each other. Hierarchical barriers in the organisational structure often complicate this process. Through open communication between all company layers, new ideas can be developed, and everyone can give their suggestions about specific innovation processes. The third element is flexibility, which mainly relates to changes in work activities. By regularly allowing employees to do other work, employees will learn new skills and acquire knowledge, accelerating innovation processes. The fourth element that Dombrowski et al. describe in the research is boundary spanning, which is also related to company hierarchy. A hierarchy often ensures little cooperation between different business layers, but in fact, this cooperation is conducive to innovation processes. Collaboration is described as the fifth element. According to Dombrowski et al. (2007), it is essential that collaboration takes place between all units of a company and not just within departmental teams. This strengthens the learning process within the company, which has a positive influence on innovation processes. Element six highlights the importance of incentive schemes. Incentives can motivate employees to think about new ideas and to make the organisation more innovative. Innovation must be included in the personal targets of employees. Some organisations have slush funds that can be used as innovation funds by employees working on new ideas and opportunities for the company. Element seven is described as safe spaces, where employees are given the complete freedom to work on new ideas in a “safe environment” where large budgets are available to utilise their full entrepreneurial potential.

3.3. Organisational Structure

Ahmady et al. (2016) describe the organisational structure as an internal framework that divides and coordinates tasks amongst people in the organisation to achieve goals. The organisational structure shows how an organisation is organised internally via three dimensions: hierarchy, functional and inclusion. The hierarchy dimension focuses on the hierarchical structure of the organisational units. On the other hand, the functional dimension focuses on the different tasks performed in various departments of an organisation. Ultimately, the inclusion dimension focuses on the employees and their position in the organisation relative to the core.

3.3.1. Innovation Promoting Structure

The organisational structure of established organisations is often characterised as bureaucratic instead of entrepreneurial, which according to Thompson (1965), hinders innovation processes. Salama (2011) states that it is essential to create an entrepreneurial structure that establishes entrepreneurial behaviour not only at the management level but at all organisational levels to utilise the maximum innovation potential of a company's employees. Therefore, companies need to undergo a structural transformation from a structure focused on efficiency to an entrepreneurial innovation promotive structure that facilitates creating an innovative culture.

Thompson (1965) argues that the bureaucratic organisational structure should be changed to one characterised by "structural looseness". This structure ensures that bureaucratic elements such as following strict procedures and limited communication are restricted so that employees can interact more with each other and interpersonal communication can arise. Interpersonal communication can positively affect innovation processes because there is more diversity in information, resulting in the formation of new creative ideas. Therefore, Thompson (1965) states that it is essential for companies to form internal group network memberships. Companies need to become less bureaucratic and more adhocratic to foster innovation processes.

3.3.2. Ambidexterity

Making the organisation structure ambidextrous is a valuable method to overcome the success syndrome through corporate entrepreneurship and innovations. By creating an ambidextrous structure, the performance of the traditional business continues, extended with the performance of a new innovative business. In other words: companies continue doing what they are good at but also focus on new opportunities.

Companies that manage to be ambidextrous usually share common characteristics. According to Tushman and O'Reilly (2004), these companies often form a new entrepreneurial business unit, focusing on renewing the business through innovation. In contrast to the conventional business, which mainly focuses on exploiting the company (incremental changes to existing products/services), the entrepreneurial business unit primarily focuses on exploring new opportunities through corporate entrepreneurship (innovations).

Food sovereignty refers to the state's ability to regulate food policies, meet domestic food needs and maintain the prosperity of farmers as the main food producers, agriculture for food. The government must take action to make it happened, to mobilize the younger generation as a valuable asset to drive the future food system. Of course, it is ironic that currently the majority of youth prefer to work in other industrial sectors rather than work in the agricultural sector. Therefore, concrete steps must be taken by the government and all other stakeholders. Avoiding food crises is the first step to achieving future food sovereignty (Konyep, 2021).

3.4. Innovation and Organisational Performance

3.4.1. Financial Performance

According to Gunday et al. (2011), innovation is a critical fundament for organisational growth. With regard to increasing performance via innovation, service companies mainly focus on achieving a better place in the value chain by offering more valuable, professional services to customers (Milberg & Winkler, 2013). By introducing new innovative services, companies can increase their sales, which directly increases revenues and market share in existing markets. Besides the existing markets, companies could enter new markets, which could also improve financial performance. In the research conducted by Huang (2013), service innovation and financial organisational performance (measured by growth (sales growth, market share) and profitability (ROI, profit position and financial liquidity) are positively correlated, which shows that services innovation positively influences financial organisational performance. Additionally, in the research Huang (2013) mentions information technology (IT) in service innovations: IT is an important facilitating factor that is highly correlated with the effectiveness of the service innovations, making it a significant factor for increasing financial performance via innovations.

3.4.2. Non-Financial Performance

Customer satisfaction is a critical non-financial performance indicator for companies in the service sector. According to Matear et al. (2004), service innovations by service companies positively affect the customer's satisfaction level. Because service companies are mainly focused on offering services to the customer, the customer's wishes must be taken into account.

Customer involvement in innovation processes could accelerate internal innovation processes and, according to Carbonell et al. (2009), could ultimately lead to a potential competitive advantage due to better meeting customer needs than competitors. This could have a positive effect on the brand image of the customers. By meeting customer needs, they will be more satisfied and create a positive attitude towards the company.

According to Chen et al. (2009), innovation can ensure that customer loyalty increases. This can be achieved in particular by implementing supportive service innovations. For example, improving communication with customers and the purchasing process of the service through innovation will ensure customer satisfaction, which can result in customer loyalty to the company. Customers will continue to prefer the current service provider and will not use services offered by competitors.

4. Creativity

4.1. Defining Creativity

According to Weinzimmer et al. (2011), creativity can be defined as a specific personal characteristic that generates new (original) ideas that support innovation. Within an organisation, it is characterised as the psychological ability of employees to come up with new ideas that could have value for the company. Creativity and innovation are closely related. It is challenging to implement innovations without creativity because new (valuable) ideas need to be thought creatively. To clarify, the main difference between creativity and innovation is that creativity is focused on generating new ideas, while innovation is mostly about introducing new products or services to the market.

4.2. Creativity Promoting Culture

Since creativity is a supporting factor for innovation, the characteristics of a creativity promoting culture are largely the same as those of an innovation promoting culture. However, research by Hon and Leung (2011) indicates some critical factors for encouraging creativity in service organisations. In the research it is mentioned that by promoting intrinsic motivation, employees can become more creative. Three (entrepreneurial) elements must be taken into account to increase the intrinsic motivation levels of employees. The first element is the need for affiliation, followed by the need for achievement as second and the need for power as third element.

The need for affiliation is related to having interpersonal relationships with colleagues. Followed by the need for achievement, which is the personal need for status and strive for success. And eventually, the need for power refers to having freedom and control instead of being controlled in work. An organisational culture that supports the three needs must be created to utilise the full creative potential of all employees working at a company.

Besides creating such a culture, the research of Hon and Leung (2011) states that creating a cooperative culture is essential for fostering creativity in the organisation. A cooperative culture stimulates teamwork and collaboration among employees. In such a culture, knowledge is shared in social networks, which forms a safety net for the risks regarding creative thinking. When people are individually creative, they bear the risks of being creative themselves. But when people are creative within social network groups, the risk is held by the group, which has a positive effect on the amount of creativity in organisations.

4.3. Creativity Promoting Structure

Research by Canavan et al. (2013) has indicated three influencing elements of organisational structure on the degree of creativity in service companies. Hierarchy is the first element that is described, followed by centralisation. Additionally, the research describes the boosting effect of artistic competency strategy on creativity.

In the hierarchy part of the research, Canavan et al. (2013) describe that a flat organisational structure promotes creativity in a company. Due to the fewer hierarchical levels of a flat structure, it is easier for employees from different departments or levels to communicate with each other, resulting in the formation of more creative ideas. A flat hierarchical structure can be achieved by following an artistic competency strategy. This strategy ensures that a creative culture is created within the company. According to Canavan et al. (2013), internal centralised teams need to be formed in the organisational structure to strengthen the creative thinking process. These teams ensure knowledge exchanges contribute to the artistic competency strategy of the company. To achieve the full creative potential, the teams should be largely self-managed.

4.4. Creativity and Organisational Performance

4.4.1. Financial Performance

According to Weinzimmer et al. (2011), creative behaviour among employees at all levels in a company could create competitive advantages, resulting in improved financial performance. When the level of creativity increases, the revenues, profit and ROA are likely to increase too. However, this effect is especially noticeable in the long term. In the short term, creativity indirectly creates extra costs because it is a supporting factor for developing new innovative services (higher R&D costs).

4.4.2. Non-Financial Performance

In the research of Vele and Toader (2016), it is described that creativity is an essential factor for increasing flexibility and solving problems in a faster or new way (supporting decision-making processes). Flexibility is needed to respond to external environmental changes. In addition, creativity ensures a higher degree of efficiency in achieving company goals, better known as an improvement of organisational effectiveness. In addition, creativity is a factor that boosts employee productivity, which can improve the customer experience of services.

5. Discussion

5.1. Discussion Motive

In this chapter, two companies are compared on the variables of the conceptual model (section 1.2). It has been chosen to use Walmart and Amazon because both companies are active in the grocery delivery (E-grocery) industry. The reason for choosing two companies from this industry is that this is an innovative industry that has experienced a lot of growth over the past years. In this part of the research, the research questions (RQ) presented in section 1.3 are elaborated following the theories mentioned in the literature review part of this research.

The introduction chapter of this research describes the success syndrome for established (service) companies. The first research question is formulated about the success syndrome and to what extent corporate entrepreneurship is useful in overcoming it.

Before introducing the industry and the two companies, it is useful to answer research question 1 of this study because it is a reasonably general research question related to the entire research.

RQ1. *How can corporate entrepreneurship be defined, and to what extent is it useful to overcome the success syndrome?*

In this research, corporate entrepreneurship is divided into three elements: entrepreneurship, innovation and creativity, which together define corporate entrepreneurship. The definition of these elements is clearly described separately in sections 2.1, 3.1 and 4.1. Because this research has a limit on words, the definitions of the three separate elements are not further discussed here in the discussion section.

In order to see to what extent corporate entrepreneurship is useful to overcome the success syndrome (focussing too much on the existing business), the input of all three elements must be taken into account. As described in sections 2.1 and 2.4, entrepreneurship is a valuable resource for renewing the business. Through performing entrepreneurial behaviour and actions, companies can encourage innovation processes. Innovation ensures that companies introduce new products and services to support business renewal and organisational growth (section 3.1). The supporting factor of innovation is creativity, which can be described as creating new valuable ideas for the company (section 4.1), which could also encourage business renewal. As a result of performing the three elements, companies can survive in shifting markets, create company growth and manage to renew their business.

5.2. Industry Description

Where previously it was only possible to buy groceries in physical grocery stores, many companies have also focused on grocery home delivery services in recent years. Consumers can now also order groceries from home on their computer or smart devices, which offers possibilities because customers cannot always come to the physical store due to lack of time. In addition, some customers do not have the means to travel to a grocery store or live in neighbourhoods where there are no physical stores. Here, grocery delivery can play an essential role in providing people with healthy food and basic necessities (Dillahunt et al., 2019). Because both companies discussed in this chapter are active in the grocery delivery industry, it is decided to elaborate research question 2 in this section of the research.

RQ2. *To what extent is entrepreneurship related to the organisational performance of service companies, and how does the external environment influence the level of entrepreneurship within a company?*

Sections 2.3.1 and 2.3.2 of this study describe the effect that entrepreneurship has on financial and non-financial indicators of service companies' organisational performance. Entrepreneurship has a positive effect on several service company KPIs, both financial and non-financial. Performing entrepreneurial behaviour and entrepreneurial activities can lead to increased revenues, increased market dominance, a more extensive clientele, a better reputation and increased employee productivity (resulting in an increase of service quality). Altogether these factors could result in a competitive advantage.

The extent to which entrepreneurial behaviour and activities are performed within a company depends on factors from the external organisational environment. In sections 2.2.1 and 2.2.2 of this study, dynamism and hostility are described, and the effect these two factors have on the degree of entrepreneurship within a company is indicated. Environmental dynamism ensures a reduced development of entrepreneurial behaviour and slows down the development of corporate entrepreneurship. This is caused by the fact that there is less focus on performing entrepreneurial activities. Like dynamism, hostility also has a negative effect on the degree of corporate entrepreneurship. High levels of hostility result in fewer entrepreneurial activities and decrease the contribution of entrepreneurship to organisational performance.

Research by Mkansi (2020) describes that more competition has been experienced in the grocery delivery industry since the beginning of the worldwide COVID-19 pandemic, which is partially caused by innovations. A high level of competition is one of the hallmarks of hostility. Therefore, it is assumed that this industry can be characterised by a high degree of hostility. Nowadays innovative (technological) developments cause a lot of changes in the grocery delivery industry. Therefore it can be assumed that this industry can be characterised by an increased degree of industrial dynamism.

5.2.1. COVID-19 Impact

The worldwide COVID-19 pandemic has had major impact on the development of grocery delivery services. According to Grashuis et al. (2020), people preferred having their groceries delivered at home during the pandemic. The research states that customers often felt unsafe when grocery shopping in a physical store due to limited space in the stores. More people have started ordering their groceries online during the pandemic, which caused a boost of the grocery delivery industry.

5.3. Walmart | InHome Grocery Delivery

5.3.1. Company Profile

Walmart is a supermarket company that is mainly active in the American market, which in addition to food, also offers non-food items. In 2019, Walmart launched the Walmart InHome grocery delivery service. Since then, customers can order their groceries online via the InHome website (Walmart, n.d.-b).

5.3.2. Company Evaluation

Walmart's annual report (Walmart, n.d.-a) states that the company is committed to creating a culture where all employee ideas and opinions are heard and matter. In addition, it has been described that the focus is mainly on achieving a performance culture. To ensure that the company continues to grow, employees receive training to improve their skills and thus contribute to business development. According to section 3.2.1 of this research, the fact that all employee ideas and opinions are heard and matter could promote innovation processes (open communication between all company layers). This is also the case for the skills improvement of employees. However, in the case of Walmart, this is not caused by job flexibility, as discussed in section 3.2.1, but by employee training.

Growth opportunities for the company can be achieved by continuing to innovate and creating new services and improvements. Regarding the InHome delivery service, Walmart focuses mainly on improving the delivery process by using new technologies (drone delivery trials, self-driving car trials, etc.).

After its introduction in 2019, the InHome delivery service was an innovation itself because previously, groceries could only be bought in physical stores and not online.

The fact that Walmart has invested a lot in technologically powered innovation of services in recent years can be seen on the innovation webpage of the company, where numerous innovation projects are described, such as drone delivery, development of new apps, etc. Walmart likely follows the principle of ambidexterity (section 3.3.2) because the company has a separate innovation centre that only focuses on improving existing products or services and coming up with new products or services. Following the innovation evaluation of Walmart, the research question about the innovation-performance relation is answered below.

RQ3. *To what extent does innovation affect the organisational performance of service companies, and how can organisational culture and structure support innovation processes?*

Sections 3.4.1 and 3.4.2 of this research describe the effects of innovation on the organisational performance of service companies. Innovation positively affects both financial and non-financial performance indicators of service companies. These companies can increase their sales, revenue, and market share by innovating services. Additionally, service companies can increase their profitability, which means a better ROI, profit position and financial liquidity. Besides the financial measures, innovation also improves customer satisfaction, customer brand image and customer loyalty. Therefore, innovation could potentially result in a competitive advantage for service companies.

Organisational culture and structure influence the innovation ability of service organisations. Starting with organisational culture, which can have a promoting effect on innovation processes. In section 3.2.1 of this research, seven elements of organisational culture are described that promote innovation. The most critical aspects of an innovation promotive culture are interdepartmental cooperation/communication between different layers of employees, the need for support, and the need for freedom to work on new ideas. Following on organisational culture, the organisational structure needs to promote communication, cooperation and entrepreneurial behaviour. Therefore, structures need to become less bureaucratic. It is essential that internal group memberships are embedded in the organisational structure. These networks of people foster creative ideas, which positively affect innovation processes.

According to research by Dudovskiy (2016), the organisational structure of Walmart can be characterised as a hierarchical structure. Due to the organisation's size, it is the most plausible structure to achieve efficiency and effectiveness. According to the theories mentioned in sections 3.2.1 and 4.3, a hierarchical structure is not conducive to creative thinking and innovation processes. However, Drew Holler, the Senior Vice President of Walmart, states in an article that employee creativity is an important factor in the company's growth (Holler, 2019). To maximise employee creativity, skill improving training is available, and employees are given the roles they like to ensure their motivation is high. Additionally, Holler argues that it is vital to create an internal environment where employees can thrive and work on their goals. Although Walmart's hierarchical structure is not supportive for creativity and innovation, the company states that it has initiatives that support both creativity and innovation. The initiatives described in this paragraph correspond to the promoting factors of creativity and innovation mentioned in chapters 3 and 4 of this research. Not much can be found on entrepreneurship promoting factors in Walmart's organisational culture and structure. However, Drew Holler mentioned in the article that an "internal environment needs to be created where employees can thrive and work on their goals". Besides that, it is mentioned that the company encourages employees to improve their skills. Both can be indirectly associated with promoting entrepreneurial actions and behaviour. Assumed is that a goal-oriented work environment and skill encouragement could possibly support the need for achievement factor of entrepreneurs in the company (section 2.1).

5.4. Amazon | Fresh Grocery Delivery

5.4.1. Company Profile

Amazon is an e-commerce company that operates all over the world. Today it is one of the largest providers of all kinds of products through an online store (available via website or app). Since 2007, in addition to non-food products, the company also started selling food via the Amazon Fresh website and Amazon app (Amazon, n.d.-a).

5.4.2. Company Evaluation

In the research of Dudovskiy (2022a), characteristic elements of Amazon's organisational culture are described. Amazon's organisational culture is characterised by extremely high performance pressure, making it a unique organisational culture that is not suitable for everyone to work in.

Due to the need for performance improvement, the organisational culture is constantly changing to ensure the experimental nature of the company. By continuously adjusting the culture, Amazon focuses on improving internal business processes. At Amazon, it is essential that the organisational culture encourages risk-takingness, need for success, and experimentation to promote the company's growth. Employees are expected to improve their skills and look for new opportunities for the company continuously. Therefore, "outside the box" thinking is promoted to foster innovation by inventing new creative ideas (Amazon, n.d.-b).

Continuous innovation at all levels in the organisation is one of Amazon's key goals. With regard to Amazon Fresh, the company mainly focuses on technological innovations in the form of machine learning to improve the customer experience of the service. Hanani (n.d.) states that through data-driven innovation using customer behaviour data, Amazon can create a more personal experience for customers than competitors. In addition, the company focuses on optimising the internal processes that precede the delivery of groceries to the customer. According to Writer (2021), predictive analytics tools play a significant role in this process.

According to Dudovskiy (2022b), the structure of Amazon is characterised as a hierarchical structure because of the enormous company size. Additionally to the hierarchical structure, Amazon implemented hybrid project groups in the organisational structure, focusing on innovating the business and developing new creative ideas. In these groups, employees from several departments work together to combine skills and knowledge. As a result, the project groups ensure that the organisation, despite its size, remains highly flexible.

According to sections 2.1 and 2.3.2 of this research, Amazon's organisational culture exhibits entrepreneurial characteristics. It is stated that "out of the box" thinking and risk-taking behaviour are promoted. Therefore, it is plausible that a high degree of entrepreneurial activities and behaviour occur within the company. In addition, the organisational culture is characterised by continuous innovation.

The paragraphs above show similarities with some characteristics of innovation promoting cultures (section 3.2.1): employees are encouraged to improve their skills and the fostering of cooperation between different business layers (hybrid project groups). Furthermore, creative thinking is also encouraged by Amazon's organisational culture. The hybrid project groups promote collaboration and communication between employees. In addition, the risk is borne by the group rather than by individuals, thus promoting creative thinking (section 4.2).

Concerning the organisational structure, mainly the project groups positively affect innovation and creativity in the company. By having interpersonal communication with colleagues, innovation can be promoted (section 3.3.1). In addition, these groups have a beneficial effect on creative thinking by employees (section 4.3). Following on creativity, research question 4 is formulated below.

RQ4. *To what extent does creativity influence the organisational performance of service companies, and how is this relation positively influenced by organisational culture and structure?*

Because creativity is a supporting factor for innovation, there are many similarities between the innovation-performance relation and the creativity-performance relation. However, specific research on creativity (section 4.4.1) has shown that when the degree of creativity increases, the revenues, profit and ROA are likely to increase too. This is particularly noticeable in the long term. In addition to financial performance, creativity also increases organisational flexibility, organisational effectiveness and employee productivity resulting in an improvement in the customer experience of services. Creativity thus positively affects financial performance as well as non-financial performance indicators.

Creativity is boosted by a culture that positively influences employees' intrinsic motivation. Therefore, the organisational culture needs to support the need for affiliation, need for achievement and need for power of employees. Besides intrinsic motivation, teamwork and collaboration among employees could also support creative behaviour, which can be achieved by creating social networks (section 4.2). Creativity can also be boosted by organisational structure. As described in section 4.3 of this research, a flatter organisational structure positively influences the degree of employee creativity by interdepartmental communication. Additionally, internal teams need to be formed to strengthen the creative thinking process among employees.

In the company evaluation of Amazon, the internal teams are emphatically described. The assumption is made that the internal teams significantly contribute to the company's performance.

5.5. Company Comparison

The company evaluations described above show that both Walmart and Amazon exhibit elements of corporate entrepreneurship. Both companies have been evaluated based on the three dimensions that together define corporate entrepreneurship in this research. Elements are found in the organisational culture and structure that promote the three dimensions of corporate entrepreneurship. Therefore, it is plausible that corporate entrepreneurship contributes to financial and non-financial performance in both companies. Of these two companies, the highest degree of corporate entrepreneurship is expected to be performed at Amazon. Innovation, improvement and business renewal are central to various aspects in the organisational culture and structure, ensuring that this company can be described as a genuinely entrepreneurial organisation.

6. Conclusions, Implications, Limitations and Recommendations

6.1. Conclusions

In this research, the relationship between corporate entrepreneurship and organisational performance is investigated for service companies based on existing scientific research. Besides that, it is also examined whether organisational culture, organisational structure and external environment affect this relationship. The conclusion that emerges from this research is that all three dimensions that collectively represent corporate entrepreneurship positively affect service companies' financial and non-financial performance indicators. This research states that the degree of entrepreneurship in a company is negatively influenced by environmental dynamism and hostility. Furthermore, organisational culture and organisational structure can positively influence the degree of corporate entrepreneurship, whereby the effect of corporate entrepreneurship on organisational financial and non-financial performance can be strengthened via these internal organisational factors.

6.2. Implications

Because established (service) companies do not introduce initiatives to promote entrepreneurial behaviour and to create corporate entrepreneurship, the risk of losing the successful market position is looming. In this research, the importance of implementing corporate entrepreneurship in the business has been demonstrated. It is imperative for all established companies to embed corporate entrepreneurship in the business. As described in the literature review part of this research, implementing corporate entrepreneurship can enhance organisational performance, create a competitive advantage and can provide survival value for established (service) companies.

6.3. Limitations

Due to the limited time frame of this research, corporate entrepreneurship is divided into three elements. However, corporate entrepreneurship consists of many other elements. The same applies to the external environment variable, which is also split into only two elements. In addition, all variables and the influences on each other could have been described more extensively. However, this was not possible due to the word limit of 8000 words. Since this research has been drawn upon an existing literary basis, it was not possible to use new entrepreneurial start-ups in the discussion section. This is caused by the limited data availability from these companies. Besides that, conducting own field research was not the intention of this research.

6.4. Recommendations

Starting with recommendations for business, this research can provide value for managers in service companies. According to the outcomes of this research, the primary advice that can be made is to implement corporate entrepreneurship in the business by supporting entrepreneurial activities, innovation and creativity. The reason for this is that implementing corporate entrepreneurship in the business can increase organisational performance. Organisational culture and structure can positively affect the degree of corporate entrepreneurship.

Therefore, it is essential to pay attention to organisational culture and structure factors positively influencing corporate entrepreneurship. Especially when cultural or structural transformations are carried out in organisations and adjustments have to be made to these two internal elements.

With regard to future research recommendations, it can be interesting to investigate how other dimensions of corporate entrepreneurship influence organisational performance. Additionally, other moderating variables can be used to describe their impact on the main effect. Besides using other (dimensions of) variables, it could be interesting to look at companies that are active in other sectors than in the service sector. Ultimately companies that are active in different industries than the grocery delivery industry could be reviewed on the variables used in the conceptual model of this research.

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The Influence of CEO Personality Traits on MNE's Performance: a Cross- Cultural Review

Bart Schellekens

Abstract

This bachelor's thesis focuses on the influence of the CEOs' personality traits on Multinationals' performance moderated by culture as a third variable. Firstly, this research uses the Big Five Personality traits, including agreeableness, openness to experience, extraversion, neuroticism, and conscientiousness, as a measure of personality. Secondly, this research uses four out of the five cultural dimensions found by Geert Hofstede and his colleagues as a measure of culture. These cultural dimensions include Individualism-collectivism, Masculinity-Femininity, Power distance, and uncertainty avoidance. Finally, Return on Assets, Return on Equity, and Return on Investment are explained as the factors that determine a firm's profitability in the current research. The research starts with a literature review of some prevalent theories which include the Big Five personality traits and Hofstede's cultural dimensions. Besides those two theories, the Upper Echelon theory and strategic leadership theory are explained as both theories provide this research with evidence of the connection between the CEO as well as the Top Management Team and the organization. After this, two specific country cultures are assessed. As the four cultural dimensions are applied to the Netherlands and Japan. Additionally, this research finds a connection between the CEO and firm performance. Additionally, evidence is provided linking culture with specific personality traits. As a result, this research is able to show whether specific personality traits could influence performance and how different personality traits might influence performance differently in the Netherlands and Japan. All in all, however, the exact extent to which a CEO's personality traits influence organizational performance could not be determined based on the current research.

Keywords: Big five Personality traits, Upper Echelon Theory, Strategic Leadership Theory, Cross-Cultural, Firm performance

1. Introduction

1.1. Problem Statement

Many researchers have shown a relationship between CEO personality traits and the organization managed by the CEO. Research done by Giberson et al. (2009) demonstrated that multiple traits of CEOs are related to cultural values and organizational culture. In addition, Giberson et al. (2009) argued that organizations must appoint a CEO with the desired traits to achieve significant behavioral changes within the company. More recent research also tested the impact of CEO personality traits on strategic change as Harrison et al. (2019) demonstrated that the personality traits of CEOs have an impact on strategic change. Finally, research done by Rauch and Frese (2007) discovered that traits found in business owners positively relate to the creation and success of businesses. Thus, the link between a CEO and the owned organization is prevalent. In addition, Rauch and Frese (2007) argued that further research on the relationship between business owners' personality traits and business success is necessary, especially in combination with one or more moderating variables. This indicates that current research on such relationships is still rather scattered and somewhat scarce.

This research paper will thus add the influence of culture as a moderating variable to the previously discussed relationship. This is to find out if similar executive traits can "predict" success in Multinational enterprises across different continents. This paper will discuss the distinction between The Netherlands and Japan to determine whether certain CEO personality traits are advantageous for Dutch or Japanese businesses.

This paper will assess Information Technology companies based on MNE Performance as the dependent variable. MNE performance will be defined based on three key performance indicators (KPI) since MNE performance, in general, is too broad.

As introduced in the problem indication, CEO personality traits will serve as the independent variable in this research.

Finally, these three main variables will generate the following main research question:

To what extent do the big five personality traits of a CEO influence MNE performance in the IT sector differently?

1.2. Research Question

Based on the problem statement, we need to develop three research questions that relate to the variables CEO personality traits, cultural differences, and MNE performance. These questions include:

RQ1: How can CEO personality traits be defined, and how do CEO personality traits influence MNE performance?

RQ2: How can Culture be defined, and to what extent is the culture in Japan distinct from the culture in The Netherlands?

RQ3: To what extent do CEO personality traits influence MNE performance in Japan and The Netherlands?

1.3. Academic Relevance

This research is academically relevant for several reasons. First of all, current research on the influence of CEOs on firm performance is relatively limited since previous research has mainly focused on top team management in general rather than the specific influence of the CEO on Organizational performance (House et al., 2013).

Secondly, this research adds to the current body of research by adding corporate culture as a moderating variable. This moderation variable is investigated by reviewing the vastly distinct cultures in Europe and Eastern Asia.

Finally, this research combines the research on culture, the big five personality traits, and the latter's influence on firm performance in one research paper which combined is rather scarce.

1.4. Managerial Relevance

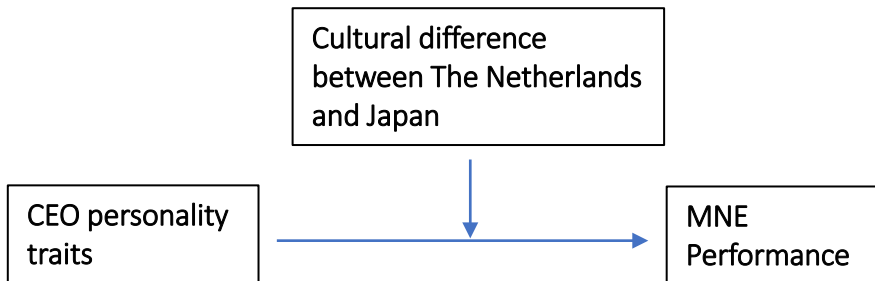
This research is managerial relevant since it shows Multinationals the extent to which different CEO personality traits are required for a successful business, especially if we consider vastly different corporate cultures, like the Japanese and Dutch corporate cultures.

As a result, it can show investors and other stakeholders which candidates should be considered while appointing a new CEO based on personality traits and whether it is good to focus on those personality traits in the decision-making process. Additionally, this paper hints at successful KRIs for businesses in the Information Technology industry.

1.5. Research Design

This paper aims to research the relationship between personality traits found in CEOs, and the performance of MNEs. Rauch and Frese (2007) identified that moderating variables are necessary to further research. This research will include the difference between Japan and The Netherlands as a moderating variable to determine whether culture affects the relationship between a CEO's personality traits and MNE Performance.

As a result, this research will have the following design:



In this research, CEO personality traits will be based on the Big Five Personality Traits. These traits include extraversion, agreeableness, openness, conscientiousness, and neuroticism. Cultural differences between the Netherlands and Japan are based on two companies that operate or used to operate in a similar industry. These two companies are ASML and Nikon, to see how the implications in this paper could be relevant in practice.

1.6. Data Collection

This research gathers data from existing academic journals. The data is obtained from the journals through the online Tilburg University Library or google scholar.

It is relatively easy to find articles and journals that include theories or findings relevant to this research.

In addition, it is relatively easy to find out whether the journals have high quality since the publisher can often be found on the front page of research papers.

The limitation, however, is that finding and applying secondary research can be very time-consuming, given that it is not always evident if a paper is relevant to this research.

Finally, it is important to use qualitative and relevant data. For this reason, this research will mainly use articles from the past ten years and will be obtained through quality journals that come from publishers such as Elsevier or Springer.

2. Literature Review

2.1. The Big Five Personality Traits

In this chapter, the Big Five Personality traits are discussed. This chapter starts with a definition of personality traits and what they imply. After this, this paper will discuss different plausible theories. These include the Big Five Personality Traits and the HEXACO model. Finally, an explanation is given for using the Big Five Personality Traits model rather than the explained alternative.

2.1.1. What is a Personality Trait?

First of all, the definition of a “personality trait” is needed. According to Ashton (2013), a personality trait is *a difference between individuals and their typical way of behaving, thinking, and feeling in a conceptually related way, across various situations over a relatively long period of time*. This definition, however, still has some components that require further explanation.

2.1.2. Different Personality Trait Models

In the past decades, researchers have thoroughly investigated different personality trait Models. Norman's Big Five personality traits model is one of these models (and simultaneously the most researched one).

The Big Five Personality trait model sometimes referred to as the five-factor model includes five different personality traits. These traits are Agreeableness, Openness to Experience, Conscientiousness, Neuroticism, and Extraversion. Many researchers have researched this model and provided evidence for the robustness of the five-factor model. However, some scientists have some reservations about the five-factor model. The main reason for this is the imprecise specification of the different traits and the broadness of the traits. Therefore more recent research suggested using six dimensions to assess personality, including the Honesty-humility attribute. This model is known as the HEXACO model (Ashton, 2013). Both the Big five and the Hexaco model can be used as both models have high validity. However, the big five is used in this research since the big five is more prevalent in personality trait research. Besides this, the Big Five is also often used to assess people within businesses. Therefore it makes sense to use this model rather than the HEXACO model.

2.1.3. The Big Five Personality Traits

According to Palcroft (2014), the big five personality traits measure consists of five factors. These factors include Agreeableness, openness to experience, extraversion, neuroticism, and conscientiousness. Palcroft (2014) can clarify these five variables by identifying the opposites in each factor. As a result, people high in agreeableness can be explained as favoring social harmony and being more friendly. In contrast, disagreeable people tend to select their interests over others and are thus less likely to cooperate. Openness to experience includes openness to adventure, feelings, values, and ideas meaning that people that are high on this variable are typically curious and imaginative. In contrast, those who score low on this variable are typically straightforward and traditional. Extraversion can be described as the extent to which people are assertive, excitement-seeking, and have/show positive emotions. Thus, extroverted people prefer to be with others and look for excitement, whereas introverts are more reserved and like to spend time alone. Neuroticism can be explained as emotional instability. People high in neuroticism are generally prone to negative emotions, whereas those scoring low on neuroticism are usually calmer and less likely to get upset. Finally, conscientiousness is about striving for achievement, competence, and self-discipline. This means that those who score low on conscientiousness favor spontaneous activities and are not as good at planning. As a result, these 5 five traits make up Norman's Big Five Personality traits.

2.2. Upper Echelon Theory and Strategic Leadership

In past decades, researchers have thoroughly researched the influence of CEO and upper-level management on the performance of their organizations. Multiple studies have argued that the impact of upper-level management is limited. Yukl (2010) argued that those that are in higher-level positions and thus have more prestige and power often receive more attributions. Additionally, other theories, such as Population Ecology Theory (Hannan & Freeman, 1977) and Institutional Theory (Finkelstein, Hambrick, & Cannella, 2009), argue that leaders only have a limited influence over their organization.

On the other hand, several arguments suggest that executives are crucial for the success of organizations. The reason for this is that even though executives (especially in listed companies) need to be approved by investors, they still influence organizational goals and structures, control the board's actions, and can motivate or demotivate their subordinates in several ways to achieve those set goals (House et al., 2013). Great examples of influential executives (positively) could be Herb Kelleher at Southwest Airlines or Jack Welch at GE. Negative examples could be Richard Fuld at Lehman Brothers or Kareem Serageldin at Credit Suisse.

As a result, other research has provided theories that suggest that CEOs and higher-level management do, in fact, influence organizational success. The most influential of those theories is the Upper-Echelon theory (House et al., 2013; Hambrick & Mason, 1984). According to Hambrick & Mason (1984), this theory suggests that organizations represent the reflections of higher management and their cognitions and values. Later, the Upper-Echelon theory would form the basis of the more extensive Strategic Leadership Model (House et al., 2013). According to Cannella & Monroe (1997), the Strategic Leadership model suggests that the procedure by which senior executives view opportunities and make decisions is dependent on and restricted by their values, personality, and cognition.

There are, however, two issues in the research regarding strategic leadership. The first issue is that previous research focused on the more easily accessible demographic as a substitution for the more challenging to measure psychological variables. This focus on easily accessible variables is an issue since strategic leadership should focus on the impact of values and personality rather than demographic variables. As a result, researchers have raised questions regarding the meaning and construct validity of the demographic variables (Priem et al., 1999) and the nomological validity of Strategic leadership theory (Boal and Hooijberg, 2001).

The second issue focuses on the tendency of strategic leadership literature to focus on the Top Management Team (TMT) in general without clearly distinguishing between the CEO and other higher-level executives. Instead, the CEO and higher-level management were grouped and named Upper echelon by Hambrick and Mason (1984) or dominant coalition by Livesey et al. (1963). Finkelstein (1992) explains that previous research included the CEO as part of the Top Management Team and has averaged the CEO's characteristics by establishing group characteristics.

As a result, recent research started focussing on CEOs precisely and how they impact their firm's performance. Zacharias et al. (2015) shed light on the importance of CEOs in corporate decision-making compared to the firm or industry levels. Rauch and Frese (2007) researched the influence of business owners' personality traits on business creation and success and found that Business owners' personality traits positively influenced Business creation and success. Whereas Peterson et al. (2003) found that the Big Five Personality traits of CEOs affect Top Management Team dynamics, which in turn influences firm performance.

2.3. Hofstede's Cultural Dimensions

2.3.1. Individualism-Collectivism

The first Cultural Dimension which is discussed is the Individualism-Collectivism dimension. According to Merkin (2017), individualism is the relationship between the individual and the collective that dominates society. In this sense, individualists base their identity on themselves and thus tend to self-promote, whereas collectivists emphasize group harmony. According to Sekine (2016) and Triandis (1990), the competitive nature of more individualistic cultures causes more conflictual and less cooperative behaviors and relationships. According to Merkin (2017), individualists find it essential to feel consulted about policies at work and to have the opportunity to self-promote at work. Besides this, individualists feel the need for constructive feedback to ensure that they can self-promote productively. On the other hand, collectivism seems to be positively correlated to sensitivity, the use of deception, and face-saving concerns. As a result, collectivists tend to emphasize harmony, which can, for example, be done through showing cooperative behavior. Harmony is, in this case, stressed specifically in a collectivist in-group since they live in a society where they can expect their in-group members to look after them in return for "unquestionable loyalty" (Hofstede, 1980, 2001).

An example of such in-group loyalty occurs in Japan, where the people meet their in-group members during their early friendships and work associates (Hirokawa, 1981). Additionally, according to Merkin (2017), those from individualistic cultures immediately gravitate to attack the problem. When businesses lose money, people are fired immediately to avoid losses in individualistic cultures. In collectivist cultures, however, employees, directors, or managers need to be maintained to prevent loss of face for the company.

2.3.2. Masculinity-Femininity

The second cultural dimension which is discussed is Masculinity-Femininity. According to Merkin (2017), masculinity and femininity can explain the preference for competitive or status-level communications in these cultural dimensions. Hofstede (2001) emphasizes that masculine countries or societies find achievement, excellence, performance, ambition, and status important. On the other hand, feminine cultures tend to emphasize concerns for relationships, nurturing behaviors, and quality of life. Additionally, in masculine cultures, gender roles are differentiated, whereas in feminine cultures, gender roles are more fluid, and it is thus easier as a female employee to be promoted in feminine cultures. According to Hofstede (2001), people in feminine countries try to communicate with each other through leveling. Leveling, in this case, is the attempt to equalize relationships by using cooperative, modest, and harmonious behavior, meaning that conflict is, for example, solved through negotiation. It should, however, be noted that in feminine cultures, compromise is preferred over competition regardless of group affiliation (unlike collectivism, where the in-group is essential). Additionally, in masculine cultures, communication is associated with the “attempts to prevail” (Merkin, 2005; Pizam & Fleischer, 2005), whereas communication in feminine cultures tends to prefer harmony (Johnson et al., 2005). In businesses, Masculinity seemed to be positively correlated to self-promotion, impoliteness, and direct communication (Johnson et al. 2005). Simultaneously, masculinity is negatively related to sensitivity and face-saving concerns (Merkin et al., 2014). Finally, in negotiations, masculine cultures gravitate toward anti-social, compliance-tactics through force, punishment, and deception (Jian, Pettey, Rudd, & Lawson, 2007). This mainly occurs since male achievement is stressed in highly masculine cultures, as earning and recognition are emphasized.

2.3.3. Power Distance

The third dimension which is addressed is power distance. Power distance is explained as “the extent to which a society accepts that power in institutions and organizations is distributed unequally” (Bhagat & Steers, 2009; Hofstede, 1980, p. 45). People who live in societies with a higher power distance generally accept equality and a difference in status as the basis of the status quo (Yuan & Zhou, 2015). As a result, the people that live in these cultures perceive status differentiation in both their private lives and in workgroups (Hofstede, 1980; House, Hanges, & Javidan, 2004). Based on this dimension, it could be explained why most Asian countries are collectivist, as a loss of face could upset the present power structure (Merkin, 2017). Additionally, this difference in power distance is prevalent in organizations as managers expect obedience from superiors (Bhagat & Steers, 2009). Besides this, employees are willing to give more than they receive in high-power-distance societies if that is expected (Wheeler, 2002). Thus, In high-power-distance societies, there is an emphasis set on solid authority and steep hierarchies, whereas, in low-power-distance societies, superiors and employees are seen as equals.

2.3.4. Uncertainty Avoidance

The fourth dimension which is discussed is the construct of uncertainty avoidance. Uncertainty avoidance can be explained as “the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (Hofstede, 1991, p. 167). People who live in countries with high uncertainty avoidance try to prepare as much as possible before conducting business to avoid any risks. These risks are often linked to a person's anxiety levels, and thus people that live in cultures with high uncertainty avoidance try to take measures to avoid the feeling of ambiguity (Hofstede, 2001; Merkin, 2006). According to Merkin (2018) and Irani & Oswald (2009), people that live in societies with high uncertainty avoidance often require a specific level of trust in others to reduce high-stress levels. These high levels of stress are often paired with higher levels of neuroticism (Hofstede & McCrae, 2004), aggression and anxiety (Irani & Oswald, 2009), and dissatisfaction (Minkov & Hofstede, 2014). For countries that score low on uncertainty avoidance, we could argue that the opposite is true as those countries generally show more trust, are more open, and show lower levels of stress and aggressive behavior, according to Merkin (2018).

3. Multinational Enterprise (MNE) Performance

3.1. Key Performance Indicators Used in MNEs

This chapter introduces the key indicators that test the performance of MNEs in the IT sector. First, a clear distinction is made between Key Performance Indicators (KPIs) and Key Result Indicators (KRIs), as many businesses nowadays seem to use “Key Performance Indicators” incorrectly (Parmenter, 2015). After this, the chapter explains why this research uses KRIs rather than KPIs to measure performance in the IT sector, and this chapter explains which specific KRIs this paper researches.

3.1.1. Key Performance Indicators (KPI)

According to Parmenter (2015), KPIs are indicators that focus on the most critical aspects of organizational performance. These KPIs have seven characteristics: Non-financial, Timely since KPIs are measured on a daily or weekly basis, CEO focussed, Simple, Team-Based, significant in impact, and limited on the dark side. Examples of different KPIs are Later deliveries to key customers in the past day, the number of innovations planned every day, complaints from key customers, etcetera.

3.1.2. Key Result Indicators (KRI)

According to Parmenter (2015), KRIs could be best described as measures that show the result of many actions carried out by many teams. KRIs can clearly illustrate whether “your” organization is moving in the right direction or not, as they give the board an overview of the progress regarding the organization's strategy. Key Result Indicators are usually reviewed on a monthly or quarterly basis. This means that Key Result Indicators are not helpful for management since KRIs are reported too late to change strategic direction. According to Parmenter (2015), the CEO is ultimately responsible for the KRI measures, and these measures could include: net profit before tax, customer satisfaction, return on capital, return on investment etcetera.

3.1.3. The Relevance of KPI and KRI

Based on the given definitions of both KPI and KRI, this research focuses on KRIs. The reason for this is that the CEO is the person that is responsible for the KRIs. In contrast, the responsibility of KPIs lies with the CEO, higher-level management, and lower-level management. This research focuses on the influence of CEO personality traits, which makes sense to use KRIs. Additionally, since KRIs seem to be more objective and can be measured more accurately, it would make sense to use KRIs.

When it comes to businesses, especially MNEs, there is always one Key Result Indicator that is most important for investors: the firm's profitability (Goel, 2015). However, in order to compare different firms, a ratio should be used, since some companies are larger than other companies and thus have access to for example more capital. Additionally, according to Goel (2015), profitability ratios measure a company's overall performance and its potential. As a result, this research uses profitability ratios rather than for example efficiency ratios or solvency ratios as the aim of this research is to measure overall performance.

According to Rist et al. (2014), return on equity (ROE) measures the percentage of net income which is obtained from shareholder's equity. ROE thus measures a company's profitability based on the amount of money that is invested by the shareholders as a ratio making it easy to compare different companies' profitability.

Besides this, Another KRI which is also important is the return on investment. According to Samsonowa (2011), Research and Development (R&D) can be described as one of the most important factors that can influence a firm's future profitability, especially in fast-growing sectors. As a result, a key result indicator that is prevalent for MNEs could be Return on Investment (ROI). ROI measures how efficient an investment is by "comparing" the gains of investment with its costs.

The final profitability ratio which is prevalent for this research to large MNEs is the return on assets ratio (ROA), this ratio measures a firm's profitability concerning its total assets and thus shows how efficiently a company uses its assets. This ratio adds to ROE as ROE only takes equity into account whereas ROA also measures how leveraged a firm is as ROA also includes a company's debt. It should, however, be said that these result indicators should only be used when comparing firms in similar industries since some industries might require a different level of for example leverage or investment to make it sustainable.

As a result, three key result indicators seem to be the best for assessing overall performance and comparing firms that operate in a similar industry. These are ROA, ROE, and ROI as they measure overall performance based on the amount of equity or assets and the return on invested capital by the firms.

3.2. The Influence of the Big Five Personality Traits on MNE Performance

The discussed theories in the literature review chapter have already provided this paper with an answer to whether the CEO influences an organization's performance. Based on the research done by House et al. (2013), this paper established that executives influence organizational goals, control the boards' actions, and have a motivational impact on their subordinates. Thus, CEOs do influence their respective organizations. However, the remaining question is, to what extent do CEO personality traits influence organizational performance?

Peterson et al. (2003) did an empirical study on this topic as they found that CEOs' personality influences Top Management Team (TMT) dynamics, which would influence organizational performance. Other research has also provided evidence for the influence of CEO personality traits on firm performance. For example, Nadkarni and Herrmann (2010) researched the influence of CEO personality traits on firm performance with strategic flexibility as a mediator. Nadkarni and Herrmann (2010) found that conscientiousness negatively impacts strategic flexibility and thus firm performance, whereas Openness, Extraversion, and Emotional Stability influence firm performance positively. It should, however, be noted that first, this research did not control for multiple variables such as firm size as they only researched SMEs (rather than MNEs), and secondly, this research was done in the Indian outsourcing industry. All in all, this implies that results may vary in the present study from the research done by Nadkarni and Herrmann (2010). However, the results that are shown do indicate that CEO personality traits influence firm performance.

Barrick and Mount (1991) found that conscientiousness is the essential trait that predicts accomplishment in the work tasks in "all jobs". Additionally, Harrison et al. (2019) found that firm performance in relationship with CEO personality traits influences strategic change within the firm.

Their research found that CEO conscientiousness and neuroticism are slightly negatively correlated to strategic change in an average performing firm, positively correlated to strategic change in a low-performing firm, and negatively correlated in a high-performing firm. Simultaneously, Harrison et al. (2019) found that extraversion is negatively correlated to strategic change in a low and average-performing organization while being positively correlated in a high-performing firm. Finally, Harrison et al. (2019) argued that CEO Openness is positively correlated to strategic change on all performance levels.

Based on this body of literature, it could be argued that the personality traits of the CEO do influence firm performance. However, previous research on this topic has always used a mediator to explain how personality traits influence the company. For example, Peterson et al. (2003) used 'TMT' as the mediator, whereas Nadkarni and Herrmann (2010) used strategic flexibility as a mediator. Additionally, based on strategic leadership theory, which explains that the CEO does affect firm performance, it can be assumed that the personality of the CEO thus also has an influence. However, the actual extent to which the CEOs' personality traits influence firm performance can unfortunately not be obtained given the nature of this bachelor's thesis in combination with the fact that previous research on this topic is rather scarce. As a result, either a controlled lab experiment or a field experiment would most likely be required to assess the exact influence.

4. The Business Side of Cultural Dimensions in Japan and The Netherlands

This chapter discusses the cross-cultural theories as designed by Geert Hofstede, and the four different cultural dimensions as explained in the Literature review chapter. These four different cultural dimensions will be applied to Japan and The Netherlands especially focusing on how these cultural dimensions influence business in Japan and The Netherlands. Finally, this chapter aims to connect personality traits with the applied cultural dimensions to see which personality traits are affected by which cultural dimensions and what this means for Japanese and Dutch businesses.

4.1. Cultural Dimensions Found in Japan

4.1.1. Individualism-Collectivism in Japan

The first dimension which will be applied is the individualism-collectivism construct. According to Hofstede et al. (2010), Japan scores low on the individualist scale as they record a score of 46 out of 120. As a result, Japan is a rather collectivist country. From this construct, it could be explained that in Japanese culture, the people thus find harmony and especially face-saving very important. According to Merkin (2017), the Japanese thus stress the in-group greatly and expect loyalty from this in-group in return for their service. In Japanese business, for example, individuals often stay in the same job their entire lives in return for loyalty from the company.

4.1.2. Masculinity-Feminity in Japan

The second dimension which is applied is the Masculinity-Femininity dimension. According to (Hofstede et al., 2010), Japan scores very high on the masculinity scale, making it the most masculine country globally with a score of 95 out of 120. This has several implications for Japanese culture, as people living in masculine cultures generally strive for status and power (Merkin, 2017). Additionally, masculinity goes along with self-promotion and the use of assertive communication and communication that shows less concern for others.

As a result, this construct seems to contradict the first construct (individualism-collectivism) as the first construct explained that the Japanese are very collectivist and find, for example, face-saving and harmony essential. In contrast, this construct illustrates that there is less concern for others during communication in Japanese culture. This contradiction, however, can be explained. In the first paragraph, it was explained that the in-group is essential in Japanese culture. This means that high amounts of masculinity are applied to the entire in-group. In Japanese societies, the in-group is harmonious. However, simultaneously, there is much competition between the different in-groups. As a result, this could also explain why the Japanese are incredibly loyal to the companies for which they work, as this is part of their in-group (Hofstede, 2001).

Additionally, Japan's high masculinity means that gender roles are stringent and well-defined. The reason for this is that in masculine cultures generally, the gap between women's and men's values is rather large (Hofstede, 1980). Thus, it is tough for women to break the glass ceiling and get into a management position in Japan, as that is supposed to be a man's task. Finally, research has shown that Japanese workers stay quiet or become tense and have an uncooperative tone when they are in disagreement instead of directly stating that they disagree (Kawabata & Gastaldo, 2015).

4.1.3. Power Distance in Japan

The third dimension which is applied to Japan is the power distance construct. According to Hofstede et al. (2010), Japan scores moderately on power distance with a score of 54 out of 120. According to Richardson & Smith (2007), Japan scores lower than the mean average on the power distance construct. However, the Japanese do show high power distance values. This difference could be explained by using the collectivist culture present in Japan. As previously discussed, Japanese collectivist culture is defined by the use of the in-group and out-group. Citizens who are part of a specific in-group in Japan often have a similar "status" in the Japanese hierarchies, and thus within the in-group, power distance is rather low. On the other hand, the opposite could be found if the focus is placed on the out-group. Groups that are part of a lower in-group should address the higher in-group with great respect, as can be seen in the way students address their teachers and vice versa (Engelbreton & Fullmer, 1970).

4.1.4. Uncertainty Avoidance in Japan

The fourth dimension which is applied to Japanese culture is the uncertainty avoidance dimension. According to Hofstede et al. (2010), Japan scores very high on the uncertainty avoidance construct with a score of 92 out of 120 points. This implies that they generally feel threatened by ambiguity and thus do "everything they can" to avoid or reduce uncertainty. Part of this uncertainty avoidance can, for example, be seen by the importance of the in-group and out-group that is actively present in Japanese culture, as explained by Merkin (2017). This can be seen since cultures that score high in uncertainty avoidance require people they can trust to reduce their stress levels (Hofstede, 1983; Irani & Oswald, 2009).

Additionally, the tightness of Japanese culture can also partially be explained through the uncertainty avoidance construct (Minkov & Hofstede, 2014; Gelfand et al., 2011). As a result, the Japanese constantly have to worry about behaving (un)suitably.

Besides this, Tran, Nguyen, & Nguyen (2016) argued that high-level uncertainty avoidance cultures generally show a weaker orientation toward uncertain venture capital activity. Additionally, in high uncertainty avoidance cultures like the Japanese culture, managers are often chosen based on their seniority and loyalty rather than other factors such as past success or personality traits (Earley, 1997). Finally, in the Japanese high uncertainty avoidance culture, it is more likely to find a company with a consolidated CEO which is considered a reflection of respected power. As well as this, leadership tends to be autocratic and paternalistic in Japanese Culture based on this construct (Li & Harrison, 2008).

4.2. Cultural Dimensions Found in The Netherlands

4.2.1. Individualism-Collectivism in The Netherlands

As per the previous paragraph, the first dimension applied to The Netherlands is individualism-collectivism. According to (Hofstede et al (2010), The Netherlands scores very high on individualism, showing a score of 80 out of 120 making it one of the most individualistic countries. This implies that self-promotion is important in Dutch culture. Additionally, according to Hofstede and Soeters (2002), they are often keen to protect their privacy. Besides this, given that Dutch culture is very individualistic, the Dutch could be seen as more competitive and tend to immediately attack a particular problem when they find it, even if this means that a manager or CEO of the company needs to be fired.

4.2.2. Masculinity-Femininity in The Netherlands

Next, on the Masculinity dimension, The Netherlands scores very low with a score of 14 out of 120, according to Hofstede et al. (2010). As a result, The Netherlands is one of the world's most feminine countries. This implies that the Dutch often show cooperative and harmonious behavior in their private lives and business. According to Hofstede (2001), this behavior results in a leveling communication style.

This phenomenon is evident through what the Dutch call the “Poldermodel,” in which employee and employer unions continuously negotiate with the government to try and come up with compromises on, for example, working conditions (Keune, 2016). Additionally, the gap between males and females is relatively low in wages and responsibilities compared to other nations. Besides this, the Dutch stress the importance of relationships, nurturing behaviors, and quality of life. Especially quality of life seems to be important as the Dutch find an excellent work-life balance essential which could be proven by the fact that roughly 48% of the Dutch working population works part-time (4.5 million Dutch people work part-time out of the 9.4 million that are part of the working population) according to the Centraal Bureau Voor de Statistiek (2022b).

4.2.3. Power Distance in The Netherlands

After this, the current study focuses on the third dimension, power distance. According to (Hofstede et al. (2010), the Dutch score 38 out of 120 on the power distance construct, which is relatively low. As a result, this construct links to the individualism-collectivism construct as, according to Merkin (2017), low-power-distance cultures link positively to individualism. Generally, this construct also explains that in the Netherlands, managers tend to be more problem-solving during conflicts with their superiors compared to countries that show a higher level of power distance (Oudenhoven et al., 1998). This could thus be explained by the fact that in low-power-distance cultures, superiors and their employees often see themselves as equals. According to Oudenhoven et al. (1998), this is caused by the fact that the Netherlands has a long “tradition” of dealing with different cultures/religions and their different views.

4.2.4. Uncertainty Avoidance in The Netherlands

The fourth dimension which is applied to the Netherlands is the Uncertainty Avoidance construct. According to Hofstede et al. (2010), The Netherlands scores moderately low on this construct showing a score of 58 out of 120. This implies that the Dutch show more uncertainty avoidance tendencies in some cases. An example of this is the Dutch nature of planning their business meetings (private meetings or dinners) and the importance of being on time for those meetings.

On the other hand, data provided by (Centraal Bureau Voor de Statistiek (2022a) shows that there are more freelance companies (which are often riskier to the owner due to the absence of social benefits for freelancers) in the Netherlands compared to the average in the European-28. Additionally, Rodrigues and Kaplan (1998) propose that the Dutch, with a moderate uncertainty avoidance culture, also have moderate formalization in organizational structure.

4.3. The Significance of Dutch and Japanese Culture on Aggregated Personality Traits

Hofstede's five cultural dimensions proved that cultures, specifically Dutch and Japanese businesses are very distinct. Hofstede also provided information on the exact scores of these two nations within the cultural dimensions. As a result, based on the previously discussed information, this chapter aims to explain how different personality traits of the CEO might be important in different cultures. In this sense, this chapter thus adds culture as a moderating variable on the influence of CEO personality on MNE Performance.

Research done by McCrae (2001) showed a link present between the Big Five Personality Traits and the cultural dimension researched by Hofstede. According to McCrae (2001), power distance is related to the conscientiousness trait and inversely related to Extraversion. Besides this, McCrae found that uncertainty avoidance relates to Neuroticism and inversely to agreeableness, and Individualism relates to Extraversion and Openness. Finally, a country's masculinity does not significantly relate to any personality factors, as seen from the table below. As a result, this chapter combines the data found by Hofstede on Japan and The Netherlands with the data gathered by McCrae (2001) to find out how and whether specific traits could positively or negatively affect a CEO's influence on the firm.

**Correlations Between Hofstede (1991) Dimensions
and Personality Factors**

Hofstede Dimension	Factor				
	N	E	O	A	C
Power Distance	.11	-.43*	-.35	.38	.63**
Uncertainty Avoidance	.55**	.27	.19	-.61**	-.34
Individualism	.02	.61**	.48*	-.16	-.31
Masculinity	.39	-.25	.09	-.14	-.13
GDP ^a	.16	.27	.20	-.12	-.42*

Note. $N = 23$ cultures for Hofstede dimensions, 26 for GDP. ^aGDP = per capita Gross Domestic Product, 1998 estimate (Hong Kong estimate separate from China). Source: www.infoplease.com/countries.html.

* $p < .05$. ** $p < .01$.

Figure 1: *The relationship between culture and Personality traits as provided by McCrae (2001)*

As previously introduced, Japan is a slightly collectivist country showing an aggregated score of 46 out of 120 (Hofstede et al., 2010). Based on the data provided by McCrae (2001), this would imply that the general population in Japan has a slightly lower score on extraversion compared to the world's average. Simultaneously, this would imply that openness would also be slightly lower in Japan. Besides this, based on the Power Distance dimension, it could be argued that the Japanese generally scores slightly higher on the conscientiousness trait, and it confirms that the Japanese would generally score slightly less extraverted. Finally, Japan scores relatively high on the uncertainty avoidance dimension, implying that the Japanese are more neurotic and less agreeable.

When it comes to The Netherlands, data provided by Hofstede and Hofstede (2010) shows that the Dutch score relatively high on individualism, implying that the Dutch are generally more extroverted and generally score higher on the openness trait. Additionally, The Netherlands scores lower on power distance, implying that the Dutch are more conscientious, and it again confirms that the Dutch are more extroverted, according to McCrae (2001). Finally, The Netherlands scores in the middle when it comes to uncertainty avoidance which would imply that it would score around the average when it comes to a combination of Neuroticism and Agreeableness.

4.4. The Influence of CEO Personality Traits on Firm Performance in Japan and the Netherlands

The scores which are provided by McCrae (2001) are essential since Merkin (2017) explains that international managers often base their decision on the assumption that similar conditions apply to the managers' home country and the foreign country. According to Merkin (2017), these decisions often result in a loss of company capital, which can especially be troublesome since the stakes in large multinationals are very high. As a result, it is essential to ask if specific personality traits that would fit the “aggregated” personality would positively influence the firm's performance. Based on this research, having a CEO who scores low on Neuroticism and high on Extraversion could negatively impact the performance of a Japanese company or subsidiary, especially if this CEO finds it difficult to adjust his behavior.

On one hand, to find out the exact influence of culture on the CEOs' performance within the firm is impossible to answer based on the current nature of this bachelor's thesis. Especially since there is no research out there that has attempted to do this. On the other hand, two main implications could be made based on the gathered information.

First of all, it is important to note that in Japanese businesses the importance of the CEO's personality trait might be less prevalent than in The Netherlands. The reason for this is the fact that due to the uncertainty avoidance culture which is present in Japan managers are often chosen based on their seniority and loyalty rather than specific traits (Earley, 1997). Additionally, Japanese culture is highly masculine (Hofstede et al., 2010) which implies that it is generally nearly impossible for women to qualify for a role in a management position of a Japanese MNE even if these women show the perfect personality traits. As a result, personality traits are most likely only prevalent for a certain subset of CEOs in Japan since having for example female CEO in itself could influence the performance of a Japanese MNE negatively even if the traits are perfect. In the Netherlands, this would probably be a lesser issue since the Netherlands is highly feminine (Hofstede et al., 2010) implying that the country shows more lenient gender roles compared to other nations (Hofstede et al., 2010) and the importance of seniority is often lower as well since the Dutch score lower on uncertainty avoidance.

Secondly, the personality traits which could influence or change firm performance could be different in Japan than in the Netherlands. Note that Japan scores very high on Uncertainty Avoidance which is strongly positively correlated to neuroticism (McCrae, 2001).

This implies that a highly Neurotic person might be better suited to a management position in Japan compared to the Netherlands where Uncertainty Avoidance scores are lower. Another example of this is the Extraversion trait. Extraversion is strongly positively correlated to individualism according to McCrae (2001), this would imply that a highly extroverted CEO would be a better fit in The Netherlands compared to Japan since the Dutch score a lot higher on individualism compared to the Japanese. An extroverted CEO could thus positively influence the performance of a Dutch MNE, while it would negatively influence the performance of a Japanese MNE.

5. Conclusions, Limitations and Recommendations

5.1. Conclusion

All in all, the current research investigated whether there is a link between the personality traits of the CEO and organizational performance and additionally poses the question of whether the personality traits would affect businesses that are active in different cultures similarly. Consequently, this research provided evidence for the presence of a relationship between CEO personality and MNE performance, though only a link using a mediator was found to influence MNE performance. This means that the previous has not yet researched a direct link between CEO personality and its influence on firm performance and as a result, the extend to which the personality traits had a direct effect on firm performance could not yet be found. Additionally, after adding culture as a moderating variable correlations between Hofstede's cultural dimensions and the big five personality traits were found. As a result, this research argues that, even though a direct link between CEO personality and firm performance is yet to be researched, different personality traits do affect a firm differently in Japan compared to The Netherlands. In this case, in Japan, one would expect a CEO who is more neurotic, slightly more introverted and conscientious, and slightly less agreeable to influence the firm positively. Whereas in The Netherlands, a CEO with more extraverted, slightly more agreeable and slightly less conscientious, and slightly less neurotic traits could influence firm performance positively. This relationship would, for example, be present through the Top Management Team (Peterson et al., 2003) since upper echelon theory (Hambrick & Mason, 1984) and strategic leadership theory did provide evidence for the link between the TMT and the CEO on the firm performance.

5.2. Limitations

This research has multiple limitations. First of all, given the nature of this bachelor's thesis in the field of management, it was not possible to do actual lab or field research which implies that this thesis is highly theoretical.

Secondly, this research used Hofstede's cultural dimensions. These cultural dimensions are aggregated over entire countries as Hofstede, for example, states that the Japanese are high in uncertainty avoidance. This, however, might not be the case everywhere in Japan, as some provinces or societies within Japan might have a (slightly) different culture compared to the culture found by Hofstede.

Finally, due to time constraints and the lack of available archival data on the long and short-term orientation dimension combined with the Big Five personality traits, it was impossible to implement this dimension in the current research.

5.3. Recommendations

5.3.1. Business

Based on the information gathered in this research, businesses and investors should also focus on the Big Five personality traits when considering a new CEO. The reason for this is the fact that this research did establish that the CEO does have an influence on the organization and that the personality traits of the CEO also have some influence on the firm indirectly through the TMT and possibly also directly.

5.3.2. Academic

As a result, It is recommended for future research to focus on implementing the current theoretical research. After a thorough literature review, there has not been any research that specifically focuses on the link between culture and a CEO's personality traits and their direct effect on firm performance. Given the complexity of such a study, it is advisable to stick to one, two, or possibly three of the cultural dimensions found by Hofstede since it might otherwise be too complex and time-consuming to draw any conclusions.

Besides this, future research could also focus more on the cultural differences within countries and how this could affect a firm's performance.

Finally, it is also recommended to research the link between the long- and short-term orientation dimension and the different personality traits since this has not been done before, even though this dimension could also be relevant in (corporate) culture.

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About the Author

Bart Schellekens is a 20 years old and he is in final year of International Business Administration. During the past semester he did 6 courses from IBA (two additional had to be done, given that he failed two courses in his second year). Besides this, he decided that he also wanted to try and write his Bachelors thesis.

In his first semester of semesters he did a minor in entrepreneurship at Tilburg University which he found really interesting and as a result he decided that he wanted to write his bachelor's thesis in this field. Additionally, psychology has also always peaked his interested. Based on this he decided that his topic would become something along the lines of 'The Influence of CEO personality traits on firm' performance.

During this project he had some setbacks as he did not really know how he could best divide the different topics of this thesis. Additionally, given that this topic had not been researched to the greatest extend by other researchers it was also really difficult to draw-up conclusions since something that was found regarding this topic in for example Sweden would not apply to Japan. However, luckily after spending some time with Dessy Rutten as his supervisor, regarding the first issue and asking questions on the second issue he was able to finish his Bachelor's thesis with an 8,5 as his final grade. As a result, he would really want to thank Dessy for all the help she has given him.

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The Effect of Organisational Culture Characteristics on Corporate Entrepreneurship in the Automotive Industry

Wessel Hijman

Abstract

This paper aims to explain to what extent and how organisational culture characteristics affect corporate entrepreneurship. Corporate entrepreneurship is an increasingly popular domain in research. However, current literature still demands more research in this field and this paper aims to fill some of the existing gaps. In doing so, this paper elaborates on existing theories about corporate entrepreneurship, analyses the effects of the recent COVID-19 pandemic on corporate entrepreneurship, and uses findings from the automotive industry to answer the main research question.

Corporate entrepreneurship can be defined as the process whereby an individual or a group of individuals, in association with an existing organisation, create a new organisation or instigate renewal or innovation within that organisation and is likely to contribute to better firm performance. Corporate entrepreneurship did not lose its importance during the COVID-19 pandemic, and the pandemic increased the awareness of social and environmental issues, which firms need to consider.

Regarding the effects of organisational culture on corporate entrepreneurship, the paper concludes that masculine organisational cultures are more likely to support commercial entrepreneurial activities within companies. In contrast, feminine organisational cultures tend to be more socially interested. In addition, corporate entrepreneurship is positively linked with top management support, work discretion, rewards and recognition, and flexible organisational boundaries.

Besides the internal environment, the external environment also plays a significant role in shaping corporate entrepreneurship in the automotive industry. The external environment can incentivise firms to innovate and help them do so. However, the firms also need the capabilities to absorb new opportunities and information to gain advantages.

Keywords: corporate entrepreneurship, organisational culture, automotive industry, COVID-19

1. Introduction

Corporate entrepreneurship is a topic that is not new in research and is increasingly appearing in research papers, according to Urbano et al. (2022). In the recently published literature review of Urbano et al. (2022), it is shown that there is a widespread agreement in most of the papers about the importance of corporate entrepreneurship. This paper elaborates further on this idea and explains how organisational cultures could shape corporate entrepreneurship in the automotive industry. On top of that, the importance of corporate entrepreneurship during the COVID-19 pandemic is tested, and the effects of COVID-19 on corporate entrepreneurship are described.

1.1. Problem Indication

Although much information and research is available about corporate entrepreneurship, it is still relevant to investigate even more in this domain. A research review from Phan et al. (2009) shows a lack of understanding of the role of managers in corporate entrepreneurship and how they can positively influence it. Another research review from the same period, by Kuratko (2011), confirms the lack of understanding and suggests investigating how organisational factors and culture influence or moderate entrepreneurial activities within companies.

Current research still does not fill this gap or is mainly based on data from specific countries (Urbano et al., 2022). On top of that, there is not much research that compares the data from different countries for a specific industry. This paper aims to fill this gap in the automotive industry partly. Moreover, social entrepreneurship is becoming more and more important in society nowadays (Esty & Winston, 2009; Miles et al., 2008). This is a relatively new domain, and the effect of (social) corporate entrepreneurship on both firms and society is interesting and essential to review. Lastly, COVID-19 has had a massive impact on the business world and caused drastic transformations (Ali et al., 2021; Peters, 2020; Severo et al., 2021). Post COVID-19 entrepreneurs are not the same as before, and employees were in many situations forced to work in new conditions (Dan & Goia, 2020). Since COVID-19 is an unprecedented event, a new research domain arises. For that reason, it is of critical importance to get to know the effects of COVID-19 on, in this case, corporate entrepreneurship.

1.2. Problem Statement

The above-indicated problem can be formulated into the following problem statement, which this paper aims to answer:

To what extent and how does the organisational culture affect corporate entrepreneurship?

With this question, two variables are examined. The first variable is organisational culture and serves as the independent variable. Corporate entrepreneurship is the dependent variable.

Finally, two hypotheses are tested to rectify and formulate the study's outcome.

H0: Corporate entrepreneurship is not significantly influenced by organisational culture.

H1: Corporate entrepreneurship is significantly influenced by organisational culture.

1.3. Research Questions

In order to answer the main research question correctly, the following three theoretical research questions are answered in the second chapter.

RQ1. What is corporate entrepreneurship?

RQ2. To what extent is corporate entrepreneurship important for a firm and society?

RQ3. What and how is the impact of COVID-19 on corporate entrepreneurship?

1.4. Academic Relevance

As already discussed above, the lack of understanding about the effects of organisational culture and management on the degree of corporate entrepreneurship was already presented by Phan et al. (2009) and Kuratko (2011) some time ago. The very recent literature review by Urbano et al. (2022) still supports this suggestion for future research.

There is little literature available that examines the influences of organisational culture on corporate entrepreneurship, including data from different countries. This paper attempts to fill this gap by reviewing studies and results from the automotive industry.

In addition, there is currently, understandably, a lack of understanding of the effects of COVID-19 on corporate entrepreneurship. Therefore, it is valuable to investigate and widen the knowledge in that domain. This paper investigates the importance of corporate entrepreneurship during COVID-19 and the innovations it caused in the automotive industry. Additionally, the effects of COVID-19 on corporate social responsibility are discussed. In doing so, this paper aims to gain basic knowledge on the effects of COVID-19 on corporate entrepreneurship and encourage more research in the future about this topic.

1.5. Managerial Relevance

Since it is widely accepted in the literature that corporate entrepreneurship positively affects performance and enables firms to attain competitive advantages, according to Urbano et al. (2022), managers must know how to create these conditions and understand them. Additionally, in a rapidly changing business environment, where firms cannot only think about generating as much profit as possible but also have social duties, the effects and understanding of new phenomena (such as COVID-19) are helpful to stay relevant out there since it brings new types of challenges (Peters, 2020). Therefore, this paper aims to guide future managers in the post-COVID-19 world, where social effects cannot be ignored, and cultural impacts must be understood.

1.6. Research Methods

For answering all the questions, existing data is used. This data is mainly found in high-ranked journals or is collected from books. However, for the question related to COVID-19, not much research has been published yet since it is a very new topic. For that reason, some news articles about the topic are used, which are critically evaluated, to deal with that question. To answer the main research question and conclude, studies about the automotive industry are used and reviewed.

1.7. Research Structure

This paper guides the reader in chapter 2 by explaining the main concepts and answering the theoretical research question. Researching these questions is essential to discuss the main problem statement later in the paper.

The subsequent chapters describe the discussion on the effect of organisational culture on corporate entrepreneurship and explain how organisational culture shapes corporate entrepreneurship. This description is based on findings in the automotive industry in different countries. This discussion part starts by focusing on the effects of organisational culture on corporate entrepreneurship in the light of Hofstede's dimensions and other internal environmental factors in the third chapter. In chapter 4, the possible effects of the external environment on corporate entrepreneurship are discussed.

After everything is discussed, the paper concludes all the presented findings and answers the main research question. This conclusion also points out some limitations and recommendations.

2. Corporate Entrepreneurship Elaborations

This chapter aims to answer the theoretical research questions published in the previous chapter. Firstly, research question 1 is discussed in chapter 2.1, which explains corporate entrepreneurship. Secondly, the importance of corporate and social entrepreneurship is discussed in chapter 2.2 to answer the second research question. Lastly, chapter 2.3 focuses on the effects of COVID-19 on corporate entrepreneurship and answers the last theoretical research question.

2.1. - RQ 1: What is Corporate Entrepreneurship?

As mentioned above, this part aims to explain the concept of corporate entrepreneurship. In doing so, this research question is divided into three parts. To start with, a definition of corporate entrepreneurship is given. After that, corporate entrepreneurship and the term intrapreneurship are compared since they can be interpreted as the same or as different concepts. To conclude this research question, the four models of corporate entrepreneurship are described.

RQ 1.1. Definition

To analyse the effects of culture on corporate entrepreneurship, it needs to be clarified what we define as corporate entrepreneurship. Although much research has been published about this topic, not every paper describes corporate entrepreneurship the same. This means that there are many variations in the definitions used. It can be shortly defined as entrepreneurship within an existing organisation (Antoncic & Hisrich, 2001). However, there are more detailed descriptions available that can give more insights. Recently published research by Urbano et al. (2022) shows which definition is used most frequently and what the differences are. This literature review analysed all published articles about corporate entrepreneurship in high and top noted journals from the last decades. They conclude that the definition by Sharma and Chrisman (1999) is the most frequently used. Sharma and Chrisman (1999) define it as the process whereby an individual or a group of individuals, in association with an existing organisation, create a new organisation or instigate renewal or innovation within that organisation. In other words, when an organisation, for example, renews its strategy, innovates its processes or products, or when a new business is started within that organisation can be labelled as corporate entrepreneurship. Since this is the most commonly used definition among researchers, this paper considers it legitimate to define corporate entrepreneurship like that.

RQ 1.2. Corporate Entrepreneurship and Intrapreneurship

Besides the term corporate entrepreneurship, intrapreneurship is also widely used. Most previous studies have seen these terms as synonyms. The previously mentioned definition by Antoncic and Hisrich (2001), for example, can be both used for corporate entrepreneurship and intrapreneurship, according to their paper.

Later, some research in this field did not consider it the same and differentiated both terms. According to Stam (2013), the terms corporate entrepreneurship and intrapreneurship cannot be used indistinctively. Stam (2013) argues that corporate entrepreneurship follows a top-down approach whereby decisions are made by the top management and later carried out by lower hierarchical levels. On the other hand, intrapreneurship follows a bottom-up approach.

This approach refers to the development of new business activity by employees themselves. Stam (2013), therefore, distinguishes the two terms here by looking at the difference in initiation.

However, in this paper, both terms are considered the same. This consideration is because the paper aims to explain the effect of organisational culture on corporate entrepreneurship in general, regardless of who initiates it.

RQ 1.3. The Four Models of Corporate Entrepreneurship

To get a deeper insight into the meaning and working of corporate entrepreneurship, it is helpful to know the four different models within corporate entrepreneurship. These four models explain how organisations can have a different approach to corporate entrepreneurship and are based on research by Wolcott and Lippitz (2007). In their research, the four models are based on two dimensions: resource authority and organisational ownership. Resource authority refers to how the projects are funded, either from a corporate pool or from business-unit budgets. On the other hand, organisational ownership refers to the question: Who, if anyone, within the organisation has primary ownership for the creation of new businesses? (Wolcott & Lippitz, 2007). These dimensions create four different combinations: the opportunist, the enabler, the advocate, and the producer.

According to the research, all companies begin as opportunists. In this situation, the projects are financed by the business units, and the ownership is diffused. In the enabler model, the type of ownership is still diffused, but the financing of the projects is more done from a corporate pool. When we talk about the advocate model, the ownership now is more focused with financing from the business units. Lastly, the producer also has a focused ownership character but is financed by the corporate pool.

2.2. - RQ 2: To What Extent is Corporate Entrepreneurship Important for a Firm and Society?

Now that a clear picture of corporate entrepreneurship is scattered, this part first describes the importance of corporate entrepreneurship for firms and its contribution to performance. The second part of this research question focuses on the corporate social responsibilities of firms and to what extent this is demanded from society.

RQ 2.1. Corporate Entrepreneurship and Performance

In the globalised world we live in, competition is everywhere. According to Kuckertz (2017), it is, therefore, a must for companies to develop new ideas and strategies over time to succeed in the long run. Companies that are either unable or not willing to adapt to the changing environment are, in many cases, fighting to survive or even failed to do so (Skarmeas et al., 2016). As a result, corporate entrepreneurship is of vital importance for companies to utilise the opportunities of starting new companies, entering new markets and innovating.

Moreover, much research is done about the correlation between corporate entrepreneurship and firm performance. A meta-analysis performance by Bierwerth et al. (2015) shows that the positive effect of corporate entrepreneurship on firm performance is widely accepted in the literature. The study combined 42 previous studies wherein total 13 237 firms were analysed. The analysis shows that corporate entrepreneurship is positively linked with objective and subjective firm performance. Objective performance can be measured based on the return on assets, return on sales, profitability, or financial growth. On the other hand, subjective performance includes non-financial performance and perceived financial performance (e.g., customer satisfaction).

More recent research by Vanacker et al. (2021) supports the positive correlation between corporate entrepreneurship and firm performance. The study analysed data from 9642 firms from 23 different countries within Europe. The analysis confirms that the positive correlation between corporate entrepreneurship and firm financial performance is significant.

These results allow one to conclude that corporate entrepreneurship is vital for companies since it is essential to remain relevant in the market, and it can contribute to better performance (Bierwerth et al., 2015; Kuckertz, 2017; Vanacker et al., 2021).

RQ 2.2. Social Corporate Entrepreneurship

In today's business environment, firms cannot make decisions that are most favourable just for their profits. Instead, as defined by Savitz and Weber (2006), firms need to manage three different aspects, namely people, profits, and planet. These three aspects need to be in reasonable balance to succeed. Saha and Darnton (2005) provide a more detailed view on sustainability.

They explain the five pillars of sustainability (1. corporate governance, 2. social responsibility, 3. environment, 4. prudent use of materials, and 5. economic) and argue that the entrepreneurial activities with the best-combined outcome must be pursued. That is why large firms like Toyota, IKEA, and Walmart already implemented a corporate social responsibility strategy some time ago, according to Esty and Winston (2009). Esty and Winston (2009) also argue that implementing such a strategy can create competitive advantages and increase perceived value by customers. This argument is in line with the conclusions of research by Miles et al. (2008). Their research about sustainable corporate entrepreneurship demonstrates how managing beyond the scope of profits can create competitive advantages. These findings also mean that the success rate of corporate entrepreneurship can be partly determined by how the organisation manages these different aspects. Later on, in chapter 2.3, this paper elaborates on the importance of social responsibilities in the light of COVID-19.

Another exciting aspect of social entrepreneurship is gender. In research by Hechavarria and Ingram (2015), it is presented that female entrepreneurs are more likely to engage in social entrepreneurship than male entrepreneurs. Male entrepreneurs turned out to be more interested in starting up commercial ventures rather than engaging in social venture activities. The outcome of this study, conducted with data about entrepreneurs and start-ups from 55 different countries, is supported by earlier research from Hechavarria et al. (2012). In their research, it is argued that commercial entrepreneurship is commonly characterised by normative masculine ideologies. On the other hand, social entrepreneurship is more characterised by normative feminine ideologies. In addition, multiple kinds of research by Gupta et al. (2009, 2014) about the sex-based stereotypes in entrepreneurship align with the above-presented outcomes and conclusions.

These presented findings make it reasonable to conclude that the ratio of male and female innovators within a firm effectively affects how corporate entrepreneurship is executed.

2.3. - RQ 3: What and How is the Impact of COVID-19 on Corporate Entrepreneurship

This last part of chapter 2 discusses the impact of the recent COVID-19 pandemic on corporate entrepreneurship. This research question is again divided into different parts.

The first part elaborates on the previously discussed importance of corporate entrepreneurship but is now put in the context of the COVID-19 pandemic. The second part describes some innovations caused by COVID-19, focusing on the automotive industry. After that, the new conditions formed during the COVID-19 pandemic and its effects are displayed in the third part. Finally, the fourth part again elaborates on a previously discussed topic, this time corporate social responsibility, in the context of COVID-19.

RQ 3.1. Importance of Corporate Entrepreneurship During the COVID-19 Pandemic

As discussed earlier, corporate entrepreneurship is likely to lead to better firm performance (Bierwerth et al., 2015; Vanacker et al., 2021). However, it is worth investigating if this was the same during COVID-19, when companies were forced to work in new conditions. Therefore, many companies were facing several difficulties during the COVID-19 pandemic. Research by Kumar and Pathak (2021) suggests that the mining industry faced many problems concerning declining demand and production problems during the COVID-19 pandemic. A significant cause of these problems was employee absence due to illness. To deal with these problems and survive, Kumar and Pathak (2021) encourage middle managers to think innovatively and thus stimulate corporate entrepreneurship. They conclude that proper implementation of corporate entrepreneurship can help overcome the faced challenges in COVID-19 times. In order to do this, Kumar and Pathak (2021) also come up with some suggestions, such as motivating employees to develop innovative ideas, removing obstacles and bottlenecks, flexible rules and regulations, and adding an entrepreneurial vision to all levels of the firm.

Another research conducted by Rifai and Sa'd (2022) supports the importance of corporate entrepreneurship during the COVID-19 pandemic. The researchers sent a survey to 104 top managers of Jordanian companies to analyse the effect of corporate entrepreneurship during the COVID-19 pandemic. After analysing the data, Rifai and Sa'd (2022) concluded that corporate entrepreneurship helps these companies take the available opportunities during the COVID-19 pandemic and thus make progress with their business.

These findings allow us to conclude that corporate entrepreneurship was still important and relevant during the COVID-19 pandemic. However, both studies only included data from developing countries, which limits the generalisability of the claim.

RQ 3.2. COVID-19 and Innovation in the Automotive Industry

As described above, companies must be innovative in times of uncertainty. This may have resulted in the COVID-19 pandemic giving rise to many innovative ideas and new strategies. One of the most typical innovations during the COVID-19 pandemic was the more active use of remote work, Dan and Goia (2020) say. The creation of new ideas in crisis time is not a new phenomenon, according to Anderson (2020). In his article, he spoke with Jason Wilson, the founder of Back Forty Beer Co., who claims that around 75% of S&P 500 businesses were founded during times of depression or catastrophe. This claim may mean that some of the future 'big' companies were founded during the COVID-19 pandemic.

The automotive industry was one of the industries that faced significant dips at the beginning of the COVID-19 pandemic. According to Hensley et al. (2021), sales dropped by 71% in the Chinese market in February 2020, 47% in the United States and a massive 80% in Europe by April 2020. However, Hensley et al. (2021) also observed a rapid comeback in late 2020 and the beginning of 2021.

This recovery was partly because the auto dealers changed the sale process, Hensley et al. (2021) continue. Before the COVID-19 pandemic, most of the sale process took place physically. Although online features were already available, the actual purchase mostly took place in stores. Since in-person meetings were restricted for a long time during the pandemic, auto dealers were forced to move more and more parts of the process to the online environment to keep up the sales. For example, most consultancies took place virtual and supportive online tools were developed to arrange financings and insurance. This means that COVID-19 changed the sales process in the automotive industry to a more hybrid one where most things are done online and only consist of personal interactions when demanded from consumers.

Besides the innovations in the sale process, Severo et al. (2021) observed a significant change in consumer behaviour during the COVID-19 pandemic towards more sustainable consumption. This change was caused by the fact that the COVID-19 pandemic increased environmental awareness and positively influenced the sustainable consumption of consumers, Severo et al. (2021) argue. This argument is in line with observations of Ali et al. (2021). Within their used sample, it became clear that concerns about climate change increased during the COVID-19 pandemic. This change, again, boosted sustainable consumption and sustainable behavioural patterns by consumers.

This change in consumer behaviour could explain the changing buying decisions and the increase of (respectively 43%) electric-vehicle sales in 2020, as observed by Hensley et al. (2021).

RQ 3.3. Post-COVID-19 Business World

The more active use of remote work and the new sales techniques in the automotive industry can be partly explained by the fact that, according to Peters (2020), people were forced to work more from home and were unable to visit stores for a long time and this created new situations. The pandemic caused a critical disruption in how we work and live and partly changed it, Peter (2020) continues. Employees and firms were forced to learn new skills and capabilities such as managing remote teams, maintaining healthy work-life balance, and staying in good contact with their colleagues or employees. Future managers need to be able to deal with these types of issues.

Additionally, a report by CIPD and Workday (2021) shows that the pandemic caused that around 90% of the organisations investigated are planning to use data and analytics techniques more frequently in the future. With this approach, organisations try to overcome uncertainties and make decisions based on more 'hard' data. However, CIPD and Workday (2021) also conclude that a large group of these organisations do not have the capabilities to run these analytics and mainly focus on basic analytics and reporting. Therefore, organisations need to focus on acquiring these types of skills to overcome this issue. Because of the negative correlation between uncertainty avoidance and corporate entrepreneurship, presented further in the paper, it is reasonable to assume that the planned future trend on data and analytics to overcome uncertainties will significantly affect corporate entrepreneurship. However, further research about this topic needs to be done to confirm this and explain this phenomenon.

RQ 3.4. COVID-19 and Corporate Social Responsibility

During the pandemic's beginning, many industries faced declines in sales and stock prices. In general, the COVID-19 outbreak had a significant effect on the financial markets in a relatively short time, according to Y. Wang et al. (2020). Zhang et al. (2022) observed a decline in stock price between 3% and 8% in several industries within a week of the outbreak.

As a response, Zhang et al. (2022) researched the importance of corporate social responsibility to Chinese firms in times of COVID-19. Their paper analysed the stock prices and stock returns from listed Chinese companies and investigated the effect of corporate social responsibility on it. It turns out that employee protection and environmental protection had significant positive effects on the firm performance during the COVID-19 pandemic.

Additionally, higher levels of corporate social responsibility give firms more access to social capital, Zhang et al. (2022) conclude. However, donations to charities seem to have less or no effect on the performance of firms during the COVID-19 pandemic. This observation suggests that companies should invest in better employee and environmental protection and show corporate responsibility rather than just donate money to charities. In other words, it is essential to create an organisational culture and business models that enforce employee conditions and environmental protection.

The importance of such social management during times of crisis is confirmed by Broadstock et al. (2021). They research the effect of managing the three ESG factors (Environmental, Social and Governance) on the financial performance of Chinese firms during a financial crisis, in this case, triggered by COVID-19. Broadstock et al. (2021) conclude that ESG performance lowers the financial risk of firms during the COVID-19 crisis and that high-ESG portfolios outperform low-ESG portfolios, generally speaking. These differences may be caused by investors interpreting high ESG performances as a limitation of risks and positive future stock performances.

This type of investor behaviour is agreed in literature by Hartzmark and Sussman (2019), who observed investors actively taking away money from portfolios with low sustainability ratings. Regarding risk limitation, Hoepner et al. (2016) found empirical evidence to support that high ESG engagement reduces risk. On the other hand, firms with lower ESG scores and less contribution to, for example, reducing carbon emissions face higher risks, according to Ilhan et al. (2018).

With this being said, and the earlier conclusions about the importance of corporate social responsibility, it is acceptable to conclude that sustainable and social strategies did not lose their importance during COVID-19 and maybe even accelerated it. It may suggest that companies with more focus on (different) stakeholders (e.g. planet and employees) have a better fit with the outer world and may therefore be better resistant to (severe) changes. Therefore, when firms engage in corporate entrepreneurship in the post-COVID-19 business era, the importance of ESG engagement is crucial to take into account.

To end, it is worthwhile mentioning the current limitations of COVID-19 research. Since the pandemic started relatively recently, research about it is limited, and a complete understanding of its effects is not likely at this point. Therefore, more research in this domain needs to be done to challenge the above-presented knowledge.

3. Internal Environment

The following two chapters are determined to answer the main research question of this paper. In doing so, this chapter focuses on the effects of internal environmental factors on corporate entrepreneurship in the automotive industry. This is done by first discussing the dimensions of Hofstede, with the focus on the dimensions of power distance and masculinity in the second and third parts. The last part of this chapter describes some other factors within organisations which are beneficial for the degree of corporate entrepreneurship. These factors are top management support, work discretion, rewards and reinforcement, time availability, and flexible organisational boundaries.

3.1. Cultural Dimensions of Hofstede

Organisational culture can be shortly defined as the way people do things around in an organisation (Lundy & Cowling, 1995). However, Sun (2009) provides a more detailed description and explains organisational culture as the deeply rooted values and beliefs that are shared by personnel in an organisation. A possible way to analyse organisational culture and its effects is based on Hofstede's cultural dimensions, according to Cacciattolo (2014). Hofstede (2011) also highlights that his cultural dimensions can be applied at different levels.

Hofstede's cultural dimensions are well known in the literature and have had various additions over time. Initially, the dimensions consisted of power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance (Hofstede, 1980). To begin with, power distance refers to the extent to which the less powerful members of institutions and organisations within a country expect and accept that (Hofstede & Hofstede, 2004). Secondly, they define individualism as societies in which the ties between individuals are loose, while in collectivistic societies, people are more integrated into strong and cohesive in-groups.

Moreover, a society with clearly distinctive emotional gender roles is called masculine, according to Hofstede and Hofstede (2004). The last initial dimension, uncertainty avoidance, refers to the extent to which members feel threatened by unknown or ambiguous situations. Later, the dimensions of long-term versus short-term orientation (Hofstede, 1996) and indulgence versus restraint were added (Hofstede et al., 2010).

In research from Yildiz (2014), the correlations between the initial four dimensions (power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance) with corporate entrepreneurship are analysed. The researcher surveyed within a leading multinational company in the automotive industry in Turkey. The regression analysis then focused on the correlations of the aspect of innovativeness and new business venturing with the cultural dimensions. The result consists of two different parts, the first part investigating whether the cultural factors are related to the degree of corporate entrepreneurship. The second part examines whether these factors also affect corporate entrepreneurship. The performed correlation analysis shows that the relationship between power distance and innovativeness in the firm is positive. Another positive relationship was found between masculinity and the degree of new business venturing. However, uncertainty avoidance turned out to be negatively related to new business venturing. Lastly, the dimension of individualism versus collectivism is not significantly related to corporate entrepreneurship (Yildiz, 2014).

The consecutive regression analysis also shows that higher power distance significantly affects the innovativeness of firms. On the other hand, lower masculine values affect new business venturing negatively. These results are explained in more detail below. Although uncertainty avoidance and new business venturing are negatively correlated, as mentioned above, Yildiz (2014) shows that it does not have a significant effect on new business venturing within the used sample.

Finally, besides the fact that the dimension individualism versus collectivism was not correlated with corporate entrepreneurship, it did not have a significant effect on corporate entrepreneurship within the sample investigated (Yildiz, 2014).

3.2. Power Distance

The literature does not unanimously agree that power distance positively affects innovativeness and entrepreneurship within companies. Research by Fang (2007), which is about the Chinese automotive industry, concluded that high power distance negatively affects the firms' innovativeness. This conclusion is also backed up by research by Kedia et al. (1992) and Nakata and Sivakumar (1996). They conclude that a high level of power distance ensures that it takes longer for innovations to be approved. After all, decisions and proposals have to follow the entire hierarchy and are ultimately made by top management, which obstructs the speed of innovation. On top of that, Williams and McGuire (2008) argue that lower power distance leads to the fact that it is easier for employees to challenge authority figures and procedures. Therefore, innovators within a firm are more likely to propose new ideas.

However, Hofstede (2003) indicates that higher levels of power distance are necessary for control. If this is not the case, disorder may increase, leading to fewer entrepreneurial activities within the firm. From this, it can be concluded that a lower power distance would not have a positive influence on innovativeness and entrepreneurship within firms.

Therefore, the ultimate state of power distance does not appear to be clearly defined and may lie in the middle. That is why Yildiz (2014) also suggests that the higher levels of power distance need to be combined with less formalisation and standardisation. This combination should allow employees to develop entrepreneurial ideas and innovations while everything is managed well.

3.3. Masculinity

The positive effect of masculine values within the firm on corporate entrepreneurship is more widely accepted in the literature. The previously mentioned study from Hechavarria and Ingram (2015) already pointed out that male entrepreneurs are more likely to start commercial ventures. In contrast, female entrepreneurs are more interested in social aspects rather than just commercial ones. This means that people are more likely to engage in commercial entrepreneurial activities within a firm in masculine cultural environments.

McGrath et al. (1992) support this reasoning and results. They argue that more time is spent analysing situations to prevent uncertainties and make decisions more carefully in more feminine cultural environments. In addition, there will be lower levels of high risk-taking in these types of conditions. This type of behaviour negatively affects entrepreneurial activities within companies and the rate of innovation.

3.4. Internal Environmental Characteristics

Besides the dimensions described above, Hornsby et al. (2009) emphasise the importance of other internal environmental factors that shape the organisational culture. These factors are agreed upon and more specified by Kuratko et al. (2014). They conclude that top management support, work discretion, rewards and reinforcement, time availability, and flexible organisational boundaries positively affect entrepreneurial activities within organisations. This means that in firms where top management actively supports and facilitates entrepreneurial activities, failures are (to some degree) accepted, where rewards are based on performance, with reasonable workloads, and where boundaries within the organisation are flexible are more likely to engage in corporate entrepreneurship than firms where these factors are less present.

These results are supported by findings from the Thai automotive industry by Chelliah and Lekmat (2011). Their research also suggests that support by the management, the allowance to make decisions and make mistakes, recognition and rewards for good ideas, and flexible boundaries have positive effects on corporate entrepreneurship. However, the dimension of time availability was not tested within their used sample.

Besides the internal factors, Chelliah and Lekmat (2011) also tested the effects of the external environment on corporate entrepreneurship within the automotive industry. Although it turns out that the external environment has a lower impact on corporate entrepreneurship compared to the internal environment, it is still a significant determinant. These possible influential external environmental factors are described in the next chapter.

4. External Environment

Before moving to the conclusion, this chapter discusses the possible effects of the external environment on corporate entrepreneurship in the automotive industry. This is mainly done by looking at governments' possible role in the automotive industry. The different findings and effects, introduced in the first part, are described in separate parts.

4.1. The Effect of External Environmental Conditions and Government Involvement

Previously mentioned research by Chelliah and Lekmat (2011) tested the influence of different external environmental conditions on corporate entrepreneurship in the automotive industry. According to them, this is important because it turns out that it has a significant impact on corporate entrepreneurship and the external environment shapes in some way the internal environment. It turns out that higher degrees of changes in technology, products and services, and marketing practices lead to more entrepreneurial activities within firms active in such an environment. On top of that, higher degrees of diversity in competitors' activity and customers' buying habits also have positive effects on corporate entrepreneurship. Chelliah and Lekmat (2011) define these two environments as dynamic and heterogeneous.

Additionally, Chelliah and Lekmat (2011) conclude that stronger government policies and involvement contribute to more entrepreneurial activities within firms. This observation is in line with findings by Guo et al. (2017), which highlights that the role of government involvement cannot be excluded when studying corporate entrepreneurship. They suggest that research about corporate entrepreneurship could be extended by examining the roles of governments in different ways. Their research about the Chinese automotive industry shows how the Chinese government played a crucial role in the development of the automotive industry. The first recognisable impact is creating a joint venture structure with foreign companies. Second is the creation of sufficient infrastructure. Third, the government's helping hand in keeping up with new technologies and demand. All these topics are described in more detail in the following parts.

4.2. Gaining New Knowledge

To innovate as a firm or undertake new business ventures, the firm must have the proper knowledge and sufficient budget to do so. The Chinese government recognised a lack of that technical knowledge and capital by the local automotive manufacturers in the early 1980s, according to Roberto et al. (2011). As a response, the government named the industry one of its pillar industries and implemented specific rules to strengthen the industry and local businesses. One of these laws required foreign car manufacturers to enter into a joint venture arrangement with a Chinese manufacturer if they wanted to enter the Chinese market. Nowadays, it is still not allowed to establish a fully foreign-owned automotive company in China, according to Chang (2016). This regulation allowed the Chinese companies to absorb the technological knowledge and know-how of the international companies and increase the budget for R&D investments. This partially filled the gap that existed before. On the other hand, it gave international companies a chance to enter the growing Chinese market. On top of the acquired technological knowledge, these joint venture arrangements prevent the Chinese market from being dominated by foreign companies and thus strengthen the position of Chinese companies.

After all, Guo et al. (2017) conclude that the joint venture arrangements and the 'grabbing hand' of the Chinese government allowed the Chinese automotive manufacturers to pursue corporate entrepreneurship transformation. From this example, one can see that the government can play an important role when analysing the degree of corporate entrepreneurship. However, Guo et al. (2017) also highlight that, because of the nature of the partnerships, the Chinese companies were limited in their capabilities to develop independent innovations and were in some way dependent on their foreign partners.

4.3. Market Environment

Another role that the Chinese government has played in the development and innovation of Chinese automotive companies is through the development and improvement of infrastructure (Guo et al., 2017). For companies to grow and innovate, the right conditions must be available in a country. If the market stops developing, there will be fewer innovations. That scenario is what the Chinese government tried to prevent, and therefore they improved the overall infrastructure.

This improvement allowed the demand for cars to continue to grow and prevented a decline in this growth. This strengthened the supportive services and design of the automotive industry, which is one of the four major forces shaping the degree and rate of innovation, according to Tidd and Bessant (2018). However, to gain advantages of these improvements and turn them into profit depends on the appropriability of the firm, which Tidd and Bessant (2018) define as the ability to appropriate some of the social gains that result from innovation.

This observation allows one to conclude that governments can play an essential role in creating the right market conditions, but the organisations must have the right skills to take advantage of it. However, the way organisations should shape their culture to strengthen these skills is beyond the scope of this paper.

4.4. Absorption of New Opportunities and Trends

The last important factor which stimulated the Chinese automotive industry is the global trend toward a more environmentally conscious life. This significantly increased the demand for electric cars. Of course, this factor is under less control of the Chinese government. However, they played a crucial role in helping the companies follow this trend.

Guo et al. (2017) explain that this was done by implementing new policies and creating incentives for manufacturers to develop new electric vehicles. These incentives were, for example, created by awarding subsidies to the manufacturers that were producing and developing these new electric vehicles. Additionally, N. Wang et al. (2019) showed that the creation of incentives happens in other countries as well, but more focused on the consumers. The study describes how countries like America, Canada, Japan, and the European countries encourage consumers to buy electric cars. In most cases, this is done through direct subsidies or tax breaks, and it turns out that this positively affects the market share of the electric vehicle market within these countries. On top of that, N. Wang et al. (2019) explain that a more advanced charging network and higher fuel prices also significantly influence the market for electric cars positively.

The creation of incentives and the encouragement by the external environment to innovate or to pursue new business activities again shows how the external environment can shape corporate entrepreneurship. However, in order to keep up with the new developments also depends on a firm's absorptive capacity, which is defined as the ability of a firm to recognise the value of new, external information, assimilate it, and apply it to commercial ends by Cohen and Levinthal (1990). They see absorptive capacity as a crucial capability to be able to innovate. García-Morales et al. (2014) elaborate on this idea. They argue that the ability to identify new market opportunities and the knowledge to deal with them shapes corporate entrepreneurship and its success. This argument means that if firms do not have the right capabilities to absorb new opportunities and follow trends, they are less likely to gain competitive advantages (García-Morales et al., 2014).

5. Conclusion and Recommendations

The final chapter of this paper starts with answering the main research question in the conclusion part. After that, the discussion part describes the controversy about the cultural dimension of power distance. After this is done, the paper presents its limitations with recommendations for future research. To finalise, some practical insights are presented as the recommendations for managers.

5.1. Conclusion

This paper attempted to explain the effects of organisational culture on corporate entrepreneurship by answering the main research question: To what extent and how does the organisational culture affect corporate entrepreneurship? After all, it can be concluded that the null hypothesis (H₀) can be rejected, while the alternative hypothesis (H₁) can be accepted. This conclusion means that organisational culture significantly influences corporate entrepreneurship.

That conclusion can be made because the previous chapters presented some organisational cultural factors that shape corporate entrepreneurship in different ways in the automotive industry. To begin with, firms with a more masculine culture tend to be more entrepreneurial and thus engage more in corporate entrepreneurship compared to more feminine cultural environments (Yildiz, 2014).

Besides the degree of corporate entrepreneurship, the dimension of masculinity also influences the characteristics of corporate entrepreneurship. Male innovators tend to be more commercially interested than their female colleagues, which are more likely to engage in social entrepreneurial activities (Hechavarria et al., 2012; Hechavarria & Ingram, 2015; McGrath et al., 1992).

On top of the dimension of masculinity, it can be concluded that it is essential for managers to support and promote entrepreneurial activities actively (Chelliah & Lekmat, 2011; Kuratko et al., 2014). This behaviour ensures that employees are more likely to come up with innovative ideas. When employees come up with ideas, it is also crucial that firms accept the failures of new ideas. Innovators need to feel that failures are accepted to keep coming up with new ideas. However, when ideas succeed, this must be pretty rewarded for keeping employees motivated. Another extra motivation for employees is when the boundaries within the firm are flexible, and employees feel free to approach and ask other departments for help. This, in turn, enhances teamwork and positively influences overall corporate entrepreneurship.

The fact that employees need to feel they have enough time to participate in entrepreneurial activities and have reasonable workloads is also discussed in the literature. However, findings from the automotive industry do not support the positive impact on corporate entrepreneurship of this factor yet.

Besides the internal environment, this paper concludes that the external environment also significantly impacts corporate entrepreneurship. This conclusion can be explained by the fact that the external environment shapes, to some extent, the internal environment (Chelliah & Lekmat, 2011), which in turn shapes corporate entrepreneurship, as presented earlier. Additionally, the external environment can incentivise or help firms innovate and engage more actively in corporate entrepreneurship (Guo et al., 2017). This can, for example, be done by regulations and subsidies. On the other hand, the external environment can force firms to manage beyond the scope of profits since this results in better performance. External factors also shape the industry in which firms operate, and a dynamic and heterogeneous market environment boosts entrepreneurial activities within firms (Chelliah & Lekmat, 2011).

Concerning the external environment, firms also need to be able to recognise new opportunities and absorb the new information to use it for commercial ends (García-Morales et al., 2014). The firms need to be open to the outside world and willing to adapt to the changing conditions. These characteristics should enable them to gain advantages from the innovations.

Otherwise, it is useless to innovate. Firms need to acknowledge the importance of these capabilities and shape the organisation to enable them to strengthen these capabilities. However, which management styles and organisational structures are beneficial for firms' absorptive capacity and appropriability is beyond the scope of this paper.

5.2. Discussion

Power distance is another dimension discussed, and its effect on corporate entrepreneurship seems to be not clearly defined. Some researchers argue that lower power distance ensures more entrepreneurial activities within companies (Fang, 2007; Kedia et al., 1992; Nakata & Sivakumar, 1996). They explain this by making it easier for employees to challenge authorities and decreasing the time for turning ideas into products or services. However, counterarguments are that higher power distance is needed to keep control and overcome disorder and ineffectiveness (Hofstede, 2003). Lower power distance could lead to fewer entrepreneurial activities because of the possible disorder and ineffectiveness, it is argued from this point of view.

This controversy creates the discussion of whether power distance between managers and employees is preferable or not. The best outcome could be strong management that keeps control but allows participation of employees in decision making and allowance for creativity.

5.3. Limitations and Recommendations for Future Research

First, this paper described some effects of COVID-19 on corporate entrepreneurship. However, current research on this topic cannot be taken for granted since it is a new topic. Further research needs to be done to either confirm or reject the current findings. On top of that, the effects of COVID-19 on the long-term are not known yet, and future research could focus on this. This could, for example, be about the current observation about the intention of firms to make more use of data to make decisions, which was presented earlier. Are companies really doing that a few years from now? And how does this affect corporate entrepreneurship? Another question researchers could ask is how the more use of remote work influences corporate entrepreneurship.

Second, this paper focused on findings from the automotive industry and data from western countries about this topic are scarce. Therefore, further research could be done with data from western countries and companies within this industry to evaluate possible differences or similarities. On top of that, this paper invites researchers to review other industries as well. In this way, a deeper understanding of corporate entrepreneurship and its influence can be gained. Researchers could question if corporate entrepreneurship is influenced in the same way among industries, or are there specific industrial factors that play a role?

Third, although this paper described some external factors that shape corporate entrepreneurship, current literature does not provide a full understanding of the influence of the external environment on corporate entrepreneurship. Further research needs to be done in this domain to understand its effects and to be able to give a full explanation together with the internal environment.

Fourth, this paper considered corporate entrepreneurship and intrapreneurship as the same concepts. This consideration means that differentiation in initiation is not explicitly investigated. Although the paper described some factors that enable employees to initiate entrepreneurial activities and described the role of top management, a deeper understanding of this domain is desirable. Future research could split the two concepts and investigate the effect of organisational culture on the initiation of entrepreneurship.

5.4. Recommendations for Managers

It is crucial for managers and firms to understand how and what role they play in facilitating entrepreneurial activities and innovations within the firm. The managers should know how they can create an organisational culture that positively influences corporate entrepreneurship and enables the firm to adapt to the external environment. This knowledge is important because corporate entrepreneurship contributes to better performance, even in uncertainties, like the COVID-19 pandemic (Kumar & Pathak, 2021; Rifai & Sa'd, 2022). Therefore, they should be aware of the current situation and the possible improvements. This could be done by asking employees how they think and feel about the internal environment.

Another essential aspect that managers should be aware of is the increasing importance of social responsibility. It is shown that corporate social responsibility and ESG management is essential nowadays, and COVID-19 accelerated this trend (Broadstock et al., 2021; Zhang et al., 2022). When firms are engaging in corporate entrepreneurship, it is crucial to not only think in commercial borders but to consider the broader picture in order to realise maximum performance.

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About the Author

Wessel Hijman is a Dutch author who was born in 2001 and completed his Bachelor's degree in International Business Administration at Tilburg University in 2022. As part of this study programme, he has researched "The effect of organisational culture characteristics on corporate entrepreneurship in the automotive industry". The interest in this topic stems from the fact that every person is different, and we all learn things differently, but what are the effects of different habits and cultures on certain phenomena? Moreover, he finds entrepreneurship very fascinating and how it works within companies.

Wessel has been playing team sports since childhood and is, therefore, a real team player. He has had the opportunity to play with many different people and has learned that everyone does things in his own way, but we all deserve equal treatment. In addition, he can work very well independently, is disciplined and also very ambitious. This is one of the reasons why he received a certificate for a dual career in addition to his diploma during his studies. During his studies, he also had the opportunity to study abroad for a semester. During this period at the Corvinus University of Budapest, Hungary, he got to know other cultures and a different school system than in the Netherlands. For this reason, he is going to do a Master's degree in International Management to increase his international knowledge. In the future, he hopes to publish more studies on this subject. Finally, he likes to spend time with friends and family in everyday life.

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How Corporate Entrepreneurship can be Implemented to Benefit Information Technology Multinational Enterprises

Jorg van der Burgt

Abstract

This paper analyses how managers and directors can implement corporate entrepreneurship theory into their information technology multinational enterprise. The focus of this paper is on the following problem statement: *How can multinational enterprises in information technology use corporate entrepreneurship to increase firm performance?* To answer this problem statement, academic literature on corporate entrepreneurship and organizational behaviour has been analysed thoroughly. Information technology multinational enterprises should focus on implementation frameworks to introduce corporate entrepreneurship theories into their business. Implementation frameworks such as; organizational development and leadership, specific organizational interventions, effective learning, and transformational leadership, should be used to effectively implement corporate entrepreneurship theories. These corporate entrepreneurship theories include sustained regeneration, organizational rejuvenation, strategic renewal, and domain redefinition. From a theoretical perspective, information technology multinational enterprises should find the implementation frameworks to be effective to introduce corporate entrepreneurship theories. However, the findings are only theoretical and should therefore be approached carefully.

Keywords: corporate entrepreneurship, firm performance, multinational enterprise(s), information technology

1. Introduction

1.1. Problem Indication

Multinational enterprises (MNEs) are established businesses operating in more than one country. Due to globalization, competition has been increasing for MNEs. We assume that competition increases through corporate entrepreneurship because a specific reason for intensifying competition is the emergence of new businesses that provide consumers with lower prices and product heterogeneity (Kritikos, 2014). Newly gained market shares by information technology (IT) MNEs show that reliable market shares might change in the near future (Chen & Watanabe, 2005). To improve the competitive position of IT MNEs and increase firm performance, corporate entrepreneurship is imaginably very advantageous.

Existing theories involving corporate entrepreneurship have been widely studied. Corporate entrepreneurship is defined as venturing activities by established corporations (Glinyanoava, Bouncken, Tiberius, & Cuenca Ballester, 2021), as all the efforts of a company put into innovation, proactiveness, and risk-taking (Zahra & Garvis, 2000), or as entrepreneurial activities and new venturing activities that take place to execute strategy and vision. (Abou-Moghli & Al-Abdallah, 2018)

However, the practical application of corporate entrepreneurship theories within multinational enterprises (MNEs) has not been researched. More specifically, there is no existing literature that implements corporate entrepreneurship theories in IT MNEs. Therefore, it is difficult to implement corporate entrepreneurship theories in an MNE because there is no model or framework for implementation. This is a problem because MNEs, and established firms in general, are interested in corporate entrepreneurship theory because of increased competition in their environment (Kuratko, Covin, & Garrett, 2009). Corporate entrepreneurship is found to have a positive relationship with increased firm performance and therefore can be of importance for MNEs (Zahra & Garvis, 2000) (Abou-Moghli & Al-Abdallah, 2018).

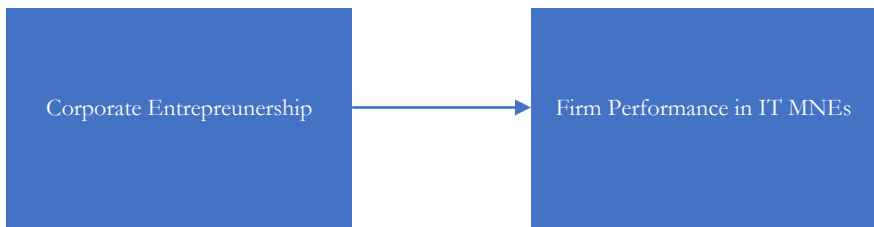
This literature review provides the reader with sound methods that MNEs in the IT industry can use to transform corporate entrepreneurship theories into strategies. These strategies can be implemented by managers and other stakeholders within the MNE to increase firm performance.

1.2. Problem Statement

The problem indication results in the following problem statement:

How can multinational enterprises in information technology (IT) use corporate entrepreneurship to increase firm performance?

In this literature review, the effect of corporate entrepreneurship on the firm performance of MNEs in the IT industry is reviewed. Logically, corporate entrepreneurship is the independent variable and firm performance is the dependent variable. The majority of the literature review consists of investigating corporate entrepreneurship theories and mechanisms to transform them into strategies that apply to IT MNEs.



1.3. Research Questions

1. What theories of (corporate) entrepreneurship exist?

Existing literature is abundant about corporate entrepreneurship that IT MNEs can use to increase their performance. Furthermore, there are also general entrepreneurial theories that can be used in a corporate context. These theories need to be understood before transforming them into implementable strategies.

2. To what extent does corporate entrepreneurship influence the firm performance of MNEs in the information technology (IT) industry?

To be able to transform corporate entrepreneurship theories into implementable strategies, the positive relationship between corporate entrepreneurship and firm performance in IT MNEs needs to be established.

3. How can multinational enterprises in information technology (IT) use corporate entrepreneurship to increase firm performance?

This research question examines the main relationship that will be researched in this literature review and will provide the results (methods) on which the conclusion will be drawn.

1.4. Academic Relevance

There is vast literature about corporate entrepreneurship practices increasing firm performance in MNEs. Numerous studies focus on the relationship between corporate entrepreneurship, others focus on the mediating or moderating role of corporate entrepreneurship. However, there is not much certainty about how MNEs in the IT industry can implement corporate entrepreneurship to increase firm performance. This literature review bridges the gap between corporate entrepreneurship theories and their implementation into real practices. Therefore, this literature review contributes to and builds on existing academic knowledge.

1.5. Managerial Relevance

Today's managers in the IT industry deal with increasing competition and a rapidly evolving market. The competitiveness of such a complex and innovative industry has led MNEs to not only change their strategies at the micro level but also at the macro level. (Serdarova, Galeeva, Egorov, Burkeev, & Zheleznov-Lipets, 2021). Therefore, any practice that can help increase firm performance is welcome. If managers would know how to implement corporate entrepreneurship in their MNEs, then this will increase their firm performance. Consequently, this literature review is relevant to managers because it provides a framework on how to implement corporate entrepreneurship into an IT MNE.

1.6. Data Collection and Research Design

This research is a literature review. A literature review uses already existing academic research to come up with something new. Therefore, a literature review uses secondary data already available. The main concepts that have been investigated in this literature review are corporate entrepreneurship, entrepreneurship, and change management.

The secondary data are collected through libraries that are available worldwide. The main library that has been used is the Worldcat Discovery which is provided by Tilburg University. Another way that useful journal articles were found is through Google Scholar, a search engine that provides a path to find useful journal articles (together with SURFconext, provided by Tilburg University). An advantage of using online libraries is that they provide immediate access to almost all journal articles that are available. A limitation is that online libraries also include a lot of junk articles that are not valid or reliable (or both). It could take a lot of time to find the right journal article that is required for a specific concept that has to be investigated.

1.7. Research Structure

This literature review is backboneed by the three research questions that are mentioned in chapter 1.2. These three research questions are thoroughly investigated in chapters 2, 3 and 4 by reviewing all academic knowledge available. The discussion chapters combine all knowledge and information from chapters 2, 3, and 4 and summative provide an answer to the research questions and the problem statement. Concludingly, the last chapter will provide a proper conclusion including recommendations and limitations of the literature review.

2. Corporate Entrepreneurship

2.1. Defining Corporate Entrepreneurship

There is a wide variety of definitions of corporate entrepreneurship in the academic world. When interpreting one of the many definitions of entrepreneurship: ‘The act of innovation for commercial benefit within an autonomous organizational entity, be it a start-up, or an internal venture subsidiary.’ (Gartner, 1990), logically, then corporate entrepreneurship would be defined as innovation to make an extra profit within corporate entrepreneurship. However, scholars also mention the fact that the definition of corporate entrepreneurship includes strategic renewal (Guth & Ginsberg, 1990) and corporate venturing (Block & MacMillan, 1993). Intrapreneurship is a form of corporate entrepreneurship aimed at the actions of a person, not an entity.

2.2. Corporate Entrepreneurship Theories

2.2.1. Sustained Regeneration

Sustained regeneration is the phenomenon of continuous innovation where a firm continuously introduces new products and services or enters new markets. An innovative culture is a must for this type of corporate entrepreneurship. Firms that engage in sustained regeneration are organizations to are keen to learn and are able and willing to compete with their close competitors for market share. (Covin & Miles, 1999)

Yamaha Motor Co., Ltd. is a great example of an organization that exhibits sustained regeneration. Yamaha competes in an abundance of markets like musical instruments (Pianos, organs, synthesizers, portable keyboards, silent instruments, guitars, power amplifiers, percussion instruments, brass instruments, woodwind instruments, saxophones), audio, electronic products (hardware, home computers), semiconductors, sports equipment, and the automotive market. Yamaha expresses itself as: 'Yamaha motor strives to realize peoples' dreams with ingenuity and passion, and to always be a company people look to for the next exciting product or concept that provides exceptional value and deep satisfaction' (Yamaha Motor Co., Ltd., 2022). The diversification of Yamaha's product portfolio and its corporate strategy is contributing to Yamaha's long-term performance. Therefore, Yamaha is a best-practice example of an organization that benefits from sustained generation as a form of corporate entrepreneurship to increase performance.

2.2.2. Organizational Rejuvenation

As opposed to sustained regeneration, organizational rejuvenation focuses on the innovation of internal processes, structures, and capabilities to improve their competitive position. In short, organizational rejuvenation is improving the execution of already existing business strategies. (Covin & Miles, 1999)

Organizational rejuvenation is heavily present in today's companies in the form of data-driven technologies. Eventually, all companies will be data companies (McKendrick, 2019). Another recent example of a company implementing organizational rejuvenation to boost firm performance is Unilever. Unilever cut 1500 management jobs across their organizations because of pressure from their shareholders to increase growth.

According to their CEO, Alan Jope, Unilever will be ‘more responsive to consumer and channel trends’ and ‘crystal-clear accountability for delivery’. (Horowitz & La Monica, 2022). Unilever is using organizational rejuvenation, innovating their internal processes, by cutting off 1500 management jobs.

2.2.3. Strategic Renewal

Strategic renewal is a form of corporate entrepreneurship where an organization reformulates their relationships with its environment. Essentially, the organization is changing how it competes in its markets and with its competitors. The difference between organizational rejuvenation and strategic renewal is that organizational rejuvenation focuses on the innovation of internal processes, and strategic renewal focuses on the innovation of external processes. Strategic renewal does not imply that businesses should adopt new strategies, but already established strategies can be altered significantly to chase and exploit business opportunities. (Covin & Miles, 1999)

2.2.4. Domain Redefinition

Finally, domain redefinition is the phenomenon where an organization tries to take advantage of unexploited opportunities by creating new markets. In this form of corporate entrepreneurship, the organization is the first mover and tries to create and competitive advantage before its competitors enter their newly created market. Organizations that adopt domain redefinition set the standards for the industry and future entrants. (Covin & Miles, 1999)

There are two types of domain definition: bypass strategies and product-market pioneering. Organizations using bypass strategies have the objective of avoiding competition and/or exploiting the first-mover advantage to avoid competition due to competitors’ late entry into the market. Bypass strategies are motivated by differentiating from your competitors to avoid them. Product-market pioneering rather has an opportunistic motive. Organizations that are motivated by product-market pioneering are not trying to avoid existing competition, but are motivated by the opportunity to exploit the potential.

The four forms presented above can be present in an entrepreneurial organization at the same time. If two or more forms are present in an organization, then they will compete. The four forms of corporate entrepreneurship will in practice never be purely present, there will always be a mix of the four forms. According to (Covin & Miles, 1999) it is acknowledged in managerial practices that firms are not able to determine the outcome of these four entrepreneurship forms ex-ante.

3. The Effect of Corporate Entrepreneurship on MNEs in the IT Industry

3.1. Corporate Entrepreneurship & Firm Performance

There is vast literature examining the effect of corporate entrepreneurship on firm performance. (Vanacker, Zahra, & Holmes, 2017) disclosed that there is positivity effect of corporate entrepreneurship on firm performance. In more detail, this study found that corporate entrepreneurship has a positive effect on the financial performance of firms, which affects key performance indicators (KPIs) such as profitability. (Covin & Slevin, 1991) confirm these findings by stating that corporate entrepreneurship enhances organizational outcomes such as profitability and growth.

Higher competitive intensity pushes firms to search for alternative methods for seeking competitive advantage. Survival for firms can be pursued through corporate entrepreneurship to gain a competitive advantage. This approach is similar to firms pursuing blue ocean opportunities rather than competing in red oceans (Mauborgne & Kim, 2004).

Corporate entrepreneurship can be used to manage the ever-changing environment of the competitive landscape which is affected by rapidly changing innovations. Therefore, corporate entrepreneurship is an approach to gaining a competitive advantage. Developing new internal firm architectures consistent with corporate entrepreneurship help achieve competitive advantage. (Kuratko, Hornsby, & Hayton, 2015).

3.2. International Corporate Entrepreneurship & Firm Performance

According to (Zahra & Garvis, 2000) international corporate entrepreneurship is also positively related to firm performance. International corporate entrepreneurship is defined as combining firm enhancing activities such as; proactiveness, innovation, and risk-taking in international markets. (Zahra & Garvis, 2000) found that international corporate entrepreneurship is significantly positively related to firm performance KPIs such as growth and profitability. Not only does international corporate entrepreneurship positively influence domestic performance, profitability and growth also advanced in foreign operations. Firms should not assume that seeking growth through international corporate entrepreneurship diminishes profitability. (Zahra & Garvis, 2000) extended existing literature with academic knowledge that confirms that there is improvement in both growth and profitability (double pay-off).

3.3. a Review of the IT Industry: Factors and Firm Performance

Technological distinctive competencies are features that are present within an IT firm that enables the IT firm to mobilize technical and scientific resources through procedures and codified rules that allow for the development of new products and processes. According to (Martin-Rojas, Garcia-Morales, & Garcia-Sanchez, 2011) technological distinctive competencies are mostly present within entrepreneurs that support corporate entrepreneurship. Technological distinctive competencies provide IT firms with opportunities. Technology-intensive firms benefit from combining their technological distinctive competencies with corporate entrepreneurship (Martin-Rojas, Garcia-Morales, & Garcia-Sanchez, 2011).

(Martin-Rojas, Garcia-Morales, & Garcia-Sanchez, 2011) interprets organizational learning systems as a central mechanism in IT firms. This central mechanism can provide IT firms with competitive advantages through corporate entrepreneurship. These organizational learning systems should be adapted to each growth phase of the IT firm to make the knowledge to be integrated and compatible with practices. This is especially important in IT firms due to the complexity of their product(s) and/or service(s). (Martin-Rojas, Garcia-Morales, & Garcia-Sanchez, 2011)

New knowledge generated by corporate entrepreneurship practices in public and private R&D often is embodied by high-tech or IT companies. These high tech and/or IT companies improve the economic performance of the region they operate in. (Audretsch, Bönte, & Keilbach, 2008) argue that it is ultimately technology that advances regional economic performance. The future of the IT industry is knowledge-rich because in areas with higher levels of knowledge creation there is more entrepreneurial activity and therefore more start-ups in IT and high-tech firms. (Audretsch, Bönte, & Keilbach, 2008) also argue that innovative entrepreneurial firms such as IT firms need to discover and invest in new technical knowledge to open up to opportunities. This will eventually provide the IT firm with satisfactory knowledge diffusion and will improve the regional economic performance. The two main findings of (Audretsch, Bönte, & Keilbach, 2008) is that innovation of IT firms leads to technical knowledge and consequently leads to improved economic performance. Furthermore, increased corporate entrepreneurship directly increases improved economic performance.

4. How MNEs in the IT Industry Can Implement Corporate Entrepreneurship

Now that we have established a positive relationship between corporate entrepreneurship on firm performance, it is crucial to understand how managers can implement corporate entrepreneurship. Literature suggests that corporate entrepreneurship is closely related to organizational development and that this relationship is the key to improving firm performance through corporate entrepreneurship (Wales, Monsen, & McKelvie, 2011).

4.1. Organizational Learning

Organizational learning is a crucial aspect of corporate entrepreneurship and therefore also of organizational development (Pennington & Turner, 2015).

Entrepreneurial behaviour in a company works contagious, entrepreneurial actions of a small team or individual can lead to developments in the values of a company. This change in values can lead to strategic renewal, a form of corporate entrepreneurship.

This entrepreneurial approach within a company can eventually redefine the way a company approaches its competitive environment and therefore changes markets and industries. Essential to this framework is that changing behaviours and structure within the company has priority. Argyris (1976) found in his single-loop, double-loop research that after changing behaviours and structure, values and attitudes will automatically follow and that this procedure is superior to doing it the opposite way.

(Bushe & Shani, 1991) describes there is specific organizational intervention needed to break through the procedure and codified rules of formalization. This can be done by building a culture of parallel learning in a firm. This specific organization intervention includes introducing new ways of communicating so information can flow up and down the organization more freely. This intervention is a parallel learning structure and is aimed at improving the design of a social system in an organization.

Companies can make use of effective learning to effectively implement necessary changes in an organization to improve innovation and consequently entrepreneurship. To achieve effective learning, organizations should integrate individuals and teams and encompass the organization as a whole (Cross, Lane, & White, 1999). This phenomenon can be explained with a framework of organizational learning by Vera & Crossan (2004). They propose that an individual intuits new information on the subconscious individual level. Then, interpreting at the conscious level in the individual mind takes place and contributes to the team level. Soon after, integration occurs to complete the learning cycle and the information has been institutionalized in the entire organization.

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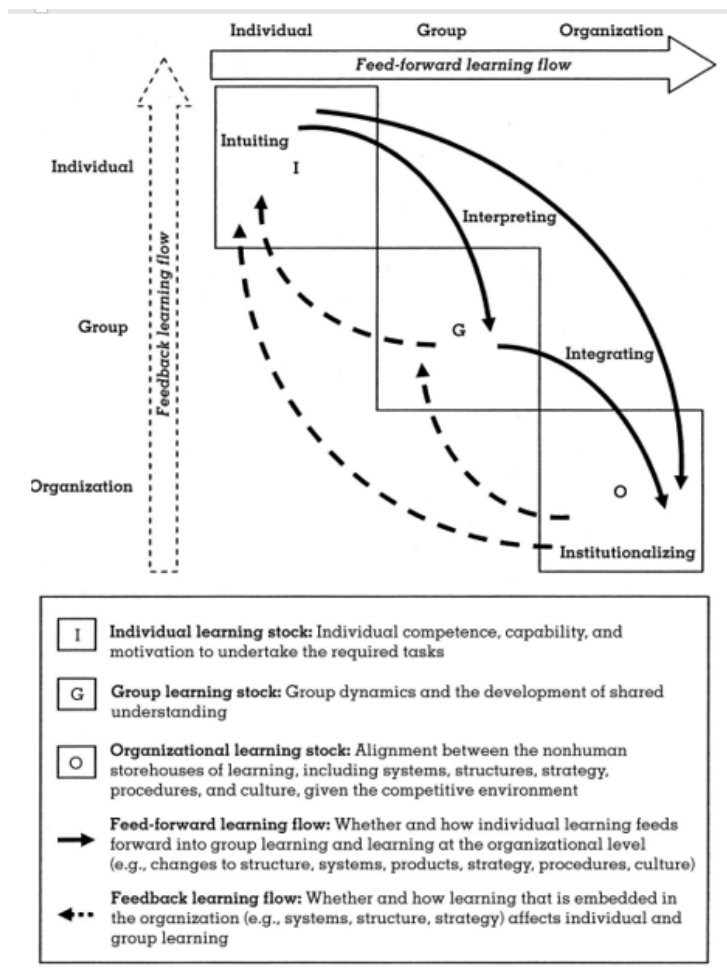


Figure 1: Framework of Organizational learning (Vera & Crossan, 2004)

The process of the framework of organizational learning by (Vera & Mary, 2004) is further illustrated in figure 1. An individual acquires new knowledge on the individual level. Then, this knowledge is contributed to the team level and interpreted as a group rather than individuals. Concluding, the knowledge interpreted by the team is integrated into the organization. In this process, there are direct feedback loops that make sure the knowledge is institutionalized in the organization. Knowledge at the organizational level diffused throughout the firm to new individuals and teams.

4.2. Organizational Learning & Leadership

Teams with their leader present show a lot better improvement in adapting to new interventions and other organizational development introductions and are therefore more likely to succeed (Boss W. R., 2000). Another study by (Boss & Boss, 1986) found that rewarding organizational development interventions need changes in the entire organization. Boss & Boss (1986) also found that change is needed from the Chief Executive Officer primarily because a chief executive officer is the centre of attention in terms of power.

Assuming that employees are most influenced by the CEO because they have more power (Boss & Boss, 1986). We can also derive the assumption that the top management team influences employees and consequently the organization. Transformational leadership by CEOs play a compelling role by shaping the top management team characteristics; behavioural integration, decentralization of responsibilities, risk-taking propensity, and long-term compensation. Three of these four top management team characteristics, decentralization of responsibilities, risk-taking propensity, and long-term compensation, have been linked to corporate entrepreneurship (Ling, Simsek, Lubatkin, & Veiga, 2008). According to Ling, Simsek, Lubatkin & Veiga (2008), top management teams are a significant intervening instrument to translate the influence of transformational CEOs on corporate entrepreneurship. Transformational leaders are leaders that have the desire to transform organizations and with that go beyond existing conditions to innovate and adapt firms.

Transactional leadership is leadership with a motivation design of rewards and/or punishment to motivate employees to follow ideologies. As opposed to transformational leadership, transactional leadership aim to improve strategy, structure and organization's culture. Transformational and transactional leadership are both important in organizational learning but have a difference in exploration and exploitation. Transformational leadership is found to be important when changing an organization. Whereas transactional leadership is found to be important to reinforce and control prevailing learning (Vera & Mary, 2004).

4.3. Integration of Organizational Learning and Leadership to Improve Firm Performance Through Corporate Entrepreneurship

Organizational learning and leadership should be combined and integrated into organizational development to reach their full potential (Friedlander & Brown, 1974). The synergy that is created by organizational learning and leadership is observed in previous organizational transformation in Alpha Technologies as described by the redesign and self-diagnosis process by (Beer & Eisenstat, 1996) and can therefore be considered as significant and proven in not just theory, but also practical situations.

It is important to thoroughly analyse the firm before implementing strategic changes. Change managers should know the firm, the corporate culture and the people that function within the firm. There should be a focus on the process of change instead of the content that needs to be introduced. Strategic change decisions should be based on the corporate culture and human capital present in the firm.

5. Discussion

5.1. What Theories of (Corporate) Entrepreneurship Exist?

The common factor in various definitions of corporate entrepreneurship also is a driver of every IT firm. At the very heart of an IT firm, innovation is really important to gain and sustain a competitive advantage with industry forces such as dynamic capabilities. Corporate entrepreneurship is defined as innovation to make an extra profit within corporate entrepreneurship. (Gartner, 1990). Corporate entrepreneurship is also defined more organizationally and strategically; strategic renewal (Guth & Ginsberg, 1990), and corporate venturing (Block & MacMillan, 1993). If you look at strategic renewal and corporate venturing objectively, then essentially they are organizational and/or strategic innovation. This brings us back to the common factor in various definitions of corporate entrepreneurship, and innovation.

In academic literature, there are four manifestations of corporate entrepreneurship. All four of these manifestations are eligible for firms in de IT industry to implement. Firms can use more than one of these manifestations at the same time, or even all four.

However, some forms are significantly different from each other in a way that they will compete. So, there is no benefit to integrating all four manifestations in a single organization. Furthermore, it is worth noticing that it has been proven that firms are not able to determine the outcome of using one of the four manifestations ex-ante. Firms in the IT industry deal with very competitive markets and dynamic environments which means they are used to uncertainty and therefore have similarities regarding environmental factors with the corporate entrepreneurship manifestations. Moreover, an important driver of the IT industry is innovation, and all four manifestations of corporate entrepreneurship are rooted in a form of innovation. (Covin & Miles, 1999)

Continuous innovation is continuously introducing new products and services and entering new markets. Continuous innovation can also be used in process improvement, where you improve already existing business processes to make them more efficient, improve quality, or reduce costs. Process improvement here is defined in the context of manufacturing a product or service. Continuous innovation through corporate entrepreneurship is called sustained regeneration. Sustained regeneration can be used by IT firms to improve their competitive position. These improvements will need to be done at the process level as significant product innovations in the IT industry come from radical and disruptive innovations. (Covin & Miles, 1999)

Close to the definition of process improvement through continuous innovation, (Covin & Miles, 1999) introduce the phenomenon of organizational rejuvenation. Organizational rejuvenation focuses on the innovation of internal processes, structures, and capabilities to improve their competitive position. This form of corporate entrepreneurship focuses on the execution of already existing business strategies. IT firms can use this manifestation to improve their capabilities and especially their dynamic capabilities as the IT industry is ever-changing and this will benefit them in competing in the market.

Another form of corporate entrepreneurship is strategic renewal where a firm reformulates its relationships with its environment. With strategic renewal, a firm is changing how it competes within its market and its competitors. A side note is that strategic renewal does not mean deviating significantly from your main business, but it means altering existing and established to chase and exploit business opportunities (Covin & Miles, 1999). In the IT industry, there are a lot of blue oceans that are yet unexplored and unexploited. Strategic renewal could provide an easy entrance to these blue oceans as a small difference in IT strategy make a significant difference in the output; products and services.

With domain redefinition, a firm tries to create new markets to make use of unexploited opportunities. Essentially, firms are trying to gain a first-mover advantage by creating the market and entering first. These firms set the standard for the industry and future entrants (Covin & Miles, 1999). This corporate entrepreneurship manifestation is not easy to pursue in every industry, for example, the food and beverage industry. In the food and beverage industry, it is hard to create new markets as all possible markets already exist. However, in the IT industry, possibilities and therefore the potential creation of new markets are endless. There are two types of domain redefinition: bypass strategy and product-market pioneering. Bypass strategy involves avoiding competition by exploiting the first-mover advantage, this is not viable for IT firms because technology can be imitated and competitors can catch up fast. Product-market pioneering is a more viable play for IT firms because they are not trying to avoid existing competition, but are motivated by the opportunity to exploit the potential of new opportunities.

A great example in the IT industry that used corporate entrepreneurship practices to implement change management is Microsoft. Microsoft rightfully noticed that the IT industry is switching to a software as a service (SaaS) world, and reacted to this through strategic renewal by positioning itself as a SaaS company. SaaS is characterised by being offered from the cloud and its subscription model. Before this transition, Microsoft was mainly focused on selling licenses as a business model. The strategic renewal was initiated by the then-new CEO Satya Nadella in 2014. Microsoft implemented this new strategy through organizational rejuvenation. Microsoft's principal program manager David Johnson put a new specific procedure in place to guide change management. First, IT administrators control what changes become available to employees to tweak and configure by asking themselves questions about the security and data privacy of the change. Second, Microsoft relies on a model that allows employees the safeguard security and data privacy while still allowing them to be creative, collaborate and innovate. In this phase, Microsoft Elite users (a specific group of employees) will test the new changes by functioning as an internal ring structure. Using a ring structure and slowly diffusing changes throughout the company curtails the impact on the company. Lastly, Microsoft focuses on staying on top of the news by informing clients of new features and the latest changes. Microsoft does this because they are sure that companies are ever-changing at a fast pace. (Peterson, 2021)

5.2. To What Extent does Corporate Entrepreneurship Influence the Firm Performance of MNEs in the Information Technology (IT) Industry?

Academic literature suggests a positive relationship between corporate entrepreneurship and firm performance (Vanacker, Zahra, & Holmes, 2017). In other words, corporate entrepreneurship practices in organizations enhance firm performance. Corporate entrepreneurship especially enhances the financial performance of firms, such as profitability and growth (Covin & Slevin, 1991). IT MNEs can use this information to acknowledge the integration of corporate entrepreneurship practices in their day-to-day activities is a good idea. The fact that corporate entrepreneurship especially boosts financial performance is beneficial for IT start-ups as well as IT MNEs. IT start-ups are most of the time not profitable within the first few years of operating, corporate entrepreneurship can shorten this time frame. IT MNEs can use this knowledge when deciding how to grow internationally.

The IT industry is known for its highly competitive intensity. This drives IT firms towards finding alternatives to gain a competitive advantage because 'simply' competing is not easy. The path to competitive advantage can be led by corporate entrepreneurship practices (Mauborgne & Kim, 2004). Firms can develop new internal firm architectures that are consistent with corporate entrepreneurship (Kuratko, Hornsby, & Hayton, 2015).

On top of normal corporate entrepreneurship, international corporate entrepreneurship is also positively related to firm performance. International corporate entrepreneurship practices also enhance financial performance such as profitability and growth. In the academic world, there is an assumption that enhancing foreign operations will diminish returns in domestic operations. But, according to (Zahra & Garvis, 2000) enhancement in foreign operations and domestic operations go hand-in-hand. Another assumption that is debunked by (Zahra & Garvis, 2000) is the profitability-growth trade-off. When growing your business, normally profitability will diminish because growth requires capital and negatively consequently negatively influences profitability. (Zahra & Garvis, 2000) found that this is not true and that there even is a double pay-off, improvement in both growth and profitability. IT MNEs are often growing rapidly because they can easily scale up compared to other industries. Corporate entrepreneurship practices will help improve both the growth and profitability in both domestic and foreign operations.

Microsoft's shift to SaaS had a positive effect on its revenue and profitability. Microsoft's 'Intelligent Cloud', which is Microsoft's cloud computing department, shows immense growth every quarter since the start of the worldwide pandemic COVID-19 (Statista, 2022).

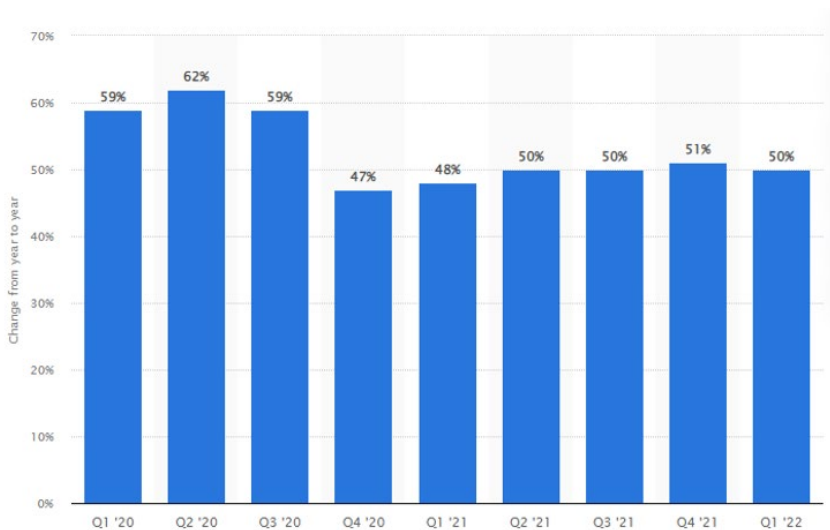


Figure 2: Microsoft's Azure cloud computing growth (YoY)

As you can see in the graph above, there is explosive growth in Microsoft's cloud operations.

Microsoft's shift from a product-based company to a service-based company has been very beneficial. Product sales, such as OS Windows, were diminishing and through 'Intelligent Cloud' Microsoft has found a way to redefine their operations and keep growing their business. Microsoft redefining their business is a great example of a corporate entrepreneurship theory, called domain redefinition, used in practice. Windows revenue grew only 4% to \$933 million in 2021 and Intelligent Cloud revenue grew 24% to \$11.7 billion. This proves that the shift to a SaaS company in 2014 has had a positive effect on the financial performance of Microsoft. (Microsoft, 2021)

5.3. How Can Multinational Enterprises in Information Technology Use Corporate Entrepreneurship to Increase Firm Performance?

The corporate entrepreneurship theories introduced earlier in this literature review can be very beneficial for IT MNEs (Covin & Miles, 1999). Among these theories are sustained regeneration, organizational rejuvenation, strategic renewal, and domain redefinition. Especially strategic renewal and domain redefinition are very advantageous for IT MNEs as they create the opportunity to shift from a product-based model to a service-based model, SaaS (Microsoft, 2021). This shift creates growth and increased financial performance for IT MNEs and is therefore beneficial.

Important factors for integrating corporate entrepreneurship in IT MNEs are organizational development and leadership (Pennington & Turner, 2015). A change in current practices to introduce corporate entrepreneurship starts with changing the values of the company (Argyris, 1976). Changing the values of a company is a complex and time-consuming process, especially in IT MNEs. These values can be implemented by an individual or small team that leads the change management of corporate entrepreneurship. According to (Argyris, 1976) it is important that first firm behaviour changes, consequently, values will follow. This theory is perfectly followed by Microsoft in 2014 when they started to shift from a product-based model to a service-based model introducing their 'intelligent cloud' strategy. Microsoft used strategic renewal as a corporate entrepreneurial theory to make this shift possible. Furthermore, Microsoft used the recommendations of (Argyris, 1976) to make a small team responsible for the change in values. Microsoft made a few IT administrators responsible for communicating values and diffusing knowledge throughout the company, later the rest of the company followed and inherited these values (Peterson, 2021).

(Bushe & Shani, 1991) introduce another way to implement corporate entrepreneurship practices into firms. They describe that to implement such changes a specific organizational intervention is needed. Microsoft indirectly used this framework as they intervened in such a way that IT administrators were initiators of a new corporate culture, which is in line with (Bushe & Shani, 1991) findings for integration of corporate entrepreneurial practices.

Effective learning is another way for an IT MNE to introduce corporate entrepreneurial practices into its daily operations. When implementing effective learning, change managers should address the MNE as a whole to implement the change (Cross, Lane, & White, 1999). First, individuals inherited new information on a subconscious level. Second, interpretation of the information on the subconscious level happens on the individual level and the individual contributes this information to the team level. Finally, the information is institutionalized in the entire organization (Vera & Mary, 2004).

The findings of (Argyris, 1976), (Bushe & Shani, 1991), and (Vera & Mary, 2004) all have in common that implementing changes such as corporate entrepreneurship theories start at the individual level and gradually diffuses through the layers of the company. A best-practice example of these findings in practice can be found at Microsoft. Therefore, these organizational learning frameworks contribute to the implementation of corporate entrepreneurial theories in IT MNEs.

Corporate entrepreneurship theories are not only integrated through organizational learning and it is too easy to say that the individuals that initiated and implement the change always succeed. Therefore, IT MNEs should also be aware of the role of leadership in implementing these changes.

For teams, their leader must be present as teams are better at adapting to new interventions when this is the case. This leads to better and more efficient changes in IT MNEs' process of implementing corporate entrepreneurship (Boss & Boss, 1986), (Boss W. R., 2000).

Transformational leadership is important to manage management team characteristics such as behavioural integration, decentralization of responsibilities, risk-taking propensity, and long-term compensation. Decentralization of responsibilities, risk-taking propensity, and long-term compensation have been linked to corporate entrepreneurship (Ling, Simsek, Lubatkin, & Veiga, 2008). Therefore, a CEO of an IT MNE needs to ensure that its top management team can manage these characteristics of teams through transformational leadership to safeguard the implementation of corporate entrepreneurship.

6. Conclusion, Implications and Recommendations

6.1. Conclusion

“How can multinational enterprises in information technology (IT) use corporate entrepreneurship to increase firm performance?”

By combining the academic literature reviewed a sound answer to this problem statement has been formed. The problem statement is not about if corporate entrepreneurship can increase firm performance in IT MNEs, but about how corporate entrepreneurship can be implemented in these kinds of firms.

Strategic renewal and domain redefinition are especially advantageous for IT MNEs as they make radical shifts from a sales model to SaaS possible (Covin & Miles, 1999). The implementation of these corporate entrepreneurship theories has been proven in the case of Microsoft (Microsoft, 2021).

Organizational development and leadership play an important role when integrating corporate entrepreneurship in IT MNEs (Pennington & Turner, 2015). Changing current business practices start with changing the values of employees on the individual level. Once values have been changed at the individual level, corporate entrepreneurship practices can be implemented at the organizational level (Argyris, 1976). The implementation of corporate entrepreneurship through this framework has been proven in practice in the past by Microsoft in 2014 when they introduced their ‘intelligent cloud strategy’ (Peterson, 2021).

Another framework, that has also been used by Microsoft, requires IT MNEs to implement corporate entrepreneurship practices through specific organizational interventions. This specific organizational intervention will make sure that radical changes in IT MNEs will be guided carefully (Bushe & Shani, 1991).

Yet another framework suggests that IT MNEs can appoint change managers that will stimulate effective learning throughout the entire organization. Important is that change managers address the IT MNE as an entity, not as a group of individuals (Cross, Lane, & White, 1999). The way the IT MNE can be addressed as an entity can be done by first letting individuals inherit new information on the subconscious level. Next, these individuals will interpret the newly inherited information and contribute this to the IT MNE as a whole (Vera & Mary, 2004).

Corporate entrepreneurship practices cannot only be implemented through organizational learning. To effectively implement corporate entrepreneurship there should be compatible leaders that guide this process. When leaders are present when introducing corporate entrepreneurship theories into daily operations this leads to a better and more efficient implementation (Boss & Boss, 1986), (Boss W. R., 2000). IT MNEs need to make sure that the top management team can manage characteristics of teams such as; decentralization of responsibilities, risk-taking propensity, and long-term compensation because these have been linked to corporate entrepreneurship (Ling, Simsek, Lubatkin, & Veiga, 2008). The management of these characteristics in teams can be done through transformational leadership.

In conclusion, it is beneficial for IT MNEs to implement corporate entrepreneurship theories and practices to increase (financial) performance. The implementation of corporate entrepreneurship should be done through; corporate entrepreneurship theories, organizational development and leadership, specific organizational interventions, effective learning, and transformational leadership.

6.2. Implications

The limitation of this literature review is that it combines literature available on corporate entrepreneurship theory and implementation frameworks. The combination of these two topics suggests a relationship between the two of them. But, to establish this relationship it needs to be researched in practice and not only theoretically, which is the case. Furthermore, corporate entrepreneurship theory was reduced to the concepts of sustained regeneration, organizational rejuvenation, strategic renewal, and domain redefinition. This scopes the corporate entrepreneurship theory which was needed to provide the reader with a theoretical analysis but also limits the literature review to these concepts. The literature review provides IT MNEs with frameworks on how they should implement corporate entrepreneurship into their business. The conclusion should be interpreted carefully as the concepts do not cover the full spectrum of corporate entrepreneurship. Furthermore, it should be noted that the implementation frameworks used may not apply to IT MNEs that are working in virtual teams as the implementation frameworks mainly provide recommendations regarding physical ties.

Additionally, the academic literature used is not specifically tailored for IT MNEs and therefore there could be deviations between the findings of these academic articles and reality.

6.3. Recommendations

6.3.1. Recommendations for Future Research

Future research should investigate how the implementation framework provided withholds in practice as this could not be tested. In this paper, there is a focus on IT MNEs, but the sources used are not specifically tailored for IT MNEs. So, future research should also start at the bottom of this problem statement and provide the academic world with literature that focuses more on IT MNEs in the domains of corporate entrepreneurship & firm performance, and corporate entrepreneurship theory & IT MNEs. Consequently, these sources could be used to construct a more accurate academic view of IT MNEs.

6.3.2. Recommendations for Businesses

Managers and other roles in business are recommended to thoroughly research the internal structures of their company before implementing the findings of this literature review. This is to ensure the implementor thoroughly knows the company before implementing corporate entrepreneurship theory. Furthermore, managers should perform their research and not fully rely on this literature review to avoid implementation failures and other backlashes. Furthermore, managers of IT firms that are not MNEs are encouraged to try the findings of this literature review but should also be warned that the findings are focused and tailored for IT MNEs.

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Uncertainty Avoidance and Risk Limiting Entrepreneurship

Luuk van der Geest

Abstract

Entrepreneurial intentions differ quite a lot when comparing between countries. Differences in the degree of the entrepreneurial intentions can be explained by various reasonings. In this thesis, the uncertainty avoidance and risk are proposed as possible antecedents of entrepreneurial intentions. Furthermore, the role of risk in the relationship between uncertainty avoidance and entrepreneurial intentions is assessed. To explore the relationships between the three main variables, a secondary literature review is done that combines several key papers regarding entrepreneurship and entrepreneurial intentions. Well-respected theories such as the Theory of Planned Behaviour and Shapero's model assist in finding predictors to certain entrepreneurial intentions, which lead to entrepreneurial behaviour.

This paper concludes that both uncertainty avoidance as well as risk negatively affect the degree of entrepreneurial intentions, where additionally risk strengthens the effect of uncertainty avoidance on entrepreneurial intentions. The existing literature in the field of entrepreneurship confirms the hypotheses of risk and uncertainty avoidance negatively influencing entrepreneurial intentions and allows the third hypothesis of risk functioning as a moderator between uncertainty avoidance and entrepreneurial intentions to be confirmed as well. This study emphasizes the importance of understanding why national levels of entrepreneurial intentions differ. Governmental institutions could take note of the results to realize the importance of their role in stimulating entrepreneurial intentions.

Keywords: entrepreneurship, entrepreneurial intentions, uncertainty avoidance, risk, theory of planned behaviour

1. Introduction

1.1. Problem Indication

Quantitative research has shown that the degree of entrepreneurship in a country, defined by the business ownership rate, varies greatly between countries (Van Stel, 2005). Wennekers and Thurik (1999) have claimed that there exists a strong positive relationship between the degree of entrepreneurial activity and economic growth. Baron and Shane (2008) crowned the entrepreneurs as ‘engines of economic growth’. For that reason, low-income countries could benefit from an increase in entrepreneurial activity to enforce economic growth. Over the years, researchers have agreed that where in first instance was believed that entrepreneurs are not born, entrepreneurs are actually more made during the course of their life (Mellor, 2008). The skills and knowledge necessary to start your own business can therefore be trained, implying that nurture in entrepreneurship outweighs nature.

Brockhaus (1987) has shown that people are most likely to decide to set up a business before having decided what type of business. That is, individuals are to a certain extent being triggered to start a business after analysing opportunities and risks in entrepreneurship. Because of the benefits that high levels of entrepreneurial behaviour brings to a country, governments routinely subsidize entrepreneurship (Morgan, Orzen, Sefton and Sisak, 2016).

In the Netherlands, during the covid pandemic SME’s have received some forms of institutional support to stay afloat (Rijksoverheid, 2021). However, as Dutch minister of Health, Welfare and Sport Kuipers stated, it is impossible for the government to continue supporting SME’s as it is currently for years. Therefore, covid and any other pandemic situation will be part of the ordinary entrepreneurial risk (Kuipers, 2022). This adds a new unexpected source of risk which might demotivate the existence of entrepreneurial activity and with that entrepreneurial intentions. Furthermore, at the moment of publishing this paper, Russia has been invading Ukraine for over two months. The war affects the global economy heavily on various different manners. For instance, Europeans small business owners have in a relatively short period of time tripled their energy costs (Willems, 2022).

Both the pandemic and the war are macro-environmental factors that impact businesses and entrepreneurs, and therefore increase the risk of being an entrepreneur. For that reason, the final chapter of this paper discusses to what extent risk influences the entrepreneurial intentions, as well as the influence of risk on the relationship between uncertainty avoidance and the entrepreneurial intentions.

Entrepreneurship is a relatively young field of study and underexplored topic in the literature, which therefore requires further research in this direction (Kobia & Sikalieh, 2010). Over the past decades plenty of research has been done to explain the difference in the number of entrepreneurs when comparing between countries. Most research however mainly has focused on economic explanations, whereas the role of culture remains underexplored (Hofstede et al., 2004). The relationship between entrepreneurship and culture is still relatively new in academic research, but recent empirical studies have started to examine this relationship (Urban, 2006). Hayton, George and Zahra (2002) have already reviewed multiple studies that have examined the relationship between cultural values and degrees of entrepreneurship, however as of yet research with regards to the role of risk in this relationship is underexplored. One cultural value being uncertainty avoidance has over the past year also seen an increase in the amount of research to it related to entrepreneurship. Besides, lately risk has become a popular pillar of research in the field of entrepreneurship.

This thesis combines the existing literature with regards to uncertainty avoidance and risk affecting entrepreneurial intentions, and adds a possible moderating role on the relationship between uncertainty avoidance and entrepreneurial intentions. Therefore, this paper examines the extent to which the cultural dimension of uncertainty avoidance and risk affects the entrepreneurial intentions of a country.

1.2. Problem Statement

From this introduction and indication of the problem, the following problem statement arises:

To what extent do uncertainty avoidance and risk separately affect the entrepreneurial intentions of a country, and to what extent does risk have an influence on the effect between uncertainty avoidance and the entrepreneurial intentions?

1.3. Theoretical and Practical Research Questions

First, theoretical research questions are set up to define the variables that are being researched in this thesis. The theoretical examination of the three main variables form the literature review in chapter 2 of the thesis.

Theoretical research questions:

1. *How are the entrepreneurial intentions well defined for a country?*
2. *How is uncertainty avoidance defined in entrepreneurial culture?*
3. *What is risk defined as in entrepreneurship?*

Secondly, this paper aims to answer the practical research questions, which refer to the relationships between the variables of the research. These practical research questions 4, 5 and 6 are addressed in chapter 3, 4 and 5 respectively.

Practical research questions:

4. *To what extent does uncertainty avoidance have an influence on the entrepreneurial intentions?*
5. *To what extent does risk have an impact on the entrepreneurial intentions?*
6. *To what extent does risk in entrepreneurship influence the effect of uncertainty avoidance on the entrepreneurial intentions?*

1.4. Research Design

This research is conducted with the use of secondary sources only. This thesis is written in less than four months, implying that it merely focuses on combining existing literature and the result is a critical literature review of the main concepts and variables. Using Google Scholar, publications from high-end journals are sought and used to ensure the reliability and validity of the research.

The research is divided into three main variables. The first variable is the Entrepreneurial Intentions, which functions as the dependent variable. The second variable, being the independent variable, is the cultural score of Uncertainty Avoidance. The relationship between the independent and dependent variable is being measured with the use of Hypothesis 1.

H1: The height of the uncertainty avoidance index (UAI) negatively affects the entrepreneurial intentions in a country.

The third variable in this research is the risk of executing entrepreneurial activities. This research examines this direct effect of risk on the entrepreneurial intentions in Hypothesis 2.

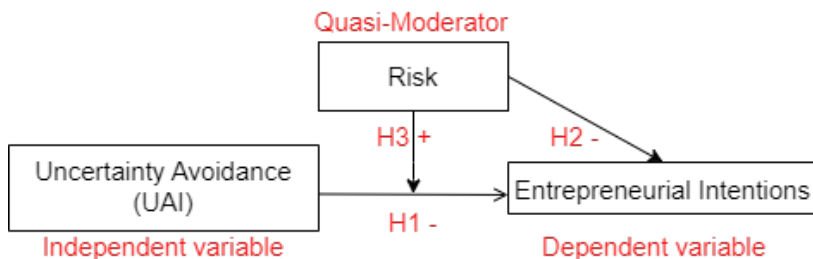
H2: The degree of risk in entrepreneurship negatively affects the entrepreneurial intentions in a country.

Lastly, the third variable also functions as a moderating variable on the relationship between Uncertainty Avoidance and the Entrepreneurial Intentions as is stated in Hypothesis 3. As this final variable examines its direct effect on the dependent variable as well as the relationship between the independent and dependent variable, risk is in this research classified as a quasi-moderator.

H3: The degree of risk in entrepreneurship enforces the effect of uncertainty avoidance on the entrepreneurial intentions in a country.

1.5. Theoretical Framework

The aggregate of the three hypotheses shapes the following theoretical framework:



This framework consisting of three separate variables and three relationships with each an hypothesis are explained in the discussion. That is, the three variables are separately addressed in chapter 2, that is followed by the three relationships in chapter 3 to 5. In the discussion the framework is covered as a whole in the following chapter 6.

2. Literature Review

2.1. Entrepreneurial Intention

This chapter aims to answer theoretical research question 1:
How are the entrepreneurial intentions well defined for a country?

2.1.1. What Are Entrepreneurial Intentions?

The degree of entrepreneurial behaviour in a country can be measured in various different ways. To ensure that the degree of uncertainty avoidance and risk as an influencing factor on entrepreneurship are correctly displayed, this paper focuses on the entrepreneurial intention. The intention to develop an entrepreneurial career is the initiative of the complicated process of starting a business (Gartner, Shaver, Gatewood & Katz, 1994). Activities such as starting a new business can be predicted best by intentions towards that behaviour, rather than by personality, attitudes, beliefs or demographics (Krueger & Carsrud, 1993). Furthermore, Ajzen (1987) claimed that the optimal way to capture motivational factors that have an impact on behaviour is to focus on an individual's intentions, as they indicate to what extent a person is willing to try. Intentions function as a catalyst or mediator for action, which is in this case the degree of entrepreneurial behaviour. Sheppard, Hartwick and Warshaw (1988) have shown with a meta-analysis that attitudes successfully predict intentions, which in turn successfully predict behaviour.

Therefore, the first variable to look into is the entrepreneurial intentions, or EI. The entrepreneurial intention is defined by Bird (1988) as 'the entrepreneurs' states of mind that direct attention, experience, and action toward starting a new business'. The degree of entrepreneurial intentions are based on personality traits, but also are dependent on external factors influencing an individual. The entrepreneurial intentions are considered as the key proximal predictor of any form of entrepreneurial activity (Obschonka, Silbereisen & Schmitt-Rodermund, 2010).

2.1.2. How Do Entrepreneurial Intentions Differ per Country?

The entrepreneurial intentions for an entire country rely on the opportunities within a country as well as the capacities and priorities of the population (Hofstede et al., 2004). Wennekers, Uhlaner and Thurik (2002) proposed a framework of entrepreneurship at the macro level. Wenneker et al. (2002) define aggregate conditions being technological, economic, demographic, cultural and institutional conditions as intermediate variable for the rate of entrepreneurship. In a supplementing article published in 2003, Wennekers, Uhlaner and Thurik dive deeper into relating the rate of entrepreneurship to economic performance.

Wennekers, Thurik and van Stel (2010) notice in further research that the business ownership rate, which highly correlates to entrepreneurial intentions, in a country over decades of development more likely is to be U-shaped. In first instance, a country has a high rate of business ownership in a rural economy. Then, the economy becomes industrial where economies of scale ensures a decrease in businesses owned. Lastly, as multiple high-income countries have already displayed during the past decades, a final shift to a service economy occurs where small scale business arise again. This final shift started in the 1970s, where entrepreneurship rates overturned a downward trend (Verheul, Wennekers, Audretsch & Thurik, 2002).

2.1.3. Theory of Planned Behaviour

As target behaviour as well as intentions towards behaviour are difficult to be measured, Ajzen (1991) published a paper regarding the Theory of Planned Behaviour. This theory is proven to be an effective approach to not only predict intentions in general, but also works for career intentions such as entrepreneurial intentions (Morian, Gorgievski, Laguna, Stephan & Zarafshani, 2012). The Theory of Planned Behaviour is a widely used theory for predicting entrepreneurial intentions, because it takes into account both personal and social factors that drive intentions (Krueger, 2007). Bird (1988) claimed that an entrepreneurial career decision can definitely be considered as the type of planned behaviour that suits Ajzen's Theory of Planned Behaviour. Ajzen (1991) proposed two drivers of entrepreneurial intentions: the degree of self-efficacy and attitudes.

The theory of planned behaviour of Ajzen (1991) hypothesizes that target behaviour can successfully be predicted by intentions towards this target behaviour. Furthermore, Ajzen (1991) claims that the intentions are driven by the perceived attractiveness of target behaviour, perceived social norms and perceived behavioural control. Obschonka et al. (2010) argue that of the three indicators, the perceived behavioural control is the most important antecedent of entrepreneurial intentions.

Even though a high amount of recent research has been done with regards to the Theory of Planned Behaviour for entrepreneurial intentions, Moriano et al. (2012) found three limitations for comparing the TPB across different cultures. Firstly, most previous research has used the TPB for entrepreneurial intentions within a single country. Secondly, the research that actually did compare different cultures for entrepreneurial intentions using the TPB only compared two countries. Lastly, Moriano et al. (2012) question whether the TPB actually measures the exact same constructs across cultures. That is, previous research that use the Theory of Planned Behaviour for entrepreneurial intentions might not be perfectly cross-culturally comparable. However, generally spoken entrepreneurship researchers agree that the TPB serves as a suitable theoretical framework to determining entrepreneurial intentions (Obschonka et al., 2010).

2.1.4. Measuring Entrepreneurial Intentions of a Country

Entrepreneurial behaviour might be difficult to measure as an aggregate for an entire country. However, since entrepreneurial intentions successfully predict entrepreneurial behaviour (Sheppard et al., 1988), one can take the degree of entrepreneurial intentions of an entire country as a measurement. In this way, countries are now able to be compared and the possible relationships that have been proposed in this research between entrepreneurial intentions and the degree of uncertainty avoidance and risk can be made.

This thesis therefore shifts its unit of analysis of this variable to a higher level. The entrepreneurial intentions are to be measured for a country as an aggregate of all individuals from that particular country. In research, one can take the mean of the entrepreneurial intentions of a representative sample of individuals of a country.

Engle et al. (2010) have conducted a twelve country evaluation of the entrepreneurial intentions with the use of Ajzen's model of planned behaviour. In research the entrepreneurial intentions are measured using a relatively newly developed Entrepreneurial Intention Questionnaire (EIQ) (Liñán & Chen, 2006).

It is found that regardless of the country, some type of mentor can have a great influence on the entrepreneurial intent in a country. This suggests that government policy-makers should ensure that teachers are aware of the necessary skills for entrepreneurial activity, and that governments must advertise and promote successful entrepreneurs of all kinds of subsets of the population of the country (Engle et al., 2010).

The measurements of entrepreneurial intentions for students from different countries by Engle et al. (2010) show a broad difference in the average entrepreneurial intent between countries. To give an indication of the differences; of the twelve countries investigated Ghana scored the highest mean of 12.2 for entrepreneurial intentions, whereas Finland only scored a mean of 6.6 (Engle et al., 2010). The differences between national scores for entrepreneurial intentions have over time been intended to explain in various ways. This thesis aims to explain uncertainty avoidance as a antecedent on entrepreneurial intentions, a cultural value that is being handled in the next subchapter 2.2.

2.2. Uncertainty Avoidance

This chapter aims to answer theoretical research question 2:

How is uncertainty avoidance defined in entrepreneurial culture?

2.2.1. Hofstede's Cultural Dimensions

Differences in cultures can be used to explain certain behaviour, attitudes and norms (Triandis, 1978). Hofstede (1984) set up a popular selection of cultural dimensions to explain differences in cultures, using responses on questionnaires of over 70.000 employees of multinational businesses in over 40 nations. The behaviour of an individual can be explained by the culture of its country of origin as behaviour is revealed by the way of theoretical reasoning and statistical analysis (Hofstede, 1984).

Hofstede (1984) labelled the four dimensions of culture as power distance, uncertainty avoidance, individualism/collectivism and masculinity/femininity. In a follow-up study from 1991, Hofstede added a fifth dimension to his model, being long/short term orientation. Each examined country scores for each dimension a relative score from 0 to 100. That is, these cultural dimensions can only be meaningfully used by comparisons between different countries (Hofstede & Minkov, 2005).

A quick glance at the country ranking with regards to the uncertainty avoidance shows that this cultural dimension is the only dimension where scores exceed the maximum of 100 (Hofstede, 2001) This is due to the fact that some countries scored relatively higher than other high scoring countries and an equal score of 100 would not reflect reality properly. Countries with well-known histories of financial collapses, such as Greece (112), Portugal (104) and Guatemala (101), score highest on the uncertainty avoidance index. The countries with the lowest degree of uncertainty avoidance are Singapore (8), Jamaica (13) and Denmark (23). Hofstede (2001) states that the mean of the uncertainty avoidance index is 65. That is, cultures are in general somewhat avoiding uncertainty. Even though these scores are estimated from research from 2001, Hofstede claims that culture only changes very slowly, implying that these scores can be considered up to date twenty-one years later.

2.2.2. What is Uncertainty Avoidance?

The human being has developed from a primitive man to a sophisticated participant of a society. In traditional and modern society, individuals have introduced rituals to establish relationships with others and to give meaning to life. Besides this, rituals also serve to make uncertainty tolerable (Hofstede, 1984). Uncertainty is preferred to be absent, however with the presence of rituals uncertainty can be tolerated to a certain extent. Hofstede (1984) claims that the tolerance for uncertainty can be partly explained by personality, as well as culture.

Uncertainty avoidance is defined as the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. Uncertainty about the unknown future is a basic fact that organizations try to cope through the domains of technology, rules and rituals (Hofstede, 1984). Hofstede (1984) created an Uncertainty Avoidance Index (UAI) by means of three indicators defining uncertainty tolerance: employment stability, rule orientation and stress.

This UAI intends to predict the tolerance for uncertainty that is merely explained by culture rather than personality. The critical driver for uncertainty avoidance in a culture is the level of national anxiety (Lynn, 1971). Another important influence on the uncertainty avoidance index is the need for achievement. Countries with high values for uncertainty avoidance tend to be more anxious and tense (Hofstede, 1980) and have lower trust in others (Kwantes & Kuo, 2021).

2.2.3. Uncertainty Avoidance in Entrepreneurship

In organizations and business, uncertainty is avoided in two major ways. First of all, organizations rather maintain a short-term strategy of solving acute problems rather than developing long-term strategies (Hofstede, 1984). It is worth the effort more to get the business straight on the short-term than to constantly think about and act upon uncertain events in the far uncertain future. Secondly, organizations intend to stay ahead of the flood of uncertainty by standardizing operating procedures, but also arranging contracts with partners. By means of standardization, uncertainty in business is being reduced to its smallest form possible.

Generally spoken, entrepreneurs and owners of small businesses tend to be required to be able to cope more with uncertainty than regular employees of a company. Entrepreneurs carry the risk of their own business, which implies that in entrepreneurship the level of uncertainty is relatively high as compared to regular employees.

Hayton et al. (2002) have yet hypothesized that cultures that score low in uncertainty avoidance and power-distance, but high in masculinity and individualism contain the highest degree of entrepreneurship. In a culture where entrepreneurship is highly appreciated, there is a high tolerance for failure with regards to entrepreneurship. That is, the degree of uncertainty avoidance is preferred to be low for an entrepreneur to be capable of daring to take the risk (Hancioğlu, Doğan & Yildirim, 2014).

The traditional trait theory, the theory that implies that individual's traits predict an individual's behaviour, might not be applicable to entrepreneurs of today, as research has shown that entrepreneurs are more likely made rather than born (Mellor, 2008). The entrepreneurial intentions of an individual are therefore not completely determined by natural personality traits, but could also be influenced by a cultural value such as uncertainty avoidance. The relationship between this cultural value and entrepreneurial intentions further examined in chapter 3.

To answer the research question as to how uncertainty avoidance is defined in entrepreneurship, the general definition of uncertainty avoidance can be quite simply applied to the field of entrepreneurship. The uncertainty avoidance in the domain of entrepreneurship can therefore be defined as the degree to which an entrepreneur feels uncomfortable with uncertainty and ambiguity with regards to starting a business or running one.

2.3. Risk

This chapter aims to answer theoretical research question 3:
What is risk defined as in entrepreneurship?

2.3.1. Defining Risk

Over the past decades entrepreneurship has become a career choice of high popularity; Kourilsky and Walstad claimed in 2000 that nearly 60 percent of teenagers and young adults say they would want to be entrepreneurs. There are however various limitations to entrepreneurs starting a business in specific countries.

Hébert and Link (1989) identified an entrepreneur in twelve roles, one being ‘the person who assumes the risk associated with uncertainty’. In 1755, Cantillon stated with the risk theory of profit that the entrepreneur is the carrier of risks arose by market demand changes. Therefore, risk is a vital part of entrepreneurship and can determine whether a business either succeeds or fails (Karabulut, 2016). Generally, entrepreneurs are believed to engage in risky behaviour more as compared to non-entrepreneurs (Norton & Moore, 2002). It is commonly known that entrepreneurs tolerate risk more and therefore have high degrees of risk tolerance (Karabulut, 2016). These entrepreneurs do not only take more risk career-wise, but also tend to tolerate more risk with regards to other aspects in life such as family, financial and reputation issues. Begley and Boyd (1987) argue that the difference between an entrepreneur and a non-entrepreneur might be a question of risk tolerance.

Risk is without any doubt correlated to uncertainty avoidance, however, Hofstede (2001) claims that ‘uncertainty avoidance does not equal risk avoidance’. Whereas risk-taking in entrepreneurship is a measured and calculated decision, uncertainty as a whole is not.

2.3.2. Risk in Entrepreneurship

Next to the uncertainty avoidance that plays a role in the degree of entrepreneurial intentions, the degree of risk in entrepreneurship is therefore also interesting to research. If the risk in entrepreneurial activity would be non-existent, the degree to which an individual tries to avoid uncertainty in entrepreneurship would not be relevant. The risk of failure for small businesses is higher than compared to larger businesses (Holtz-Eakin, 2000), implying that entrepreneurs experience higher levels of risk as compared to employees of well-settled companies.

Morgan et al. (2016) divide risk into two categories: strategic risk and natural risk. Strategic risk is defined as the risk that exists amongst competing entrepreneurs. The failure or success of a business is dependent not of only an individual's entrepreneurial behaviour, but of others' entrepreneurial behaviour as well. Besides strategic risk there exists natural risk. This is defined as the risk that occurs based on pure luck; think of fashions and fads. Without natural risk, an entrepreneur would manage its strategic risk perfectly and would exactly know what the payoff would be (Morgan et al., 2016). The natural risk however adds another aspect of risk that is outside of the control of an entrepreneur.

In entrepreneurship, the risk for exercising entrepreneurial activities for individual might differ per country due to a difference in creditor rights for instance (Cumming, Johan & Zhang, 2014). Cumming and his colleagues (2014) highlight with data the importance of the ability to finance without downside costs in order to encourage entrepreneurs to take risk. Cumming et al. (2014) have already examined the mitigation of risk in entrepreneurship as a result of legal and institutional factors, and its impact on entrepreneurship.

The degree of willingness to take risks differs as well across various demographics and characteristics. For instance, the young generation is based on psychological characteristics highly inclined towards entrepreneurship (Yusof, Sandhu & Jain, 2007). Young individuals have a high locus of control, high need for achievement and most importantly a high propensity to take risk. The high propensity to take risk implies a low uncertainty avoidance on the individual unit of analysis (Koe, Sa'ari, Majid & Ismail, 2012). As a result of young individuals being more open to take risks, they will have a higher entrepreneurial intention.

The preceding paragraph suggests that entrepreneurs can be created most easily during the years of being a student. Barbosa, Kickul and Smith (2008) lay an emphasis on the importance of including the understanding of risk in the field of entrepreneurship education. This research claims that risk needs to be well understood for both analytical and intuitive thinking in entrepreneurship (Barbosa et al., 2008).

3. Uncertainty Avoidance Limiting Entrepreneurial Intention

This chapter aims to answer practical research question 4: *To what extent does uncertainty avoidance have an influence on the entrepreneurial intentions?*

An important cultural difference that explains a difference in the degree of entrepreneurial intentions could be the degree of uncertainty avoidance, derived from Hofstede's cultural dimensions. Hofstede (1984) proposed multiple cultural dimensions to explain differences in national cultures, of which one is the degree of uncertainty avoidance. The uncertainty avoidance index score for a country suggests to partly explain the degree of entrepreneurship. Hofstede (1984) defined culture as a set of shared values, beliefs and expected behaviours. That is, cultural differences between countries such as the UAI might influence behaviour such as entrepreneurial activities. Since entrepreneurial activities are very strongly driven by entrepreneurial intentions, the relationship between uncertainty avoidance and entrepreneurial intentions can be hypothesized.

The three indicators of uncertainty tolerance listed in chapter 2.2.2 can be applied to the practice of entrepreneurship. The first indicator being employment stability answers the question: 'How long do you expect you will continue working for this company?' (Hofstede, 1984). The answers that are given to this question are confirmed to reflect actual behaviour. If you compare an entrepreneur to a regular employee of a company, one could assume that an entrepreneur scores lower on the question of employment stability. Generally spoken, an entrepreneur having its own company offers lower employment stability than an employee of a well-settled company.

Secondly, the rule orientation refers to the degree of agreement with company rules by employees. As entrepreneurs tend to operate creatively and think out of the box, an entrepreneur can be assumed to break company rules to serve the company's interest. Therefore, entrepreneurs are expected to score low on the rule orientation.

Both rule orientation as employment stability are ways of avoiding uncertainty, and it is found that these predictors are correlated ($r = .59$) (Hofstede, 1984).

The final predictor of uncertainty tolerance is stress. Stress is a phenomenon that has been associated with a variety of psychological disorders, such as headache, chest and back pain and insomnia (Sexton & Bowman, 1985). Again, roughly spoken an entrepreneur experiences higher levels of stress as compared to regular employees of a company as a result of the higher degrees of responsibility and uncertainty. However, a higher tolerance of ambiguity helps an entrepreneur to deal with stress (Sexton & Bowman, 1985). That is, an entrepreneur will consider higher levels of ambiguity relatively less as stressful as compared to employees of a company.

Personality traits have been widely researched as antecedents of entrepreneurial intentions, where the trait 'tolerance of ambiguity' is one of those traits (Thomas & Mueller, 2000). Since the uncertainty avoidance index is based on the degree to which members of a society feel uncomfortable with uncertainty and more importantly for this hypothesis ambiguity (Hofstede, 1984), one could argue that uncertainty avoidance quite clearly influences entrepreneurial intentions of an individual.

As already discussed in chapter 2.2.3, Hayton et al. (2002) have argued that a low uncertainty avoidance is likely to result into a higher degree of entrepreneurship. For that reason, the higher the uncertainty avoidance index in a country, the lower the average entrepreneurial intentions of an individual of that particular country can be assumed. Uncertainty avoidance therefore has an influence on the national levels of entrepreneurial intentions. The lower an individual has the urge to avoid uncertainty, the higher the entrepreneurial intentions of that individual will be. The intention to be an entrepreneur by setting up or running a business is lower for countries with higher uncertainty avoidance, which is in line with Hypothesis 1. Accordingly, Hypothesis 1 can be confirmed.

4. Risk Limiting Entrepreneurial Intention

This chapter aims to answer practical research question 5:

To what extent does risk have an impact on the entrepreneurial intentions?

To be able to answer the second practical question that refers to Hypothesis 2, again the theory of planned behaviour of Ajzen (1991) as elaborated on in chapter 2.1.3 can be used.

As Ajzen (1991) argues, the outcome likelihood of certain behaviour drives the perceived attractiveness of target behaviour. This perceived attractiveness of target behaviour on its turn is a predictor of intention. This indicates a logical assumption that behavioural intentions are higher when an individual has a feeling of high chance of succeeding (Ajzen, 1991). Relating this assumption to risk; whenever the risk for entrepreneurial activity is lower, the entrepreneurial intentions will be higher.

If risk is lower, the outcome likelihood in a positive sense for entrepreneurial activities will be higher. For this reason, according to the Theory of Planned Behaviour the height of risk in entrepreneurship does indeed negatively impact the entrepreneurial intentions.

Next to the theory of planned behaviour that has previously been discussed, another model of Shapero and Sokol (1982) can be used to explain risk as an antecedent of intentions. Shapero and Sokol (1982) set up a model to predict entrepreneurial behaviour through entrepreneurial intentions. The height of entrepreneurial intentions are driven by three factors, being the perceived desirability, feasibility and propensity to act. Similarly as to Ajzen (1987) has claimed that a necessary precondition for entrepreneurial intention is that the behaviour needs to be personally feasible, Shapero's model takes into account the feasibility of intentions (Shapero & Sokol, 1982). The perceived feasibility in this model refers to the perception of an individual's available resources. It measures the personal perceived ability to execute this certain entrepreneurial behaviour (Miralles, Riverola & Giones, 2012).

Logically, all sorts of risks that arise in entrepreneurship lower the chance of succeeding in starting a business. If an individual is aware of the risks involved in entrepreneurship, which are significantly higher than remaining a non-entrepreneur, it perceives the feasibility of succeeding as an entrepreneur as lower. The perceived feasibility as explained in Shapero's model is lower when there exist higher risks in entrepreneurship, which significantly limits the degree of entrepreneurial intentions (Ngugi, Gakure, Waithaka & Kiwara, 2012).

Risk taking can be considered as an entrepreneurial behaviour and therefore also the willingness to take risk is part of the entrepreneurial intention. In cultures where entrepreneurial intentions are promoted, the country is more likely to experience high levels of innovation. On the other hand, cultures that support conformity and conservativity are less likely to engage in risk taking behaviour and therefore entrepreneurial behaviour (Hayton et al., 2002).

Various researches have shown that entrepreneurs experience higher degrees of risk-taking propensity than regular employees of a company. An individual that in entrepreneurship exposes itself to a situation having uncertain outcomes, is more likely to have a high degree of monetary risk-taking propensity (Thomas & Mueller, 2000).

These higher levels of risk taking are according to Altinay, Madanoglu, Daniele and Lashley (2012) besides directly increasing entrepreneurial intentions extra pushed by certain personality traits. Altinay et al. (2012) argue that the risk taking functions as a mediator as a result of higher degrees of entrepreneurial family background, locus of control, tolerance ambiguity, innovativeness and need for achievement.

Moriano et al. (2012) measure the entrepreneurial intentions of an individual partly by measuring attitudes towards entrepreneurship. One of the six statements is: 'To what extent would taking calculated risks mean being an entrepreneur to you?' The height of risk undoubtedly affects the degree of entrepreneurial intentions in a negative manner. As explained in chapter 3, younger people tend to have characteristics that are necessary to be an entrepreneur rather than older people (Yusof et al., 2007). One of those characteristics is higher levels of risk tolerance (Karabulut, 2016) as examined in chapter 2.3.

Hypothesis 2 that claims that risk negatively impact entrepreneurial intentions can therefore also be confirmed. High risk in entrepreneurship is proven to be a vital limiter to the degree of entrepreneurial intentions of an individual. The height of risk negatively influences the intention to start a new business.

5. Risk Affecting the Relationship between Uncertainty Avoidance and Entrepreneurial Intention

This chapter aims to answer practical research question 6:

To what extent does risk in entrepreneurship influence the effect of uncertainty avoidance on the entrepreneurial intentions?

Risk directly impacts the entrepreneurial intentions as examined in chapter 4, however this thesis also suggests that risk could impact the relationship between uncertainty avoidance index and entrepreneurial intentions. This hypothesis is specified as Hypothesis 3 and is the final hypothesis in this research.

In chapter 2.3 it is explained how Hofstede (2001) argues that uncertainty avoidance and risk avoidance are different subjects. Uncertainty in entrepreneurship is undoubtedly driven by the high levels of risks in entrepreneurship. However, entrepreneurship risk is not the sole indicator for the degree to which uncertainty avoidance has an effect on the entrepreneurial intention. This is due to the fact that there are more external drivers of uncertainty than just risk that are being avoided. A good example of this is the covid pandemic serving as a major influx of uncertainty to entrepreneurship.

Without scoping the field of entrepreneurship specifically, uncertainty avoidance and risk are without a doubt connected to each other. Uncertainty avoidance aims to answer the degree of feeling uncomfortable with ambiguity and uncertainty (Hofstede, 1984) and risk forms a great part of that combination of ambiguity and uncertainty. Due to the mutual interconnectedness between uncertainty avoidance and risk as well as the fact that both variables affect entrepreneurial intentions separately, a quasi-moderating role of risk in this paper seems fair to hypothesize.

The effect of uncertainty avoidance on the entrepreneurial intentions of a country is yet evident and explained in chapter 3. Now the question is to what extent risk in entrepreneurship influences this effect. Since risk and uncertainty avoidance are in some logical way related, it can be assumed that the higher the entrepreneurship risk, the stronger the negative relationship between uncertainty avoidance and the entrepreneurial intentions is. This confirms Hypothesis 3, claiming that risk functions as a moderating variable on the relationship between UAI and entrepreneurial intentions. That is, the magnitude of an increase in the uncertainty avoidance index causing the entrepreneurial intentions to decrease is higher as the entrepreneurship risk increments. To answer this final research question: risk certainly does positively affect the negative relationship that uncertainty avoidance has on entrepreneurial intentions.

Having confirmed this theory, a new perspective of risk with regards to entrepreneurial intentions comes to life. That is, the degree to which uncertainty avoidance is limiting high entrepreneurial intentions can be decreased if the risk in entrepreneurship is lower. In countries where the uncertainty avoidance is high and governments intend to increase the entrepreneurial intentions of its inhabitants, it is in accordance with Hypothesis 3 key to decrease the risk in whatever way possible. Uncertainty avoidance, since it is a cultural value, is unlikely to change over the years and is near to impossible to manually adapt at all (Hofstede, 1984).

For that reason, risk is a good alternative to look into to reduce to limit the damaging effect of uncertainty avoidance that it has on entrepreneurial intentions.

6. Discussion

6.1. Explaining the Theoretical Framework

The proposed framework in the research design of this thesis in chapter 1.5 consists of three relationships. Existing literature and the review made in chapter 3, 4 and 5 confirm all three proposed hypotheses.

The three indicators of tolerance for ambiguity and thus the degree of uncertainty avoidance all have a significant effect on the entrepreneurial intentions as explained in chapter 3. Entrepreneurs tend to score low on employment stability, rule orientation and stress (Hofstede, 1984). Even though the degrees of uncertainty and responsibility are higher for entrepreneurs, they tolerate uncertainty more which decreases the levels of stress. Scoring low on all three indicators of tolerance for uncertainty implies that entrepreneurs generally spoken have a low score for uncertainty avoidance. It can therefore be assumed that the entrepreneurial intentions for a country are higher when the national levels of uncertainty avoidance index are low. This confirms Hypothesis 1 that is handled in chapter 3.

Moving on to Hypothesis 2 that is handled in chapter 4, the variable risk is being measured as a limiter to entrepreneurial intentions. Risk is known to be a vital aspect of entrepreneurship that entrepreneurs should keep in mind whilst doing business. The willingness to take risk or the risk propensity is a personality characteristic that is needed for higher entrepreneurial intentions. Risk propensity is heavily driven by several personality traits that are necessary for entrepreneurs (Altinay et al., 2012). This characteristic is most present amongst young students, who are willing to take risks more than older people. When looking at the risk for entrepreneurial behaviour itself, it is evident that risk limits the entrepreneurial intentions. This is supported by both the Theory of Planned Behaviour as well as the model of Shapero to retrieve antecedents of entrepreneurial intentions. Hypothesis 2 therefore also can be confirmed.

Lastly, a third hypothesis has been examined where risk would function as a moderating variable on the relationship between uncertainty avoidance and entrepreneurial intentions. Hypothesis 3 can be confirmed as well, as the higher risk in entrepreneurship is, the stronger the negative effect of a higher uncertainty avoidance on the entrepreneurial intentions.

6.2. Own View Supported by Literature

Since research has shown that economic growth is proven to be stimulated by higher levels of entrepreneurial activity (Wennekers & Thurik, 1999), it seems convincing that this type of activity needs to be promoted. That is, countries can highly benefit from increases in entrepreneurial intentions. As Mellor (2008) has claimed that entrepreneurial skills can be taught to anyone and are not specifically congenital skills, from the view of this thesis it makes sense for all countries to promote entrepreneurial intentions. It is a shame that factors such as uncertainty avoidance and risk put a limit on an individual's entrepreneurial intentions. In chapter 2.3 it is described how the young generation is more likely to have the characteristics that are necessary to be an entrepreneur, including the willingness to take risk (Yusof et al., 2007). Taking into account the importance of the presence of entrepreneurs in a country and the young generation being gifted with what is necessary for entrepreneurs, governments should motivate students in particular to become an entrepreneur. This thesis emphasizes the importance of high levels of entrepreneurial intentions in a country, and governments should take the responsibility to ensure this. Governments can decide to educate its students to not just get schooled to become a proper employee of a company, but should challenge the young generation to become an entrepreneur.

The degree of uncertainty avoidance for an individual limits the daring of a person to take risks. However, this thesis subjectively proposes that in life taking risks is the optimal possibility to develop yourself in undiscovered manners. It seems unrealistic to believe that the amount of people working a regular 9-5 job consider their daily role as fulfilling and as something they genuinely enjoy doing.

Using this thesis as a support for a personal view, it seems to be a shame that so many potential entrepreneurs choose not to become an entrepreneur as a result of high uncertainty avoidance and no willingness to take risks.

For a country that wishes to increase its entrepreneurial activities, governments could look to increase the entrepreneurial intentions in several manners. Since a high score for uncertainty avoidance causes lower entrepreneurial intentions (see Hypothesis 1), it would be optimal for the entrepreneurial intentions to see a decrease in the uncertainty avoidance. A decrease in uncertainty avoidance would not only be beneficial for the degree of entrepreneurial activity; Glazer (2021) claims that with lower uncertainty avoidance people tend to be more relaxed, experience higher trust and subjectively are more prosperous.

However, Hofstede (2001) stated that cultures and hereby cultural values hardly change over the years and are difficult to adapt. For this reason it seems unrealistic to recommend a government to intend to transform its country's culture.

Since it is improbable that a country will see a shift in the uncertainty avoidance index in the short term, a government must consider a different method to increase its country's entrepreneurial intentions. Where uncertainty avoidance itself is difficult to alter, this thesis does claim a moderating role of risk on uncertainty avoidance to entrepreneurial intentions (see Hypothesis 3). If governments can decrease the risk of entrepreneurship in its country as proposed in chapter 5, it can lower the limiting effect that uncertainty avoidance has on the entrepreneurial intentions.

Engle et al. (2010) have emphasized the importance of the presence of some form of a mentor to promote entrepreneurial activity. This offers opportunities to promote entrepreneurship more in the educational system. Furthermore, Engle et al. (2010) argue that it is important for a government to promote and advertise succeeding entrepreneurs of as much as possible different backgrounds of its population. As far as governments are accountable for the degree of entrepreneurial intentions in a country, it is vital that these governments promote the positive aspects of entrepreneurship. The presence of a mentor could decrease the perceived uncertainty and risk of a potential future entrepreneur.

Coming back to the introduction of thesis, where it is stated how the Dutch minister of Health, Welfare and Sports insists to making covid and other pandemics an ordinary part of the entrepreneurial risk (Kuipers, 2022), rather than supporting entrepreneurs in these difficult times. In this case it seems that the government pushes entrepreneurial intentions down rather than stimulating entrepreneurship. The risk is increased, resulting into a stronger effect of the uncertainty avoidance on the entrepreneurial intentions of a country.

It could be the case that any similar demotivation to entrepreneurial intentions coming from a government can be extremely harmful for both the economic and social development of a country. In the economic sense, less individuals will decide to start or continue their entrepreneurial journey and will want to avoid risk with the option of a fixed-salary job. Less entrepreneurial activity could result into a lower economic performance of a country. Socially, this would mean that people are feeling less urge to challenge themselves.

If entrepreneurial activity and with that entrepreneurial intentions are decreasing in a country, from the view of this paper that would mean less people are fulfilling their individual potential and are not discovering the imaginative entrepreneurial landscape.

7. Conclusion, Limitations and Recommendations

7.1. Conclusion

The conclusion intends to answer the problem statement as stated in chapter 1.2:

To what extent do uncertainty avoidance and risk separately affect the entrepreneurial intentions of a country, and to what extent does risk have an influence on the effect between uncertainty avoidance and the entrepreneurial intentions?

By splitting up the problem statement into separate theoretical and practical research questions, three hypotheses have been proposed. All of the three hypotheses have been confirmed in chapters 3, 4 and 5.

Concludingly, the entrepreneurial intentions are certainly affected by both uncertainty avoidance and risk. A country that scores high on uncertainty avoidance is more likely to experience lower rates of entrepreneurial intentions, which can be explained by the fact that entrepreneurs embrace uncertainty more. Similarly, whenever the risk in performing entrepreneurial behaviour is high, the degree of entrepreneurial intentions decreases. An entrepreneur deals with risk on a daily basis and risk can be a reason for an individual to not become an entrepreneur. Lastly, the effect that uncertainty avoidance has on the entrepreneurial intentions is being strengthened by higher levels of risk, since individuals in a country with high uncertainty avoidance are even more demotivated to become an entrepreneur when the risk in entrepreneurship appears to be high. Especially since risk is such a great factor in the domain of entrepreneurship, both risk and uncertainty avoidance are important indicators of entrepreneurial intentions.

A country that ensures low levels of risk in entrepreneurship and where its culture has low levels of uncertainty avoidance will therefore experience the highest levels of entrepreneurial intentions. If a country wishes to increase the degree of entrepreneurial behaviour of its inhabitants, it is for that reason key to stimulate individuals to do tolerate risk and uncertainty and to promote entrepreneurial intentions in every possible manner.

7.2. Limitations

This study has some limitations since it is executed in less than four months. The research is quite limited in the sense that it is done purely using secondary literature. To be able to draw obvious conclusions and really be able to determine to what extent variables affect each other, it might be necessary to design a construct to measure the correlations quantitatively in practice.

7.3. Recommendations

The drivers of entrepreneurial intentions are known and well researched, where the degree of risk and uncertainty avoidance function as vital limiters to these intentions. For further research it will be interesting to research further the precursors of uncertainty avoidance and risk in an entrepreneurial setting.

As is described in the limitations, this paper could be further supported by a practical research where the variables and hypotheses can be rigorously measured. The constructs to measure the variables of this paper are known, implying that a practical addition to this paper could be relatively easily performed and used as a support for the theories. For instance, Engle et al. (2010) tested the national differences of entrepreneurial intentions. Further researchers could couple the outcome of this research to the uncertainty avoidance index scores for the twelve investigated countries. In this way, Hypothesis 1 could be tested with the use of a regressive analysis. Further research in the benefits of high levels of entrepreneurial intentions could be well used to emphasize the importance of the stimulation of entrepreneurship.

Furthermore, several times this thesis hints to what governments or country should and could do to increase the national levels of entrepreneurial intentions. It would be a good addition to the current literature to explore to what extent governmental institutions could play a role in increasing entrepreneurial intentions.

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Since the study of IBA is a broad study, approaching the final semesters you are supposed to find your field of interest. He figured that accountancy and finance are not particularly in his field of interest. However, marketing, management and entrepreneurship are definitely topics that trigger him.

Besides his studies he has been working on a freelance basis on a platform called Blackbear. Here he helps companies with business challenges in short periods of 3 to 4 weeks. The challenges vary from data analyses to market research, but can also include HR topics. Having worked here for nearly a year, he has successfully completed projects for big names such as Bosch UK & NL, Salesforce, Boon Edam, DHL and more.

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The Effect of Disruptive Innovations in the Automotive Industry on Incumbent Car Manufacturers' Business Models

Hidde Leendert Harm Ceelen

Abstract

Following the problem statement: “To what extent do **disruptive innovations** affect large incumbent car manufacturers’ used **business models** in the **automotive industry**?”. This research combines existing literature, magazine articles, press releases and companies’ annual reports to provide a well-constructed answer to the problem. Indicating what the problem comprehends enabled the formulation of the problem statement.

The development of new **technologies** and the rise of **disruptive innovations** worldwide cause a shift in existing industries like the **automotive industry**. The most common novel **technologies** and **disruptive innovations** in the **automotive industry** are autonomous driving cars, the increasing use of data, car components connected to the Internet-of-Things and the shift to electric vehicles. For the implication of these innovations, entrepreneurial activity is needed within the existing car companies. Without engagement in **corporate entrepreneurship**, organizations tend to fall behind and risk bankruptcy. On the other side, corporations can create advantages by embracing entrepreneurial behaviour and implicating these innovations. By studying what **disruptive innovations** have the most impact on the **automotive industry**, this research examines the effect they have on two of the largest car manufacturers’ **business models**. The implication of **disruptive innovations** and new **technologies** by Volkswagen AG and Toyota Motor Corporation and to what extent they affect their **business model** is reviewed.

Keywords: Corporate entrepreneurship, disruptive innovations, technologies, Business models, automotive industry

1. Introduction

1.1. Problem Indication

New technologies emerge all around us, as well as in the automotive industry. Examples of new technologies in the automotive industry are autonomous driving cars, the increasing use of data, car components connected to the Internet-of-Things and the shift in power resources, such as electric cars (Athanasopoulou et al., 2019). New services arise through these new technologies, such as automobility-as-a-service (AaaS), personalized driving experiences, and advanced safety measures, according to Wells et al. in 2020 and Athanasopoulou et al. in 2019.

Disruptive innovations in the automotive industry, like the shift from fuel-based cars to electric vehicles (EV) and autonomous driving cars, are altering the automotive industry as it was known. But for these innovations to be implemented in the industry, entrepreneurial activities are needed. Hsu et al., 2014, argued that corporate entrepreneurship could be defined as a process in which opportunity is recognized and pursued, leading to growth. Corporate entrepreneurship includes opportunistic actions that carry risk and can create value. According to this, innovation and entrepreneurship are closely associated. Corporate entrepreneurship can be seen as implementing innovations in the organization.

With these new services and technologies, new or different business models are used in the automotive industry. Value propositions, revenue models, key activities, key resources and supply chains can alter because of these changes. Many of the established car manufacturers or players in the automotive industry adapt to the new developments. Still, there are also newcomers to the industry, such as Uber, Tesla and BYD (Nieuwenhuis, 2018).

Trends in using new technologies and services are seen throughout the automotive industry. Athanasopoulou et al. (2020) discuss the differences in the degree to which used business models need reviewing with respect to technological innovations and affiliated services. Almost all (incumbent) car manufacturers produce electric or hybrid models, many manufacturers offer (partly) automated driving cars, and intrapreneurial activities take place regarding AaaS.

1.2. Problem Statement

New technologies and their use can create advantages in the automotive industry. To use them properly, organizations need to understand the effects of these technologies on the market and how they influence different business models. Organizations need to keep up with developments or stay ahead of them. Intrapreneurial activities are required to accomplish this. For organizations to know how the market is developing and see how the automotive industry is changing can lead to great insights and enable them to these developments.

Technologies in the automotive industry are applications of scientific knowledge to improve products or services in the industry. These are needed for organizations to grow and create advantages over competitors. The development or implementation of new technologies can cause new services to be offered, and business models to be changed in the automotive industry.

The business models used in the automotive industry have been relatively the same over the last decades. Traditionally automotive OEMs generate revenue by selling cars and offering services like maintenance. Due to the emerging technologies, these business models can alter and shift to other sources of income and value creation.

This research elaborates on the effects of disruptive innovations, the shift from fuel-based cars to EVs and autonomous driving on the business models of the large incumbent car manufacturers in the automotive industry and whether these business models will be sustainable. Due to these disruptive innovations, new services have been offered as well. The influence these innovations have on (the emergence of) these services is added to the research to determine further the effect of new technologies on the used business models.

This research is done by literature research and combines insights from other studies to create a concrete review. Many studies are researching the effects of different technologies on the automotive industry and business models within these industries. Because of this, it was possible to conduct the research in this manner.

Following the research above, the problem statement reads:

“To what extent do disruptive innovations affect large incumbent car manufacturers’ used business models in the automotive industry?”

1.3. Research Questions

In accordance with the problem indication and statement, the following three research questions are prepared to answer the main problem statement:

- 1) How does the use of disruptive innovations differ between large incumbent car manufacturers?
- 2) How does the use of new technologies affect the business models of large incumbent car manufacturers?
- 3) How do disruptive innovations affect business models in the Automotive industry?

1.4. Research Design and Data Collection

The research reviews the effect new technologies in the automotive industry (IV) have on the used business models by large incumbent car manufacturers (DV). The technologies discussed in the research are elaborated. Different manufacturers' use of these technologies is also discussed; by doing this, the difference in effect between manufacturers is investigated.

Services that have emerged due to the development of new technologies also affect the automotive industry. These services cause new organizations to be set up or others to implement these services. This affects the way the market is structured. By investigating the effect these services have on the business models, a complete view can be created of the impact these variables have on the automotive industry.

Recommendations about how car manufacturers can keep up with the developments can be drawn from this research. Also, organizations can adjust their strategies for the future following the insights of this research.

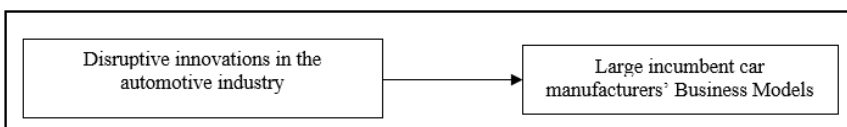


Figure 1: *Conceptual Model*

1.5. Academic Relevance

A lot of studies have been done researching new business models in the automotive industry or the emergence of disruptive innovations. Some also incorporated the effect these innovations have on the manufacturers' business model. However, there is not much research that studies the complete field and covers the technologies, disruptive innovations, and corporate entrepreneurship needed as well as comparing two of the largest manufacturers in these fields.

This literature review combines corporate entrepreneurship with disruptive technologies and explains their effect on incumbents' business models. By reviewing Volkswagen AG and Toyota Motor Corporation, this research delivers vast insights into the practical implementation of disruptive technologies. Therefore this paper adds to existing knowledge about this subject.

1.6. Managerial Relevance

By focussing on the practical as well as the academic side of the subjects reviewed in this paper, today's managers from the automotive industry and other sectors can gain insight into developments in the automotive industry. Creating a greater understanding of the emerging disruptive innovations within the sector and the way they affect the business models of two large car manufacturers for managers. This knowledge can be used by managers while developing new strategies or brainstorming for new business opportunities. In addition, this paper can create awareness among managers so that they can recognize opportunities and threats sooner.

1.7. Research Structure

This literature review starts by describing and defining the used theories about disruptive innovations, technologies in the automotive industry and entrepreneurship in the first three chapters. This is done by thoroughly covering the characteristics of these theories as well as the implications. In the following chapters, the implementation of the theories on the chosen companies is evaluated a described, and their effects are reviewed. The last chapter provides a complete conclusion regarding the implementation and effects on the business models.

2. Disruptive Innovation

2.1. Defining Disruptive Innovation

In 1995, Christensen et al. first introduced the theory of disruptive innovation, focussing on disruptive technologies. Two types of technologies are described: disruptive technologies and sustaining technologies. Sustaining technologies are built on existing knowledge in the market and are incremental developments on products or services. In contrast to sustaining technologies, Christensen argued that disruptive technologies include very different features from what most customers usually value. Disruptive innovations ultimately overthrow the current dominating technologies or products in the marketplace. Most customers are not willing to use these new technologies before the technologies are used and valued in new applications or markets. Since 1995, many studies have discussed this theory and contradicted it.

Markides, 2006, argued that the original theory had been misused by many to explain all kinds of disruptive innovations. He stated that there are two sorts of disruptive innovations. He distinguishes between business-model innovations and radical product innovations. Although both these innovations have many commonalities to Christensen's term 'disruptive innovation', they are separate concepts. The two innovations have different managerial implications, challenge established firms differently, and create different types of markets.

Even though Markides (2006) distinguishes the types of innovation, Schmidt and Druehl (2008) add another dimension by differentiating between high-end encroachment and low-end encroachment. Understanding the distinction between the two helps firms determine the innovations' threats or opportunities. High-end encroachment is the introduction of innovations on the top segment of the markets and circulates downward. Low-end encroachment implies that the innovation is first introduced in the bottom segment of the market and circulates upwards.

2.1.1. Business-Model Innovation

According to Magretta (2002), a business model (BM) explains who the customer is, what the customer cares about, how money can be earned in this business and what economic theory underpins how value can be delivered to customers at a reasonable cost.

The innovation of a business model, as described by Dodgson et al. in 2013, states that Business Model Innovation (BMI) is a subsection of business model reconfiguration (BMR) and business model design (BMD). BMD is the first instance of a new business model and is regularly associated with entrepreneurial activity.

Zott et al. (2001) conclude that the process of the BMD can be regarded as a process of entrepreneurial business creation involving the design of the structure, contents and transaction governance as to how to create and capture value. This process involves entrepreneurial activities such as opportunity recognition, organization creation and linking with the market. BMR is reviewing the BM through experimenting, evaluating and adapting all levels of the organization. Markides (2006) expands on this by stating that to qualify as an innovation, the new BM has to enlarge the economic market by encouraging current customers to consume more or by attracting new customers into the market. This need to enlarge the market means that BMI is more than just a discovery of a radical new strategy; this new strategy also has to succeed in one of the objectives before it can be called an innovation.

2.1.2. Radical Product Innovation

Radical product innovations are new products that feature radically different key technologies and offer substantially superior customer advantages than earlier industry products (Chandy & Tellis, 2000). As described by Herrmann et al. (2006), these benefits include lower costs and superior convenience for the customer. Radical product innovations are disruptive for customers because they alter consumer behaviours and habits significantly.

Radical product innovations are of interest to managers as well. Companies that do not take an interest in these innovations or continue to concentrate mainly on old technology are in danger of falling behind or losing market share. Radical product innovations are disruptive for organizations because they establish markets that subvert the capabilities and assets that determine the organizations' success (McGahan, 2008). Because the innovations are disruptive for both consumers and organizations, they rarely are formed from demand and are mostly a supply push from the innovator itself.

3. Technology in Automotive Industry

The world's economies are changing radically, driven by sustainability initiatives, shifting ownership preferences of consumers, and the accelerated emergence of advancing technologies. Digitalization, increasing automation, and novel business models are driving the emergence of disruptive technologies in the automotive industry. (Gao et al., 2016). The automotive industry's most disrupting tech-driven trends are digitalization, autonomous driving, shared mobility and electrification

3.1. Digitalization and Autonomous Driving

As Hanet et al. (2015) described, the phenomenon of digital transformation is employing new digital technologies to stimulate key business improvements in organizations. In the automotive industry, digitalization is transferring analogical data into a digital form supported by information and communication technology (ICT) in an automobile (Wittman, 2017). Types of this digitalization include Connected cars, Internet of Things (IoT) and Autonomous driving. This paper focuses mainly on the effects of autonomous driving.

Autonomous driving is the independent driving of a car without somebody physically interfering by steering or adjusting the speed of the vehicle (Wittmann, 2017). Five levels are leading to fully autonomous driving:

- Level 0: Not autonomous drive, drive without assistance system(s)
- Level 1: Drive with support systems; cruise control
- Level 2: Partial autonomous drive; parking sensors and/or cameras
- Level 3: High autonomous drive; automated lane assist
- Level 4: Complete autonomous drive; some interference by a driver
- Level 5: Driverless drive, robot driving without interference

3.2. Shared Mobility

Shared mobility is defined by vehicle sharing rather than owning one and the utilization of technologies to provide the connection between users and providers. It is a promising way to reduce CO2 emissions and traffic crowding.

According to Santos (2018), different types of shared mobility can be identified:

- Peer-to-peer rentals with a business as the agent. A platform for peers to rent their cars when they are not using them.
- Short-term car rentals operated by a provider.
- Companies that register regular car owners as chauffeurs in the driver's own vehicle.
- On-demand rentals of private vehicles; used for carpooling.

Shared mobility has an impact on car manufacturers and their business models. Most shared mobility options are offered using Mobility as a Service (MaaS). MaaS is defined as planning, booking and paying for all possible forms of transport via apps (Rijksoverheid, n.d.).

According to Grosse-Ophoff et al. (2017), the increasing popularity of shared mobility will decrease the growth of vehicle sales in the coming 30 years. In the coming ten years, car sales from developing countries will outperform the reduction in sales caused by shared mobility; nevertheless, through the 2030s, it is likely that a third of the expected car sales growth will not happen as a result of shared mobility. These changes pose threats to the automotive industry but, most certainly, opportunities as well. New business models could enlarge from these developments, and in 2016, Goa et al. argued that this could cause an increase in automotive revenue of about 30% leading up to \$1.5 trillion in 2030.

3.3. Electrification

In the automotive industry, a part of electrification is an infrastructure consisting of charging stations to power electric vehicles. However, the main focus of electrification is on the electric drive train. Because of climate change and growing urbanization, there is a change in the automotive industry's customer preferences and societal requirements. Because of these developments, the automotive industry is under a lot of pressure due to social and political pressures, mainly triggered by climate change (Wittmann, 2017). These trends have put OEMs in a position between customers' preferences and societal requirements.

The first useable electric vehicle was invented in 1881 (Seiler, 2011), yet the combustion engine was significantly more popular in the last 100 years.

This popularity is now heavily decreasing, and a paradigm shift is happening from fuel engines to electric vehicles (EVs). This trend was first boosted by Tesla Motors, and now all major car manufacturers offer (hybrid) electric vehicles. Car manufacturers are investing increasingly in research and development (R&D) to develop and improve their electric drive trains, batteries and EVs. On top of this, new production facilities are built to keep up with or keep ahead of the growing demand for EVs (Casper & Sundin, 2021).

4. Entrepreneurship

In the last decades, much research has been done on entrepreneurship, and different theories have been formulated on the subject. Examples of entrepreneurship are entrepreneurship as behaviour, entrepreneurship as organizational context and entrepreneurship based on performance criteria. This paper focuses on entrepreneurial activity within incumbent car manufacturers. Therefore, the definition of entrepreneurship as a behaviour will be used since the other two definitions focus on criteria such as the size, ownership, age or performance of the organization.

Entrepreneurship as behaviour consists of two key elements: firstly, the ability to recognize an opportunity and secondly, the commercialization or exploitation of this opportunity (Audretsch, 2012). Additional to that is the neutrality towards the context of the organization. The theory of entrepreneurial behaviour focuses on the organizations' or individuals' characteristics that exhibit entrepreneurial behaviour. The theory doesn't distinguish between organization size, age or ownership. This theory is therefore applicable to entrepreneurial behaviour within incumbent car manufacturers. While entrepreneurship refers to the ability to recognize and exploit opportunities, corporate entrepreneurship adds to this by relating to different phenomena. Corporate entrepreneurship includes corporate venturing and innovation activities and the embodiment of activities that increase a company's competitiveness and risk-taking capacity (Phan et al., 2009).

Hsu et al. (2014) described firms with Corporate Entrepreneurship as organizations that develop product market innovations and bear risks in doing so. The entrepreneurial process includes opportunity recognition and engagement that may cause growth, thus, being strongly connected with innovation. Firms with an entrepreneurial mindset tend to maintain an innovative organizational culture that is constantly on the lookout for innovational possibilities.

According to Hsu et al. (2014), corporate entrepreneurship consists of two characteristics: Corporate Culture and Leadership. Corporate Culture is defined by the top management's influence on the employee's behaviour. Leadership, on the other hand, is the employee's belief in the top management's competency. The amount of effort top managers invest in their organization's innovation is crucial for its success.

In the automotive industry, entrepreneurship and corporate entrepreneurship are applied by developing or integrating new technologies and innovations into the vehicles or production line. The organization takes risks pursuing growth and commercializing these opportunities by developing or integrating these innovations. While others in the automotive industry already use specific innovations, OEMs can develop and incorporate innovations by themselves from the ground up. The development and implementation of innovations require significant R&D investments and thus may lead to (financial) backlash when proven not to be successful. The level of entrepreneurial activity can depend on the corporate culture and the type of car manufacturer. Some manufacturers don't have the financial assets to engage in large of many entrepreneurial activities or don't wish/ see the need to implement innovations. The choice not to encourage entrepreneurship, irrespective of the financial aspect, can result from the type of car(s) produced or the target audience served. Although often crucial for the organization's success, some organizations avoid engaging in innovations. This avoidance can cause organizations to lose market share and eventually the failure of the business.

Examples of car manufacturers that failed to innovate in the automotive industry, which caused the company to shut down, are Packard, Oldsmobile and Hummer. For example, Hummer was reestablished, but as an electric offroad manufacturer, something quite the opposite of what Hummer was known for. It had a reputation for manufacturing cars that were major gasoline consumers that produced a lot of emissions. This example shows that organizations need to stay innovative and engage in entrepreneurial activities to keep up with the competition.

5. Discussion

5.1. Introduction

According to Bratzel of the Centre of Automotive Management (CAM), in 2021, Volkswagen AG was that year's most innovative automotive Group. CAM composed a ranking by analyzing 645 innovations from 30 original equipment manufacturers (OEMs) start-ups globally with approximately 80 automotive brands. Around 650 innovations from four of the leading tech fields were gathered in 2021's sample. Every innovation was individually assessed following CAM's innovation rating criteria, such as customer benefit and originality. Through this rating system, Volkswagen AG received an index rating of 149 points with 67 innovations, including 24 novelties. Behind Volkswagen followed Daimler AG, Tesla and BMW. Toyota ranks 13th in CAM's ranking. This ranking is a disappointing position according to CAM since it's the best-selling OEM. Toyota's index rating of 53 placed it behind the auto conglomerate Fiat-Chrysler and Chinese SAIC.

In other studies, Bristol Street Motors (2021) ranked the most innovative car brands of the last ten years in 2021. Using Google Patents, Bristol Street Motors collected the data between 2011 and 2021 to record the number of patents submitted. Data from over 100 of the world's most prominent patent offices was drawn to analyze OEM patent submissions. Using this method, Toyota, which ranked 13th in CAM's rating, is the automotive manufacturer that submitted the most patents over the last ten years. With around 380,000 patents submitted, they are by far the most innovative OEM globally. After Toyota, Hyundai and Ford place 2nd and 3rd, respectively, with 184,000 and 167,000 submitted patents. Another study, done by Lease Fetcher (2020), using the same method, extracted data from Espacenet, an European Patent Office's search engine. Data from 2001 to 2020 showed Toyota as the most innovative car manufacturer as well, by submitting the most patents in the last 20 years.

Using the information provided by these studies, this paper discusses the cases of Volkswagen AG and Toyota Motor Corporation by answering the research questions by analyzing these companies' innovativeness, entrepreneurial activities and used business models. In 1991 Damanpour observed that innovative entrepreneurship among companies was linked to their leaders' attitudes. Business leaders who exhibit entrepreneurial behaviour tend to have a positive influence on their employees.

5.2. Volkswagen AG

5.2.1. Previous Business Model – Volkswagen

Volkswagen AG, or the Volkswagen Group, is one of the largest car manufacturers in the world. Volkswagen AG has a diverse portfolio consisting of premium and super/hypercar brands such as Audi, Porsche, Bentley, Bugatti and Lamborghini, and mid-range brands such as Skoda, Seat and Cupra. Next to the manufacturing brands, they also offer service brands, mainly in the financial- and insurance service sectors (Wirtz, 2020).

Since the 1980's Volkswagen began to expand its brand and presence in the global automotive market. The Volkswagen Group started to grow into a multi-brand corporation with a worldwide production network by implementing structural changes (Grieger & Lupa, 2014). By expanding into North- and South America, Africa and the Asia-Pacific region, it strengthened its position as a global car manufacturer. By entering co-operations and joint ventures with local manufacturers such as Nissan in Japan and Ford in the Americas, it could increase its focus on high-volume and low production cost export strategy. Due to the opening of the world trade market, Volkswagen developed production plants on five continents during these years. Because of its strong business pillars in Eastern Europe and Asia, Volkswagen could run plants at a lower cost. The Volkswagen Group's takeover of other European car brands such as Audi, Seat and Skoda made it the number one European automotive corporation. This enabled it to expand its family of products into developing models for all needs and tastes.

Following the Group's focus on volume policies and internationalization in the 1980s, from the 1990s onwards, the goals were set on product diversity, improving productivity and profitability. Volkswagen's modernization aimed to efficiently redesign the functional labour division and establish extremely efficient manufacturing plants. Through the reorganization of the production systems inspired by lean production, Volkswagen applied flatter hierarchies, more teamwork, and less manufacturing depth. In addition to the restructuring, they initiated the transformation to a market-based, more socially sustained employment strategy based on swift adjustments to customer needs and demand volatility, not just on steady capacity utilization (Grieger & Lupa, 2014). This business model was based on an innovative instrument concentrated on cutting excess workforce by reducing weekly working hours from 36 to 29 hours per week.

The new business model's aim was stimulated by looking at Japanese work styles, adapting lean production and just-in-time supply, and removing entire management levels to make the organization more efficient, cutting costs and shortening project lead times.

Concluding, the Volkswagen Group's business model from the 1980s to the 2010s was mainly focused on globalization and diversification, followed by production efficiency, low cost - high-quality leadership and the ability to capitalize on needs & demands fluctuations.

5.2.2. Implementation of Disruptive Innovations & Current/ Future Business Model – Volkswagen

In September 2015, Volkswagen's emissions scandal came to light. The emission scandal, called 'Dieselgate', was the manipulation of Volkswagen's cars' emissions while being tested. A special software recognized when the car was being tested and adjusted its settings so that the car passed the tests according to EPA standards (Blackwelder et al., 2016). Before this, in 2007, Volkswagen introduced its new incredibly ambitious strategy named 'Strategy 2018'. This strategy aimed to position Volkswagen as the world's environmental and economic leader in car manufacturing by 2018 (Volkswagen, 2011). After Volkswagen's scandal leaked, Volkswagen ran into significant difficulties; shares plummeted, its reputation was damaged, and the CEO stepped down. Following these events, the corporation had to adjust significantly.

The result was launching Volkswagen's new strategy program in June 2016 named: 'TOGETHER – Strategy 2025'. The new strategy is built on four new key building blocks. These building blocks are transforming the core business, setting up a mobility service business, strengthening their innovative power and lastly, secure the funding (Volkswagen AG, 2016).

Transforming the core business is set to focus on or implement disruptive innovations such as e-mobility. Volkswagen's intention is to launch more than 30 different EV models and sell between 2 and 3 million EVs by 2025, accounting for 20 to 25% of Volkswagen's total sales. Considering the goals encompassing battery-powered electric vehicles, Volkswagen is developing new battery technologies as a new distinctive competency, aiming to be less dependent on battery suppliers. Other disruptive innovations focused on in transforming the core business are areas such as artificial intelligence and autonomous driving, which include developing a self-driving system (SDS).

The second building block, setting up a mobility service business, also features implementations of disruptive technologies. By establishing new businesses surrounding mobility solutions, the Group anticipates services like car-sharing and mobility-on-demand. These developments are facilitated through strengthening the Group's innovative power by involving aspects such as Industry 4.0, implementing IT (information technology) and AI (artificial intelligence). Industry 4.0 is the fourth industrial revolution. The TOGETHER – Strategy 2025 includes the systematic promotion of an entrepreneurial mindset and approach. Therefore, the Group has introduced an organization of product lines in the brands of high-volume personal vehicles. The component side is synergized to improve competitiveness and efficiency and significantly impact the trends that will define the future.

The financial side of the new strategy is seen in the research and development (R&D) costs. Volkswagen AG has increased its investments in research and development significantly over the last decade. The R&D costs, as a percentage of the revenue from sales, rose from 4.5% in 2011 to 7.6% in 2021, putting the total R&D costs at €7.203 Billion in 2011 and €15.583 Billion in 2021 (Volkswagen AG, 2016 & 2021).

In May 2021, the Group Board of Management implemented another strategy called “NEW AUTO”, transforming Volkswagen even more into a software-centric company. Fuelling the implementation of disruptive innovations, digitalization, autonomous driving, shared mobility and electrification and entrepreneurial activity even more. This strategy consists of 12 initiatives across the Group. The emphasis in the adjusted strategy is on mechatronics, charging, batteries and software. The mechatronics of Volkswagen first revolved around the Premium Platform Electric (PPE) and the Modular Electric Drive Kit (MEB). These were platforms on which different premium and standard cars could be built, respectively. The new mechatronics generation platform, Scalable Systems Platform (SSP), will enable the building of models from all the Group's brands and segments on the same platform. Volkswagen AG expects to build more than 40 million units on this next platform throughout its product cycle.

The software Group's software company CARDID is developing the new E3 2.0 software. This software will be the basis for new mobility services, autonomous driving and data-based business models. By 2040, nearly 100 percent of Volkswagen fleet vehicles in all core markets worldwide will be climate neutral. The key to reaching this goal is internal battery supply and a broad infrastructure, which enables fast and easy charging.

In addition, however, energy services are success factors as well and generate additional revenue streams in the new world of mobility. The highest costs of electric cars are the batteries. In-house battery production, inclusive of repair and recycling, significantly lowers this cost. Here the new "unified cell" has a central function. From 2023, one cell - as opposed to several - will be used in most of the Group's vehicles. This will bring economies of scale, which, in turn, will reduce costs (Volkswagen, 2021).

These strategies are translated and implemented into Business Model 2.0. Business Model 2.0 encompasses offering car subscriptions, new value creations and new customer interactions focussing on the buying process. In September 2021, Volkswagen launched 'AutoAbo' in Germany: a car subscription on the new ID.3 and ID.4 models. The subscription is a complete package, including everything from service and maintenance to insurance and road tax. This removes the risks of ownership from the customer, and the customer can cancel the subscription when it's not needed anymore. In addition to the subscription, Volkswagen launched online sales and lease possibilities, altering the way the organization interacts with its customers. Lastly, due to new technologies, Volkswagen expects that new car revenue pools will shift fundamentally; with the decline of internal combustion engine (ICE) revenues and the increase of EV revenues, Volkswagen also expects new software-enabled revenue sources like autonomous driving (Volkswagen News, 2021).

5.3. Toyota Motor Corporation

5.3.1. Previous Business Model – Toyota

Toyota Motor Corporation, from now on referred to as "Toyota", is Japan's largest- and one of the world's largest automotive manufacturers. Initially, the corporation was founded as a spinoff of Toyota Industries. Subsidiaries of Toyota Motor Corporation are Daihatsu, Lexus, Hino and Ranz. Furthermore, the company holds smaller stakes in Subaru Corporation, Mazda, Suzuki, Isuzu and Yamaha Motor. Other than the automotive business, Toyota Motor Corp. also operates in the banking, financing and leasing industries ("Toyota," n.d.).

International Business Administration

In the 1960's Toyota began expanding rapidly and started to globalize, exporting cars beyond Japanese borders. Beginning in Thailand and the rest of South-East Asia, followed by the American and later the European Markets. Around the 1970s, Toyota gained a reputation for producing reliable, low-cost and fuel-efficient vehicles. While improving quality and sales, Toyota's production system enhanced even more, and the corporation could manufacture more without sacrificing the cars' reliability or quality. In 1978 Toyota introduced its first sports car. The vehicle was feasible for the average consumer and was easy to drive, practical, and reliable. These characteristics attracted a wide variety of customers. During the same time, Toyota established a design and research centre as well as a technical centre in the United States to support engineering, operations and research and design activities in North America.

During the 1980s, the exports of Toyota increased significantly. Together with General Motors, Toyota launched a joint venture in the United States called the New United Motor Manufacturing. The joint venture produced cars for both Toyota and General Motors. Until this time, Toyota had focussed mainly on delivering small, fuel-efficient vehicles. This changed in 1983 when the company opted to enter the luxury car market, wanting to compete with luxury German automakers Mercedes and BMW. Figuring out what requirements had to be met to invoke status and prestige, Toyota decided to establish a subsidiary to venture into the luxury segment and launched Lexus.

Throughout the 1990s and 2000s, Toyota grew to be one of the largest automotive manufacturers worldwide and consolidated this global position. In 1997 Toyota began the change of the auto industry as it's known today by introducing the hybrid gasoline-electric Prius. Before that time, the business models used by Toyota focused on quality cars for the upper-middle class. This was done through a broad international distribution network and production plants around the world, with its main revenue stream being selling cars. This gradually transformed into a wide variety of cars for the mass markets and the luxury and sports segments. While selling cars was still the main revenue stream, key activities changed from labour management and product development to global expansion and increasing research and development (R&D) activities (Moyo J., 2021).

5.3.2. Implementation of Disruptive Innovations & Current/ Future Business Model – Toyota

Toyota is undertaking several initiatives to achieve carbon neutrality. These initiatives are BEV strategies, the development and supply of batteries, hydrogen engines and manufacturing. Furthermore, Toyota implements disruptive innovations by progressing on connected cars, software initiatives and autonomous driving.

Being the first OEM to mass-produce a hybrid car, the Prius, Toyota set in motion a chain of events that shaped the automotive industry as it is today. Twenty-five years after the launch of the Prius, Toyota produces a fleet of 13 electric vehicles. The supply ranges from small city cars to large pick-up trucks. Through Lexus, Toyota is also developing a next-generation full-electric sports car. This line-up makes it possible for Toyota to achieve its goal of “An EV for everyone” by manufacturing a wide range of different vehicles. All with its own purpose or for other customer preferences. With this full line-up of BEVs, Toyota aims to achieve 3.5 million EV sales per year by 2030. As well as Toyota, Lexus too is realizing a full EV line-up in all segments by 2030, accounting for 100% of global sales by 2035. To achieve these goals, Toyota has been investing in various initiatives for many years. Even before the release of the Prius, Toyota established the Electric Vehicle Development Division in 1992. Since then, Toyota has invested around €7.5 billion and produced almost 20 million batteries. This investment was increased by another €11 billion in 2021. In addition to making batteries, Toyota also works on securing renewable energy sources like solar and wind power, on top of its goal to reach carbon-neutral manufacturing plants by 2035 (Toyota, 2021).

Since Toyota has been producing batteries for a long time, its main goal in the development and supply of batteries is to produce the most efficient battery as efficient as possible. In July 2021, their main battery underwent a full-scale redesign which doubled its power density and became the first commercial battery of its kind. Not only does the company strive to produce carbon-neutral manufacturing plants and vehicles, but its goal is to design an ultimately carbon-neutral life cycle. This includes the collection of materials to the disposal of the product after its lifetime.

Together with battery electric vehicles, Toyota also develops Hydrogen Engines to combat carbon emissions. In comparison to BEVs, these engines don't use batteries to deliver power but a hydrogen engine. The advantage of hydrogen engines is that they densely pack the energy and are able to drive longer distances without refuelling/charging.

As well as having to stop less for refuelling, the refuelling process only takes approximately ten minutes compared to the longer charging times for an EV. According to Ray et al. in 2013; hydrogen fuel has two major disadvantages: production and storage. First of all, the production of hydrogen is rather extensive and costly. Secondly, hydrogen is almost exclusively produced with fossil fuel, which contradicts its carbon neutrality. The second major issue for hydrogen is storage. Safe storage of hydrogen is quite dangerous because of its low boiling point, which significantly increases the risk of explosion.

Toyota's connected car activities have been running for a few years now and have sold over 10 million connected cars. Toyota aims to provide customers with an emotional experience; a vision focused on persons, which they call "human connected". The Toyota Smart Centre, Big Data Centre, and Mobility Service Platform are key to this vision. Together they offer multiple services in different areas like B2B, B2C, C2C and Business-to-society (B2S), providing integrated public transport, for example.

At the beginning of 2022, Toyota announced that it plans to develop a new self-driving automotive software platform by 2025 called Arene. Arene will be capable of handling every autonomous function, from parking assistance and infotainment to fully autonomous driving, according to Asayama and Fukumoto (2022). The software, once implicated into the car, will enable drivers to update the software when updates are available for rapid improvements to the car's performance. This will ensure every vehicle stays up-to-date with the latest enhancements and technology.

Another aspect of Toyota where the software will be used is its recently launched "Toyota Share" and "Chokunori", a car-sharing and unstaffed rent-a-car service. Both these services are available only in Japan. Toyota Share doesn't require a monthly subscription but charges per 15 minutes and is aimed at short use. Chokunori, on the other hand, is aimed at extended use with a minimum rental time of 3 hours. Both services offer a wide variety of Toyota cars (Toyota, 2019).

6. Conclusion

This research answers the problem statement: "To what extent do disruptive innovations affect large incumbent car manufacturers' used business models in the automotive industry?". Through examining how disruptive innovations and new technologies differ between large incumbent car manufacturers and how these implications affect their business models.

By studying which two car manufacturers file the most patents and rank as the most innovative, Volkswagen AG and Toyota Motor Corporation are chosen to be the subjects of this research.

The first part of this research reviews theories about disruptive innovations and defines (types of) disruptive innovations. This revealed that disruptive innovations overthrow and dominate existing technologies or products in the market. Additionally, these innovations are first implicated in the low-end of the market, and most customers are not willing to use these before others do and are implemented more commonly. Two types of disruptive innovations are distinguished: radical product innovation and business model innovation.

Secondly, emerging disruptive technologies in the automotive industry are studied and reviewed. The most influential technology-driven developments are digitalization, autonomous driving, shared mobility and electrification. These technologies have a significant impact on the car manufacturers' strategy, and their implications of them are defining for their success. Although disruptive technologies are significant, entrepreneurial activity is needed in order to benefit them. Corporate entrepreneurship is entrepreneurial activity from within a company. The corporate culture or the leadership can stimulate this.

The discussion zoomed in on Volkswagen AG and Toyota Motor Corporation by reviewing their old business models, implementations of disruptive technologies and to what extent those affect their current business models. Volkswagen AG's previous business models were mainly focused on globalization and diversification, followed by production efficiency, low cost - high-quality leadership and the ability to capitalize on needs and demands fluctuations. After their emission scandal, Volkswagen implemented various new strategies, including implementing many innovations like developing EVs, extensive use of data, offering car subscriptions in Germany, and developing software for autonomous driving. These strategies are translated and implemented into Business Model 2.0. From the research, it can be seen that Volkswagen started to implement and develop these technologies relatively recent, only after competitors were already working on them.

Toyota Motor Corporation is a competitor that has been innovative for a long time—for example, being the first manufacturer to mass-produce a hybrid electric vehicle. Toyota's business models focused on quality cars for the upper-middle class. This was done through a broad international distribution network and production plants around the world, with its main revenue stream being selling cars.

This gradually transformed into a wide variety of cars for the mass markets and the luxury and sports segments. While selling cars was still the main revenue stream, key activities changed from labour management and product development to global expansion and increasing research and development (R&D) activities. The last two decades saw more research in battery technologies, an extension of the EV line-up, and the development of hydrogen engines. Toyota also engages in connected cars, establishing data centres and developing autonomous driving software. Toyota, too, launched car rental services in their land of origin, as Volkswagen did. The difference between Volkswagen's and Toyota's services is that the customer subscribes to an EV for a minimum period of a month in Volkswagen's case. Toyota offers two services; one is aimed at very short, ranging from 15 minutes to a few hours, and the other is aimed at the use of a few hours to one day.

All in all, this research concludes that the business models of both these car manufacturers are affected significantly due to disruptive innovations. Volkswagen's business model has seen a more rapid transformation which incorporated disruptive innovations extensively. Toyota's business model gradually changed over a longer period. This is caused by the organization's early entrepreneurial and innovative behaviour as well as its early development of (hybrid) electric vehicles.

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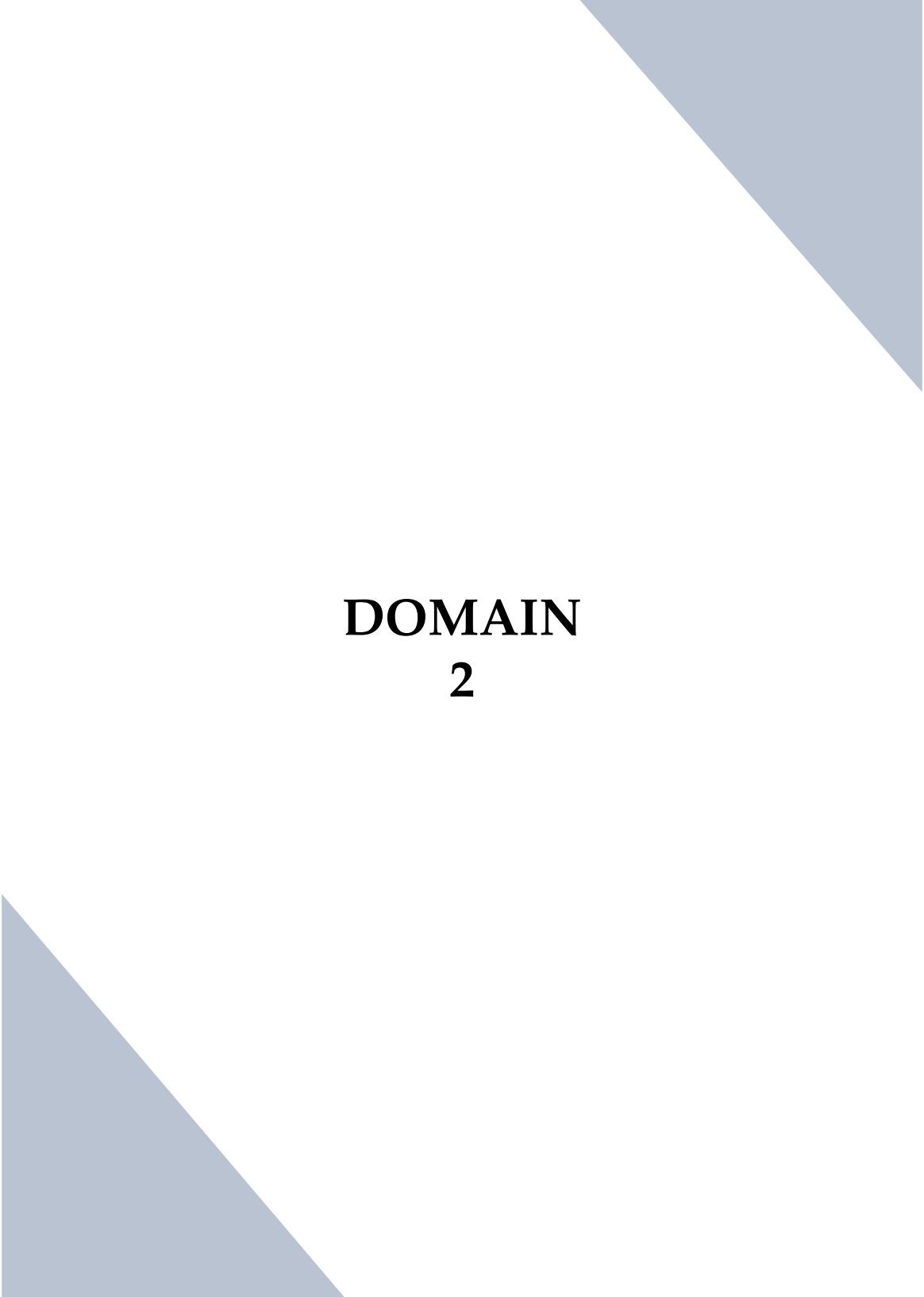
About the Author

Hidde Ceelen is a BSc Business Economics graduate from Tilburg University since July 2022. Born in Zeeland, in the south of the Netherlands, and on his 18th moved to Rotterdam to study. During his studies he developed himself and his interests tremendously and he learned where his passions and goals lie. His interest in cars and the automotive industry has grown over the years and he found out he wanted to make a career in this field.

In his studies he was mainly interested in the marketing and strategic side of business economics. Therefore, he will be pursuing a Master's degree in Strategic Management - Entrepreneurship. The way businesses are run on a strategic level, the bigger picture, including the business models, marketing management and new ways to develop the business interest him the most. To combine this with one of his passions was a real joy. During the thesis writing process he learned more about the automotive industry and the way large car companies operate and innovate to keep ahead of the competition. This fueled his enthusiasm to work in the automotive industry more and more.

Since he graduated from his Bachelor's program he started his first job as a specialist in the automotive. Since he graduated from his Bachelor's program he started his first job as a specialist in the automotive industry, and aims to learn and grow in this field as much as possible.

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Unemployment Insurance: It's Effect on the Relationship between Personality Traits and Entrepreneurial Intention

Colin Tan

Abstract

This research investigates the relationship between independent variables (IV), personality traits and unemployment benefit systems and dependent variable (DV) entrepreneurial intention, while also covering the moderating effect of unemployment benefit systems on the relationship between personality traits and entrepreneurial intention. The study found that conscientiousness, openness, extraversion and risk propensity are positively related to entrepreneurial intention, while neuroticism is negatively related to this DV. Furthermore, unemployment benefit systems are negatively related to entrepreneurial intention, i.e., as these systems become increasingly generous, entrepreneurial intention decreases. Lastly, these systems could have a moderating effect on the relationship between personality traits and entrepreneurial intention.

Keywords: personality traits, unemployment benefit system, entrepreneurial intention, unemployment insurance

1. Introduction

Personality is a crucial concept in many academic fields and studies, yet it was difficult to conduct reliable research concerning personality, as a solid framework to quantify and measure the concept was absent. In the 1980s and 1990s, the renowned five-factor or big five model was introduced, revised and popularized and this framework provided a superior alternative in terms of reliability for measuring personality to the, at the time, more challenging and extensive methods that were used (Costa & McCrae, 1992; Digman, 1990; Goldberg, 1981).

In spite of the fact that academics have reached the consensus that the ability of the five factor model to describe personality at a rather basic level, more intricate constructs of personality cannot be allocated to one of the five-factor model's dimensions. As this study focuses on entrepreneurship, it includes the risk propensity construct, as it is the most relevant construct in entrepreneurial studies, though it remains controversial (Miner & Raju, 2004; Rauch & Frese, 2007). Certain academics argue that risk propensity is not covered by the five-factor model and that it is therefore justified as a sixth dimension (Paunonen & Jackson, 1996). Others propose risk propensity as a consolidated trait resulting from a particular combination of scores on the five-factor dimensions (Nicholson, Fenton-O'Creevy, Soane, & Willman, 2005).

One of the big five personality dimensions, which are agreeableness, conscientiousness, extraversion, openness, neuroticism, four are proven to have a significant association with entrepreneurial intentions, since only for the agreeableness dimension no significant relationship with entrepreneurial intentions was established (Zhao, Seibert, & Lumpkin, 2010). Lumpkin et al. also found that risk propensity is positively related to entrepreneurial intentions (2010).

A study that analyzed the relationship between unemployment benefits and new-business formation, or entrepreneurial intention, concluded that there is a negative relationship between unemployment benefits entrepreneurial intent, however this does not imply that high unemployment benefits is undesirable, because although high unemployment benefits result in less entrepreneurial intention, the businesses that are established are more often successful (Xu, 2022). A policy implication for high unemployment benefits is a possible loss of economic welfare that could be attributed to the development that some risk-averse individuals, that have a strong potential in an entrepreneurial career, would neither exploit or discover that potential, because unemployed risk-averse individuals are likely not to start a business if that could result in a loss of unemployment benefits and therefore financial certainty (Xu, 2022). The loss of economic welfare in case of high unemployment benefits can be explained by the notion that startups and SMEs strongly contribute to (technical) innovation and thus economic growth (Acs & Audretsch, 1988). This finding is what inspired this study, as there is an absence of literature that considers the relationship and dynamics between entrepreneurial intentions and both personality traits and unemployment benefits. That is why this study aims to answer the following problem statement.

1.1. Problem Statement

To what extent do personality traits and unemployment benefit systems influence entrepreneurial intention and how is the relationship between personality traits and entrepreneurial intention affected by unemployment benefit systems?

This study examines this problem statement on a regional level.

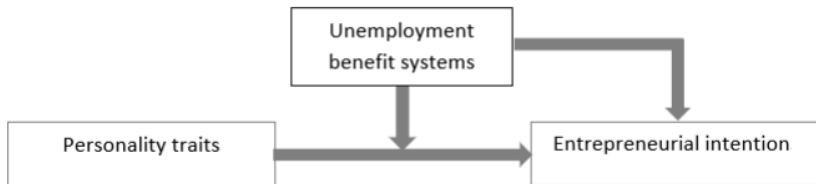


Figure 1. Conceptual framework

1.2. Research Questions

Multiple research questions have been developed to help answering the problem statement

Theoretical questions

1. How are personality traits defined?
2. How are unemployment benefit systems defined?
3. How is entrepreneurial intention defined?

Practical research questions

1. To what extent do personality traits influence entrepreneurial intention for unemployed individuals?
2. To what extent do unemployment insurance policies influence entrepreneurial intention for unemployed individuals?
3. To what extent do unemployment insurance policies affect the relationship between personality traits and entrepreneurial intentions for unemployed individuals?

1.3. Research Design and Data Collection

As this thesis aims to provide a literature review, relevant secondary data is used, A more thorough assessment of the required data is done and appropriate relevant, valid and reliable data sources are consulted.

The references were found using Tilburg University's WorldCat digital library to access the recommended journals for the entrepreneurship theses as listed on Canvas and then the "search within journal" function was used. Once the topic was specified and main articles were selected, the "cited" and "citing" articles were checked to see what other articles would contribute to the value and narrative of the thesis.

2. Personality Traits

2.1. What Are Personality Traits?

Personality traits can be described as the, to some extent unique, persisting patterns of behavior, thoughts and feelings that one possesses that distinguishes one from other individuals (Allport, 1961). It is occasionally assumed that personality traits function solely as a descriptor of behavior, however this study adopts a more comprehensive approach on personality traits, i.e., this study views personality traits as elements that could influence outcomes in life by provoking behavior, thoughts and feelings, and this influence becomes particularly apparent in unfamiliar or ambiguous circumstances (Funder, 1991; Roberts & Jackson, 2008). This proposition is crucial in this study, as the relationship between personality traits and entrepreneurial intentions of unemployed individual can only be explained when taking this approach, since unemployment could be viewed as ambiguous circumstances in which personality traits could provoke certain behaviors, thoughts and feelings that in turn affect the outcomes of unemployment, which in this context is the creation, management and ownership of new business ventures versus all other imaginable outcomes.

2.2. How Are Personality Traits Measured?

The Big Five model was introduced and popularized in the 1980s and 1990s and the framework proved to be a solid and comprehensible descriptor of personality (Costa & McCrae, 1992; Digman, 1990; Goldberg, 1981).

In the following decades, the vast majority of studies covering personality used the Big Five framework as a basis to represent personality. The model is also commonly used in entrepreneurial literature that includes personality traits, which shows that the use of the model in such contexts is justified and that is the main reason why this study makes use of the Big Five model. The Big Five model describes personalities based on subjects' scores on five personality related dimensions. These scores are generated through subjects' answers in well composed questionnaires that include questions and/or scenarios that correlate with the aforementioned Big Five personality dimensions and these scores are then used to position subjects on a spectrum for each of the dimensions.

2.3. Which Personality Traits Are Included in This Research?

One of the big five personality dimensions, which are agreeableness, conscientiousness, extraversion, openness, and neuroticism, four are proven to have a significant association with entrepreneurial intentions, since only for the agreeableness dimension no significant relationship with entrepreneurial intentions was established (Zhao, Seibert & Lumpkin, 2010). In spite of the fact that academics have reached the consensus that the ability of the five-factor model to describe personality at a rather basic level, more intricate constructs of personality cannot be allocated to one of the five-factor model's dimensions.

As this study focuses on entrepreneurship, it includes the risk propensity construct, for it is the most relevant construct in entrepreneurial studies, though it remains controversial (Miner & Raju, 2004; Rauch & Frese, 2007). Certain academics argue that risk propensity is not covered by the five-factor model and that it is therefore justified as a sixth dimension (Paunonen & Jackson, 1996). Others propose risk propensity as a consolidated trait resulting from a particular combination of scores on the five-factor dimensions (Nicholson, Fenton-O'Creevy, Soane, & Willman, 2005).

In the following, the dimensions that are included in this research are explained. First, the conscientiousness dimension describes one's tendency towards or degree of work motivation, achievement, self-control, planning and organization, feeling of responsibility, and traditional norms (Costa & McCrae, 1992; Roberts, Chernyshenko, Stark, & Goldberg, 2005). Second, extraversion is the dimension that describes individuals' level of assertiveness and dominance in social encounters, and it also describes the extent to which they pursue stimulation and whether they are generally optimistic versus pessimistic (Costa & McCrae, 1992).

Third, individuals that score high on the openness (to experience) dimension are predominantly creative and inquisitive (Costa & McCrae, 1992). These individuals tend to challenge the status quo and “think outside the box”. Furthermore, the neuroticism dimension refers to emotional stability. A high score on neuroticism indicates low emotional stability and thus exposure to inauspicious emotions including impulsiveness, depression, malevolence, anxiousness, and vulnerability (Costa & McCrae, 1992). Lastly, risk propensity is a personality dimension that explains individuals’ tolerance for ambiguity especially in the process of decision making, i.e., individuals that score high on risk propensity have a relatively high willingness to pursue ventures with uncertain outcomes (Jackson, 1994).

2.4. Conclusion

In academic literature, personality traits are defined as enduring behavioral, emotional and cognitive patterns that differentiates individuals from others (Allport, 1961). Adding to that, 10 personality traits are elements that can impact outcomes in life by provoking specific behaviors, thoughts and feelings (Funder, 1991; Roberts & Jackson, 2008). Personality is often measured using the dimensions from the Big Five framework, which are agreeableness, conscientiousness, extraversion, openness, and neuroticism, since these dimensions together can provide a sound illustration of one’s personality. However, in this study the agreeableness dimension is not included, for it has been proven that there is no significant relationship between the dimension and entrepreneurial intentions (Zhao, Seibert & Lumpkin, 2010). Moreover, the risk propensity dimension is included in this research despite its controversy in recent literature and this inclusion is justified, because risk propensity is the most relevant construct in entrepreneurial research (Miner & Raju, 2004; Rauch & Frese, 2007)

3. Unemployment Benefit Systems

3.1. What Are Unemployment Benefit Systems?

Unemployment benefit systems are regionally governed programs, most frequently organized by public sectors, that provide unemployed people with allowances (Baily, 1978).

The allowance amounts are usually predefined percentages of unemployed individuals' average income over a certain period before unemployment and the allowances are supplied for a limited period that is initiated upon unemployment. In many jurisdictions, the benefits decrease as the duration of the unemployment period increases. In these activities, public sectors are predominantly financed by their income by means of taxation.

There are several aspects of unemployment benefit systems that vary per jurisdiction. Among the key aspects are: the eligibility conditions; the principles for determining the levels of entitlement; and the nature of administration, i.e., what entities carry the costs and to what extent (Esser et al., 2013). The initial forms of these systems included labor unions and funds that gathered funds through contributions of members and the essence of these schemes is still present in Finland and Sweden, where individuals can voluntarily join unemployment insurance funds, which is a complementary option to the basic unemployment insurance (Esser et al., 2013).

3.2. What is the Purpose of Unemployment Insurance?

Unemployment insurance serves various purposes. From a macroeconomic perspective, unemployment insurance acts as a Keynesian stabilization mechanism that helps guide the economy towards equilibrium in economic crises as well as prevent fluctuations in GDP in times of increased unemployment rates (Esser et al., 2013). From a social perspective, the purpose of unemployment insurance is to maintain decent living conditions for unemployed individuals by temporarily replacing a proportion of their lost income through the previously mentioned allowances and this contributes to making income distributions more equal, which could in turn result in more social integration (Esser et al., 2013).

3.3. How Are Unemployment Benefit Systems Measured?

In the few comparative studies on unemployment benefits that are available, most used secondary data provided by governmental entities and thus, methods for measuring unemployment benefit systems in a comparative setting seem to be lacking in academic literature. Since there is a high likelihood that demographics and economic factors, e.g., GDP, among many other elements, differ across jurisdictions, absolute figures of 12 jurisdictions' total expenditures on unemployment benefits are not comparable and therefore, relative data are required.

Generating these data is an intricate process as there are many elements that should be adjusted for and this together with the availability of reliable and valid data by governments could explain why methods for measuring unemployment benefit systems for comparative studies are absent in literature.

3.4. Unemployment Insurance and Its Ambiguity

According to various economic models, unemployment rates increase as unemployment benefits rise and this is explained by a low willingness and urge to find and accept jobs in case of high unemployment benefits (Tsebelis & Stephen, 1994). Yet, empirical evidence supporting these claims is rather weak (Atkinson, Gomulka, Micklewright & Rau, 1984; Narendranathan, Nickell & Stern, 1985). Pollmann-Schult and Büchel (2005), on the other hand, do acknowledge the positive relationship between unemployment benefits and unemployment rate, but they argue that generous benefits facilitate more extensive job searches, which as a result improves the job match quality. This improved job match quality holds that for high unemployment benefits, job-seekers are less likely to accept jobs that they are overqualified for in contrast to low unemployment benefits, and the prevalence of overqualification in the labor market in case of low unemployment benefits has negative consequences that are similar to the consequences of higher unemployment rates (PollmannSchult & Büchel, 2005).

It can be concluded that many benefits and drawbacks are associated with high and low unemployment benefits and because academic literature has not been able to come to a consensus, the optimal arrangement of unemployment benefits might be subject to interpretation. This could explain why there is a large variety in insurance policies globally and why it is exceptional that conclusive judgements can be made on what type of insurance policy is superior over another.

3.5. Conclusion

In short, unemployment benefit systems are regionally governed programs, that are usually organized by public sectors, that provide unemployed people with allowances (Baily, 1978).

There are several features of unemployment benefit systems that can differ across jurisdictions and among the most important of these features are: eligibility conditions; entitlement principles; and administration (Esser et al. 2013). Moreover, unemployment insurance has several purposes, being that it acts as a stabilization mechanism from a macroeconomic perspective and that it aids in maintaining decent living conditions for 13 unemployed individuals, which ultimately promotes social integration (Esser et al. 2013). Furthermore, most comparative studies that include unemployment benefit systems use secondary data. Ultimately, academics have not come to a consensus on whether high or low unemployment insurance benefits are favorable because of the abundance of benefits and drawbacks associated with both alternatives.

4. Entrepreneurial Intentions

4.1. What Are Entrepreneurial Intentions?

In order to define entrepreneurial intentions, it is essential to first understand what it means to be an entrepreneur, since entrepreneurship is a complex concept that is challenging to define. This study defines entrepreneurs, in line with preceding literature, as individuals that establish, manage, and own small businesses and do so independently (Stewart & Roth, 2001). Next, intentionality refers to a mentality that guides one's focus towards achieving predefined goals and in an entrepreneurial context, this means that the objectives are related to becoming an entrepreneur and therefore, entrepreneurial intentions can be defined as asserted behavioral intentions aimed towards founding, owning and managing small businesses (Bird, 1988; Stewart & Roth, 2001).

Behavioral intentions are, according to Ajzen and Fishbein (1974), among the most reliable predictors of human behaviors, given that the measured intention is specific to its related behavior, and this correlation provides a solid contribution to the relevance of behavioral intentions in academic literature. In this research, the related behavior to entrepreneurial intention is, as previously mentioned, becoming an entrepreneur. A factor that could attenuate the behavioral intention-behavior relationship is potential changes in intentions and “the likelihood of changes in intentions should increase with the time interval between measurement of intention and observation of behavior” (Ajzen & Fishbein, 1974, p. 3).

Entrepreneurs are dependent on many environmental factors, e.g., technological, institutional, economic etc. and since both the entrepreneurial environment and the human mind are dynamic elements, one's entrepreneurial intentions could at times indeed be inclined to change and this, among other things, illustrates the potential discrepancy between entrepreneurial intentions and degree of entrepreneurship.

4.2. What Regional Factors Influence Entrepreneurial Intentions?

Since this research studies the effect of personality traits and unemployment insurance policies on entrepreneurial intentions for two countries of which one has strong unemployment insurance policies and the other one weak, it is important to understand what other environmental factors could affect entrepreneurial intentions, such that the impact of those factors can be minimized in this study. Bird (1988) argues that, besides personal characteristics like personal history, personality, and skills and abilities, entrepreneurial intentions are also influenced by environmental factors such as regions' social, political and economic contexts. Another fundamental research, in literature concerning entrepreneurial intentions, by Ajzen (1991) presents the widely used theory of planned behavior, in which he suggests that three major determinants of intention are attitude towards the related behavior, subjective norm, and perceived behavioral control. Bird's (1988) and Ajzen's (1991) findings are related in the sense that attitude, subjective norm and perceived behavioral control are affected by institutional as well as social and cultural environments (Díaz-Casero, Ferreira, Hernández Mogollón & Barata Raposo, 2012).

Consequently, an indirect impact of these regional elements on entrepreneurial intentions can be established. Additionally, only few comparative studies have been conducted that examine the impact of regional features on entrepreneurial behavior and corresponding antecedents, thus entrepreneurial intentions. This implies that aside from the institutional, social and cultural factors that are specified by Díaz-Casero et al. (2012), there could be a variety of other regional factors that (in)directly influence entrepreneurial intentions.

This established indirect impact of the aforementioned regional features together with the potential (in)direct effect of other yet unknown regional features on entrepreneurial intentions was taken into account in the selection process of the two countries included in this research with the intention to abide by the *ceteris paribus* principle for as much as is feasible. The selection process is elaborated on in chapter ...

4.3. How Are Entrepreneurial Intentions Measured?

Since this is a comparative study, it focuses on entrepreneurial intention at a national level rather than at an individual level and in order to measure any variable at a national level, the most widely adopted practice in academics is to gather empirical data from representative samples and generalize the findings to the population, i.e., the countries included in this research, if and only if all relevant statistics principles are adhered to. Most recent academic literature on entrepreneurial intentions uses questionnaires, using a Likert scale, that cover both direct and indirect questions concerning entrepreneurial intentions and the indirect questions in this context are questions that collect data on the antecedents of entrepreneurial intentions according to Ajzen's (1991) theory of planned behavior (Autio et al., 2001; Engle et al., 2010). These questionnaires have been structured in various manners in relevant literature, however most recent studies in the field of entrepreneurial intentions seem to have come to a consensus in as much as the structure of the questionnaires in these recent studies has remained relatively similar.

Nevertheless, these methods for measuring entrepreneurial intentions do come with a limitation that should be considered in this study. This limitation is that the constructs in Ajzen's (1991) theory of planned behavior are predominantly used in the measurement of entrepreneurial intention in student populations and because applications of this method in more extensive populations, e.g., countries' entire adult populations, are lacking, the validity of this method in these extensive populations cannot be guaranteed. As this study indeed concerns countries' total adult populations, it refrains from employing secondary data that is collected using the aforementioned methods.

4.4. Conclusion

To summarize, entrepreneurial intentions are expressed behavioral intentions that are aimed towards founding, owning and managing small businesses (Bird, 1988; Stewart & Roth, 2001). Furthermore, behavioral intentions are among the most reliable antecedents of human behavior and this relationship highlights the relevance of behavioral intentions in academics (Ajzen & Fishbein, 1974). In their research, Díaz-Casero et al. (2012) consolidate findings from fundamental articles concerning entrepreneurial intentions by Bird (1988) and Ajzen (1991) and present that attitudes, norms and perceived behavioral control, which are antecedents of entrepreneurial intentions, are affected by institutional as well as social and cultural environments and this implies that entrepreneurial intentions are indirectly influenced by these three environmental factors. Due to a lack of comparative studies on the effect of regional elements on entrepreneurial intentions, it remains unknown whether there are additional regional elements that affect this dependent variable. Finally, the majority of academics gather data on entrepreneurial intentions through questionnaires that include indirect as well as direct questions on this variable. These indirect questions investigate the antecedents of entrepreneurial intentions in accordance with Ajzen's (1991) theory of planned behavior and data that is collected using this method is avoided in this research as the validity of this method has only been guaranteed for student populations.

5. Personality Traits and Entrepreneurial Intention

This chapter aims to answer the following research question: 1 in doing so, it adopts the definitions and information provided in chapters 2 and 4. To establish the relationship between personality traits (independent variable) and entrepreneurial intention (dependent variable), the influence of all personality traits included in this research on entrepreneurial intention should be assessed individually and these personality traits are: conscientiousness, extraversion, openness, neuroticism, and risk propensity.

5.1. Desire for Match between Personality and Work-Environment

Substantial empirical evidence using both the person-environment fit and the career choice theory indicates that individuals tend to select work environments that match well with their personality, interests and values (Zhao, Seibert & Lumpkin, 2010). Founding, owning and managing new businesses demands entrepreneurs to fulfil numerous distinctive tasks and roles such as executive manager, risk manager, innovator, negotiator, etc. (Chen, Greene, & Crick, 1998). From these premises, it could be inferred that individuals can feel attraction towards pursuing careers in entrepreneurship, which is closely related to entrepreneurial intention, based on their perception of the match between the demands of such careers and their personality. In other words, entrepreneurial intention might be higher among individuals with personalities that fit entrepreneurial careers than among individuals with personalities that do not match with such careers.

5.2. The Dimensions and Their Effects on Entrepreneurial Intention

At first, individuals who score high on the conscientiousness personality trait have a high need for achievement and careers in entrepreneurship offer more opportunities that have the potential to satisfy this need than traditional careers, hence it is expected that individuals that score high on conscientiousness are more likely to have entrepreneurial intentions. This positive relationship between the conscientiousness personality trait and entrepreneurial intention is confirmed by Zhao, Seibert and Lumpkin (2010) and they also found that conscientiousness is among the personality traits that are most strongly associated with entrepreneurial intentions.

Second, high scores on extraversion show high social energy levels, assertiveness and a strong desire for stimulation as well as excitement. Since entrepreneurs are often perceived to be assertive, energetic and seeking for stimulation and because entrepreneurial careers offer conditions that fit with these traits to a greater extent than the majority of other careers, it is expected that entrepreneurial intention increases as extraversion are higher (Zhao, Seibert & Lumpkin, 2010). This correlation is confirmed by Zhao, Seibert and Lumpkin (2010).

Third, high levels of the openness personality trait are associated with increased creativity and abilities to “think outside the box” and high levels of this personality trait fit well with careers in entrepreneurship, for opportunity recognition and the subsequent exploitation of these opportunities are crucial in entrepreneurship and the characteristics of individuals that are high on the openness dimension provide them with the required abilities for this. As a result, it is expected that there is a positive relationship between the openness trait and entrepreneurial intention. This relationship is confirmed by Zhao, Seibert and Lumpkin (2010) and openness proved to be among the traits that are most strongly associated with entrepreneurial intention together with conscientiousness.

Next, individuals that score high on neuroticism are emotionally unstable, which means that they have high levels of nervousness and weak control over impulses. Since entrepreneurs are usually described as the opposite, i.e., emotionally stable, it is expected that there is a negative relationship between neuroticism and entrepreneurial intention. In their study, Zhao, Seibert and Lumpkin (2010) confirmed this relationship.

Lastly, high scores on risk propensity indicate a high tolerance for ambiguity and an increased willingness to engage in business affairs with uncertain outcomes. Given that entrepreneurs are often exposed to dilemmas with uncertain outcomes, it is expected that individuals with high scores on risk propensity are more likely to show entrepreneurial intentions, since there is a better match between entrepreneurial careers and this personality trait for individuals that score high on risk propensity. This expectation has been confirmed by Zhao, Seibert and Lumpkin (2010).

5.3. Conclusion

Individuals could feel attraction towards pursuing careers in entrepreneurship based on their perception of the match between the demands of such careers and their personality. Thus, entrepreneurial intention might be higher among individuals that possess the personality traits that fit entrepreneurial careers. Conscientiousness and openness are both positively related to entrepreneurial intention and these traits showed the strongest relationship with entrepreneurial intention. Extraversion and risk propensity also show a positive relationship with entrepreneurial intention. Neuroticism is the only personality trait that has a negative relationship with entrepreneurial intention.

6. Unemployment Benefit Systems and Entrepreneurial Intentions

This chapter aims to answer the following research question: 2 In doing so, it adopts the definitions and information provided in chapters 3 and 4.

6.1. Establishing the Relationship

Xu (2022) found that as unemployment benefit systems get increasingly generous, the probability individuals start a career in entrepreneurship diminishes and if a career in entrepreneurship is actually pursued under these conditions, the time of unemployment increases. The start of entrepreneurial careers are human behaviors, and intentions are the most reliable antecedents of human behaviors (Ajzen & Fishbein, 1974). Therefore, the establishment of a negative relationship between unemployment benefits and entrepreneurial intentions is justified.

6.2. Comparing Data on Sweden and Finland

To further solidify the validity of this relationship, this section compares data concerning unemployment benefit systems and entrepreneurial intentions for Finland and Sweden. As explained in chapter 4.2, there are many regional factors that influence entrepreneurial intention and the difference in regional factors should be minimized when comparing two countries in order to maintain validity of the results. Also, in order to successfully assess the effect of unemployment benefit systems on entrepreneurial intention, both a generous and less generous system should be included. For these reasons, Finland and Sweden were selected. Finland and Sweden's GDP per capita, €37.400 and €44.340, respectively, are roughly in the same order of magnitude (Eurostat, 2021). Also, regional factors such as cultural, institutional and economic environments are relatively similar in Finland and Sweden. Both countries' institutional environments are similar, since both countries are EU members, which means that both countries are not only subject to national, but also EU laws.

The main differences between the Finnish and Swedish unemployment benefit systems is that the Finnish system has less strict eligibility conditions and provides a longer duration of entitlement to the benefits than Sweden and the relative entitlement levels and principles used for determining entitlements are similar (European Commission, 2022a; 2022b). Consequently, it can be stated that the Finnish unemployment benefit system is more generous than the Swedish system and this is also shown by their relative unemployment expenditures, that are taken as percentages of the countries' GDPs, which are 0.30% and 1.94% in Sweden and Finland, respectively (OECD, 2018).

The Global Entrepreneurship Monitor (2021) expresses entrepreneurial intention as the percentage of countries' 18–64-year-old population that expresses the intention to start a business within three years and for Finland, this percentage is 9.74%, and for Sweden 13.10%. From these data it can be inferred that Finland has a more generous unemployment benefit system and a lower rate of entrepreneurial intention and Sweden has a less generous system and higher rates of entrepreneurial intention. This confirms the validity of the negative relationship between the generosity of unemployment benefit systems and entrepreneurial intention.

6.3. Conclusion

The establishment of the positive relationship between the unemployment benefit systems and entrepreneurial intentions are justified when combining Xu's (2022) and Ajzen and Fishbein's (1974) findings. The validity of this relationship can be confirmed when comparing data from Finland and Sweden regarding unemployment benefit systems and entrepreneurial intention. According to the data, Sweden has a less generous benefit system and a higher rate of entrepreneurial intention than Finland and this solidifies the validity of the negative relationship between unemployment benefit systems and entrepreneurial intention.

7. The Effect of Unemployment Benefit Systems on the Relationship between Personality Traits and Entrepreneurial Intention

This chapter aims to answer the following research question: 3 In doing so, it adopts the definitions and information provided in chapters 2, 3 and 4.

7.1. Combining Theories

The moderating effect of unemployment benefit systems on the relationship between personality traits and entrepreneurial intention is the main focus of this study, as this is the aspect by which this study expands on existing literature. As previously mentioned, individuals have the tendency to choose work-environments that match well with their personality (Zhao, Seibert & Lumpkin, 2010). Adding to that, as unemployment systems get more generous, less individuals decide to start a career in entrepreneurship and the time of unemployment increases (Xu, 2022). The aim here is to relate these two findings.

7.2. Unemployment Benefit Systems and the Personality-Work-Environment Fit

If unemployed individuals do not have a realistic perception of their abilities as an entrepreneur, more generous unemployment benefit systems impede risk-averse individuals' willingness to start an entrepreneurial career and as a result these individuals lose the opportunity to understand their abilities (Manso, 2011). This suggests that in case of higher unemployment benefits, individuals require a better fit between their risk propensity trait and the entrepreneurial work-environment before they decide to pursue a career in entrepreneurship, which means that only individuals that score high on risk propensity show entrepreneurial intention under these circumstances, whereas in case of higher unemployment benefits, the average minimum level of risk propensity for individuals to start a business could be lower. To put it differently, it could be argued that in high unemployment benefits impede the entrepreneurial intention of individuals low on risk propensity and these high benefits would therefore crowd out these individuals from starting their own business.

Although there is a lack of empirical evidence of this effect on personality traits other than risk propensity, this study expands the theory to the other personality traits that are included in this research. Given that for high unemployment benefits, individuals could feel the need to have a better fit between risk propensity levels and work-environment to show entrepreneurial intention compared to when unemployment benefits are low, and that the perceived match between personality and work-environment determines entrepreneurial intention, the risk propensity and work-environment fit might not be the only limiting factor to entrepreneurial intention as unemployment benefits increase, but the entire personality-work-environment match could be a limiting factor. For that reason, unemployment benefit systems might positively affect the relationship between personality traits and entrepreneurial intentions, i.e., as the systems become more generous, the effect of personality traits on entrepreneurial intentions could be strengthened.

7.3. Conclusion

Individuals tend to search for work-environments that fit well with their personalities (Zhao, Seibert & Lumpkin, 2010). Also, as unemployment benefits increase, entrepreneurial intention decreases. More generous unemployment benefit systems impede risk-averse individuals' willingness to start an entrepreneurial career, which means that their entrepreneurial intention is decreased (Manso, 2011). So, when unemployment benefits are high, individuals tend to look for a better fit between work-environment and their risk-propensity rate than they would when unemployment benefits are lower. This crowds out individuals low on risk-propensity from showing entrepreneurial intention when benefits are high. Expanding this view from risk-propensity to personality in general, it could be stated that unemployment benefit systems positively influence the relationship between personality traits and entrepreneurial intentions.

8. Discussion

The conceptual model (see figure 1) shows all relationships between the studied variables in this research and: personality traits, unemployment benefit systems and entrepreneurial intention.

The personality traits all have a significant impact on entrepreneurial intention as is substantiated in chapter 5. Unemployment benefit systems also have a significant effect on entrepreneurial intentions, however academics are still divided as to whether this is a problem that should be tackled, as both generous and less generous unemployment benefit systems are associated with many benefits and drawbacks. The moderating effect of unemployment benefit systems on the relationship between personality traits and entrepreneurial intention remains hypothetical as empirical evidence was lacking.

Unemployment benefit systems are controversial topics as there are many supporters and opponents of generous unemployment benefit systems in politics, economics, academics and society. A possible explanation for this division is that there are many stakeholders involved in unemployment benefit systems, namely, companies, unemployment funds, governments, unemployed individuals, employed individuals, etc. And as is widely known in stakeholder theory, each stakeholder acts in its own interest and that could result in conflicting motives. This, however, does not mean that the current state and view on unemployment benefit systems should be accepted. As is indicated in this study, as unemployment benefit systems get increasingly generous, entrepreneurial intention decreases, which reduces business formations and this could result in a loss of economic welfare (Xu,2022). This is because SMEs are among the key contributors to innovation and thus economic growth (Acs & Audretsch, 1988). From a capitalistic perspective, the loss of economic welfare should be prevented and therefore, an equilibrium should be found in the nature of unemployment benefit systems where there is a fair trade-off between potential loss of economic welfare and the stabilization of the economy as well as society.

As explained previously, the moderating effect of unemployment benefit systems on the relationship between risk propensity and entrepreneurial traits has been established (Manso, 2011). However, empirical evidence of this same dynamic with a more extensive independent variable, i.e., personality traits, is lacking. However, since risk propensity and the other personality traits included in this research are often seen as a coherent mechanism in entrepreneurial literature, it could be argued that the generalization of the aforementioned 24 moderating effect could be generalized to this more extensive independent variable, personality traits.

In many studies on entrepreneurial intention, the importance of the influence of motivators related to entrepreneurship in education on entrepreneurial intentions is stressed. In many countries, education focuses on preparing students for traditional career paths, but, if this focus would be shifted towards more entrepreneurial values, entrepreneurial intention among students could increase. This shift of focus would be a good complementary measure in regions with generous unemployment benefit systems to minimize the loss of economic welfare attributable to decreasing entrepreneurial intention as a result of the high benefits.

9. Conclusions and Recommendations

9.1. Conclusions

This section aims to answer the problem statement as it is listed in chapter 1.1: *“To what extent do personality traits and unemployment benefit systems influence unemployed individuals’ entrepreneurial intention and how is the relationship between personality traits and entrepreneurial intention affected by unemployment benefit systems?”*.

This study answered this question by dividing the problem statement into several research questions. It has been established in chapter 5 that conscientiousness, openness, extraversion and risk propensity have a positive influence on entrepreneurial intention, whereas neuroticism has a negative influence on the dependent variable. In chapter 6, a negative relationship between unemployment benefit systems and entrepreneurial intentions was found. Lastly, in chapter 7, a potential positive moderating impact of unemployment benefit systems on the relationship between personality traits and entrepreneurial intentions was suggested.

9.2. Limitations and Suggestions for Future Research

This research has some important limitations that should be taken into account in future research. First, unemployment benefit systems do not capture the occasional supportive services provided by unemployment insurance institutions and therefore, the effect of unemployment benefit systems do not capture the full effect of unemployment insurance policies as a whole.

The supportive services were omitted because it is hard to develop constructs that successfully capture the extent of supportive services in unemployment insurance systems. Next, the comparison of Finland and Sweden to support claims on the correlation between unemployment benefit systems and entrepreneurial intentions does not provide sufficiently valid results, since, as is mentioned throughout this study, there are many (unknown) regional factors that affect entrepreneurial intention and it is virtually impossible to adjust for all of them. Lastly, the moderating effect of unemployment benefit systems mentioned in this study requires further examination, as this study was merely able to provide suggestive comments on this relation.

9.3. Recommendations for Managers

The recommendations for managers, or, in this context, policymakers, is to retain relatively high unemployment benefits, while implementing complementary measures in education. These measures include shifting the focus in education more towards entrepreneurship

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‘What Factors to Consider while Developing a Facilitating Environment that Stimulates Immigrants’ Entrepreneurial Behavior’

Khetab Mashhadi

Abstract

Immigration is a very common phenomenon in today’s society, as of recent years, the topic is becoming increasingly important, with the exponential growth in the number of immigrants. It is generally believed that immigrants are mostly very business-minded people, which awakens the need to learn more about immigrants and their entrepreneurial behavior. Immigrants go through traumatic experiences and can most of the time, depending on their country of destination, no longer practice their initial profession in the country of destination. Subsequently, this research aims to explain how immigration and integration policies in The Netherlands and the US influence the job participation levels, as well as the entrepreneurial behavior among immigrants in that country. This will allow the countries to learn from one another, to eventually develop more effective processes of immigration and integration. It is believed that flexible and customized immigration and integration processes are more positively related to job participation levels. In addition, the moderating effect of cultural background is also taken into consideration. To be precise, the Indian and Chinese cultures are discussed. Both cultures possess facilitating and hindering components that, in combination with personality traits and characteristics, influence entrepreneurial behavior.

Keywords: Immigrant entrepreneurship, immigration & integration policy, entrepreneurial behavior)

1. Introduction

1.1. Problem Indication

The topic of immigration and refugees has proven to be very relevant in recent years, especially after the recent refugee crisis from Ukraine, western Europe has been flooded with a big number of refugees that have fled their country to resettle elsewhere. Consequently, it is becoming increasingly important to understand the process of immigration and economic participation that refugees will undergo in their respective countries of destination. A lot of research has already been conducted regarding the characteristics of an entrepreneur. (Aldrich HE and Waldinger R 1990) studied the relationship between ethnicity and entrepreneurial behavior. Moreover, (Tubergen 2004) researched the participation and employment of migrants in 18 different countries. It suggested that in the labor market, the performance of immigrants does not solely rely on their characteristics and traits, but rather also on their country of origin and their country of destination. This highlights the importance of the environment in employment.

This paper shall research the void that is left in-between the already conducted research. It will explain the relationship between immigrants' willingness to undertake entrepreneurial businesses in their country of destination and the approach that their respective country of destination implements regarding immigrants while taking into consideration that this relationship can be moderated by the cultural background of the immigrants.

1.2. Problem Statement

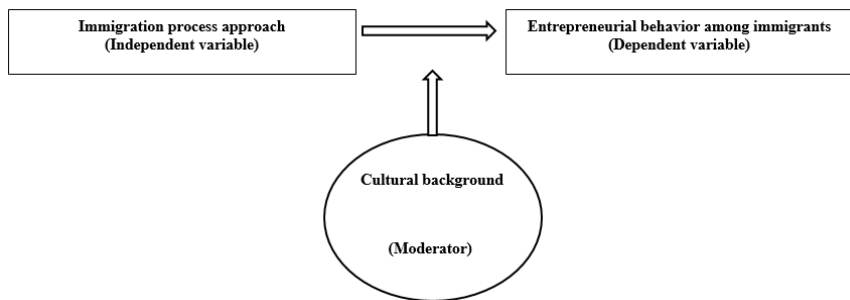
This paper shall focus on small and medium enterprises, as those are the most relevant type of firm size for the research. Also, this research does not focus on a specific gender. Moreover, it will compare immigrants in two western countries, those being The Netherlands and The United States of America. Both countries implement a significantly different approach when it comes to the processes of immigration, integration, and inclusion, thus it will illustrate the effect of both approaches on immigrants' entrepreneurial behavior, defining the facilitating and hindering factors. Therefore, this research could also be helpful when it comes to determining and developing the optimal process for immigrants to stimulate their entrepreneurial behavior.

To summarize, the different approaches during the immigration process will serve as the independent variables (**IV**). Consequently, the degree to which the immigrants' entrepreneurial behavior is stimulated will serve as the dependent variable (**DV**). Lastly, as entrepreneurial behavior is influenced by many external factors as well, this paper will study the most relevant moderating variable on the relationship between the independent and the dependent variables, which is the cultural background. In this case, the paper will mainly focus on the Chinese and Indian cultures in specific. To project a clearer image of this research, a schematic overview is provided in the conceptual model below (Figure 1).

The main research question will be as follows:

To what extent are migrants likely to pursue entrepreneurship in the country of destination, depending on their cultural background?

Figure 1: Conceptual model



1.2.1. Research Questions

Several research questions need to be addressed, to jointly form a sufficient basis for answering the main research question. The research questions are as follows:

1. To what extent are immigrants willing to work in the country of destination?
2. What are the main characteristics of cultures that facilitate entrepreneurial behavior?
3. What process of integration do The Netherlands and The USA use for immigrants and how do they differ in their approach to immigrants?

1.2.2. Relevance

According to recent research (Fairlie & Lofstrom, 2015), it is believed that immigrants are highly entrepreneurial, and immigrant entrepreneurs are believed to have brought substantial value to the US economy. Additionally, research conducted by Azoulay et al. (2020) shows that in the US, immigrants are more likely to undertake entrepreneurial behavior, compared to natives. As this research aims to explain entrepreneurs' entrepreneurial behavior and willingness to work, considering their cultural background, as well as the immigration and integration policies in the country of destination, it will not only be relevant on a managerial level, rather also at the state level, to policymakers.

Managers and businesses will be able to develop more compassionate and effective strategies regarding immigrants, by obtaining more knowledge and understanding of the different internal and external components that attribute to immigrants' willingness to work and employee satisfaction.

Regarding policymakers, this paper will seek to provide additional insights on the effect of different approaches on immigrants' job participation and entrepreneurial behavior, providing useful context for state policymakers, in their conquest to develop efficient and effective immigration and integration policies that will enable the country to unlock the full potentials of immigrants coming to their country. Providing substantial value to both, the economy, and the immigrants.

This paper will plead to combine the existing knowledge and data on the topic of immigrant entrepreneurship and aim to fill the gap in the existing academic literature on this specific topic.

1.2. Research Methods

This paper will mainly be designed around a literature review, in which relevant secondary data will be used and examined. This collection of secondary data will contain necessary academic articles from renowned journals on the relevant topics. Furthermore, to obtain trustworthy and high-quality data, the main instrument of data collection will be the Tilburg University library and Google Scholar, both of which will be advantageous and convenient, as it enables us to search for specific information, articles, and journals in a very clear and easy way. Moreover, it will provide accessible and relatively relevant information for this research.

The sources of these articles will be available on the cover page or easy to look up, enabling one to narrow down the selection and usage to genuine and trustworthy sources for this paper. Also, with the help of source tracing, the references of relevant articles will be looked up, to search for further information and get to the sources of information. The limitations to using this way of gathering information will be the difficulty to filter the large amounts of provided articles. Furthermore, it will be more complicated to get a more diverse set of insights on the topic when the references are looked up. To conquer these limitations to some extent, the focus will not be on one single data collection method, it will be rather important to use diverse methods of collecting the needed data.

1.3. Research Structure

This research will be structured as follows, first, the research questions will be addressed with the help of relevant academic information. Every chapter includes a short conclusion to summarize the chapter. Then, the discussion will seek to combine all theoretical data to form an interpretation of the whole thesis to sufficiently address the main research question. Lastly, the conclusion will include the limitations and implications for future research.

2. Willingness to Work

In this research, the entrepreneurial behavior of immigrants will be discussed, and one very important factor that effectively influences this behavior is the willingness to work. It is a known fact that most entrepreneurs are hardworking individuals whose willingness to work is rather high, as they are generally very dedicated to their business. Therefore, to examine the entrepreneurial behavior of this group of people, it is rather essential to determine their willingness to work in their respective countries of destination.

2.1. Defining Willingness to Work

First, it must be made clear that there is a difference between one's ability and one's willingness to work. The ability to work depends more on characteristics such as the physical and psychosocial workload (Geuskens et al., 2012).

For instance, some of us are more limited when it comes to our physical capabilities than others, which consequently affects our ability to perform physically demanding work. In contrast, the willingness to work focuses more on intrinsic motivation and external factors that motivate and support our will to work more. Earlier, it was believed that our willingness to work is significantly influenced by work-related factors. However, recent studies have proved that it is mostly non-work-related factors that play a significant role when it comes to our willingness to work, it stresses that the social aspects are relatively more important.

Moreover, there is a difference in factors that influence employees' willingness to work, compared to those that influence an entrepreneur's willingness to work. An entrepreneur will rely more on his or her intrinsic motivation to support their willingness to work, as there are generally higher risks involved with pursuing entrepreneurship and starting your own business, in comparison to working for an employer. Recent research divided entrepreneurs into two different types of groups, opportunity entrepreneurs, and necessity entrepreneurs (van der Zwan et al., 2016). It stresses that both types of entrepreneurs differ in terms of factors that support or hinder their engagement in entrepreneurship, signaling factors that affect their willingness to pursue their business. Per the paper, necessity entrepreneurs are those who are likely to be motivated to start a business as a consequence of dissatisfaction with their previous employment situation. In contrast, opportunity entrepreneurs pursue entrepreneurship because they see an opportunity, which causes their pursuit to be based on a more voluntary basis. This leads to a difference in types of factors that effectively influence both types of entrepreneurs, as both are based on different situations.

2.2. Factors Affecting the Willingness to Work

Now that it is defined and explained what the willingness to work means, we can move on to elaborate on the fundamental factors that influence our willingness to work. Firstly, the usual factors that affect the willingness of employees to work, will be discussed. Then, these factors will be compared to those that affect entrepreneurs in this context.

To begin with, employees are affected by internal and external factors. Internal factors such as health and age affect one's willingness to work. For instance, when one is emotionally and/ or physically not healthy, it consequently impacts his/ her willingness to work.

Moreover, there could also be work-related factors that affect our health and subsequently influence our willingness to work. To illustrate, employees can get emotionally exhausted from working long hours or doing work that drains them mentally, in case such a situation occurs, it has a strong negative impact on one's health and motivation.

As mentioned earlier, employee satisfaction itself is dependent on multiple factors, thus it can be explained in different manners. Research conducted by Fosam et al. (1998) based employee satisfaction on the following three factors: job satisfaction, employee morale, and colleague morale. However, in this case, it is more relevant to choose a more elaborated approach to develop a more understandable comparison between the variables that affect employees' willingness to work and those that affect an entrepreneur's willingness to work. Therefore, the following external organizational factors are relevant in this case (Sageer, 2012):

The social environment: this defines all the relevant social aspects of the job such as the relationship between co-workers.

Career development: this refers to the presence of, and possibility for career development opportunities within the company.

Job satisfaction: job satisfaction contains all the characteristics of the job itself such as the autonomy one gets to perform his/ her job, the recognition one gets for the job, and the way the job is designed to be performed.

Job security: The assurance for an employee to keep his/ her job in the future. Mostly in times of recessions, this variable leads to dissatisfaction, as the risk to lose one's job increases due to the recession.

Policies regarding compensation: Policies that are implemented by the company to address compensation such as different wage levels and bonuses.

Moving on, when it comes to personal (internal) variables that affect the perceived employee satisfaction, the following variables are relevant:

Age: It is believed that younger people are usually more satisfied employees, as their energy levels are relatively high, and they are more open to new innovative ways of working.

Personality: When one's personality is suitable for the company's organizational culture, employee satisfaction is also perceived to be higher.

Expectation: This involves the expectations one develops before starting to work, when this expectation is not met, the level of employee satisfaction will be lower.

Education: It is generally believed that the education level has a positive impact on employee satisfaction, as higher levels of education usually allow us to constantly develop our personality, to be more rational, and possess more thinking power to understand situations.

Gender: Research has shown that females are, in general, more satisfied employees.

It is essential for companies to successfully address and provide positive options to both the organizational, as well as personal variables to create and maintain sufficient levels of employee satisfaction.

Nevertheless, there is a contrast between the factors that affect regular employees, compared to entrepreneurs. When it comes to entrepreneurs, some of the assumptions on the personal variables hold, but the whole context will be different, giving a different meaning to those variables. Moreover, as entrepreneurs are the ones who start the business, it is a given that they can effectively influence the organizational variables. In fact, in relatively small to medium businesses, conducting day-to-day tasks is based on very flexible and low-threshold communication, within a rather informal setting.

According to research, entrepreneurs perceive a very positive influence on their job satisfaction levels and attach great value to having more autonomy, flexibility, and independence (Millán et al., 2013). These are indeed also variables that affect an employee's job satisfaction. Still, from both the employer's side, as well as the employee's side, there are limitations to the level of autonomy, flexibility, and independence that one can be granted while working for an employer. Furthermore, research has been conducted regarding the different factors such as start-up motivation, starting capital, performance, gender, and age, that influence an entrepreneur's satisfaction levels (Carree & Verheul, 2011).

The research aimed to provide answers and study what makes entrepreneurs happy, it reported the following main findings: intrinsic motivation only leads to higher satisfaction levels when there is psychological well-being. Intrinsic motivation, for instance, includes one's initial motivation to start up the business and the wish to gain autonomy and be your own boss. It is also believed that entrepreneurs who succeed in balancing their work and family, are more satisfied, as they will benefit from awareness and realistic expectations, as well as more flexible hours.

When it comes to gender, it is reported that women are more satisfied with their income. However, it is also found that women are relatively more vulnerable when it comes to the high number of working hours and the psychological demands that are related to entrepreneurship.

Also, age is found to have no significant impact on an entrepreneur's satisfaction. In this research, it is also reported that individuals who have a higher risk tolerance, are more satisfied with income and the psychological burden attached to the business.

Moreover, entrepreneurs that start a business with relatively higher startup capital, tend to be less satisfied with their business, compared to those who have started with less capital. Consequently, this has to do with the fact that it is harder to satisfy the expectations and achieve a satisfactory rate of return when a high amount of starting capital is involved. Lastly, businesses that operate in complex environmental issues, are related to lower satisfaction levels.

To conclude, an entrepreneur's willingness to continue working and pursuing their business depends on mental and physical health factors, as well as the factors mentioned above, that pose an influence on an entrepreneur's satisfaction levels.

2.3. Internal and External Factors Affecting an Immigrant's Willingness to Work

In the case of immigrants, the willingness to work is also affected by several other factors, besides those that are discussed above. To determine what these factors are, it is important first to analyze the whole situation around immigrants and the social aspects related to the situation.

To begin with, being an immigrant means that one is not in his/ her comfort zone, which already influences the mental state of an immigrant. A study from 2005 argues that there is a difference between the pre-and post-migration stressors that affect one's mental health (Pumariega et al. 2005). Before one can even think about leaving their comfort zone, their home country, they will have to overcome a mental hurdle and then finally decide to move. Therefore, initially, mental health suffers a lot, not only from the fact that one must move but also from the traumas one has experienced. Lately, immigration floods have mostly been caused by war and one cannot imagine the traumatic events that take place in situations of war. Moreover, the children are the ones who are the most vulnerable in such situations, as they see their guardians, their parents, suffer and lose hope.

Moving on, post-migration stressors include the barriers that one must overcome to integrate properly. Most immigrants assess relatively low levels of education and job skills. This initially makes it harder to find a job.

Furthermore, when it comes to adjusting yourself, in terms of your cultural background, personal beliefs, and regular ways of living your day-to-day life, it is proven to be very mentally exhausting, which again negatively influences mental health. Moreover, perceived discrimination and equality also affect an immigrant's willingness to work. When one does not get the feeling of inclusion and equality, it negatively impacts their intrinsic motivation to work. Although over the years, discrimination and equality have become a regularly discussed topic, minorities do still perceive discrimination on a regular basis. Research has concluded that discrimination is increasingly recognized as a risk to mental health (Finch et al., 2000).

Apart from the societal effects on immigrants, there are also variables within the family that affect them. For example, there is pressure from their families to start working or studying as soon as possible, causing them to be less acknowledging of their mental state and rushing through processes to please their family members. Also, when families are left behind in the home country, there is even more pressure on immigrants to start working soon after they arrive, to provide financial support to those back home.

Nevertheless, immigrants are also known for being ambitious and driven people. This can simply be explained by the following, immigrants usually do not have the benefit to study in their home country, which consequently awakens and maintains an urge to be more ambitious and make the best use of the limited opportunities that their life has provided them with.

2.4. Conclusion

To conclude this chapter, one's willingness to work depends on several personal, organizational, and societal factors. In the case of employees, the organizational factors are given, and they depend on the type of organizational culture that is implemented by the employer. However, in the case of entrepreneurs, the focus is on the personal factors that eventually drive an entrepreneur. The important variables that determine an entrepreneur's willingness to work, for the most part, are intrinsic motivation, determination, and perseverance. Lastly, regarding immigrants, their willingness to work depends on their personal variables, most importantly their mental health, and the societal variables that can significantly influence their willingness to work.

3. Cultural Aspects

As mentioned during the introduction, this research aims to specifically focus on the Indian and Chinese cultures. To provide a sufficient and well-balanced contextual background, both internal personality aspects, as well as cultural aspects will be discussed in this chapter. Therefore, the different personality traits of an entrepreneur will be discussed in the beginning, followed by an analysis of both cultures regarding their respective characteristics that facilitate and support entrepreneurial behavior. Even though both cultures appear very different from one another, both have proven to provide very successful entrepreneurs over the years.

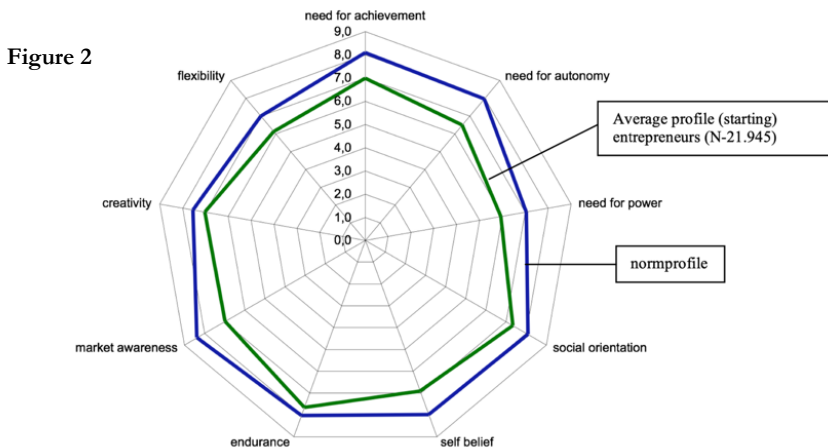
3.1. Traits and Characteristics of Entrepreneurs

To begin with, it is generally believed that some specific traits and characteristics shape an entrepreneur and drive them to end up pursuing entrepreneurship. However, there is a difference between unique personality traits that one is born with and characteristics that form and shape our personality throughout life. The latter ones are not solely dependent on the entrepreneur himself, but rather also on external effects such as the environment in which one grows up and the cultural background one inherits. Although constant learning and practice are proven to be essential for personal development, there are some characteristics that one is naturally born with, those that are unique from others and cannot be learned. Regarding these personality traits, research suggested that successful entrepreneurs possess a combination of the following traits (Lumpkin & Dess, 1996).

Firstly, entrepreneurs are believed to possess high levels of autonomy. This signals that entrepreneurs can act upon opportunities independently and are capable of independently bringing forth their ideas. Moreover, successful entrepreneurs have proven to be innovative, as they always succeed to come up with creative, out-of-the-box, ideas for existing problems, thus innovativeness is one of the key traits of an entrepreneur. Furthermore, the risk-taking behavior of an entrepreneur is relatively high, this complies with another trait of entrepreneurs, namely the fact that they are proactive. This implies that when an opportunity is recognized, entrepreneurs act accordingly and fast. Additionally, the successful recognition and assessment of problems and needs can also be seen as unique talents that successful businessmen possess.

Finally, as per the findings of the article, for new entrepreneurial businesses to survive, it is essential to have competitive aggressiveness. This includes the ability to compete intensely against competitors to change the position of your business and secure prosperity and development.

Apart from the traits mentioned earlier, entrepreneurs have a diverse set of other characteristics such as intrinsic motivation, determination, and perseverance, that determine their approach. In research from Driessen and Zwart (2006), entrepreneurs were asked to provide self-reflection on their possession of several characteristics, this was then compared to expectations initially given by consultants (Figure 2).



source: (Driessen and Zwart, 2006)

3.2. Facilitating Aspects for Entrepreneurship within the Indian Culture

Indians nowadays take some of the highest positions in large multinational corporations, for example, Sundar Pichai, CEO of Alphabet, and Satya Nadella, who is the CEO of Microsoft. Furthermore, there are also famous Indian entrepreneurs such as Dhirubhai Ambani and Tata. In this part of the paper, we will examine how cultural aspects affect Indians in their pursuit of entrepreneurship. When looking at Indian culture, it is usually looked upon as a very basic culture at the surface.

However, when looking deeper into the culture and analyzing all its components, we can perceive the vast diversity within the culture itself. India is not only divided into subcultures, but the country also includes diverse religions and various languages. Therefore, within this part, the main components of the Indian culture will be discussed concerning the religion of Hinduism, as well as other relevant components of the culture, to then go on and describe the main facilitating factors of the culture that support Entrepreneurship.

India is a very religious country in general, as there are only around 2,9 million atheists among the 1,38 billion population, thus making religion an important part of the Indian culture. Recent data shows that the largest religions are Hinduism, with 79,8% of the population being Hindu, and Islam, with 14,23% of the whole Indian population being a follower of Islam. Relatively smaller religions are Christianity, with 2,3% of the population, and Sikhism, which is the least followed religion among the four with 1,72% of the population being Sikh. Hinduism is the most followed religion in India and the Indian culture is mostly centered around this religion.

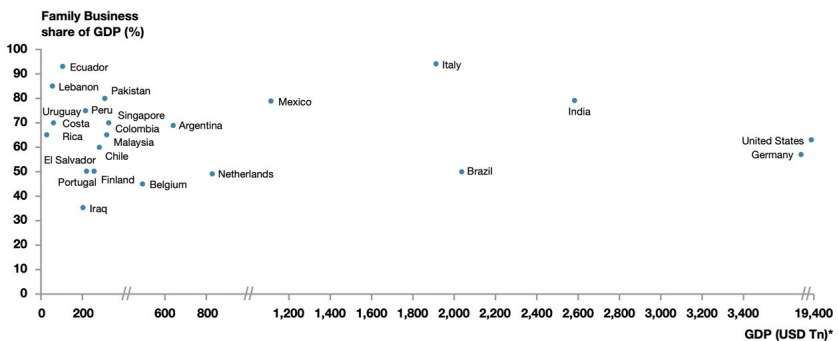
The religion of Hinduism can be described as one that is centered around truth, it is the truth that triumphs. Although the religion is based on strong family bonds and harmony, it also respects one's personal space. Moreover, the religion divides society into castes, creating social barriers and hierarchy within society. The religion also emphasizes that learning and education are essential for one to reach the four aims of life, described as, virtue, wealth, pleasure, and liberation. There is a difference between education that is based on the knowledge of the scriptures, rituals and rules, and knowledge that is obtained through self-realization and personal experience. The latter type of knowledge is preferred over the former.

The strong inter-family bonds cause pressure from within the family, which pressurizes one's need for achievement. However, in case of excessive pressure, it could lead to negative mental pressure, which is negatively related to the overall job satisfaction and pursuit of entrepreneurial behavior. Also, the fact that one's personal space is respected, supports independence, which is one of the main personality traits of entrepreneurs. Nevertheless, Hinduism implements limitations when it comes to socialization and networking, as it creates social barriers through its caste system. This poses an immense threat to entrepreneurial behavior when one belongs to the lower castes. Also, according to research, Indians are relatively more passive, compared to Westerners, as they believe more in destiny and are convinced that it is essential to be happy with the status quo, which is a threat to entrepreneurship (Dana, 2000).

Lastly, education, in particular self-realization personal experience, is perceived as one of the most essential parts of the religion, which facilitates entrepreneurial behavior. Self-realization allows one to reflect upon his/ her personality and successfully assess and discover your strengths and weaknesses, which allows one to constantly reflect and improve. Also, reflecting upon your personal experiences in combination with self-realization, are vastly essential aspects that are one of the main ingredients for successful entrepreneurship.

Another facilitating factor for entrepreneurial behavior within the Indian culture includes the business culture. In India, a large proportion of the corporations are family-owned, which is supported by the fact that there are strong ties among family members. It is reported that in 2015, family-owned businesses delivered around 79% of the total GDP in India. This could be very beneficial as one can possibly rely on and trust upon financial and emotional backing from the family, which is a facilitator for entrepreneurial behavior. However, the fact that nepotism is a widely implemented phenomenon in India, forms a limitation for starting entrepreneurs, as existing businesses are more likely to do business with family members or relatives, because they are trusted more. As per a report, constructed by Alvarez and Marsal in 2015, the following table (Figure 3) is given regarding family-owned businesses and their contribution to the GDP of the respective country to highlight the differences among several countries.

Figure 3



Source: (Alvarez and Marsal, 2005)

3.3. Facilitating Aspects for Entrepreneurship within the Chinese Culture

Moving on to the Chinese culture, the paper will analyze facilitating aspects for entrepreneurial behavior within this culture in a similar way as the Indian culture. Like India, China has also provided the world with numerous successful entrepreneurs, the most popular of them being Jack Ma, who is the co-founder and CEO of the Alibaba group.

In contrast to India, the Chinese are not as bound to religion, as almost 90% of the Chinese population reported themselves as atheistic. However, the Chinese culture is highly influenced by several philosophical beliefs, the most implemented being Confucianism. The belief of Confucianism is based on the following three core elements: humanistic, obligation-based, and collectivistic (Ip, 2009). This means that the whole philosophy is centered around the human being, making it humanistic. Confucianism promotes love and respect towards fellow human beings, but also independent personal characteristics such as self-activation, self-cultivation, self-reflection, self-reliance, and moral authenticity (Tsai, 2005). All of these are facilitating personality traits for autonomy, which is also positively related to entrepreneurial behavior.

Furthermore, the belief is also based on an obligation-based society, meaning that relationships are based on social obligations. Ideally, human beings should behave according to these obligation-based behavioral rules of conduct, which are in turn based on human moral traits that are divided into the following three main components: the moral capacity of compassion, sense of rightness, and reciprocity (Ip, 2009). This component of Confucianism does have an indirect positive influence on entrepreneurial behavior, as the intrinsic motivation will be much higher when one is convinced of doing the righteous thing, while being compassionate and providing for others' needs with his/ her business.

Lastly, the third core element of Confucianism is collectivism, which states that collective interests are above individual interests. This can be implemented on a smaller, family-based, scope, but also to the larger picture, at the state level. However, this phenomenon is related to a hierarchical system, which means that those who possess submissive roles, need to respect, and obey those who have the dominant role, but the dominant roles should respect others as well. We can observe how the Chinese government inherits a dominant role in the population.

This effectively creates a social barrier and forms a limitation to the development of entrepreneurial behavior.

Apart from Confucianism, the Chinese culture is known for its discipline, which is learned by regular civilians from a very young age onwards. This discipline can play a facilitating role, but it can also form a limitation. When one is disciplined, he/she is more likely to have a strong motivation for achieving their goal. However, it could also be a limitation when it comes to entrepreneurship, as it sets the focus on thinking inside the box, posing a threat to creative and innovative thinking.

3.4. Conclusion

Both China and India are Asian countries and emerging world economies. Even though both cultures are very diverse, both countries have many successful entrepreneurs. The fact that both countries are emerging world economies, creates some disadvantages. For instance, there is usually a lack of rules and regulations that should effectively discourage monopolies and unfair trading, while also providing protection for intellectual property to facilitate entrepreneurship (Kshetri & Dholakia, 2011). The lack of such rules and regulations forms a barrier to entrepreneurship. Also, in emerging economies, there is relatively more corruption, which again forms a barrier for new businesses. According to the same article, the regulative environment in China is more favorable for entrepreneurship, as compared to that of India.

Regarding the Indian culture, we can conclude that it is mostly influenced by the religion of Hinduism. Facilitating factors for entrepreneurship are, the need for achievement, independence to a point, and family backing. However, some big barriers within the Indian culture must be overcome to pursue entrepreneurship. Apart from the issues related to emerging economies mentioned above, the biggest threat to entrepreneurial behavior would be the caste system in India, which effectively creates social barriers. Also, the passivism and notion to be happy with the status quo, are threats to entrepreneurial behavior, as it limits innovation and risk-taking behavior.

Lastly, when it comes to Chinese culture, it is notable that religion does not play a significant role, whereas philosophical beliefs do. Confucianism is the leading belief in China, which is based on moral behavior, obligation-based relationships, and the phenomenon of collectivism.

The culture facilitates entrepreneurial personality traits such as, discipline, need for achievement, perseverance, and autonomy to some extent. However, there is a hierarchical social system in which respect and obedience are essential, as well as the threat to creative thinking, caused by excessive disciplining. These, in combination with some factors related to emerging economies, form threats to entrepreneurial behavior within the Chinese culture.

4. Immigration and Integration Process

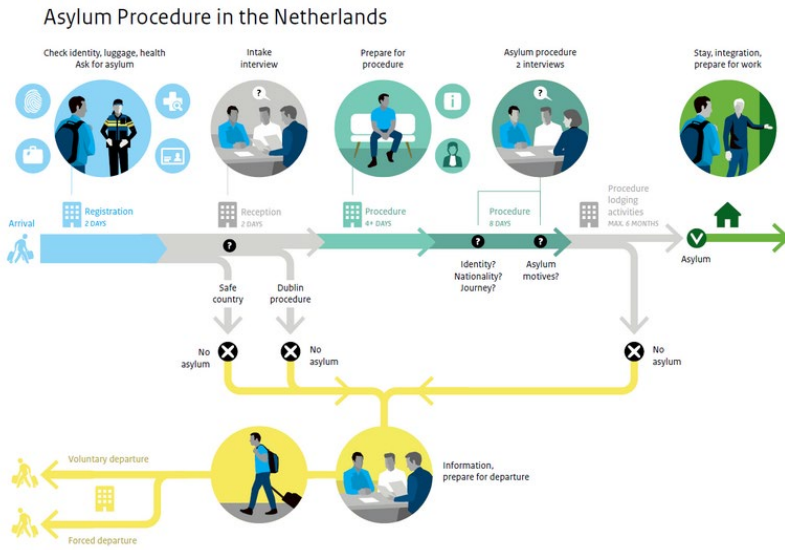
In this chapter, the processes of immigration and integration will be discussed, concerning the relative country, which will in this case be the Netherlands and the USA. Both countries will first be examined on the mentioned processes, afterwards, the differences between the two approaches will be discussed in the conclusion. To begin with, there is a difference between a point system immigration policy, in which there are specific requirements that must be met by the ones applying for a visa (Chiswick & Borjas, 1991), and a regular immigration policy that includes the refugees who immigrated recently. The latter will be discussed in this case. Moreover, there is a difference between the initial part of the immigration process and the integration process that follows. The first phase will include the whole onboarding process, to set up everything and get the immigrants ready for the integration process. Furthermore, the second phase will be more focused on what follows the initial immigration, which will be analyzed through the process of integration, the perceived inclusion and quality, and the labor force participation. Both phases are relevant to compare the two countries and eventually provide a well-balanced and thought-out answer to the concerning research question.

4.1. Immigration and Integration Process in the Netherlands

As per information from the Dutch Ministry of Immigration and Naturalization, when an immigrant enters The Netherlands, he/ she will first go to Ter Apel, the main center for immigrants, or they should turn themselves in at Schiphol Airport and sign themselves up as an asylum seeker. After that, the whole procedure of identification and registration will take place. The immigrants will have to undergo a medical checkup and the central organ for asylum seekers (COA) will provide them with temporary shelter, food, and medical care. Furthermore, there will be an intake interview to shortly analyze the whole situation.

The next step includes a short period of rest when the COA will provide a place to stay, as well as guidance on the whole procedure and the option to get a lawyer who will assist during the whole procedure. Depending on the situation, you will either get a normal 6-day procedure or an extended 9-day one, for those who are unwell for instance. The final decision and objection can be made during this time. When one finally is granted asylum, only then can one apply for a job and housing. During this time there will be guidance by the organization for immigrants. This process is also schematically displayed in Figure 4 below.

Figure 4



Source: (IND, Dutch Ministry of Immigration and Naturalization)

As mentioned above, the second phase will be analyzed on the following three criteria, the integration procedure, perceived inclusion and equality, and the labor force participation and employment.

The integration process involves compulsory learnings of the Dutch language and society. However, it is reported to be a bureaucratic and not adjusted procedure. A study conducted by Korac (2003) compared the integration process in The Netherlands to that in Italy. Participants of the study were immigrants in both countries, and many perceived the Dutch integration process as a waste of time, as the procedures lasted relatively long, and it was not adjustable per person. Many reported feeling excluded from society, as there was not much contact with the outside world, because immigrants were so trapped inside the step-by-step integration process.

These perceived barriers to inclusion and inequality resulted in a lower labor market participation by immigrants in the Netherlands, as the unemployment rate among refugees in 2001 was reported to be 35%, compared to 3% among the Dutch population. Nevertheless, another research demonstrates that there is also a significant difference between the unemployment rate of ethnic minorities, with a 9% unemployment rate, and Dutch natives, which was reported to be only 3% in 2001 (D. Houtzager & P.R. Rodrigues, 2002). The same research concludes that these differences are related to indications of discrimination from the employers' side, barriers for immigrants to find a job, but also a lack of linguistic skills in combination with low levels of education among the ethnic minorities can explain this rather large difference in labor participation.

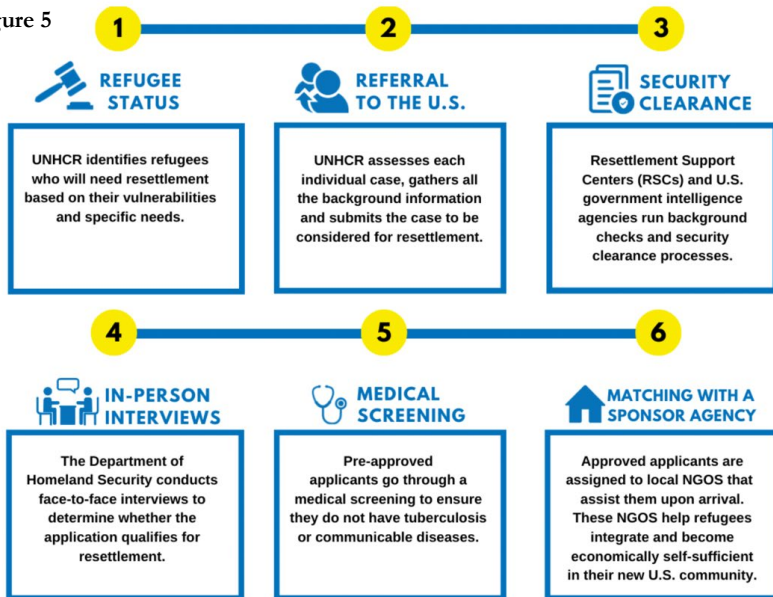
Lastly, the political situation is found to influence the process of inclusion, equality, and labor participation among immigrants. It is found that left-wing parties tend to inherit a more positive view regarding immigrants, as compared to right-wing parties, thus having positive input towards equality, inclusion, and labor participation among immigrants (van Tubergen et al., 2004). As the political situation in The Netherlands is rather conservative and right winged, it does partially explain the relatively lower levels of immigrants' perceived equality, inclusion, and labor participation.

4.2. Immigration and Integration Process in the US

Now that the immigration and integration process in The Netherlands has been discussed, we will move on to the systems in place in the USA and discuss the same criteria, to highlight the main differences during the conclusion part of this chapter.

The US is known for accepting many immigrants each year. Apart from unauthorized immigrants, the US also has a resettlement program that legally aids immigrants in their effort to come and resettle in the US. This resettlement program is implemented and executed via a partnership with the UN Refugee Agency (UNHCR). The UNHCR identifies potential applicants and screens the individual cases, after which it refers the cases to the concerning US agencies, that again perform their regular checks. When a case has gone through these stages, interviews and medical check-ups will be conducted. After acceptance, the applicants will be assigned to local NGOs that will help them further during the integration process, these steps are also displayed in Figure 5 (*The U.S. Refugee Resettlement Program Explained*, 2022).

Figure 5



Source: (UNHCR, UN Refugee Agency)

In the US, the responsibility of integration is transferred to resettlement agencies, these agencies receive funding from the government and are agencies that guide the immigrants. Each immigrant is assigned to a resettlement agency, that will first look to unite immigrants with family or friends, if any are in the US. If not, these immigrants will be assigned to a local affiliate in a community throughout the US that best fits his/ her profile best.

In the initial phase, the immigrant will be provided with housing and necessities. Also, during these initial three months, the resettlement agencies assist in the form of enrolling in employment services, registering for schools, as well as connecting them with other necessary services. The whole process is designed to get the immigrants employed as soon as possible. After these three months, the Department of Health and Human services' Office of Refugee Resettlement provides further necessary assistance through the different states and organizations (*Reception and Placement*, 2021).

When it comes to perceived equality and inclusion, the following can be concluded from research. Although immigrants are introduced to the American culture and society relatively fast, many immigrants do have a perception of exclusion. This perception of exclusion is generally not related to the legal status one has, rather skin tone and language barriers form the bases for perceived exclusion (Michael Jones-Correa et al., 2018).

According to data from 2019, when the pandemic had not yet started, the labor force participation of foreign-born US residents was 66 %, with an unemployment rate of 3,1 %, in comparison to a labor force participation of 62,5% and an unemployment rate of 3,8% for the native-born residents. The report also went on to conclude that native-born Americans are more likely to have a higher salary than non-natives across all educational levels. This does indicate a form of inequality, whereas participation is higher for the non-natives (US Department of Labor, 2021).

As for the political situation in the US, it is evident that the sentiments regarding immigrants were in a negative light when the rather conservative President Donald Trump vowed to implement more rules to limit immigration. However, these sentiments have moved to become relatively more positive after the appointment of President Joe Biden, who is less conservative, this development does indeed comply with the theory from the research by Van Tubergen et al. (2004).

4.3. Conclusion

Looking at both approaches regarding the immigration and integration process of immigrants, there are some notable differences between The Netherlands and the US. We can observe that in both countries, immigrants do experience a feeling of exclusion.

In The Netherlands, this can be mainly attributed to the rather isolated situation of immigrants and the relatively bureaucratic process of integration that excludes and isolates them from the society, as well as indications of discrimination within the job market that decreases the employment among immigrants. In contrast, exclusion is also perceived by immigrants, but here it is attributed to language barriers and skin tone.

Moreover, the integration process in the US is relatively short, as it initially only lasts three months, and it is also customized to the immigrant. The process in the US is designed to get immigrants employed as soon as possible and it does indeed show results. The government funds resettlement agencies and local affiliates that assist new immigrants during the first phase of integration by providing for the basic necessities and setting up the most important services for the immigrants, after that the whole process facilitates immigrants to get started quickly. After comparing both approaches, the approach of The Netherlands lacks in the ability to customize to the immigrants' needs in this case, as when it comes to the immigration and integration process it is not possible to develop a fixed structure that fits all. It is rather much more important to accommodate immigrants in their needs, some need more guidance, while others want to start working as soon as possible. As displayed in Figure 6, the employment facilitating aspects of the integration process in the US, have resulted in relatively higher employment rates among immigrants in the US, compared to those in The Netherlands (van Tubergen et al., 2004).

Figure 6

Country of destination	Country of Origin					All Groups (mean)	Natives (mean)
	Germany	Italy	Morocco	Turkey	UK		
Australia	.	96.2	.	87.2	95.4	93.8	95.1
Austria	97.0	.	.	87.2	.	90.4	95.9
Belgium	94.5	85.9	67.4	66.7	.	81.4	94.7
Canada	93.2	93.2	.	.	95.1	91.4	91.2
Denmark	.	.	.	.	.	88.6	94.6
Finland	.	.	.	.	.	82.8	89.1
France	.	.	67.8	.	.	78.5	91.8
Germany	n.a.	94.7	.	89.4	.	91.7	94.8
Greece	.	.	.	.	.	92.8	94.4
Ireland	.	96.2	.	.	83.1	84.2	89.2
Italy	.	n.a.	71.8	.	.	71.3	90.9
Luxembourg	98.3	96.7	.	.	.	97.5	98.6
Netherlands	94.3	.	73.7	78.4	93.1	84.0	96.8
Portugal	.	.	.	.	.	94.6	97.0
Spain	.	.	.	.	.	87.5	88.6
Sweden	.	.	.	.	.	82.5	93.2
United Kingdom	91.1	92.1	.	.	n.a.	87.6	92.0
United States	97.1	95.5	.	.	96.8	94.7	95.0
Mean	94.3	91.5	71.0	80.6	89.0	89.7	94.4

Note: Figures on communities with fewer than 500 respondents not presented. Data show percent of active population in five selected origin groups. Men are 25–54 years of age.

Source: (Van Tubergen et al., 2004)

4.4. Discussion

To reflect upon the initial research questions stated in this paper, the following can be derived from this paper. Regarding immigrants' willingness to work in the country of destination, we can conclude that it depends on several factors. One's willingness to work is dependent on internal factors such as overall life and job satisfaction, but it also depends external factors, such as environmental and cultural factors.

When it comes to the internal factors, it is essential to consider the health aspect to determine immigrants' willingness to work, as most have experienced traumatic events and bear mental distress. This has a negative effect on their willingness to work. It is also notable that entrepreneurs' satisfaction and willingness to work rely more on their intrinsic motivation, determination, and perseverance.

Apart from the internal factors, there are also cultural factors that may either facilitate or hinder entrepreneurial behavior. In this case, Chinese and Indian culture were analyzed on these factors. Indian culture is mostly influenced by the religion of Hinduism; thus, the culture is partly analyzed through Hinduism and its components. Research found that Indian culture stimulates independence, gaining knowledge through education and life experiences, and the notion of self-realization. All of them are believed to be facilitative variables for entrepreneurship. However, nepotism is a prevalent phenomenon in India and can hinder entrepreneurship. Additionally, the caste system that is derived from Hinduism, creates social barriers within the population, negatively affecting entrepreneurial behavior. Lastly, the passive behavior of Indians also forms limitations.

Moreover, the Chinese culture is mostly influenced by ethical beliefs, the main one being Confucianism. This belief supports the notion of righteousness and promotes independent personal characteristics, that facilitate entrepreneurial behavior. However, the belief also supports collectivism and a hierarchical social system, which is negatively related to entrepreneurship. Lastly, discipline is highly important in Chinese culture, this could play a facilitative role, as it promotes perseverance and need for achievement, but it could also pose a threat to entrepreneurial behavior, as it stimulates thinking inside the box and limits innovation and creative thinking.

In addition to the different cultural components, it is also important to consider the different approaches regarding immigrants implemented in the country of destination, that affect their labor force participation and entrepreneurial behavior.

This can be derived by assessing the approach to the immigration and integration process in the country of destination. The paper examined the relatively more bureaucratic approach to these processes implemented in The Netherlands, and the more effective approach implemented in the US. We can evidently conclude that a successful and facilitative approach depends on the length and flexibility of the whole trajectory to integrate an immigrant into the society, as well as customization to the needs of the immigrants. To illustrate, the bureaucratic and lengthy approach in The Netherlands, which can take years to finish, led to feelings of exclusion among immigrants, while the process in the US is initially three months, with extended indirect assistance by the government, and supports inclusion more with the help of organizations and local affiliates that assist during the whole process. The approach in the US is more effective, as it resulted in higher levels of job participation, as well as higher levels of entrepreneurial behavior among immigrants. However, it must be noted that immigrants still reported perceiving exclusion in The Netherlands and discrimination in the US, which negatively affects the job participation levels, thus also their entrepreneurial behavior.

To conclude, immigrants' cultural background and personality traits and characteristics are mostly given variables that are less influenceable. Nevertheless, the immigration and integration policies of a country can be crucial instruments to substantially increase the job participation levels and facilitate entrepreneurial behavior among new immigrants, who are seeking to start a new life elsewhere and will indeed flourish in the new environment, when provided with proper integration and sufficient guidance.

5. Conclusion

Having assessed and analyzed all the different variables we can effectively conclude the following from this research, numerous variables will need to be taken into consideration when determining the entrepreneurial behavior of immigrants. This research found that there are internal and external effects on one's personality traits and characteristics, personality traits are mostly determined from birth and attributed to internal factors, whereas external factors can be attributed to the respective environment in which one grows up and spends their lives. Entrepreneurial behavior is suggested to be supported by personality traits and characteristics, but also health and age are essential determinants of entrepreneurial behavior. Especially when it comes to immigrants, mental health is a great factor to consider.

Furthermore, it is also important to note that when it comes to immigrants, the willingness to work and the labor force participation are not solely dependent on the immigrants themselves, it is also due to the immigration and integration processes, that heavily affect the labor force participation of immigrants, as displayed in the differences between the US and The Netherlands. Where we can observe that the process regarding immigrants stimulates inclusion, which is positively related to employment rates. However, as mentioned, there are also barriers such as racism or language barriers, that negatively impact immigrants' perceived inclusion, resulting in lower labor force participation.

Lastly, depending on the cultural background and its main components, it has either a facilitating or a hindering effect on one's entrepreneurial behavior. Cultural aspects such as obedience and passiveness are negatively related to entrepreneurial behavior, whereas autonomy and perseverance play a stimulative role. Therefore, the cultural background can indeed be noted as a moderating variable when it comes to entrepreneurial behavior by immigrants in the country of destination.

Nevertheless, there were some limitations to this research, the main one being the lack of recent studies regarding immigrants. As immigration is not a thing of the past anymore, rather it is becoming increasingly relevant and important considering the instability in the world right now. Therefore, it is important to keep researching immigration, not only to understand the behavior of immigrants in the society, but also to effectively develop processes that help in stimulating immigrants' perceived inclusion, make the integration process more pleasant and customized, and consequently enhance the labor participation rate by immigrants.

This research can be used, for further studies on the topic of immigration and integration, but it can also be used by governments in their conquest to understand the criteria that shape one's, personality, and willingness to work, focusing on immigrants. Furthermore, with the help of the contextual background regarding the culture of an immigrant, it will be possible to develop and research new methods and processes of integration and immigration, as well as create an environment that facilitates the pursuit of entrepreneurial behavior, to effectively help immigrants reach their maximum potentials, which is good for the overall life satisfaction of immigrants, while it will substantially contribute to the economy of the country of destination.

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About the Author

Khetab Mashhadi is a Dutch student with Afghan origins. As the name already suggested, his family does not belong to the Netherlands, rather him and his family have fled their home country years ago in pursuit of safety and happiness. His childhood was filled with traumas from the ongoing war back home. In the year 2008, he, his mother and his sisters were finally able to flee Afghanistan and rejoin his father in the Netherlands, who had already fled the country years ago.

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Ever since they got to the Netherlands, he has had immense intrinsic motivation to achieve all his life goals, one of them being his education. He has always wanted to pursue the highest levels of education in combination with practical experience and he currently believes himself to be very fortunate, having the opportunity to go after his goals. Ever since he was young, he has been fascinated about entrepreneurship and the whole process around it. Thus, during high school he did a small group project in which they followed all the steps to start a small business. Being a non-native has advantages, but also several disadvantages, as you will read in his thesis. In his case it has mostly motivated him to achieve the most he can and never give up on any of his dreams.

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Gender Differences in Entrepreneurship Influencing the Level of Female Entrepreneurship in the Technology Industry, and the Impact of Gender- Related External Factors

Femke Janssen

Abstract

Entrepreneurship is one of the most important practices for a dynamic economy. However, when a group in a society does not participate in entrepreneurial activities, society misses out on benefits such as increasing income, innovation, job creation, and value creation. In the past years, it has been a given that women are hindered from fully participating in entrepreneurial activities due to gender-specific constraints. Therefore, men are still dominating in this field. Furthermore, a lot of research only focuses on entrepreneurial activities in general while it is also important to take into account differences in industries and societies. This literature review aims to bundle theories about differences between men and women and gender-specific external factors in the field of entrepreneurship and link these to the technology industry. The technology industry is chosen because this is an industry that is still highly overrepresented by men. This results in the following problem statement:

1. *To what extent do gender differences in entrepreneurship influence the level of entrepreneurship activities in the technology industry?*
2. *To what extent is this effect moderated by gender-related external factors?*

The independent variable 'gender differences in entrepreneurship' is split into 5 sub-variables: social networks, risk-taking, attitude towards knowledge and confidence, start-up capital, and education and work experience. The findings are that all of these factors negatively affect the level of female entrepreneurship. This is mainly because both entrepreneurship and technology are masculinity viewed and women are therefore constrained by stereotyping.

Furthermore, for the moderation variable 'gender-related external factors' the following 5 sub-variables are used in this paper: female education attainment, gender empowerment, female economic activities, female to male earnings ratio, and fertility rate. In this literature review, it is concluded that most of these sub-variables indeed affect the relationship between the gender differences in entrepreneurship and the level of female technological entrepreneurial activities. This implies that because of these gender-related external factors, the level of female entrepreneurship in technology may differ per country or region. However, this effect can be either positive or negative depending on the circumstances and the woman's capabilities and knowledge. Again, stereotyping and male dominance in both fields are the main reasons for this effect. By understanding the differences between men and women, women could potentially be able to break away from the stereotype and lower the barrier to engage in technological entrepreneurial activities.

Keywords: female entrepreneurship, technology industry, gender differences, external factors

1. Introduction

Entrepreneurship is important for every dynamic economy. Starting new businesses increases income, innovation, job creation, and often brings added value to a society by offering new products, services, technologies, and ideas. Therefore, the higher the level of entrepreneurship, the more dynamic the economy can be. However, as the GEM (Global Entrepreneurship Monitor, 2022) explains, if one group of the society, in this case women, are not starting businesses, a society misses out on these aforementioned benefits.

In past years there have already been significant developments in the number of women-owned businesses. In 2005, one-third of the total number of people who operate entrepreneurial activities were women (Minniti et al., 2005). This implies that their potential to bring job creation and economic growth could potentially be significant. Unfortunately, due to gender-specific constraints, women tend to be hindered from fully participating in entrepreneurial activities (Coleman, 2002) and therefore men are, in most countries, still dominating in this field. Of course, there are some exceptions where women are not underrepresented. The GEM (Global Entrepreneurship Monitor, 2019) mentions, among some others, Spain and Kazakhstan as one of these exceptions.

Besides the differences in countries, differences per industry also exist. One of the industries where men are highly overrepresenting women is the technology industry. As existing literature by Ahl (2004) states that women are constantly seen as 'the other' in industries where men are dominating. Especially given that as well the entrepreneur as the technologist is mainly seen as a male identity (Bruni et al, 2005). Therefore, we mainly associate entrepreneurship as well as technology with being a men's activity.

To understand this gender gap in the technology industry better, it is necessary to take gender differences in entrepreneurship between men and women into account. For example, in prior research, they found that women tend to be less confident in their entrepreneurial skills, have different social networks, and have higher uncertainty avoidance than men (Koellinger et al., 2011). This research is also in line with the findings of the GEM (Global Entrepreneurship Monitor). In their report, they mention that besides the aforementioned characteristics and affiliations, perception of opportunities also plays an important role in whether to engage in entrepreneurial activities or not. These differences in gender characteristics and perceptions could be one reason why women still participate significantly less in entrepreneurial activities than men do. Much is known about these specific differences in the field of entrepreneurship. However, they are not yet explicitly explained in specific industries. Therefore it is interesting to investigate how these preferences and characteristics are related to the participation in the technological industry.

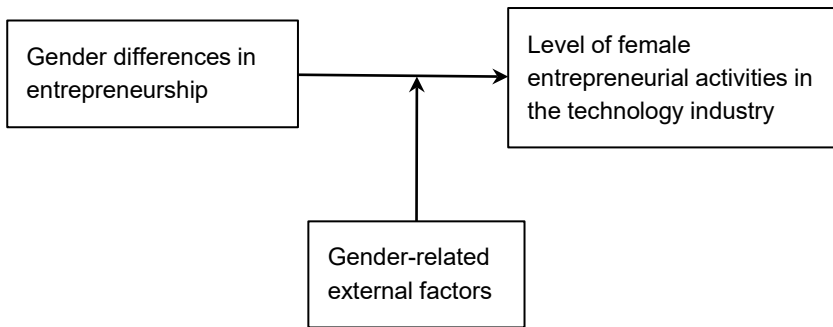
Furthermore, in entrepreneurial research, there is a need to explore gender beyond the mainstream Anglo-Saxon context since this would potentially reveal different implications for women in different countries (Ahl, 2006). Because of this, it would be relevant to add the moderating variable 'gender-related external factors' which may influence the relationship between the gender characteristics and the level of entrepreneurial activities in the technology sector.

The aim of this thesis is to bundle and critically reflect the most relevant gender-specific characteristics related to the technology industry in one research paper and link them to the level of female entrepreneurial activities in the technology industry. While doing this, the moderating effect of the gender-related external factors on the relationship between the independent and dependent variables will also be investigated. And eventually, come to a conclusion.

1.1. Problem Statement

This literature review focuses on the gender differences related to whether someone is less or more willing to engage in technological entrepreneurial activities. Besides only reflecting on characteristics, this paper also gives an overview of the impact of the gender-related external factors to be able to make a distinction between different countries. This can be summarized in the following problem statement:

1. *To what extent do gender differences in entrepreneurship influence the level of entrepreneurship activities in the technology industry?*
2. *To what extent is this effect moderated by gender-related external factors?*



1.2. Research Questions

1.2.1. Theoretical Research Questions

1. *What are the gender differences in entrepreneurship?*
2. *What are the gender-related external factors in entrepreneurship?*

1.2.2. Pragmatic Research Questions

1. *What effect do the gender differences in the entrepreneurial context have on the level of entrepreneurial activities in the technology industry?*
2. *What effect do the gender-related external factors have on the relationship between the gender differences in entrepreneurship and the level of entrepreneurial activities in the technology industry?*

1.3. Research Design and Data Collection

This bachelor thesis is approached by means of a literature review. This means that secondary data is used to answer the research question. The following variables are investigated and evaluated during this thesis:

1. Gender differences in entrepreneurship as the independent variable
2. The level of entrepreneurial activities in the technology industry as the dependent variable
3. Gender-related external factors as a pure moderator

To answer the research question the following concepts are studied: female entrepreneurship, technology industry, gender differences, and external factors. All in combination with the level of entrepreneurial activities.

This thesis mainly relied on electronic databases: Google Scholar, Tilburg University research portal, and Catalog WorldCat Discovery.

Furthermore, to keep the validity and reliability high, mainly highly ranked articles are used. These are articles with a high number of citations or articles from well-ranked journals in the field of entrepreneurship. This thesis also looked into high-ranked articles in the field of psychology to properly study the gender differences related to the level of entrepreneurial activities.

First, data to study the most significant gender differences in the entrepreneurial context related to the level of entrepreneurial activities is used. Then, this information is linked to the technological context. With this information, the relationship between the independent and the dependent variable can be explained. Afterward, the impact of the gender-related external factors are studied to measure the moderating effect of these factors on the relationship between the independent and the dependent variable. By doing this, it is possible to apply the theory in different countries or societies.

1.4. Structure of the Thesis

This literature review consists of six chapters. Firstly, in the first chapter, an introduction to the topic is given followed by the research questions. Secondly, in chapters two to five, these research questions are answered supported by secondary data. Lastly, in chapter six, the conclusion, reflection, and recommendation for further research can be found.

2. Gender Differences in Entrepreneurship

‘Gender differences in entrepreneurship’ is the independent variable of this study. It is important for the understanding of this literary review that there is an unambiguous understanding of this variable. Therefore, several relevant gender differences are discussed in this chapter.

2.1. Female Entrepreneurship

Before starting to discuss the gender differences in characteristics, affiliation, and preferences, it is essential to give some more insight into the term ‘female entrepreneurship.’

As research confirms, entrepreneurship knows many definitions: *‘We need to be aware that when we talk about entrepreneurship we carry around a wide range of beliefs. Some of us may believe that entrepreneurship must involve risk-taking individuals who start new ventures that are innovative and experience rapid growth. Others may be concerned only about entrepreneurship as starting new ventures. What we must all be concerned about is making sure that when we talk about entrepreneurship we recognize that it has many different meanings attached to it’* (Gartner, 1990).

But besides the very wide definition of entrepreneurship, and whether you prefer one definition over the other, it is safe to say that entrepreneurship is often associated with a male figure (Bruni et al, 2005, p 2). This association can be explained by the fact that in the past, most research on entrepreneurship and business ownership has focussed on males (Collins & Moore, 1964). Furthermore, not only is entrepreneurship, as a term, associated with a male figure, but men are also more likely to perform entrepreneurial activities. According to research (van der Zwan et al., 2011), it is twice more likely that a man considers starting an entrepreneurial career than a woman. Since the work of Holmquist and Sundin (1989) stated that this field of research was *‘about men, for men, and by men’*, people started to realize that gender was an important factor in the entrepreneurship field and research.

However, as the GEM (Global Entrepreneurship Monitor, 2019) reports, the under-participation is not visible in every industry. Over 50 % of the participation of women is in the wholesale/retail sector. This is more compared to the 42.6 % of men who participate in this sector. One of the largest gender gaps can be seen in the information and technology sector. Reasons for this can be associated with different gender-related factors such as the difference in confidence, social networks, and the risk-averse level.

2.2. Social Networks

Entrepreneurs often claim that their decision to start a business has been influenced by others (Bosma et al., 2012). These 'others' exist on every level. They can be former colleagues, friends and family, or even a famous person like Bill Gates. Such a person can be called a 'role model'. In research, a role model is defined as a person who acts as an example and therefore inspires and stimulates other individuals to make certain decisions (Wright et al., 1997). Research shows that before starting a new business, 81% of the entrepreneurs indicate that they have a role model in this phase. Even in the uncertain years after starting the new venture, entrepreneurs still rely on certain role models in developing their careers. Since many participants stated that they would not have started their business without the presence of the role model, it is safe to say that a role model is significantly important for pursuing an entrepreneurial career (Bosma et al., 2012).

However, According to research (Koellinger et al., 2011), men are more likely than women to know someone who has started a business or has entrepreneurial skills. Knowing someone or having contacts within social networks is about the relationships between entrepreneurs (Larson, 1991). Relevant relationships are even more important because they bring several benefits to a starting entrepreneur. These benefits include the ability to provide or connect entrepreneurs with resources, opportunities, labor skills, and information (Greve & Salaff, 2003).

To continue, men and women operate in different social networks. As said before, women tend to operate mainly in the wholesale/retail sector and are highly underrepresented in the technology sector. Because of this, they have different access to people who act as an entrepreneurial role model or provide them with information about the entrepreneurial work field (Aldrich & Cliff, 2003).

2.3. Risk Taking

Setting up a business from scratch involves a lot of risks. An entrepreneur needs a certain amount of start-up capital to build and grow. Besides the risk involved in starting a business, risk taking is also one of the most central parts of entrepreneurial decision-making (Ivanova Yordanova & Ivanova Alexandrova-Boshnakova, 2011). In research, overall, they conclude that men who participate in the study are more likely to take risks compared to the female participants (Byrnes et al., 1999; Sexton & Bowman-Upton, 1990).

Because of the decision context, these differences in the risk behavior of a male entrepreneur and a female entrepreneur have significant consequences for their businesses (Johnson & Powell, 1994). Furthermore, it is plausible to assume that these differences strengthen gender stereotyping and eventually may cause gender-based discrimination (Sexton & Bowman-Upton, 1990). This type of discrimination occurs when the characteristics of a group, in this case, women are attributed to an individual, mindless of the individual's personal characteristics (Thurow, 1975). Because of this people will assume, correct or incorrect, that women are less risk taking than men. This stereotyping and gender discrimination may affect women disadvantageously and eventually become a barrier to making progress (Eckel & Grossman, 2002).

Furthermore, entrepreneurs are people who are self-employed and therefore bear a lot of risk in expectation to also receive large returns. Therefore, deciding to become an entrepreneur is a riskier decision than deciding to be an employee (Ekelund et al., 2005). However, according to research, being more risk averse diminishes the motivation and probability of becoming self-employed (Ekelund et al., 2005; Ahn, 2010). This would imply that women, who are in general more risk averse than men, are less likely to become self-employed and thus become an entrepreneur.

2.4. Attitudes towards Entrepreneurial Knowledge and Confidence

In entrepreneurial research (Kourilsky & Walstad, 1998) it came to light that both male and female youth think they do not know much about entrepreneurial knowledge. Unfortunately, they are right. Both female and male participants scored 42% correct answers on average in the survey which was used to measure the actual knowledge of the participants. Based on this information, we can assume there is no knowledge gap between the two gender groups. However, male participants did rate themselves higher on their knowledge about entrepreneurial aspects than women participants.

In the same study (Kourilsky & Walstad, 1998), they also found that around 62% of the female participants were interested in starting their own business, implying that there is a large group of young females who may decide in the future to engage in entrepreneurship. However, this is again a significantly smaller portion of the participants compared to the male participants.

This difference between the genders can be explained by the difference in self-confidence related to their ability to be self-employed (Kourilsky & Walstad, 1998). Women tend to be less self-confident than their male opposites in every stage of their entrepreneurial activities (Kirkwood, 2009; Koellinger et al., 2008). In research (Hatala, 2008) it is stated that self-confidence, which is often overlooked, is equally important as the specific business skills a person has when it comes to starting a business. Self-confidence belongs to the intrinsic motivation of an individual and is very important for the motivation for starting your own business. Therefore, having a lack of self-confidence related to your own abilities to start a business, may act as a barrier for females to participate in entrepreneurial activities.

2.5. Start-Up Capital

Getting access to capital and financial assets is a challenge for every entrepreneur starting their own business (Hughes & Storey, 1994). An entrepreneur needs a certain amount of money to get access to important resources crucial to building and growing a business. There are several ways you can finance your start-up. An entrepreneur can invest a certain amount of money themselves, but if the required investment is higher, external capital is needed. External capital can, for example, be friends, family, or business partners. But often, entrepreneurs rely on a bank loan (Riding & Swift, 1990). However, getting a loan as a start-up is not always easy because of the risk involved. As a woman, an entrepreneur may experience even some higher barriers in accessing start-up capital. A direct cause for this are discriminatory factors (Verheul & Thurik, 2001). The discrimination against women arises from the image that women are less qualified to be an entrepreneur than men.

Besides the direct effect, research states that there are also some other arguments why women may experience a larger barrier to accessing start-up capital (Verheul & Thurik, 2001). The first two arguments can be derived from previously mentioned statements:

1. Female entrepreneurs tend to have less confidence in their entrepreneurial skills and knowledge and this leads to smaller start-ups and simultaneously to a smaller amount of start-up capital (Verheul & Thurik, 2001; Kirkwood, 2009).
2. Secondly, women are, in general, more risk-averse than men (Byrnes et al., 1999; Sexton & Bowman-Upton, 1990). This statement can also be related to why females usually have smaller businesses and therefore, a smaller amount of start-up capital (Verheul & Thurik, 2001).

Next to the earlier discussed statements, The paper by Verheul & Thurik (2001) also argues some other reasons why women have less access to start-up capital:

1. Women usually operate more in the retail or service sector. These sectors have high mobility and require smaller capital than the sectors which are generally dominated by men. Because of this, banks are less willing to issue a loan (Verheul & Thurik, 2001).
2. Female entrepreneurs have less equity they can invest in their company, because of lower payments in previous jobs (Verheul & Thurik, 2001). Banks are more reluctant to issue a loan when the borrower has less equity to invest in the business themselves.

2.6. Education and Work Experience

In prior research, it is proven that people who are more educated and experienced are more likely to start their own businesses (Evans & Leighton, 1989). Brush (1992) argues that male and female entrepreneurs differ in background factors such as work experience and education. Men tend to have more working experience in the field of executive management, science, or technique (Stevenson, 1986). Women, on the other hand, have more previous experience in teaching, retail sales, office administration, or secretarial fields (Hisrich & Brush, 1983). Besides, male entrepreneurs already have some prior experience in the field of entrepreneurship and managing employees (Fischer et al., 1993). These types of differences in experience have a relationship with the differences in types of studies. Although the educational level of male and female entrepreneurs do not differ that much (Birley et al., 1987), they do differ in the field of studies. Male students are more likely to study something in the technological sector, while female students mostly choose economic, administrative, or commercial studies (Verheul & Thurik, 2001). To conclude the educational part, as Bowen & Hisrich (1986) states, it is likely to assume that female entrepreneurs are, in general, well-educated and do not lack in their education level relative to their male opponents. However, they tend to lack some important education in management skills necessary to become a successful entrepreneur (Fischer et al., 1993).

A second argument that is related to the gender differences in work experience is the number of working hours. Women mostly work part-time whereas men mostly work full-time (OECD, 1998). This is related to the traditional image of women mostly taking care of the children.

Therefore, women are still struggling with work and family balance. Next to the time spent working in a week, men also have more experience as an employee before starting their own business (Kepler & Shane, 2007). Both of these arguments have an impact on the women's experience and therefore the likelihood of starting a business.

3. Gender-Related External Factors

In the previous chapter, several gender differences in entrepreneurship influencing the level of female entrepreneurship activities are discussed. However, more factors may influence the possible consideration of a woman to become an entrepreneur, with society being one of them. Therefore, we will discuss several external factors present within an environment which may also have an impact on the level of female entrepreneurial activities. The variable gender-related external factors can be separated into five different sub-variables which are relevant and related to the level of entrepreneurship (Kobeissi, 2010):

1. Female education attainment
2. Gender empowerment
3. Female economic activities
4. Female to male earnings ratio
5. Fertility rate

In this chapter, all these sub-variables will be discussed to get an unambiguous overview of the external factors and how these influence the relationship between gender differences and the level of female entrepreneurial activities.

3.1. Female Education Attainment

In research, there have been some contradictory results according to female education attainment. Some studies found no effect at all between female education attainment and whether a female would engage in entrepreneurial activities (Renzulli et al., 2000). Others, on the other hand, found a positive effect (Carr, 1996). These contradictory findings can be due to several factors. For example, due to a sample where only developing countries have been chosen. Therefore, to get a broader overview of this sub-variable, research by Kobeissi (2010) discusses female education attainment across both well developed countries and developing countries.

Results have shown a significant positive relationship between female education attainment and the level of female entrepreneurial activities. Given this positive relationship, it can be said that education is an important factor in the further development of female entrepreneurship in relation to gender differences.

3.2. Gender Empowerment

When a person thinks ‘entrepreneurially’, this would ultimately lead to a greater intention to start a business and eventually also react according to this attention (Busenitz & Lau, 1996). Many may think that entrepreneurship is an individual activity where you decide on your own to become an entrepreneur. However, it is also shown to be a socio-politically situated activity (Al-Dajani & Marlow, 2013).

Furthermore, empowerment can also be linked to culture. In many cultures, we as people are proven to be very stereotyping. Some jobs or businesses are seen to be more appropriate for ‘men’, whereas others are specified to be ‘female’ jobs (Williams et al., 1999). As discussed earlier, both a technologist and an entrepreneur are mostly seen as male figures. This stereotyping is steering females away from entrepreneurial activities and the technology industry. Empowering females allows them to break away from this stereotyping. It will enhance a female's ability because they will have equal choices of education and jobs. Also, they will have the capability to make decisions on their own about their family planning and employment (Hosken, 1994). This will eventually lead to higher satisfaction in their career choice (Vermeulen & Minor, 1998).

Because of these arguments, it is proven that there is a positive relationship between empowerment and female entrepreneurial activities. Especially, in a developing economy where gender inequalities are more significant (Al-Dajani & Marlow, 2013). However, due to cultural conditioning and socialization, the effect can be mitigated in developed countries (Kobeissi, 2010). As gender socialization explains, little boys and girls grow up with very specific gender roles and assume different roles and role expectations. These assumptions may spill over into their business activities (Orser et al., 2006). The effect is then, that even if women are equal to men and have the same opportunities as men have, they may not take advantage of this. Besides, as stereotyping remains something people will do, women may be discouraged to engage in entrepreneurial activities since women tend to operate within their prescribed roles to obtain social acceptance (Kobeissi, 2010).

3.3. Female Economic Activities

Economic activities in this sub-variable are measured with a female's previous employment and work experience (Kobeissi, 2010). These factors tend to have a significant effect on the self-employment of women (Carr, 1996). The theory behind this sub-variable is rather straightforward. When more women gain work experience, their confidence and capabilities will increase. In the previous chapter, these factors were also discussed to be relevant to the level of entrepreneurial activities among women. According to Kobeissi (2010), these increasing work experiences and capabilities allow women to break away from the traditional stereotypes and give them the ability to move into the nontraditional work areas and businesses, like technology (Hisrich & Brush 1984). Therefore, in research (Kobeissi, 2010), these gender-related external factors tend to be significantly positively related to the relationship between the gender difference and female entrepreneurial activities due to the fact that economic strength is gained through participation in the labor force.

3.4. Female to Male Earnings Ratio

Female entrepreneurial activities in the last year tend to be mainly increased due to push factors (Hisrich & Brush, 1985). Push factors are associated with elements of necessity, for example, inadequate family income. Income inequality between men and women appears also to be one of these push factors (Kobeissi, 2010). A lot of progress has been made to close this gender gap, however, women, in general, earn less than men while working in the same positions. According to data by the OECD (2022), the overall worldwide gender wage gap is still 11.6%. Furthermore, based on the latest data available, in 2020, the female to male ratio was 83%. This number indicates that a female worker earns around 83% of their male colleague in the same position. Because of these inequalities in wage and advancement, women become frustrated, and the intention to leave the traditional work wage environment earlier becomes higher (Hisrich & Brush 1984). Therefore, the female to male earnings ratio is negatively related to female entrepreneurial activities. This finding also suggests that the higher the gender gap in a country, the more female entrepreneurs appear in that same country (Kobeissi, 2010) and thus, affects the relationship between the gender differences in entrepreneurship and the level of female entrepreneurial activities.

3.5. Fertility Rate

A factor that repeatedly comes back in research about female self-employment, is the role of children and taking care of a family. Hundley (2001) explains that being a mother and taking care of children hurts the self-employment of women. However, there are mainly contradictions to this statement since other researchers argue that self-employment and entrepreneurship bring more flexibility to both time and place and give the ability to work from home, which adequately would have a positive impact on a woman's intention to become an entrepreneur (Kobeissi, 2010; Williams, 2004). This would suggest that women would be more likely to engage in entrepreneurial activities to be able to spend more time with their children (Williams, 2004). Therefore, it is proven that the fertility rate may positively influence the relationship between the gender differences in entrepreneurship and female entrepreneurial activities (Kobeissi, 2010). However, a distinction needs to be made between two different forms of entrepreneurship: necessity-entrepreneurship and opportunity-entrepreneurship. Necessity entrepreneurship relates to a form of entrepreneurship where it is necessary to become an entrepreneur because, for example, the extra money is needed to support the family. This need is higher when there is a higher number of children (Kobeissi, 2010). Opportunity-entrepreneurship on the other hand, refers to a business that is founded because of opportunity recognition (Linan et al., 2013). These entrepreneurs see a need or gap in the market and act accordingly to this. Here, there is no necessity and thus the fertility rate will have less effect on the female entrepreneurial activities.

Furthermore, mothers tend to be more interested in home-based self-employment (Kobeissi, 2010). Not every industry allows an entrepreneur to work from home all the time. This requirement can therefore possibly influence a woman's choice of industry.

4. Gender Differences in Entrepreneurship and the Technology Industry

4.1. The Technology Industry

Even given that female entrepreneurship has been studied a lot over the last 40 years, we need to take into account the changing economic industry.

Therefore, I first give some more information about this industry before discussing the gender differences in entrepreneurship related to the technology industry. In 40 years, the economy has undergone substantial changes. Turning away from the production of material goods and moving towards the commercialization of knowledge, information, and technical advancements (Best et al., 2016; Truss et al., 2012). It is even considered '*one of the most important activities of modern economic life*' (Fairlie et al., 2015). To fulfill the demands in the 'innovation economy', entrepreneurs are more related to technology and high-tech firms than ever before. (Kenney & Patton, 2015). Given these facts that nowadays the technology and innovation sector plays an important role in our society, it is relevant to discuss this further linked to the level of female entrepreneurship.

Another reason why it is important to discuss the technology industry combined with female entrepreneurship is the fact that technology is not considered 'gender neutral' (Henwood, 2000). On the contrary, technology is mainly linked with masculinity and therefore, has a potentially high influence on the relationship between the various gender differences in entrepreneurship described in chapter 2, and the level of female entrepreneurial activities in the technology sector (Wheadon & Duval-Couetil, 2018).

4.2. Social Networks in the Technology Industry

As explained earlier in chapter 2.2, having the right social networks can bring several advantages to an entrepreneur. Role models inspire people to start a business (Bosma et al., 2012). But even after several years entrepreneurs still rely on certain role models in making business decisions (Wright et al., 1997). Besides, chapter 2.2 also stated that men normally are more likely to know someone who has started a business than women (Koelinger et al., 2011).

However, in the technological sector women are even more disadvantaged. According to research (Sappleton, 2009), women who work in non-traditional sectors, like technology, have dimmed social capital relevant to this industry. Not having connections with the right people, does not bring the preferred benefits, and therefore suppresses entrepreneurship (Light & Dana, 2013).

Furthermore, the normalization of behaviors such as sexual harassment as part of the technology sector has detrimental effects on female entrepreneurs. The fact that this happens in the technology culture implies that females are beforehand disadvantaged relative to their male opponents when connecting to mentors and role models (Ozkazanc-Pan & Clark Muntean, 2018).

Because of these social network disadvantages, it is likely that the level of female entrepreneurial activities in the technology industry is lowered.

4.3. Risk Taking in the Technology Industry

In chapter 2.3 it is discussed that women tend to be more risk averse in nature than men (Byrnes et al., 1999; Sexton & Bowman-Upton, 1990). Since becoming an entrepreneur bears a lot of risks, it is assumed that, in general, women are less likely to engage in entrepreneurial activities.

There are arguments that this assumption is even stronger in the technology industry since this sector promises high profits and therefore also high risks (Roja & Năstase, 2014). Technology entrepreneurship is often characterized by fast growth and forward leaps which leads to a higher risk of failure, where each player's position is still unknown, and the technological foundation is continually changing (Giones & Brem, 2017). For example, there is a lack of structure and solid standards for newcomers to the Internet of Things (Brem et al., 2016). This example adds to the complexity of the decisions that need to be made by entrepreneurs. And, because of the decision context described in chapter 2.3, the difference in risk behavior between male and female entrepreneurs has significant consequences for the business (Johnson & Powell, 1994). With the dynamic nature of the technology industry together with the fact that, in general, women tend to be more risk-averse than men, we may conclude that this negatively impacts the level of female entrepreneurial activities in the technology industry.

4.4. Knowledge and Confidence in the Technology Industry

Knowledge and confidence are related to each other. In entrepreneurship there is no knowledge gap between the two genders, however, women are less confident about the knowledge they have (Kourilsky & Walstad, 1998). In technology, this same argument holds. Women are told they are not as qualified for technology as men are. This results in women acting according to this stereotyping and therefore thinking they do not have sufficient knowledge compared to their men opponents (Zeldin & Pajares, 2000; Henwood, 2000). This idea of lacking knowledge, subsequently, has an impact on a woman's confidence. According to research (Zeldin et al., 2008), statements regarding one's ability in a specific area have the most negative impact on people who already lack confidence in their abilities.

An example of this statement is when women receive comments that they do not fit in a male-dominated industry such as technology. Receiving such messages makes a woman more vulnerable to believe that they are not qualified enough for this field. Since self-confidence is equally important to the specific skills a person has for starting a business (Hatala, 2008), we may conclude that because of these social influences and its consequences, the level of female entrepreneurial activities in the technology industry will be lower.

4.5. Start-Up Capital in the Technology Industry

In research, it is explained that as well perceived as barriers to access financial capital are an explanation for the lack of females in the field of technology entrepreneurship (Brush et al., 2014). In the technology industry, besides the four arguments mentioned in chapter 2.5, some more research can be added. To establish a business it is necessary to find external capital such as venture capital. This is mainly an issue for technology businesses because they often involve a high amount of investments. According to literature (Gatewood et al., 2003), women are often seen as 'riskier' investments than men. This can, again, be translated to the stereotyping in the technology industry where women are seen as less qualified because masculinity is the standard. Therefore, the critical source of growth, venture capital, remains difficult to access for women (Ezzedeen & Zikic, 2012). This leaves women with the necessity to start a business with less financial capital compared to men which negatively impacts the success rate and growth of the firm (Coleman & Robb 2014). These arguments together with the four arguments explained earlier in chapter 2.5 indicate that it is even more difficult for a female technology entrepreneur to start a business. Because of this, we may conclude that the level of female entrepreneurial activities is lower in the technology industry.

4.6. Education and Work Experience in the Technology Industry

Men, in general, enroll more and in larger numbers for entrepreneurship training and education programs than women (Robb et al., 2014). The same holds for education in the field of technology (Gill & Ganesh, 2007). This is mainly due to the historical assumption that technology is masculine. Furthermore, women and girls are frequently portrayed as lacking in technical abilities compared to boys and men (Henwood, 2000). This stereotyping makes it even more difficult for women in the social context.

Studies have found that girls performed a computer task less desirable in public than in private (Sanders, 2005). The fear in women that they might confirm the negative stereotyping explains this phenomenon. This anxiety decreases the performance of the women participating or worse, the will to engage in the activity. Therefore, women engage more in economical, administrative, or commercial studies (Verheul & Thurik, 2001).

To continue, education and prior work experience are related concepts since people, generally, get a job related to their education field. In line with this argument, a well-supported explanation for the gender gap in technology entrepreneurship is a woman's lack of prior work experience in technology (Greene et al., 2003). People tend to mainly establish businesses in a field where they already gained experience and familiarity (Koeber & Wright, 2006). However, as seen in chapter 2.6, women tend to have more experience in teaching, retail sales, office administration, or secretarial fields (Hisrich & Brush, 1983). Moreover, prior work experience in the technology field shows some great advantages such as important social capital and growth (Colombo and Grilli 2007; Wheadon & Duval-Couetil, 2018). Lacking prior experience in the field of technology, thus missing out on these advantages, is perceived as a barrier for women starting businesses in the technology industry. Therefore, we may say that the lack of education and prior work experience in the technology industry hurt the level of female entrepreneurship in the technology industry.

5. Gender-Related External Factors and the Technology Industry

Besides the society influencing women to become an entrepreneur in general, it is also interesting to discuss how these factors impact women in the technology context. We, again, take a look at the 5 sub-variables as discussed in chapter 3 and link them to the technology industry.

5.1. Female Education Attainment in the Technology Industry

As seen in chapter 3.1, education attainment seems to have a positive relationship with the level of female entrepreneurial activities (Kobeissi, 2010). When talking about education in technology, literature mainly uses the overarching term 'STEM education' (Gonzalez & Kuenzi, 2012; Hill et al., 2010).

STEM refers to education in science, technology, engineering, and mathematics. However, there seems to be an achievement gap between men and women in certain STEM education outcomes (Gonzalez & Kuenzi, 2012). According to research (Gonzalez & Kuenzi, 2012; Hill et al., 2010), even given that women made progress in work fields such as law and business, only a certain small degree of women are educated in a certain field of STEM. The reason why overall significantly fewer women participate in STEM education can be related to several factors. Researchers argue about reasons like self-efficiency, institutional culture, and discrimination (Hill et al., 2010). Therefore, women have, in general, less educational attainment in the field of technology. Because of the positive relationship described in chapter 3.1 between educational attainment and the level of female entrepreneurial activities, we can assume that because of the lower educational attainment of women in technology, they are less likely to engage in technology entrepreneurial activities. Thus, according to this knowledge, negatively affects the relationship between gender differences in entrepreneurship and the level of female entrepreneurship in the technology sector.

5.2. Gender Empowerment in the Technology Industry

It is previously argued in chapter 3.2 that the term empowerment can be linked to culture and stereotyping. Both an entrepreneur and a technologist are more seen as male figures (Williams et al., 1999), steering women away from activities in both fields. Unfortunately, stereotyping and sexual harassment is still part of the culture within the technological industry (Ozkazanc-Pan & Clark Muntean, 2018; Zaldin & Pajares, 2000; Henwood, 2000) and therefore, women are not fully able to break away from this biased view of not being qualified enough for the 'male' job. According to these arguments, we can assume that women empowerment in the technology industry is far from where it should be and this diminishes a woman's intention to engage in technological entrepreneurial activities. Thus, the relationship between the gender differences in entrepreneurship and the level of female entrepreneurship in the technology sector is negatively affected.

5.3. Female Economic Activities in the Technology Industry

With one's experience and previous work employment, someone's capabilities and confidence grows, and eventually, women would then be able to break away from the stereotyping (Kobeissi, 2010). However, women, generally, do not have a lot of work experience or confidence in the field of technology as concluded in chapter 4.6. Therefore, women are not really able to build their capabilities and confidence and thus, have diminished intention to engage in technological entrepreneurial activities. Hence, this sub-variable negatively affects the relationship between the gender differences in entrepreneurship and the level of female entrepreneurial activities in the technology industry.

5.4. Female to Male Earnings Ratio in the Technology Industry

Even given that the gender earnings gap becomes smaller and smaller, it still exists in all industries (OECD, 2022). Hence, also in the technology sector. However, according to research (Hill et al., 2010), women in the STEM workforce earn more than women in other sectors of the workforce. The higher income may act as an incentive for women to engage in technological activities. Unfortunately, a higher pay as an employee diminishes the intention to become an entrepreneur. Besides, other factors, such as stereotyping and sexual harassment in the technology industry and the frustration about the gender wage gap also still exist. Therefore, it is very difficult to draw a reliable conclusion about this sub-variable.

5.5. Fertility Rate in the Technology Industry

There is the assumption that women leave their STEM careers because they are not able to combine their family responsibilities with the workload (Mason et al., 2009). However, when a woman within the STEM industry decides to become a technological entrepreneur, it would imply that she will probably have more flexibility and thus, have more time to spend with her children. Therefore, we may assume, given that a woman has the capabilities and competencies in the technology industry, she would be more likely to engage in technological entrepreneurial activities when having a family and children.

Thus, positively affects the relationship between the gender differences in entrepreneurship and the level of female entrepreneurial activities in the technology industry. What is really important here and thus needs some attention, is the assumption that the woman has the capabilities and competencies which can be build through education and prior experiences. We have concluded in this paper that someone is more likely to engage in entrepreneurial activities related to their education field and prior work experience (Koeber & Wright, 2006) and unfortunately, the number of female technology students or employees to date remain quite low compared to their male opponents (Greene et al., 2003).

Furthermore, the assumption that a distinction needs to be made between necessity and opportunity entrepreneurship still holds in the technological industry. Hence, the fertility rate will have less effect on the relationship between the gender differences and the level of female entrepreneurial activities in the technology industry when there is no necessity. The same holds for home-based employment. When a female technology entrepreneur is not able to work from home, the positive effect of the fertility rate effect is also diminished.

6. Conclusions, Limitations and Recommendations

In this ending chapter, first, the conclusions which are necessary to answer the problem statement are given. Then, the discussion will follow where the encountered issues related to this paper are discussed. Next, limitations and some suggestions for further research are discussed followed up by recommendations for practical use.

6.1. Conclusions

This thesis searched how gender differences influence both the level of female entrepreneurial activities in the technology sector, and the impact of the gender-related external factors. The problem statement can be answered with the help of the discussed literature. Five gender differences in entrepreneurship are used to explain how they affect the level of female entrepreneurship in the technology sector.

Per sub variable, all researchers came to approximately the same conclusions. Firstly, social networks appeared to be really important for the establishment and continuation of a business.

However, when operating in a non-traditional sector for women, their relevant capital is dimmed (Sapleton, 2009). Secondly, because of its dynamic nature the technology sector bears a lot of risk. Research in this paper confirms that women are more risk averse than men (Byrnes et al., 1999; Bowman-Upton, 1990) and this may negatively affect the level of female entrepreneurial activities. Thirdly, women are less confident about their knowledge of both entrepreneurship and technology (Zeldin & Pajares, 2000; Henwood, 2000). This idea of lacking knowledge negatively influences a woman's confidence and therefore, the level of female entrepreneurship in technology may also be negatively affected. Fourthly, both perceived and real barriers to financial capital are explanations for the lack of females in technology entrepreneurship (Brush et al., 2014). Women are seen as 'riskier' investments and because of this, getting access to the required capital remains difficult. Lastly, for education in both the field of entrepreneurship and technology, more men apply (Robb et al., 2014; Gill & Ganesh, 2007). This is mainly due to the fact that both fields are seen as masculine. Women, generally, do not like to participate publicly in technological activities because they are afraid to confirm the stereotype (Sanders, 2005). Besides, people are more likely to establish a business in a field where they already gained some prior experience (Koeber & Wright, 2006). All these explained gender differences in entrepreneurship point in the same direction. They, unfortunately, all negatively affect the level of female entrepreneurial activities in the technology industry. Sadly, the main reason that came to light in this thesis is the masculine culture within the technology industry. Females are mainly stereotyped as less qualified even given that this is, at the base, not necessarily the truth.

Then the moderating variable 'gender-related external factors'. Here it came to light that educational attainment in general has a positive effect on the level of female entrepreneurial activities. However, still a small degree of females are educated in the field of STEM (Gonzales & Kuenzi, 2012; Hill et al., 2010). Therefore, females have less educational attainment in technology. Furthermore, the sub-variable gender empowerment is linked to culture and stereotyping. In this paper we concluded that, unfortunately, stereotyping happens a lot in the technology industry, steering women away from starting their own business in this field or even starting a career in the technology sector. To continue, women in general do not have a lot of experience or confidence in the field of technology or entrepreneurship (Greene et al., 2003). Because of this lack of economic activities a woman's ability to build capabilities or confidence is negatively affected.

We may conclude that all these beforehand mentioned sub-variables negatively impact the relationship between the gender differences and the level of female technology entrepreneurial activities. Even when given that the sub-variable itself, in general, may have a positive impact. This is, again, mainly due to the stereotyping within the technology industry. On the sub-variable 'female to male earnings ratio', a reliable conclusion could not be drawn. This is because women tend to earn the most in the technology sector and a higher pay diminishes the intention to become an entrepreneur. However, the gender wage gap still exists and women may feel frustrated by this and therefore, still decide to engage in technological entrepreneurial activities. Then, Having a family and children appeared to be an incentive to become a entrepreneur because it gives the woman more flexibility (Kobeissi, 2010; Williams, 2004). This would imply that having a family has a positive effect on the relationship between the gender differences in entrepreneurship and the level of female technology entrepreneurial activities. What is important to mention related to the last two gender-related external factors sub-variables, is that the women in question already need to have experience in the technology sector in order to become entrepreneurial in the field of technology. Besides, for the fertility rate, the effect is smaller when there is no necessity involved.

Overall, we may conclude, according to the discussed literature, that all these factors impact the level of female entrepreneurial activities in a certain society, and therefore, the level of female technological entrepreneurial activities may differ per country or region.

6.2. Discussion

As seen in this paper, there is a lot of research available on the topics of female entrepreneurship and female in technology. The main reason for the low participation in both fields seems to be the masculine view and the stereotyping of women. The research used in this paper does all explain why there exist differences between men and women. However, it would be interesting to investigate further how the participation barriers for female entrepreneurs in technology can be lowered. It can be assumed that this is possible since the process is also made in the previous male-dominated fields of law and business (Gonzalez & Kuenzi, 2012; Hill et al., 2010). Besides, most articles related to both technology and entrepreneurship were focused on STEM. STEM contains more than only technology, and therefore, it would be interesting to investigate solely technology related to entrepreneurship.

6.3. Limitations and Recommendations for Further Research

In this thesis, different individual theories about gender differences in entrepreneurship and gender-related external factors are bundled into one paper. These theories are only theoretic and have not been studied before in the exact same context. Therefore, it would be interesting to actually measure these variables in future research and see whether these results match the theory. In addition, the gender-related external factors are now only theoretically described and not linked to specific countries. It can be assumed that, indeed, a country with a relatively high female education attainment in the field of technology has different levels of female technological entrepreneurial activities. However, this is still only theoretic. Therefore, it would be interesting to actually investigate these gender-related external factors in different countries.

6.4. Recommendation for Entrepreneurs

The results could be very useful for (future) female entrepreneurs, especially in the field of technology. A recommendation for these entrepreneurs is to really understand the differences between men and women and try to break away from the stereotype, even though it is hard to find your place in a male-dominated industry.

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About the Author

Femke Janssen recently graduated from Tilburg university with a bachelor degree in the field of International Business Administration with a specialization in entrepreneurship. During this study, she focused on the four core pillars of an international business: management & organization, marketing, finance, and accounting.

By writing this academic paper, she expanded her knowledge into the specific category of female entrepreneurship. Currently, she is taking her knowledge into practice by doing a boardyear at a study association in Tilburg where she fulfills the function of the treasurer. After this educational year, she aims to do a master program to expand her knowledge even further.

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Entrepreneurial Orientation for European Sports Entrepreneurs: Do You Need It?

Sam Niesten

Abstract

This thesis researches the relationship between entrepreneurial orientation (EO) and the performance of sports entrepreneurs active in Europe. Besides, it is researched if the type of motivation, intrinsic or extrinsic, had an influence on the relationship between EO and performance. EO is divided into three elements: risk taking, innovation, and proactivity. Risk taking can be divided into physical risk taking and financial risk taking. Performance is divided into sporting and financial performance. It is useful for sports entrepreneurs to know to what extent EO has an influence on performance and whether intrinsic or extrinsic motivation influences this relationship, since the sports entrepreneur could focus on the dimensions that enhance performance. The thesis only uses secondary sources. Any sort of enterprise or entrepreneurship in a sports setting is classified as sport-based entrepreneurship. Athletes or persons who work in sports enterprises might be considered sports entrepreneurs under this concept. The thesis concludes that EO does have a positive impact on both sporting and financial performance of sports entrepreneurs. Risk taking and innovation have a positive correlation with the performance of sports entrepreneurs. Risk taking had a positive relationship with both sporting and financial performance. Especially for athletes, risk taking was rewarding. Proactivity doesn't have a significant relationship with performance but since proactivity is correlated with risk taking and innovation it is still important for the performance of sports entrepreneurs. Furthermore, sports entrepreneurs should make a trade-off between intrinsic and extrinsic motivation. However, there should be a focus on intrinsic motivation. Extrinsic motivation has an influence on the relationship between EO and performance. Nevertheless, this influence was lower in comparison with intrinsic motivation.

In this thesis, it is concluded that the autonomy support of athletes' coaches has an influence on EO and the intrinsic motivation of athletes.

Keywords: sports entrepreneurs; entrepreneurial orientation; intrinsic extrinsic motivation; performance

1. Chapter I

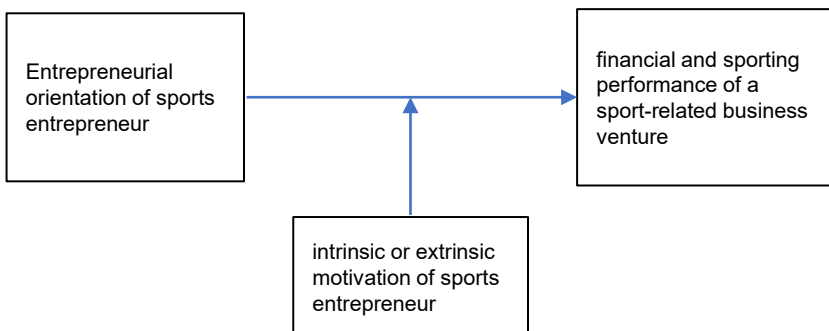
1.1. Problem Indication

The interest in the field of sport entrepreneurship has been growing for many years. However, there are still many things unknown about sports entrepreneurship. Wolcott and Lippitz (2007) argue that entrepreneurship offers direction to businesses that want to increase their overall performance. Entrepreneurship is also very important for sport-related business ventures. Ratten (2010a) states that entrepreneurship is an essential section of sports management and that it provides a competitive advantage for all parties involved in sports. Besides, Ball (2005) argues that entrepreneurship is essential to the industry of sport due to the fact that it is a pillar of change and innovation. Entrepreneurship was necessary in order to make changes in sport and it still is. Hence, sport needs entrepreneurship. Venkataraman and Shane (2000) state that entrepreneurship is defined as the identification and exploitation of business opportunities within the individual–opportunity nexus. Ratten (2010a, p.60) states that “sport-based entrepreneurship is defined as any form of enterprise or entrepreneurship in a sports context”. Entrepreneurship helps sports business leaders who want to perform better from a social and economic point of view. (Ratten, 2010b). This paper looks at all sport-related business ventures. All sport-related business ventures can be used, for example, the football or fitness industry.

Casavecchia and Suh (2017) state that EO consists of 3 dimensions which are risk taking, innovation, and proactiveness. EO is very important for entrepreneurs. However, there is little known about the relationship between EO and the performance of sports entrepreneurs. Since many sports entrepreneurs are also athletes themselves, this thesis studies financial and sporting performance.

The subject is academically relevant since it would be beneficial to know whether it is beneficial for a sports entrepreneur to either have a high or low EO. Besides, this study has not been conducted before.

Furthermore, sports entrepreneurs need to know whether intrinsic or extrinsic motivation is more important for a sports entrepreneur. If sports entrepreneurs do know what type of motivation they should focus on then they can increase their performance. Reiss (2012) describes intrinsic motivation as doing something for your own will. For example, when a child only plays basketball because he likes to play it. Though, extrinsic motivation refers to the hunt for an essential goal. For example, when a child only plays basketball because a parent wants the child to play it. It is known that the different types of motivation have differing effects on the performance of an entrepreneur. Nevertheless, it is unknown whether the different types of motivation influence the relationship between the level of risk-taking and the financial performance of a sports entrepreneur. It would be beneficial for sports entrepreneurs to know whether this variable has an influence on this relationship and if so how. If a sports entrepreneur has high extrinsic motivation and is mainly focused on making as much profit as possible, then it would be good to know whether taking high risks is rewarding or not. In general, entrepreneurs' intrinsic motivation has a slightly better effect on performance than extrinsic motivation (Gerhart, & Fang, 2015). However, sports entrepreneurs need to know if this also applies to their industry. This thesis focuses on sports entrepreneurs who operate in Europe.



1.2. Problem Statement and Research Questions

The problem indication named above leads to the following problem statement:

To what extent does entrepreneurial orientation have an influence on the financial and sporting performance of European sports entrepreneurs and to what extent is that moderated by a sport entrepreneur having intrinsic or extrinsic motivation?

To avoid ambiguous concepts and terms and to make the topic as clear as possible the following theoretical research questions are drafted:

1. What is a sports entrepreneur?
2. What is meant by entrepreneurial orientation for a sports entrepreneur?
3. What is intrinsic and extrinsic motivation for sports entrepreneurs?
4. What is meant by the performance of sports entrepreneurs?

In order to get the best possible answer to the problem statement the following practical research questions are drafted:

1. To what extent is the level of entrepreneurial orientation related to the performance of European sports entrepreneurs?
2. To what extent does the type of motivation (intrinsic or extrinsic) influence the relation between the level of entrepreneurial orientation of a European sports entrepreneur and the performance of a European sports entrepreneur?

1.3. Research Design and Data Collection

This bachelor thesis uses a literature review. This research relies on secondary sources to gain data sources. All data is qualitative. In this thesis, the following variables are researched: level of risk-taking, intrinsic, and extrinsic motivation, and performance. The main search mechanisms used are Tilburg university's Worldcat, Science Direct, and Google Scholar. To keep the validity and reliability high, mainly data from high quality academic journals in the field of entrepreneurship and management is used. For example, *Journal of Business Venturing*, *Journal of Small Business Management*, *Journal of Management*, *Journal of Management Studies*. Secondly, there is also information gathered from journals and articles that combine entrepreneurship and management within the sports industry.

From the data gathered from these sources, the relationships between the different variables can be researched.

1.4. Structure of the Thesis

The structure of this thesis is as follows. First, the definition, nature, and relevance of entrepreneurship and sport entrepreneurship are explained, and why they are relevant. Secondly, the relationship between the level of risk-taking and the performance of sports entrepreneurs is discussed. Thirdly, the thesis looks at the type of motivation a sports entrepreneur has, and whether this has an influence on the relationship between the level of risk-taking and performance. Finally, a conclusion is drafted and suggestions for future research are given.

2. Chapter II

2.1. Sports Entrepreneurs

This chapter explains what sports entrepreneurs are and how they operate. As mentioned previously, this thesis uses the following description of sport entrepreneurship by Ratten (2010a, p.60): “sport-based entrepreneurship is defined as any form of enterprise or entrepreneurship in a sports context”. Sports entrepreneurs that are being discussed in this thesis can be athletes or people who work in sports businesses.

First, the thesis mentions some characteristics of entrepreneurs. Secondly, the meaning of sports entrepreneurs is discussed. Some characteristics of an entrepreneur are that it is more likely that they are alert to rising opportunities and they are open to taking risks (Schneider, Butryn, Furst, & Masucci, 2007). Schneider et al. (2007) also state that most descriptions of entrepreneurship entail three main functions that entrepreneurs perform, which incorporate finding and meeting unfilled asks of society, supposing risk with uncertainty, which also includes risk related to monetary, reputational, and emotional and gathering networks which are qualified of undertaking innovations. Turan and Kara (2007) describe entrepreneurship as a comprehension of aspects that influence entrepreneurial activity. They also mention that education on the subject has increased significantly in the past decade. Most aspects of entrepreneurship target the demand for performance.

Hence, if entrepreneurs recognize opportunities, then the results may be desirable (Yusuf & Schindehutte, 2000). There are some characteristics that correlate between entrepreneurs and sports entrepreneurs. For example, entrepreneurs have traits such as resilience, craving for performance, a high extent of internal locus, and flexibility (Pellegrini, Rialti, Marzi & Caputo, 2020).

Secondly, the definition of sports entrepreneurs and its differences from non-sport entrepreneurs are discussed. A sports entrepreneur commonly has a passion and personal experience in the sports market his or her company works in. Often that sport was either a person's hobby or that person worked as an athlete in that industry (Ratten, 2017). However, this does not mean that every sports entrepreneur is an athlete or ex-athlete. Sports entrepreneurs are commonly persons who use their expertise and physician to begin and run a business. Sports entrepreneurs use their expertise learned from a specific sport in many ways (Hemme et al., 2017). Even though sports entrepreneurs and entrepreneurs share common characteristics, they differ in some aspects. Crick & Crick (2016) argue that sports entrepreneurs begin a company out of pure interest. This is called opportunity-based entrepreneurship. Other entrepreneurs might start their businesses because they have no other choice. Foo & Baron (2009) argue that while being connected to a business motivates a sports entrepreneur, this connection frequently also implies that there is a powerful emotional attachment, which could need demanding efforts. This entails that competitors try to spot weaknesses that they could use to create a competitive advantage. Besides, because of their training, sports entrepreneurs are in general proactive and stress-resistant (Mitchell, 2005). Moreover, Pellegrini et al. (2020) state that sports entrepreneurs generally have a higher EO than the average entrepreneur.

2.2. Entrepreneurial Orientation for Sports Entrepreneurs

In this paper, EO consists of three dimensions which are risk taking, innovation, and proactiveness. Wales, Gupta, and Mousa (2013) made a review of 158 papers on EO, 98 of them identified EO as a construct made up of the dimensions of innovation, risk-taking, and proactivity. Moreover, they point out that, although disparities in study numbers, research should not overlook the EO's one-dimensional perspective. Since EO is most often used with these three dimensions this paper also uses risk taking, innovation, and proactiveness as its dimensions.

Firstly, risk taking for sports entrepreneurs is being discussed. Casavecchia and Suh (2017) describe corporate risk taking as the extent of risk a company is prepared to take in order to get the highest possible profit while facing uncertainty in the future. Corporate risk-taking shows the company's point of view when making choices on what to invest. The higher the extent of corporate risk-taking, the higher the chance that the company chooses a high-risk investment with a positive expected net present value when choosing between different investments. Another definition of risk taking is that a higher extent of risk-taking could maximize an enterprise's resource allocation and it could increase its competitive advantage and business value. Risk-taking is a crucial factor for the long-term survival and innovation of a company (Song, Nahm & Song, 2021). Risk taking influences the other dimensions as well. (Naldi, Nordqvist, Sjöberg & Wiklund, 2007).

Sports entrepreneurs also have to take risks. Normally it is believed that people who cooperate in sports are risk-takers (Ratten, 2010a). These risk takers can be athletes, coaches, and other people who work for sports businesses. The extent of risk taking in the sports industry relies on characteristics that include psychological and physical risk (Ratten, 2010a). Oliver (2006) found that the extent of risk taking can also differ between sports. For instance, adventure sports athletes have in general a higher extent of risk-taking than athletes who practice ballet, due to the different nature of risk involved. Two types of risks are discussed in this thesis: physical and financial risks.

Firstly, physical risk taking is chosen because sports entrepreneurs often experience physical risk. In many cases, sports entrepreneurs need to be physically fit in order to do their job. Think of a fitness instructor or professional football player. When a person starts a new venture, this gives multiple types of risks. Not every sports entrepreneur faces the same type of risk. A sports entrepreneur who does not need to use his physique to do his job has different risks than an athlete. For example, a basketball player's fiduciary has different risks than the basketball player itself. The basketball player has a higher physical risk than his fiduciary.

Secondly, there is financial risk. Steinbrink, Berger, and Kuckertz (2020) use in their paper 4 dimensions for risk-taking for sports entrepreneurs. One dimension is the financial risk which is also used in this thesis. When starting a new venture, an investment is normally required. This provides an income uncertainty (Sarasvathy, 2001). Besides, sports entrepreneurs can also face financial risks when they get an injury or when they get negative publicity.

Kedar-Levy and Bar-Eli (2018) also mention business, innovation, and social risk. Business risks are most of the time taken by the owners of sports clubs/businesses. This could be contracted to athletes based on talent and future potential. Nevertheless, football club owners who also are sports entrepreneurs or intrapreneurs, often invest and take risks in the hope of returns in the form of pleasure and status (Zimbalist, 2003).

The second dimension of EO which we discuss is innovation. Schumpeter (1942) was the first author to stress the importance of innovation in the entrepreneurial process. He created the phrase "creative destruction" to describe the process of producing wealth by introducing new products or services that disrupt the current market and cause a shift in resource use. Lumpkin and Dess (1996) extended this perspective. They state that the EO dimension of innovativeness entails exploring and promoting novelty, creative processes, and the creation of new ideas via experimenting. Lumpkin and Dess (1996) describe innovation as the organization's willingness to participate in and promote new ideas, novelty, experimentation, and creative processes that may lead to new goods, services, or processes.

Moreover, Escamilla-Fajardo, Alguacil, and Gómez-Tafalla (2021) state that the term "innovation" refers to the organization's development of new ideas, products, and services. It doesn't need to include complete innovation, but it needs to provide additional value to the organization. Some of the key aspects of innovation include innovative procedures, new ideas, and experimentation. The worry about innovation and entrepreneurship has lately presented the sports environment with a fresh challenge to face reality, risks, and deficiencies, as well as to find chances and rethink its future (Escamilla-Fajardo et. al, 2021A). Entrepreneurial orientation has become widely regarded as a concept that characterizes and assesses attitudes toward entrepreneurship and innovation in this environment (Escamilla-Fajardo et. al, 2021A).

In sports, innovation is critical. Innovation influences how the sport is performed, seen and structured via new ideas, change, and renewal. In other words, innovation has an impact on the social function of sport (Tjønndal, 2017).

Ratten (2011) states that sports may be innovative in a variety of ways, including through sports teams, sports organizations, and athletes. To improve their performance, sports teams frequently devise new methods. The use of computer analytics to aid team performance and the globalization of sports leagues have been two important breakthroughs in the last decade.

The World League of American Football was founded by professional sports leagues such as the National Football League in America. Franchises were awarded to teams from Canada, the United Kingdom, Germany, Spain, and the United States (Ratten, 2011).

In the study by Escamilla-Fajardo, Parra-Camacho, and Núñez-Pomar, (2021), Innovation is described as the component feature of EO that is critical to the organization's growth and success. This has been and continues to be the most investigated and examined of the EO dimensions. The conversion of information and skills into new goods or services, as well as the application of new transformation or manufacturing procedures, are all examples of innovation. This does not imply they have to be completely novel projects for the industry, but they should provide value to the firm. Different sorts of innovations occur depending on whether they are based on current abilities or the outcome's direction. Product innovations refer to changes or initiatives made to goods or services in response to user demands or expectations, whereas process innovations refer to changes made to the process of value formulation, proposal, and delivery (Escamilla-Fajardo et. al, 2021D).

Lastly, there is proactivity as a dimension of the EO. Proactivity is known as the capacity of an organization to foresee and capitalize on new possibilities (Núñez-Pomar, Escamilla-Fajardo, & Prado-Gascó, 2020). Kraus, Rigtering, Hughes, and Hosman (2012) stated that proactiveness means pursuing new prospects that may or may not be connected to the current line of business, launching new goods and brands ahead of the competition, and strategically closing businesses that are nearing the end of their life cycle. The importance of the initiative in the entrepreneurial process is referred to as proactiveness.

A company can gain a competitive advantage by forecasting future demand changes (Lumpkin & Dess, 1996). Escamilla-Fajardo, et. al (2021A) argue that proactivity can take two forms in this context: extensive knowledge of the company and the competition, and secondly, the development, planning, and implementation of initiatives in advance of the needs of rivals and consumers. In the realm of sports, the examination of the organization's own resources, as well as those of the other competing entities, as well as the wants and requirements of the users, is linked to the study of the organization and the sector. In this setting, it is critical to maximize existing resources while also expanding strategic understanding of new resources that may be utilized.

2.3. Intrinsic and Extrinsic Motivation for Sports Entrepreneurs

Motivation is essential for an entrepreneur's success and performance. In general, sport entrepreneurs have a high intrinsic motivation (Cnossen, Loots, & van Witteloostuijn, 2019). In both cross-sectional and longitudinal research, the favourable relationship between the desire for success and athletic performance has been experimentally established (Zuber, Zibung, & Conzelmann, 2015). Motivation has been cited as a crucial factor in athletes' success in sports and exercisers' commitment to a workout routine (Vallerand, 2007). The relationship between the type of motivation (intrinsic or extrinsic) and the performance of (sport) entrepreneurs has been studied a lot.

Sports entrepreneurs are active in a creative business. Cnossen et al. (2019) found out that entrepreneurs active in the creative business are more intrinsically than extrinsically motivated. Intrinsically motivated entrepreneurs have high degrees of confidence in their creative abilities and talent. Cnossen et al. (2019) also argue that rather than a trade-off between intrinsic and extrinsic incentives, there is a trade-off between autonomy and financial viability

Besides, motivation is also linked to risk taking. Dewett (2007) argues that there is a general thought that intrinsic motivation is positively related to risk taking. Diehm and Armatas (2004) state that a high-risk taking sport, in this case, surfing, showed stronger Intrinsic Motivation than a low-risk taking sport, in this case, golf. As judged by the Sports Motivation Scale (Pelletier et al., 1995), both groups showed equivalent Extrinsic Motivation. These findings show that personality traits, in combination with different types of participation incentives, may be beneficial in distinguishing between low- and high-risk sports players, which might be utilized to promote surfing as a positive risk-taking activity. Hence, the type of motivation, intrinsic or extrinsic motivation does affect the performance of sports entrepreneurs, as well as the risk taking of the sports entrepreneurs.

The findings of Soininen, Puumalainen, Sjögrén, Syrjä, and Durst, S. (2013) show that intrinsic work motivations of owner-managers are the biggest drivers of innovative and proactive behaviours, while other work values are also linked to EO. The importance of intrinsic work motivation is supported by research that shows entrepreneurs had greater levels of work motivation values than other managers. Their findings support this theory by demonstrating that entrepreneurs who are genuinely motivated pursue greater growth and engage in more innovative, proactive, and risk-taking activities.

2.4. Performance of Sports Entrepreneurs

The performance of sports entrepreneurs has two dimensions, financial performance, and sporting performance. This thesis uses the same dimensions as Hammerschmidt, Eggers, Kraus, Jones, and Filser (2020) to measure the financial success of sports entrepreneurs. Financial success could be measured by using four factors in this research: sales growth, profit growth, employee growth, and professional team value growth. This thesis mainly uses profit growth to measure financial performance. Ratten (2018) states that the highest score, which is an objective judgment, is used to judge performance in most sports. However, technical signs paired with aesthetic talents, like in gymnastics, might impact this. Hammerschmidt et. al (2020) argue that the league position can be regarded as a realistic and regularly used sporting performance measure. This thesis looks at the individual awards won and for sports clubs or teams, the league position is being used.

3. Chapter III

To what extent is the level of entrepreneurial orientation related to the performance of European sports entrepreneurs?

The level of EO for entrepreneurs can differ depending on the type of entrepreneur. Non-sport entrepreneurs have different EO than sports entrepreneurs have. All three dimensions of EO are discussed. First, risk taking is discussed. Secondly, innovation, and thirdly proactiveness.

Firstly, for non-sport entrepreneurs, risk taking is not always rewarding. Naldi, Nordqvist, Sjöberg, and Wiklund (2007) studied the relationship between risk taking and performance in family-owned businesses and non-family-owned businesses. The findings revealed that risk taking was not beneficial for family-owned businesses. Kreiser, Marino, and Kuratko found that risk taking for small to medium-sized businesses is not rewarding. They found that small firms with low levels of risk performed very well.

Tang and Zang (2007) argue that the risk taking tendency is only adversely related to performance at low levels of generosity. Bromiley (1991) argues that even when prior performance, industry performance, and organizational slack were controlled, poor performance appeared to encourage risk taking appeared to result in even worse performance. Altogether, the findings support a model wherein poor performance and a lack of slack motivate people to take chances, but the risks they take have poor returns.

Kreiser et. al (2013) found that small-medium enterprises (SME's) that take modest risks have lower levels of performance. Their findings also imply that risk-taking behaviour isn't always a beneficial undertaking for small businesses; rather, SMEs with low risk-taking behaviour may be able to achieve high levels of performance. Thus, for non-sport entrepreneurs, the findings on the relationship between risk taking and performance are scattered. However, most findings suggest that risk taking is not rewarding for non-sport entrepreneurs.

Then there are the sports entrepreneurs. People who participate in sports are generally thought to be risk takers. A sports entrepreneur can take risks in multiple fields. For example, risks can be taken in innovation, investments or in physical activities which often is the case for athletes. In sports, the amount of risk-taking behaviour is determined by personality qualities such as emotional and physical risk.

Adventure sports such as large wave surfing and free diving encourage people to take more risks (Ratten, 2010a). Gakhar (2020) found that collegiate athletes demonstrate a high degree of dedication, develop collaboration, improve discipline, self-control, confidence, and a risk-taking mentality, manage stress, acquire selflessness, and strengthen their resilience. A successful athlete steps outside of their comfort zone and takes chances, although those risks may lead to failure. As a result, athletes, who are sports entrepreneurs, are expected to take more risks than non-athletes. Hence, sports entrepreneurs have a higher level of risk taking than non-sport entrepreneurs have.

Athletes are also sports entrepreneurs who have to take many risks to succeed. Gakhar (2020) states that athletes are risk takers during their active sporting careers. However, they also take risks outside of their career. Athletes take risks with their financial decisions as well. Gakhar (2003) also found that professional athletes have a higher level of risk taking than non-professional athletes. The sporting and financial performance of professional athletes is higher than that of non-professional athletes. Thus, if the comparison between professionals and amateurs is made then the conclusion is that risk taking is rewarding for athletes.

Now the focus lies on sports entrepreneurs who are active in the sports industry but not as an athlete. There are other sports entrepreneurs such as the owners of sports organizations or companies. Many sports club owners take financial risks in the hopes of reaping benefits in the form of entertainment and power. Fun, perks, authority, and ego pleasure are some of the benefits they obtain in exchange. In some ways, ownership is a consumption good.

As a result, owners should consider optimizing their overall (investment and consumption) return rather than simply their economic gain (Zimbalist, 2003). Following this theory, an owner of a sports organization or business should not only prioritize financial performance. If an owner takes many risks, and it is financially rewarding, then this does not mean that the investment is successful if the consumption of ownership is also taken into account.

Moreover, Moore and Levermore (2012) argue that professional football clubs (PFCs) are quite similar to small-to-medium-sized enterprises (SMEs) in terms of employee numbers, income, and organizational features. The sport-related mission statement, on the other hand, separates football firms from ordinary small enterprises. Profits are reinvested by PFCs. To improve league performance, European soccer clubs fund players by assuming financial losses/debts. They do this because PFCs are win-focused instead of profit-focused (Garcia-del-Barrio & Szymanski, 2009). Since football teams are win maximisers, a club makes more investments in players for example than a club that is profit-focused. Besides, football clubs take more risks than an average entrepreneur. Hence, for the financial performance of football clubs, risk taking is not rewarding.

Nevertheless, sporting performance and financial performance also strongly correlate (Samagaio, Couto & Caiado, 2009). Hammerschmidt et. al (2020) found that risk taking was positively associated with sporting performance. Though, risk taking had no significant effect on the financial performance of firms. Yet, they also found that innovation did have a positive impact on the performance of sports entrepreneurs. The findings of Escamilla-Fajardo, Núñez-Pomar and Calabuig (2021) support the findings of Hammerschmidt et. al (2020). Escamilla-Fajardo et. al (2021) also found that risk-taking is a causative factor for high levels of financial and sporting performance. In sports, choices are frequently taken without full awareness of the potential effects of proposed initiatives or plans. Risk and uncertainty are inherent in competitive sports, and they should be approached with prudence and caution.

In a study of private sports organizations, Núñez-Pomar et al. (2016) discovered that risk taking is a causative requirement for economic performance. Despite the need to always be confronted with a sense of responsibility and cautiousness, learning strategies that involve taking organizational risks may be a good idea, depending on the results obtained, the fact that the sports club takes risks in its initiatives has a positive impact on sporting and economic performance.

The second dimension which is discussed is innovation. For entrepreneurs in general Kraus et. al (2012) found that innovation has no significant relation effect on business performance. Escamilla-Fajardo et. al (2021B) found that just like risk taking innovation is a causative factor for high levels of financial and sporting performance. Because of their large impact on the organization's end performance and, as a result, its economic sustainability, innovation is a characteristic that should be cultivated (Escamilla-Fajardo et. al 2021A). Tjønndal (2017) states that in sports, innovation is critical. Innovation influences how the sport is performed, seen and structured via new ideas, change, and renewal. In other words, innovation has an impact on the social function of sport.

For global competitiveness, technology innovation is rapidly influencing the sports sector (Ratten, 2020). In sports, technology is visible in a range of situations, including the playing, consuming, and watching experiences. This could be the innovation of fan experiences, innovation of stadiums, the sport itself, or the way of doing business. Because of the inherent necessity for technology in sports, understanding how to establish a complete plan for managing innovation is becoming increasingly vital. According to Ratten (2020), technology has impacted almost every aspect of the sports sector, driven by the demand for continuous innovation. Sporting organizations that are proactive participants in the innovation process and take advantage of new scientific breakthroughs. As a result, it is critical to evaluate the technological environment in sports. From these findings, the thesis could conclude that proactivity and innovation correlate and that innovation is essential for sports entrepreneurs.

According to Hammerschmidt et. al (2020), the only sub-dimension with a substantial positive link to both financial and sports achievement was an innovation. An executive at one German football club states that his company strives to be innovative and proactive at all times. This assertion is backed up by an expert who claims that in the sphere of professional soccer, innovative and proactive conduct is a need for success. We noted that the executives gave off a strong sense of innovation, which might be a reflection of the sports industry's overall proactive nature. According to one participant, though, innovation is a real potential to gain a competitive edge, but it also demands appropriate support.

Núñez-Pomar et. al (2016) studied small and large sport enterprises. They found that the combination of innovativeness, risk-taking, and small size is a sufficient condition that explains 45 percent of the result when utilized as an outcome of self-perceived measures for the occurrence or success of company performance. When a financial measure (ROI) is considered as an outcome criterion, however, two sufficient requirements account for 58 percent of the data. First, in bigger organizations, a lack of innovation and risk-taking is a performance indicator. Nevertheless, the most ideal strategy to perform for small businesses is to combine proactiveness, creativity, and risk-taking.

Thirdly, there is proactiveness. Kraus et. al (2012) studied EO for all entrepreneurs and found that for entrepreneurs in general, business performance is strongly and positively connected with proactiveness. However, Hammerschmidt et. al (2020) found that for sports entrepreneurs a high proactiveness does not influence their performance. The findings of Escamilla-Fajardo et. al (2021A) support these findings. Proactivity is the EO dimension that has the lowest impact on service quality and sporting performance. This might be because analysing a sports club and its competitors, as well as attempting to predict the future, are all components of the sports industry.

Núñez-Pomar et. al (2020) studied the relationship between EO and the social performance of Spanish football clubs. In the term social performance, sporting performance was thought to be necessary. They argue that innovation has been demonstrated to be a significant component in achieving social performance, and involvement in high levels of competition is a recurring finding in higher social performance solutions, indicating a link between the two. Yet, innovation alone cannot account for the social performance of sports teams, which also involves proactivity and risk-taking. Núñez-Pomar et. al (2020) state that proactivity is not the key element of EO to increase social performance. Nevertheless, since they also found that all 3 elements of EO correlate with each other, they do say that proactivity is important for a sports entrepreneur.

Nevertheless, another study by Escamilla-Fajardo, Núñez-Pomar, and Prado-Gascó (2021C) used the fsQCA approach to analyse a sample of 13 non-professional sports clubs and 13 professional sports clubs. According to the findings, EO has an impact on sport clubs' economic performance, with proactivity being the most important attribute. A limitation is that this study only looks at the economic performance of the sport club.

Another study of Escamilla-Fajardo, Núñez-Pomar, Calabuig-Moreno and Gómez-Tafalla (2020) studied the relationship between EO and the service quality during the COVID-19 pandemic. Service quality can be seen as an indicator of performance. They found that before the crisis, the elements of sports entrepreneurship that demonstrated a strong predictor of service quality were risk-taking and proactivity. This might be because, in most situations, managers and their teams do not need to respond rapidly and can instead analyse the environment to find resources, requirements, and chances to make better judgments ahead of the competition. However, since the introduction of COVID-19, the environment has altered, as the time to respond has become more restricted, and sports teams have had to make rapid, imaginative, and effective judgments. Thus, Escamilla-Fajardo et. al (2020) argues that proactivity does not increase the service quality during times of crisis.

This thesis concludes that in general EO is positively related to the performance of sports entrepreneurs. Of the 3 EO dimensions, risk taking and innovation, are the most positively correlated with the performance of a sports entrepreneur. The last EO dimension, proactivity, is the least correlated with the performance of a sports entrepreneur. Yet, proactivity still is important for a sports entrepreneur since all 3 EO elements correlate with each other.

4. Chapter IV

To what extent does the type of motivation (intrinsic or extrinsic) influence the relation between the level of entrepreneurial orientation of a European sports entrepreneur and the performance of a European sports entrepreneur?

Motivation is essential for a (sports) entrepreneur. For sports entrepreneurs, motivation has a positive relationship with either sporting performance or financial performance. This chapter, firstly, there is discussed which type of motivation is the most important for a sports entrepreneur to have. Secondly, it is discussed to what extent the type of motivation influences the relationship between EO and performance.

As discussed in chapter 2.3, in general, motivation is essential for sports entrepreneurs. Was found by Vallerand (2007) that it is crucial for athletes to be motivated in order to become successful.

Dewett (2007) argues that an increase in risk taking, and experimentation is supposed to result from an intrinsic interest in one's profession which is similar to intrinsic motivation. Escamilla-Fajardo et. al (2021A) studied the effects of EO and passion for work on the performance of Spanish sports clubs. They argued that passion is tightly associated with the motivation to devote time and effort to a job or activity that one enjoys. Their findings showed that risk taking, and innovation are positively associated with the sporting performance of a sports club.

Escamilla-Fajardo et. al (2021A) also demonstrated that integrating work-related passion in analyses increases the models' ability to explain risk taking and innovation. These variables can have a substantial influence on an organization's long-term viability. Hence, based on the findings of Escamilla-Fajardo et. al (2021A) the conclusion that intrinsic motivation strengthens the relationship between EO and performance can be made.

Van der Weijde (2020) studied the relationship between EO and performance for Dutch music bands. Music bands are active in the cultural industry. He found out that intrinsic motivation strengthens the relationship between EO and performance for music bands. Extrinsic motivation did not significantly affect the relationship between EO and performance.

Cnossen et. al (2012) argued that entrepreneurs active in the Dutch creative cultural industry, are in general intrinsically motivated. Following the article, sports entrepreneurs are also active in the creative cultural industry. Nevertheless, they also found that there is also a significant correlation between a person's creative ability and extrinsic motivation. While the literature shows that external incentives may demotivate people, they discovered that those with creative self-confidence expect rewards and attention, a result that may not be surprising given that much creative activity is outwardly focused and many creatives desire audience approval. The conclusion of Cnossen et. al (2012) is that there should be a trade-off between intrinsic and extrinsic motivation for entrepreneurs in the creative cultural industry to perform well. Since sports entrepreneurs are also active in this industry, based on the findings of Cnossen et. al (2012) the conclusion that sports entrepreneurs should have a trade-off between intrinsic and extrinsic motivation can be made.

Diehm and Armatas (2004) studied the relationship between the level of risk taking in sports and the type of motivation. They found that high-level risk taking athletes (surfers) are in general more intrinsically motivated than low risk taking athletes (golfers). The extrinsic motivation did not differ significantly between different athletes.

Since risk taking is a dimension of EO and positively correlated with the performance of a sports entrepreneur, based on the findings of Diehm and Armatas (2004) a conclusion could be made that the type of motivation strengthens the relationship between risk taking (dimension of EO) and performance of a sports entrepreneur.

Gerhart and Fang (2015) found that for entrepreneurs in general the focus is too much on intrinsic motivation since intrinsic motivation is regarded as more important for performance. They describe extrinsic motivation as a person's interest in an activity not for its own sake, but because it is viewed as being crucial in achieving personal goals. Their findings suggest that extrinsic motivation is just as important as intrinsic motivation for performance.

Now the following question is discussed: to what extent does the type of motivation have an influence on the relationship between EO and performance? Gillet, Vallerand, Amoura, and Baldes (2010) studied the relationship between a coach's autonomy support, contextual motivation, situational motivation, and objective performance. They found that the players' motivation to practice their sport was self-determined the more autonomy-supportive their coach was judged to be. When a coach is a very autonomy-supportive coach, then this increases players' intrinsic motivation.

Besides, Gillet et. al (2010) discovered that higher intrinsic motivation and self-determined motivation increased athletic performance. As previously mentioned, high intrinsic motivation is positively correlated with risk taking. Therefore, based on the findings of Gillet et. al (2010) the thesis could conclude that a high level of intrinsic motivation strengthens the relationship between the level of risk taking and the sporting performance of a sports entrepreneur. Furthermore, the following conclusion can be made: a coach's autonomy support has an influence on intrinsic motivation and thus also has an influence on the relationship between EO and sporting performance.

Charbonneau, Barling, and Kelloway (2001) studied the relationship between the transformational leadership of a coach and sports performance with intrinsic motivation as a mediator. They found that transformational leadership increased intrinsic motivation. Furthermore, they found that intrinsic motivation is positively correlated with sporting performance. Since intrinsic motivation is positively related to risk taking and sporting performance, the thesis could conclude that intrinsic motivation strengthens the relationship between risk taking and sporting performance.

Additionally, Chabonneau et. al (2001) argue that the more transformational leadership a coach has, the higher sporting performance an athlete gets. These findings support the findings of Gillet et. al (2010).

Mageau and Vallerand (2003) studied the relationship between coaches and athletes. Just like Gillet et. al (2010) state that autonomy-supportive coaches stimulate an athlete's intrinsic motivation. Moreover, Mageau and Vallerand (2003) found that autonomy-supportive coaches stimulated their athletes to be more innovative and to be stimulated. Thus, based on these findings it could be concluded that autonomy-supportive coaches stimulate the two dimensions of the EO of an athlete. Besides, the coach's autonomy support also has an influence on the intrinsic motivation of the athlete.

Thus, to answer the question: *'to what extent does the type of motivation have an influence on the relationship between EO and performance?'* In this thesis, the conclusion is that intrinsic motivation is more important for a sports entrepreneur to have than extrinsic motivation, especially for athletes since this leads to higher sporting performance and financial performance. Extrinsic motivation does affect the performance of sports entrepreneurs. However, there is more proof that intrinsic has a stronger correlation, and thus the correlation between extrinsic motivation and performance is smaller than the correlation between intrinsic motivation and performance. Furthermore, the level of autonomy-supportive coaches influences to what extent intrinsic motivation has an influence on EO and performance. In conclusion, a sports entrepreneur should have a trade-off between intrinsic and extrinsic motivation with a focus on intrinsic motivation.

5. Chapter V

5.1. Conclusion and Discussion

In this thesis, the following has been studied: the relationship between EO and the performance of a sports entrepreneur and to what extent this relationship was moderated by a sports entrepreneur having intrinsic or extrinsic motivation. Research showed that risk taking, and innovation are essential factors for sports entrepreneurs in order to get high performance. The relation between proactivity and performance seemed less important.

Firstly, the thesis discusses risk taking. The findings of Gakhar (2020) showed that sports entrepreneurs in general take more risks than non-sport entrepreneurs. Zimbalist (2003) showed that nonathlete sports entrepreneurs should take risks. Nevertheless, these risks did not increase financial performance, it increased the sporting performance of the company where the sports entrepreneur is active. For athletes risk taking did increase sporting and financial performance. Samagaio et. al (2009) found that sporting and financial performance are positively related. Therefore, based on the findings of Hammerschmidt et. al (2020), Escamilla-Fajardo et. al (2021A), and Samagaio et. al (2009) the conclusion in this thesis is that for sports entrepreneurs in general risk taking is rewarding for financial and sporting performance.

Secondly, the thesis findings from Escamilla-Fajardo (2021A), Escamilla-Fajardo et. al (2021B), and Núñez-Pomar et. al (2016) showed that just like risk taking, innovation is important for a sports entrepreneur. Innovation is a trait that should be nurtured because of its significant influence on an organization's overall performance and, as a result, its economic viability (Escamilla-Fajardo et. al 2021A). According to Tjønndal, (2017) innovation is crucial in sports. Through new ideas, transformation, and renewal, innovation changes how the sport is done, viewed, and structured. In other words, sport's social purpose is influenced by innovation. Moreover, Núñez-Pomar et. al (2016) found that a lack of innovation and risk taking is a performance indicator in larger firms. Based on all these findings the conclusion in this thesis is that innovation has a positive effect on the performance of a sports entrepreneur.

Lastly, the third element of EO, proactivity, has the least impact on the performance of sports entrepreneurs. The findings of Hammerschmidt (2020), Escamilla-Fajardo et. al (2020), and Escamilla-Fajardo et. al (2021A) all show us that proactivity itself has the least impact on the performance of a sports entrepreneur. However, the findings of Escamilla-Fajardo (2021C) and Núñez-Pomar et. al (2020) tell us that proactivity can have a positive impact on the performance of a sports entrepreneur since all 3 EO dimensions correlate. The conclusion of this thesis is that proactivity does have a positive impact on performance since proactivity does correlate with risk taking and innovation.

Based on multiple sources, Gillet et. al (2010), Diehm and Armatas (2004), and Cnossen et. al (2012), the conclusion of this thesis is that intrinsic motivation has the most positive influence on the relationship between EO and performance. Extrinsic motivation does have an influence on the relationship between EO and performance but is not as significant as intrinsic motivation.

Furthermore, research from Gillet et. al (2010), Charbonneau et. al (2001), and Mageau and Vallerand (2003) showed that for athletes, a coach's autonomy support also has an influence on EO, intrinsic motivation, and performance. The thesis concludes that there should be a trade-off between intrinsic and extrinsic motivation. However, the focus should be on intrinsic motivation.

5.2. Limitations and Recommendations for Future Research

The study does not use primary data and hence relies on secondary research. As seen in this paper there are many sources that research EO and performance of sports entrepreneurs which makes the validity of the variables high. Moreover, one could argue that the term sports entrepreneurs is too general, and the research should specify the term to only athletes or non-athletes sports entrepreneurs.

The study discussed in this thesis is not conducted yet. Therefore, in future research, it would be useful to test these variables and determine if the findings fit the theory. Future research could also look into adding a new variable, the coach's support autonomy, and should study its influence on EO and the type of motivation of an athlete.

5.3. Recommendation for Sports Entrepreneurs

European sports entrepreneurs should focus on all three dimensions of EO when focusing on sporting and financial performance. Especially high levels of risk taking and innovation are rewarding. Besides, they should have a trade-off between intrinsic and extrinsic motivation where the focus should be on intrinsic motivation. Moreover, athletes could hire a coach which is autonomy supportive since this increases intrinsic motivation and sporting performance.

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About the Author

Sam Niesten is a Dutch 21-year-old International Business Administration student at Tilburg University. Since he has been born, he has a passion for sports, especially football. He has watched and played football since he was 4 years old. In high school he developed other interests. His favourite courses were economics and management & organization. When he got the chance to do projects where he could choose his own topic, he always tried to involve his passion in sports. For example, for a geography project he researched the impact of football club PSV Eindhoven on the city Eindhoven. Besides, he had to write a high school thesis where he researched how a football club can be as successful as possible where he had the chance to interview the financial director of PSV, Mr. Van Baar. In high school he found out that he wanted to work in the business of sports.

After high school, he wanted to deepen his knowledge of business and entrepreneurship. Hence, he chose International Business Administration. It was an easy decision to choose the field he wanted to write his thesis about. After some bumps on the road, he is content with the outcome of his thesis. When coming back from his exchange in Bangkok, he will either start the master Strategic Management entrepreneurship track in Tilburg or he will do a board year before starting his masters. His goal will remain to get a nice job in the business of sports, and he will do his very best to achieve that.

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Crowdfunding Entrepreneurship: an International Review of Crowdfunding Implications on Entrepreneurship?

Koen van Rixtel

Abstract

Crowdfunding has been a staple of modern-day entrepreneurship. Ever since its infancy, it has been important in facilitating entrepreneurial projects when traditional funding came short, especially during a period of recession. The assistance of a community of individuals that engage in the crowdfunding process for various reasons has led to companies like Pebble and Oculus, which have been pioneers in their respective markets. While crowdfunding is still in its growth phase as a funding mechanism, research has been done to identify patterns within the crowdfunding process. This research is scattered across different environmental contexts, which makes the practical implications cumbersome to find. This thesis aims to collect and process the patterns found in existing research to make inferences that can be used in a crowdfunding context. Important findings include the incentives and disincentives of crowdfunding actors, success determinants of crowdfunding campaigns, crowdfunding platform alterations and their inferences, information (a)symmetry problems and potential solutions to these problems, and applicability of these findings in an international context.

Keywords: Entrepreneurship, Crowdfunding, Motives, Success determinants, Digital platforms

1. Introduction

1.1. Problem Indication

Entrepreneurs have been a driving force of innovation and economic growth for a long time. Banks and institutional investors have been a significant factor in both promoting and constraining such entrepreneurial growth. Without a proven track record and valuable assets, many investors are hesitant to fund innovative business ideas that entrepreneurs put on the table. This leaves entrepreneurs hanging with ideas that are left unexplored due to financing risks and constraints. Access to innovation finance has thus been crucial for promoting entrepreneurial activity but has been uneasy to acquire (Kerr, W. R., & Nanda, R. (2009).

Entrepreneurs can face these challenges with the emergence of crowdfunding, a relatively new financing method that combines the concepts of micro-finance and crowdsourcing by using a large group of dispersed participants that contribute to producing goods or services by financing with incremental amounts. This has allowed entrepreneurs to forego traditional financiers such as banks and venture capitalists and instead focus on a geologically dispersed crowd of consumers, lenders, and small investors. (Agrawal et al., 2014)

Specifically, entrepreneurs have been able to raise capital, test their business ideas, and create brand awareness through digital platforms like Kickstarter and IndieGoGo, which are famous for funding projects like The Pebble watch campaign, which raised its goal of \$100,000 in just two hours and ended up acquiring more than \$10 million from 68,929 people in 37 days (Bradley, D. B., & Luong, C. 2014).

1.2. Problem Statement

Crowdfunding has had an immense impact on multiple facets of entrepreneurship. Even though the idea of crowdfunding is famous for its nature and has even been promoted by some major world powers like the United States, its implications for the entrepreneurship have been scattered. At the same time, there is a growing demand for such information as small entrepreneurs with big ideas are more common due to the rise of such financing opportunities. The question arises, *to what extent has crowdfunding influenced the entrepreneurial landscape?*

1.3. Theoretical and Pragmatic Research Questions

To find an answer to this problem statement, this thesis has constructed the following theoretical and pragmatic research questions:

1.3.1. Theoretical Research Questions

1. What is crowdfunding?
2. Who engages with crowdfunding?
3. What motives can be identified for crowdfunding?

1.3.2. Pragmatic Research Questions

6. Which factors influence crowdfunding success and to what extent?
7. To what extent are crowdfunding platforms able to influence the crowdfunding process?
8. To what extent is crowdfunding in the United States of America different from crowdfunding in Europe?

1.4. Structure

Each of the previously mentioned theoretical and pragmatic research questions will be answered in the following chapters. This paper starts by establishing a theoretical base in which definitions, actors, and motives are identified. This is of great importance to assist the thesis in answering the pragmatic questions.

This thesis will then start to investigate the factors influencing entrepreneurial success in a crowdfunding environment. Afterwards, the paper puts its attention on crowdfunding platforms, which facilitate the crowdfunding process. Specific decisions and motives by crowdfunding platforms with regard to its services and design will be examined. Finally, this thesis investigates the impact of international borders on the crowdfunding process.

This information is used to conclude on the problem statement. The results and potential limitations of the thesis are discussed. Finally, managerial and scientific recommendations are made.

1.5. Data Collection

A literature review was used to answer the research questions and, ultimately, the problem statement. Firstly, the main topics necessary to answer the research questions are identified. Secondly, keywords are matched to these topics. Thirdly, these keywords are used to search relevant, peer-reviewed, and available articles using WorldCAT, the most extensive bibliographical databank worldwide.

While searching for articles via WorldCAT might be sufficient, it has proven to be worthwhile to investigate references in articles that have been found via the previously described method as reputable and peer-reviewed articles are known to use high quality sources. This adds value to the search of information since articles that may not have been found using specific keywords may come up. A potential downside of this method is a lack of relevancy of the information to the crowdfunding environment. Another downside could be the repetition of information already explained in the originally found paper, which would be wasteful due to time constraints.

2. Literature Review

2.1. Crowdfunding

2.1.1. Defining Crowdfunding

Crowdfunding is a new way of financing entrepreneurial ideas. It allows entrepreneurial individuals and groups to fund their projects by requesting capital from numerous individuals worldwide via the internet, thereby foregoing traditional venture capitalists (Fehrer, J. A., & Nenonen, S. 2020).

Crowdfunding has gotten mainstream media attention with the launch of platforms like Indiegogo in 2008 and Kickstarter in 2009, which gained popularity due to the recession of 2007, but finds its roots back in the year 2000. This year marked the birth of the first crowdfunding platform as it is currently popularized. The platform, ArtistShare, enabled artists to record independent albums by providing a platform on which these artists can collect funds directly from their fans (Fundable, n.d.).

Crowdfunding projects may vary from a writer publishing their first book, a community that wishes to renew the pavement, and technological entrepreneurs that produce their first smart accessory. Crowdfunding differs significantly in both its objective, size, and industry.

This is why the specific definition needs to be carefully laid out. This paper will use the following definition provided by Mollick (2014) due to its comprehensiveness and inclusion of relevant factors: “*Crowdfunding refers to the efforts by entrepreneurial individuals and groups, - cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries.*”

Crowdfunding is a unique process in which the crowdfunding platform serves as a two-sided market on which entrepreneurs offer their projects and demand funding. In contrast, funders demand projects and offer capital. Both entrepreneurs and funders act in a one-to-many context, making it a one-of-a-kind process in economics (Lacan & Desmet, 2017).

2.1.2. Crowdfunding Models

While crowdfunding is broad in its nature and appliances, four specific models can be distinguished. Firstly, the patronage model in which the project’s funders do not expect anything directly in return for their donations. Secondly, the lending model in which funders offer loans with the expectation of a return on investment, albeit negative. Thirdly, the reward-based model, in which funders get something in return for their contribution. This can include (but is not limited to) influencing the final product, being credited with funding the endeavor, and being granted exclusive access to information about the crowdfunding project. Funders can also be treated as early customers who, in turn, receive the crowdfunded product or service at an earlier date, better price or receive other benefits. Finally, the equity-model, which allows funders to be treated as investors, giving them equity stakes in return for their funding (Mollick, 2014).

2.2. Crowdfunding Actors and Motivations

To answer questions regarding crowdfunding coherently, this study continues by giving clear definitions of the actors that engage with crowdfunding. Firstly, this thesis categorizes fundraisers on crowdfunding platforms as “creators” for the sake of simplicity due to the wide variety of artists, do-gooders, and project initiators that exist on crowdfunding platforms. Secondly, this paper groups actors that donate, invest, or prebuy goods as “funders” in the same vein.

Thirdly, this paper unifies the different internet-based intermediaries that facilitate and regulate crowdfunding in various contexts as “crowdfunding platforms”. Finally, while not being a concept limited to national boundaries, governments recognize crowdfunding as an important source of funding to up-and-coming entrepreneurs. As of now, crowdfunding is not being extensively regulated at the time of writing this paper. Numerous governments have aimed to oversee and regulate the crowdfunding process, specifically the equity model. While being different the specific ways that each government regulates crowdfunding, its role as a regulating body is similar to a great extent, which is why these governments will be grouped together as “governments”.

2.2.1. Creators

Perhaps the most important actor engaging with crowdfunding is the creator. The creator is critical to the crowdfunding process since this actor senses a need that is not yet satisfied by conventional means. While sensing this need is not necessarily exclusive to the creator, this person or group has the urge and perceived solution to fill this gap. To fill the perceived gap in demand, some entrepreneurs turn to crowdfunding for numerous reasons, but may also sustain from engaging with crowdfunding. These motivations will be explained in the following paragraphs.

2.2.1.1. Creator Incentives

2.2.1.1.1. Funding

To fill the perceived gap, creator ventures are in need of funding that is not necessarily available through conventional means. These conventional means consist of the assets of the creator him or herself, the direct network of friends and family or venture capitalists outside of the direct network of the creator. The funding necessary to start the project is not always available via the previously described means due to numerous reasons. For example, the creator or its direct network may not have the capital to satisfy the funding needs of the venture. Furthermore, venture capitalists may not perceive the same need or may think that the venture is too risky to undertake. This need of funding is the primary reason for creators to turn to crowdfunding to make their project a reality (Mollick, 2014).

Another reason for creators to turn to crowdfunding is the lower cost of capital associated with funding. Crowdfunding allows creators to match with individuals that have the highest willingness to pay for equity in their venture from across the globe. This increased size of the potential funding pool allows creators to fund their projects without being limited by the creator's location or personal network. It is also apparent that by completing a successful crowdfunding campaign, the creator is able to access capital more easily by traditional means later on in the business life cycle due to proven demand for the product or service (Mollick, 2014; Agrawal et al., 2014).

Furthermore, creators can receive funding without any significant impact on their financial well-being by bundling their products or services with immaterial and non-monetary services like early access, input, meet and greets, credit, and more. These services are of value to the funders, which are happy to pay for such services without being a negative impact on the creator financially (Agrawal et al., 2014).

2.2.1.1.2. Signaling

Contrary to common belief, funding is not the only primary goal of crowdfunding campaigns. Even though funding is the primary aim of the entrepreneurs in question, other aims have been in the form of demonstrating public demand for specific products, which could lead to increased funding opportunities with classical financing methods. Crowdfunding is also able to signal potentially atrocious ideas to its founders, which should abandon the idea completely without putting more time and effort into the matter. This leads to risk mitigation for the entrepreneur and creates a continuous learning environment which should lead to better products over time (Mollick, 2014; Agrawal et al., 2014).

2.2.1.1.3. Marketing

Crowdfunding endeavors are known for creating intense publicity during its campaign. A campaign that gains traction in the eye of the public could increase its backing exponentially to herding behavior. This is defined as individuals following the crowd. This phenomenon is acting as a free marketing tool for crowdfunding campaigns.

Conversely, lack of attention could lead to the bystander effect, in which individuals are waiting for others to make a move, which could lead to no action at all (Kuppuswamy and Bayus 2013).

Furthermore, crowdfunding is also able to decrease the noise associated with product or service launches by acting as a market research tool. A crowdfunding campaign can indicate sales at an early stage of product or service launch by showing demand. For instance, prebuying products is commonly adopted as a crowdfunding reward model. This decreases the risk of launching a certain product by forecasting the demand. Additionally, discounts can be given in return for backing the campaign, which is indicative of future sales since backers that pledge funds would naturally like to see a return if a return is viable (Agrawal et al., 2014).

2.2.1.1.4. Co-Creation

Crowdfunding is able to raise awareness on the platform from investors and potential customers that, in turn, are able to bring ideas for product modifications and extensions via feedback systems. Feedback systems open up a discussion medium in which customers can directly address potential flaws, successes, and alterations that can be managed even before product launch. Product extensions relative to the initial product may lead to an increase in customers due to a broader scope (Agrawal et al., 2014).

Creating awareness for certain projects also improves the ecosystem in which these products live, incentivizing further support from third parties that are able to create complementary products or applications (Mollick, 2014).

2.2.1.2. Creator Disincentives

2.2.1.2.1. Disclosure Agreement

The crowdfunding process works on the premise that creators share their ideas whilst receiving feedback from the crowdfunding community either through pledges or feedback on the platform. By sharing ideas concerning the entrepreneurial project, the creator is at risk of imitation during the development of the creative project. Additionally, this may have negative implications for the patentability of the innovation brought by the entrepreneur. This may therefore be solid ground to sustain from crowdfunding an entrepreneurial project (Agrawal et al., 2014).

2.2.1.2.2. Opportunity Cost of Capital

Entrepreneurs may walk out on valuable knowledge, experience, relationships and status while looking for funding in a crowdfunding context in comparison to bringing the entrepreneurial project to venture capitalists, who have proven to be more valuable than just the funding they bring. Venture capitalists are often solely responsible for the funding the project, incentivizing them to put time and effort into making the project a success. Funders on crowdfunding platforms on the other hand, are not incentivized to put effort in crowdfunding projects due to the much smaller level of investment (Mollick, 2014).

2.2.1.2.3. Investor Management

Managing the investor's needs and feedback is a lot harder due to its volume in comparison to only dealing with venture capitalists. While suggestions and feedback are beneficial to the entrepreneurial process, the time and effort it takes to go through the immense quantity can misdirect the focus of the creator. The sea of feedback may also contain opposing views concerning the direction of the crowdfunding project, which may cause unrest in the project's community. (Agrawal et al., 2014)

2.2.2. Funders

Apart from looking at why entrepreneurs try to fund their projects with crowdfunded capital, the reasons why investors choose to engage with crowdfunding campaigns should also be looked into due to their critical role to the crowdfunding process.

2.2.2.1. Funder Incentives

2.2.2.1.1. Access to Investment Opportunities

Crowdfunding has allowed the general public to be part of the next best thing. Traditionally speaking, investment opportunities only existed the stock market. This means that the general population only has access to investing in already established firms that have already undergone major growth.

In contrast, crowdfunding allows ordinary folk to be part of the next technological breakthrough from infancy, reeking in benefits that otherwise would be attributed to venture capitalists. (Mollick, 2014).

2.2.2.1.2. Early Access to New Products

Crowdfunding enables creators to offer their newly designed products or services at an earlier stage of development to funders through co-development in Alpha- or Beta- versions of the final product. This exclusive access incentivizes funders to pledge to creative projects in crowdfunding environments. Furthermore, funders have in numerous instances been the beneficiary of pre-releases as a reward for their pledges. This unique access is incentivizing funders to pledge to crowdfunding projects (Junge et al., 2022).

2.2.2.1.3. Community Participation

Crowdfunding is often seen as a social activity by funders. Pledges provide these funders with special access to the creator which is highly valued by the funders. Apart from special access, the feeling of being part of an entrepreneurial initiative among a select group of early adopters also provides the feeling of being special to the funder. Similarly, recognition for the funder's dedication is often rewarded with credit by the creator (Posegga et al., 2015).

2.2.2.1.4. Support for a Product Service or Idea

Some funders' personal norms and values align with the goals that some crowdfunding campaigns aim to achieve. These funders support projects they find important without receiving anything tangible in return (Mollick, 2014).

2.2.2.1.5. Formalization of Contracts

Early investors commonly consist of a direct network of friends and family using unofficial contracts for the financing of the entrepreneurial project. Crowdfunding formalizes these contracts, which simplifies decision-making with regard to risk since the creator is able to balance the benefits of risk taking and the costs of social relationships better. This decreases the risk for funders (Mollick, 2014).

2.2.2.2. Funder Disincentives

2.2.2.2.1. Creator Incompetence

Funders have a hard time judging the capabilities of the creator due to the nature of crowdfunding. While signals may provide cues to funders that would indicate such capabilities, entrepreneurs most often do not have the necessary experience to deliver on their promises on time. This is apparent in the number of delays that successful crowdfunding projects endure. (Kuppuswamy & Bayus, 2013)

2.2.2.2.2. Fraud

While crowdfunding has historically been the source of numerous successful creative projects, it is also an ecosystem in which fraud could be committed. By creating convincing crowdfunding projects, investors may be lured into funding scammers that have no intention of delivering on their promises. Due to the low level of investment, investors often do not have the incentive to right such wrongs on a personal basis, which facilitates fraud (Lacan & Desmet, 2017). While fraud is barely present, it still is a concern that should be taken into account (Mollick, 2014).

2.2.2.2.3. Project Risk

Entrepreneurial ventures are closely related to risk. There are countless ways in which entrepreneurial projects can fail. Funders will be disincentivized to take a risk by funding a project without quality signals that put the mind of a wary funder at ease. (Junge et al., 2022)

2.2.3. Crowdfunding Platforms

Crowdfunding platforms are mostly for-profit businesses that often enjoy multiple revenue stream through different business models. These revenue streams are the primary incentives for crowdfunding platforms and will be explained in the following paragraphs.

2.2.3.1. Transaction Fee

Most platforms employ a revenue model based on a transaction fee for successful projects, which typically amounts to about 5% of the total funding amount. While uncommon, transaction fees may be applicable on unsuccessful projects too. (Belleflamme et al., 2015)

2.2.3.2. Interest

Additionally, crowdfunding platforms also earn interest on pledged donations dedicated to crowdfunding campaigns while the campaign has not yet been completed. Crowdfunding campaigns often last for a month at least, which imposes the funding costs on the funders of the crowdfunding endeavor. (Belleflamme et al., 2015)

2.2.3.3. Additional Services

Finally, crowdfunding platforms can offer additional services to both funders and creators. An example of such services is additional information with regards to funding diagnostics which could prove useful for both funders and creators. (Belleflamme et al., 2015)

2.2.3.4. Downstream Effects

These business models incentivize the platforms to maximize the number of successful projects, which attracts a large community of funders and creators. This effect may lead to a massive increase in the community surrounding a platform which is good for its crowdfunding ecosystem. Furthermore, monetary gain incentivizes the platform to facilitate efficient matching, uphold project quality, and prevent fraud.

2.2.4. Governments

Governments are not motivated to engage with crowdfunding by choice but do so by nature. As is apparent in existing literature, entrepreneurship is one of the main roots of innovation, which in turn leads to economic growth and welfare.

The government is incentivized to protect the individuals that engage with crowdfunding to promote such economic growth. Governments are also incentivized to regulate crowdfunding because of the taxation of businesses, which can help their efforts to increase the welfare of the general population (Hwang, 2021).

3. Crowdfunding Determinants

After having defined crowdfunding, who its actors are, and why these actors engage with crowdfunding, this paper aims to explain the determinants for successful crowdfunding campaigns. Success is hereby defined as matching or surpassing the pledge goal of the creator. By identifying the factors influencing crowdfunding success, this paper aims to make recommendations for the actors involved with crowdfunding to increase the crowdfunding success rate. This is of great importance as is it apparent that first impressions can determine the success of future crowdfunding efforts (Lins et al., 2017). Factors influencing the crowdfunding process will be explained in the paragraphs below.

3.1. Creator Characteristics

3.1.1. Reciprocity

Reciprocity is the act of mutual exchange. In the research paper of Posegga et al. (2015), the paper identifies a pattern in which creators are more likely to provide support to creators that also support them. This means that to increase the likeliness of crowdfunding success, creators should engage with crowdfunding in the role of the funder as well.

The previously mentioned paper also identifies that creators which engage on the opposite side of the crowdfunding process are better able to understand the mechanics of successful crowdfunding, which could be applied with the creator's own project. This leads to a mutual learning environment in which creators learn from each other.

It is apparent that popular creators are more likely to receive funds from other creators on the platform, while funding other creators less. This pattern would suggest that accomplished creators have successfully participated in the learning environment and are therefore more likely to be focused on their own projects instead of the crowdfunding process.

3.1.2. Gender

Gender has historically influenced the funding intentions of venture capitalists. The research paper Posegga et al. (2015) investigates the influence of gender on the funding intentions in the crowdfunding context. The paper finds that female creators are more likely to succeed in a crowdfunding context than male creators. Also, men tend to provide more funding in comparison to females. Finally, there does not seem to be evidence to support funding bias towards the funder's own gender.

3.1.3. Geographic Distance

Geographic distance is known to influence the funding of entrepreneurial projects by venture capitalists due to risk of funding new and innovative projects. Trust used to be established during personal meetings, which is more difficult in an online setting. The research of Agrawal et al. (2010) finds that geographic distance between the creator and funder still has a slightly negative effect on crowdfunding success. However, Posegga et al. (2015) finds evidence to suggest that after accounting for the creators' direct friends and family, this negative effect is insignificant.

3.1.4. Education

Funders have limited signals to judge the quality of crowdfunding projects on. This is the reason why funders choose to examine the creator's educational background to gain insight into the capabilities of the creator. The education level of the creator is therefore positively related with crowdfunding success (Ahlers et al., 2012).

3.1.5. Network Size and Effects

Networks size has been researched to be indicative of success since large networks provide the entrepreneur with valuable connections, access to funding and feedback. Similarly, the research paper of Mollick (2014) has researched the effects of social network size on crowdfunding success. The paper has found that network size is positively related to crowdfunding success.

Part of the reason why this is the case can be explained by friends and family being the funders of such crowdfunding projects from the start. As a result, creators are often a beneficiary of the herding effect and therefore crowdfunding success.

3.1.6. Number of Creators

The entrepreneurial process is one of ideation, creation and feedback. This is reflected in the findings of Ralcheva & Roosenboom, (2018), which find that the number of creators that are involved with a crowdfunding project is positively related to crowdfunding success. Involving a higher number of individuals with the crowdfunding process is associated with ideas being challenged from different directions, improving the end result of the project. Funders use the number of creators as a quality signal, which is reflected in the correlation found by the paper mentioned previously.

3.2. Project Characteristics

3.2.1. Quality Signals

Investors determine the value of entrepreneurial projects based on quality signals. In a traditional context, a project pitch would indicate project quality to a venture capitalist. The research paper of Mollick (2014) identifies such preparatory materials applicable in a crowdfunding context. Preparatory materials, like a video, are positively related to crowdfunding success. Another quality signal is the lack of spelling errors within a projects' page, which is also positively related to success. Furthermore, frequent updates on the crowdfunding page are shown to be a positive influence too. Creators show commitment and longevity by keeping funders up-to-date with the progress of the campaign, thereby involving the funders with the project.

3.2.2. Third-Party Signals

Due to the lack of ways in which funders can verify trust and personal relationships with the creator, third-party signals have been indicated as a potential way in which trust can be established. One third-party intermediary on which personal verification and trust can be built is social media.

Networks like Facebook can act like a signal that build a personality around the creator which puts funders' mind at ease while pledging their support. (Agrawal et al. 2010)

Another method in which third parties are able to convey trust is implementing editorial picks. The crowdfunding platform is able to put a stamp of approval on certain projects to build trust around the project. This form of third-party signaling is beneficial to all parties involved since fraud is reduced due to the verification of creators, which increases the trust and pledged support by funders. By increasing the number of successful projects, platforms can attract other creators and funders to the crowdfunding community since success attracts success, thereby making more revenue (Agrawal et al. 2010).

3.2.3. Cultural and Industrial Alignment

The study of Mollick (2014) finds that crowdfunding projects have a higher success rate in cities that are culturally and industrially aligned to the project. It seems that crowdfunding projects echo the history and prominence of the cities in which they are found in.

3.2.4. Goal Size

The research of Mollick (2014) identifies a negative relation between goal-size and success. This negative relation is explained since large pro would need to convince a great number of people to succeed relatively small size of pledges.

3.2.5. Intellectual Property Protection

As explained in chapter 2, crowdfunding projects are subject to theft since crowdfunding is built on disclosing information concerning the project's goals, making the project an easy target for thieves. The research paper of Ralcheva & Roosenboom (2018) has researched the effect of intellectual-property-protection on crowdfunding success. The article has found evidence to suggest that intellectual-property-protection signals can increase the crowdfunding success rate due to decreased project risk.

4. Crowdfunding Platforms

Key players in the crowdfunding process are crowdfunding platforms. These platforms can influence the crowdfunding process and market in numerous ways, which have important implications for the volume, quality and success rate of projects. Crowdfunding platforms find themselves in the midst of a community of funders and creators that, on the one hand is looking for safety in rules and regulation, but on the other, are deterred by its lack of freedom. The balancing act necessary to guide a crowdfunding platform to success is therefore difficult. The following paragraphs will look into ways in which crowdfunding platforms can influence the crowdfunding process.

4.1. Platform Design

The first manner in which crowdfunding platforms can impact the crowdfunding process is by platform design. The two primary facets of platform design are the reward structure and the pay-out model. Both mechanisms will be explained in the following paragraphs.

4.1.1. Reward Structure

A Crowdfunding model can be defined as a framework in which a reward structure is defined for the funder of a crowdfunded project. The research paper of Gedda et al., (2016) has identified 7 different crowdfunding models that crowdfunding platforms can model the funder compensation by. These crowdfunding models can be categorized in three categories, namely the no-reward, non-financial rewards and financial reward categories. Both the category and relevant crowdfunding models will be explained in the following paragraphs.

4.1.1.1. No-Reward

The no-reward compensation category consists of crowdfunding models in which the funder is not compensated for the pledged funds. This category consists of the donation and lending-without-interest based crowdfunding model.

Firstly, the donation-based crowdfunding model is defined as funders pledging their contribution without expecting anything in return for their donation. These funders often participate in this kind of crowdfunding due to personally supporting the values and goals of the crowdfunding effort. Secondly, the lending-without-interest crowdfunding model is defined as funders pledging their contribution, only expecting their initial pledge in return. Since these funders do not get any compensation for their loans, it is apparent that these funders also personally align their values with the ones strived towards in the crowdfunding campaign (Gedda et al., 2016).

4.1.1.2. Non-Financial

The non-financial compensation category consists of crowdfunding models in which the funder is rewarded, but in a non-financial manner. This category consists of the reward, sponsorship, and pre-order model.

Firstly, reward-based crowdfunding is defined as funders pledging their contribution with the expectation of a reward that is not the actual product or service that is being crowdfunded. Secondly, sponsorship-based crowdfunding is defined as funders pledging their contribution while expecting public credit for their pledge. Thirdly, pre-order-based crowdfunding is defined as the funder pledging their contribution with the expectation of receiving the product or service that is being crowdfunded. (Gedda et al., 2016)

4.1.1.3. Financial

The financial compensation category consists of crowdfunding models in which the funder is rewarded by receiving financial compensation. This category consists of the lending with interest crowdfunding model and the equity crowdfunding model.

Firstly, the lending with interest-based crowdfunding is defined as funders pledging their contribution with the expectation of receiving the initial pledged contribution plus interest in return. Secondly, the equity-based crowdfunding is defined as funders pledging their contribution with intention of receiving an equity stake in the company (Gedda et al., 2016).

4.1.1.4. The Ideal Crowdfunding Model

The research paper of (Gedda et al., 2016) has identified actor preferences with regard to the crowdfunding model. Overall, creators preferred either the sponsorship, donation or the pre-order model. The preference for both the donation and the sponsorship model can be explained by the creator's motive to acquire funding for the lowest cost of capital. The preference for the pre-order model can be explained by the need of the creator to satisfy the demand of the funders by delivering the product or service being crowdfunded.

Funders on the other hand, preferred the equity, pre-order, and sponsorship model. The preference for the equity-model is explainable from an investor perspective that funders take, feeling the need to share in the profits made by the project. The preference for the pre-order model is explained by funders finding use for the product or service being made while desiring to use it themselves. The sponsorship model is explained by the intrinsic motivation of the funders to reach the goals in the crowdfunding campaign while feeling the need to receive recognition for their pledge.

Due to the overlap of preferences, it can be concluded that either the pre-order or the sponsorship model is ideal for both funders and creators (Gedda et al., 2016).

4.1.2. Payout Models

Apart from looking at the reward structure for pledged contributions of funders, this chapter also takes a look at the payout models of crowdfunding platforms. The payout model is defined as the terms and conditions under which the creator receives the pledged contributions. Specifically, the timing, nature and conditions are defined in the payout model. The research paper of (Tomczak & Brem, 2013) defined four payout models, namely the all-or-nothing model, the all-and-more model, the holding model, and the club-membership model. These payout models will be explained below.

4.1.2.1. All-or-Nothing Model

Firstly, the all-or-nothing model is signified by the creator only receiving the contributions at the end of the campaign if the funding goal is met or surpassed. If the goal is not met, funders will be returned their contributions.

4.1.2.2. All-and-More Model

Secondly, the all-and-more model is signified by the creator always receiving the pledged contributions by the funders, while higher fees are in place for not surpassing the aimed goal.

4.1.2.3. Holding Model

Thirdly, the holding model is signified by the funder receiving an equity stake in the company of the creator. This model is inspired by traditional stocks.

4.1.2.4. Club-Membership Model

Finally, the club-membership model is signified by the funder buying into a club of expert investors who invest the pledged amount in name of the funder. The club membership model is created to avoid legal restrictions posed on equity investment by different countries.

4.1.2.5. The Ideal Payout Model

The research paper of Gedda et al., (2016) has identified the ideal payout model for creators and funders.

Overall, creators preferred the all-and-more payout model, after which came the all-or-nothing payout model. The preference for the all-and-more payout model can be explained by the funding need of the creators. Secondly, the preference for the all-or-nothing model can be attributed to entrepreneurs not wanting to put time and effort in an idea that might not be as popular as one has thought, especially if the same project should be undertaken with limited capital.

The study of Gedda et al., (2016) also found that funders strongly preferred the all-or-nothing model. The preference for the all-or-nothing model can be explained by the peace of mind the model brings funders since funders do not contribute anything if the goal is not met. The second choice is the holding model, which can be explained from the investor perspective of funders, which prefer to share in the profits of entrepreneurial endeavors.

While combining the preferences of both funders and creators, it becomes apparent that the all-or-nothing model would be the preferred payout model due to overlap.

4.2. Information (a)Symmetries

As this thesis has explained in chapter two, crowdfunding suffers from information (a)symmetry between creators and funders. Information asymmetry problems in the context of crowdfunding can lead to both hidden information and hidden action problems that can stagger or completely stop promising crowdfunding endeavors if not managed properly. Such information asymmetry problems and their potential solutions will be explained in the following paragraphs

4.2.1. Hidden Information

Information sharing, or a lack of it, is a problem on both sides of the crowdfunding market since information asymmetries can attract fraudulent creators, while information symmetry can deter creators from sharing their ideas with regards to intellectual property protection. Problems and solutions with regard to information will be explained next.

4.2.1.1. Screening

An important method in reducing hidden information problems is screening projects offered on crowdfunding platforms. While screening does not fit the wisdom of the crowd credo, it does increase the difficulty for fraudulent creators to enter crowdfunding platforms with ill intentions. Screening also disincentivizes frauds to put effort in schemes that can be filtered out. The decrease of frauds is beneficial for the building of trust which is essential to funding as explained by Agrawal et al. (2010).

Apart from fraudulent creators, screening is also able to groom the masses of projects that enter any specific crowdfunding platform, making the project search and matching process easier to endure due to a decreased volume of advertised projects. Such an initial screening can incentivize creators to improve upon their work before entering their projects due to the fear of being filtered out. This could lead to a higher average quality of projects which is attractive for funders (Belleflamme et al., 2015).

4.2.1.2. Economic Information

Investors in traditional fundraising activities have been known to use hard, factual information as a driver for bidding activities, while soft information like personal characteristics is used to build trust (Greiner & Wang, 2010). In the crowdfunding context, creators rarely share hard and factual information surrounding their economics and funders are not necessarily trained to make educated decisions based on such information.

Crowdfunding platforms may be able to improve the level of expertise in the funder community by requiring or incentivizing creators to share hard economic information. This could attract expert investors to a crowdfunding platform due to enabling such professionals to undergo thorough economic investigation (Belleflamme & Lambert, 2014).

The combination of novel funders and expert investors in a crowdfunding environment could prove beneficial for the crowdfunding process due to an influx of funds to creative projects, combined with the expertise of professional investors. Novel funders could act as a signal for demand to expert investors while expert investors could act as a signal of quality to novel funders (Kircher & Postlewaite, 2008).

4.2.1.3. Pay-out Model Selection

Crowdfunding platforms' decision with regards to the pay-out model is able to act as a signal to funders. It has become apparent that while the most popular payout models are available, namely the all-or-nothing and the all-or-more model, funders prefer the all-or-nothing model due to implications drawn from the restraint imposed by the creator to only undertake the project with sufficient funding available, making the investment less risky for both creators and funders. Thereby, implementing the all-or-nothing model instead of the all-or-more model by the crowdfunding platform can improve the trust between creators and funders (Cumming et al., 2014).

Crowdfunding may still choose to offer both payout models to let creators and funders decide whichever payout model they would like to implement for their crowdfunding campaign, explicitly signaling their restraint as opposed to only being able to follow the all-or-nothing model (Belleflamme et al., 2015).

4.2.1.4. Social-Media

Personal relationships have been crucial in funding entrepreneurial projects in any given context. The research paper of Agrawal et al. (2010) has shown that such personal relationships are harder to manage in a crowdfunding setting. Social media could be able to negate some of the negative impact the lack of traditional personal relationships have on the crowdfunding process by requiring creators to verify their personal identity through social media. This should increase the responsibility and accountability of creators for the funds provided by their investors.

4.2.1.5. Feedback Systems

Crowdfunding platforms could benefit from keeping a track record of the crowdfunding performance of creators. Additionally, the experience funders have received from the creator could instigate funding in later projects. Repeated users of the crowdfunding platform could have their past performance and experience ratings connected and displayed on later projects, which should signal the quality of the creator (Tadelis, 2016).

Ratings like the ones described in the previous paragraph could be compared to benchmarks in a specific industry, project size, and any other metric that is relevant to the funder. Feedback systems could therefore advance the trust between creators and funders.

4.2.1.6. Recommendation Systems

Crowdfunding platforms could benefit from the usage of recommendation systems to coordinate funder efforts, thus increasing the success rate of crowdfunding campaigns.

The immense volume of crowdfunding might prove bothersome while matching funders with creators, as investigated by Belleflamme et al., (2015). The benefits of recommendation systems have been thoroughly investigated by numerous papers like the article Islek & Oguducu, (2022). Application of the recommendation system is highly likely to be beneficial for the coordination problems of funders.

4.2.2. Hidden Action

The goals of creators and funders may not be aligned throughout the crowdfunding process, which could lead to creators acting out of the interest of funders. Such hidden actions may prove problematic for the trust between creators and funders crowdfunding process. To diminish the negative effects imposed by hidden actions, crowdfunding platforms can implement several strategies which will be explained in the following paragraphs.

4.2.2.1. Transaction Timing

Crowdfunding platforms have the ability to issue the collected funds to creators in the all-or-more payout model while the crowdfunding campaign is still running. Hence, creators might be induced to use the funds for a specific project while not being able to estimate a crowdfunding campaign's success. This, for example, could lead to wrongful scaling of investment decisions by the creator due to being unable to estimate the crowdfunding campaign's eventual success or failure. Keeping the funds until the end of a crowdfunding campaign can withhold creators from making investment decision in the excitement of anticipated success (Belleflamme et al., 2015).

4.2.2.2. Free-Riding and Herding

Apart from preventing hidden action by creators, it deems useful to prevent unwanted action by funders too. One such behavior is free-riding. Crowdfunding falls at risk for free-riding behavior by funders due to the U-shape of the funding activity as argued by kuppuswamy and bayus (2013).

The free-rider behavior, which in the context of crowdfunding, implies waiting for the crowd to start funding before undertaking action, which could lead to a self-fulfilling prophecy in which high-quality projects fail due to the failure of the crowd (Li & Duan, 2014).

Early attention for a crowdfunding process could conversely be detrimental due to herding behavior by funders. Early visibility of funders gathering could instigate other funders to join the same crowdfunding campaign without doing proper research (Lee & Lee, 2012)

5. International Crowdfunding

Ever since crowdfunding has gotten mainstream media attention, its funding capital has grown exponentially. For example, the worldwide crowdfunding market size was US\$16.2 billion in 2014, which has surged up to US\$34.4 billion in 2015. The market size is only expected to grow in the years following (Massolution, 2015).

Crowdfunding is not constrained by national borders due to usage of the internet, but borders do seem to affect crowdfunding volume and patterns. Specifically, the United States of America is still the clear frontrunner of the crowdfunding industry in terms of volume, but other countries are catching up. The following paragraphs will investigate the concentration and patterns of crowdfunding activity in comparison to the industry's frontrunner, the US.

5.1. Patterns and Characteristics

Part of the reason why other nations are undergoing such growth, is the expansion of platforms that originally were not offering their services to creators in these countries. One major crowdfunding platform that has been the driver of the growth in crowdfunding activity in other countries is Kickstarter. This crowdfunding platform only allowed creators from certain countries to start projects. As of now, creators in the following countries are able to start projects on the platform: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Singapore, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States (Kickstarter, 2022). Contrarily, funders are not restricted by nationality by the platform.

While crowdfunding does differ considerably in terms of volume, its relational patterns show great similarity between projects based in the US and projects in other countries. Several patterns discussed in chapter 3 have been shown to be relevant in different national contexts.

These patterns included the negative effect of goal size and project duration, while quality signals like text length and videos were positively related to project success. Patterns showed to be aligned, but there were some differences to be found in financial characteristics.

For instance, the research paper by Barbi and Bigelli (2015) has shown that US-based projects experienced a significantly lower average funding goal and pledged amount.

Additionally, the average funding percentage in US-based projects is significantly higher.

Furthermore, projects outside the US showed some marginal differences in terms of project characteristics. For instance, projects based outside the US were backed by more people with smaller amounts. These projects had a lifespan that was marginally shorter than those of US constituents. Finally, US-creators did seem to care more about marketing since crowdfunding endeavors seemed to incorporate longer videos and text with regards to the project (Barbi and Bigelli 2015).

5.2. Cultural and Industrial Alignment

Crowdfunding projects seem to find more success in areas specific to the cultural or industrial background of the country native to the creator as discussed in chapter 3. This effect seems to apply on a global scale as well. For example, Italy and its crowdfunding market lean towards both the fashion and art category, which in the culture and industry of the country have been prominent in the country's history (Barbi and Bigelli 2015). Since this particular effect is visible in numerous contexts, it may be assumed that cultural and industrial alignment is important for crowdfunding projects to succeed.

6. Conclusion, Discussion and Recommendations

6.1. Conclusion

This thesis will be concluded by going back to the problem statement: *“to what extent has crowdfunding influenced the entrepreneurial landscape?”*.

Primarily, it can be concluded that crowdfunding has opened a new realm of opportunities for creators and funders alike. Crowdfunding offers numerous possibilities to creators to that can fund, test, market and co-create their ideas on platform directly with the individuals that have interest in the matter. Crowdfunding also enables funders to find projects that are of interest due to personal demand, alignment of norms and values, and may act as an investment opportunity.

The internet has been a major factor in allowing for such a phenomena to happen. While the internet is not necessarily beneficial to building personal relationships, it is admirable to discover the innovative ways in which personal relationships can be built via the worldwide web.

This personal attachment combined with the vision of an entrepreneur can lead to economic growth, welfare and solutions to problems that may not have become reality without the possibilities that crowdfunding brings.

Crowdfunding platforms have acted as entrepreneurs themselves by designing the interaction which facilitates such entrepreneurial behavior. These platforms have torn down the idea that ordinary folk cannot achieve great things but instead have proven the contrary, from small beginnings come great things.

6.2. Discussion

The topic of crowdfunding is both narrow in what it aims to achieve but broad in its appliances. Crowdfunding offers way to numerous designs as explained in chapter 4. These designs alter the motives for all actors to engage with crowdfunding. Primarily equity crowdfunding is more akin to traditional stock trade in which funders take an investor perspective instead of personally aligning with the goal in mind. While most inferences made in the thesis are applicable to all crowdfunding models, certain conclusions could be nuanced in different contexts.

Legislation has primarily focused on equity crowdfunding, which takes close inspiration of the stock market. Equity crowdfunding has not been adopted by a significant number of platforms and is therefore relatively small in comparison to crowdfunding as a whole. Thus, research on legislation with regards to crowdfunding has been limited.

Furthermore, crowdfunding is still in its infancy as a funding mechanism, especially from a global perspective. Certain conclusions may alter as the crowdfunding market matures. Also, cultural effects may come in play as countries that have not (fully) adopted crowdfunding start using the funding mechanism as a legitimate option to pursue entrepreneurship. Current research has primarily had a westernized scope which means that research may not be applicable globally.

6.3. Recommendations

This thesis recommends future research to be based on data originating from one crowdfunding platform that is available in a global setting due to specific contextual differences that could influence the investigation.

This thesis also recommends creators to apply for patents to protect the entrepreneurial idea, while being open with information and communication thereafter.

Furthermore, this paper recommends crowdfunding platforms to implement an all-or-nothing payout model combined with the preorder reward structure to create a large community on which funders enjoy unique product and services with limited investment risk while creators can still reek in the benefits of the business idea. Furthermore, crowdfunding platforms could put mechanisms in place to dynamically alter rewards to streamline funding patterns throughout the campaign to promote the success rate of crowdfunding campaigns.

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About the Author

Koen van Rixtel is a bachelor student at Tilburg University where he studies international business administration. The study focuses on marketing, management, finance and accountancy. During his Bachelor he has finished a minor in management and wish to pursue this path for his career. In anticipation of his final grades, he has applied for a Masters degree at Tilburg University where he wishes to extend his learning experience with a degree in strategic management consultancy.

His professional experience has mostly been in sales and customer contact. In his time as a door-to-door sales agent for multiple charities, he has come across many challenges and has learned a whole lot about personal negotiation. At the moment he is occupied with working as a call center agent at Markteffect, which is a marketing research company that has won the Marketing Research & Analytics award of 2020.

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The Regional Entrepreneurial Ecosystem in Europe: How Governments Can Improve Productive Value Creation Through Policy and Interventions

Rick Bos

Abstract

This literature review regards research and investigation into the field of 'Entrepreneurial Ecosystems'. And especially, Entrepreneurial Ecosystems in Europe on a regional scale. These further called EEs play a crucial role in the productivity of value creation on a regional level through strat-ups, scale-ups and intrapreneurship. We see more flourishing ecosystems create path for more productive and resilient economies in which more is spend on research and development and over-all wellbeing of society increases. EEs consist of ten elements. Networks, Leadership, Finance, Talent, New Knowledge, Intermediate Services, Formal Institutions, Culture, Physical Infrastructure and Demand.

The EE approach allows managers and academics to move away from old-fashioned views of entrepreneurship within economics and explore the fields of putting all involved elements in contrast to each other, exposing high factors of interdependency. By mapping and identifying regional ecosystems in various places, knowledge is extended on how to set up entrepreneurs in the best way in order to create high growth potential and eventually well-established businesses. This paper presents discussion on the EE theory as well as recommendations for governments in order to support the evolution of regional EEs.

Keywords: entrepreneurship, entrepreneurial ecosystems, network

1. Introduction

Up until very recently, European Entrepreneurs have known a stretched period of peace in which they had the opportunity to create brands which could interact truly and intense on globalized business markets without fundamental limitations, such as an international political crisis. Disastrously, this continuous period of opportunity came to an end by the COVID-19 crisis and the currently ongoing Russian invasion of Ukraine. Undoubtedly, the potential size to which European entrepreneurs could grow their start-ups in the peaceful timespan before these major events was practically an infinite amount of euros, dollars or any other currency. Maybe even cryptocurrency after their recent emergence. However, the European entrepreneurs have unfortunately not seemed as profound as their American or Asian colleagues in systematically creating more hyper successful start-ups that ultimately reach an estimated net worth of over one-billion euros. Companies reaching the one billion euro mark, are referred to as 'unicorns'. And, surprisingly enough, while America produced 36 percent of global start-ups, Europe only created about 14 percent of the world's unicorns (McKinsey & Company, 2020). Why is that? What is going wrong in the European entrepreneurial landscape?

Amongst the top largest European companies based on revenue, car manufacturers and energy companies are well represented. Unfortunately, not even one start-up company is found on the list published by Statista (2021). The list of the world's biggest companies consists of Chinese and American companies. The companies are only active in two branches: tech, and finance. Besides, some companies are not founded that far in the past. When looking at the global economy, we see North America and east Asia produce a lot more start-ups that eventually evolve in not only multi-dollar businesses, but also worldwide renowned brands. Surprisingly, the vast majority of these start-ups originate from entrepreneurial ecosystems like Silicon Valley (California, United States) or Seoul (South-Korea). In the modern day, even though some extremely large corporations have been existing for only a short period of time, their brand awareness and presence in pop-culture can be immense. Furthermore, we see in the earlier mentioned current political disorder that worldwide successful brands can be enormously influential when allocating various resourcing to fight a cause.

The over-arching theme of this paper is to review how profound European entrepreneurial ecosystems are in supporting and promoting the start-up of brands which eventually become worldwide renowned and successful. Therefore gaining a lot of resources and power to improve overall wellbeing in a society.

Entrepreneurial ecosystems are a highly variegated, multi-actor and multi-scalar phenomenon, requiring bespoke policy interventions (Brown and Mason, 2017). Despite not only the fact that the theory of Entrepreneurial Ecosystems is not yet completely matured and adapted, but also since it is extremely more hands-on contrasting classical scientific approaches.

In the early 2010s experts were interested in what factors caused specific regions to recover better from the financial crisis of 2008. It is argued that The impact of local cohesiveness, infrastructure, finance, culture etc on the ability of entrepreneurs to start successful businesses is significant. Entrepreneurial ecosystems have emerged as a popular concept to explain the persistence of high-growth entrepreneurship within regions (Spigel, 2017). Over the last decade, an enormous amount of research has been conducted into entrepreneurial ecosystems and finding frameworks to measure them. One of the most influential papers on the subject was written by Liguori, Bendickson, Solomon and McDowell (2018) who view entrepreneurial ecosystems as multifaceted benchmarks for mapping the survival skills and success rate of regional economic clusters.

By the numerous researches conducted in the field, measures have been created to review entrepreneurial ecosystems and compare them to other regional cohesive clusters of business and innovation. This process was put into action so fast and so quickly that some researchers the Entrepreneurial Ecosystem theory and supporting views are not adequately complete. More research into the field of governancing entrepreneurial ecosystem is still needed (Colombo et al, 2017). Apparently the theory evolved so rapidly that a lot of important details regarding the administration, control, laws and politics of Entrepreneurial Ecosystems were still lacking behind in development. Nevertheless, experts agree on the Entrepreneurial Ecosystem approach including its elements and outputs especially on a regional scale to topic in the foreseeable future of entrepreneurship research (Moore, 1993; Isenberg, 2011; Stam and van de Ven, 2019; Sternberg, Bloh & Coduras, 2019) . Therefore this paper provides a review of existing literature of Entrepreneurial Ecosystems in Europe on a regional scale and provides governments with recommendations for policy and intervention.

2. Problem Statement and Research Questions

2.1. Problem Statement

This literature review focuses on how European governments enable for more productive, sustainable and crisis resilient Entrepreneurial Ecosystems on a regional scale. Against this background the following problem statement is formulated:

“How can governments improve productive value creation by regional Entrepreneurial Ecosystems in Europe through policy and interventions?”



Figure 1: Conceptual Model

In order to provide a satisfactory answer to the central question more research questions are formulated. After answering the research questions an answer to the problem statement can be formulated.

2.2. Theoretical Research Questions

1. *What is an Entrepreneurial Ecosystem and of what elements is it composed?*
2. *What beholds productive value creation by Entrepreneurial Ecosystems?*

2.3. Practical Research Questions

1. *How can regional Entrepreneurial Ecosystem in Europe be influenced to improve productive value creation?*
2. *What are Strengths, Weaknesses, Opportunities and Threats for regional Entrepreneurial Ecosystems in Europe?*

3. Research Design and Relevance

3.1. Research Design

To answer our problem statement, this research will opt for a correlational research strategy in the form of an archival research. There is no other alternative that has the same advantage for this study as an archival research. Comparing and examining the effects of governmental actions regarding regional EEs across countries is made feasible by archival research through cost reduction and cutting time. Furthermore the usage of second-hand data offers the opportunity to tap into industry wisdom. A broad and solid foundation for the analysis can be built since there is a lot of recently conducted research to be found on regional EEs within Europe.

As most of the data reviewed are scientific papers this research paper is considered a literature review. Subsequently, secondary data from other analyses and surveys is used. In order to support arguments and theses, reliable academic journals on set topic were reviewed. Some of which suggested by the BSc Thesis Management online course modules from my International Business Administration degree. Others were retrieved from the digital Tilburg University library, WorldCat. In addition, Google Scholar and other academic search engines. In order to minimize the chance of missing important papers to support arguments to answer my questions, it is tried to search for relevant findings in multiple digital catalogues.

3.2. Relevance

3.2.1. Academic Relevance

The view of entrepreneurship within economics has been fluctuating and evolving on a constant basis since its scientific introduction. Firstly, the focus was mainly on individual qualities of entrepreneurship. Secondly, the focal point moved from person-based ideas to integrating the business environment and supportive conditions. Thirdly, we now handle the concept of Entrepreneurial Ecosystem. The theory is still ongoing developing. Therefore, this paper is relevant because not only does it contribute to the development of EE theory, but it also reviews what recommendations for government action can be formulated through the existing research.

3.2.2. Managerial Relevance

To some managers, this paper can still be the introduction of the EE concept as it is not yet so widespread in the group of practitioners. To other managers, this paper can give a clear indication of how EEs can be stimulated to provide higher value output. Undoubtedly, the governmental point of view is incorporated more, but the business economics perspective is also not forgotten. Managers in Europe are able through these insights to identify and analyse the EE in which their company was found and in which they might be contemplating entrepreneurial activities. Ultimately this hopefully leads to sustainable improvements of the setting in which business is condoned.

4. Conceptual Background

4.1. Background

The word “ecosystem” is something we may remember from our Biology classes years past, or from the fact that the word is frequently used in matters regarding earth sciences and environmental matters. In this paper, the concept of an ecosystem is put in the context of business economics, as research on the commercial topic has been extended enormously in recent years. Ecosystem (i:.kəʊ, sɪs.təm) was derived from the Greek ‘oikos’ meaning home and ‘systema’ meaning system, a systematic home. The word “entrepreneurial” is attributed to the Schumpeterian definition of entrepreneurship: entrepreneurial process involves risk-taking behaviour, creating new and leading to innovative and high-growth business (Schumpeter, 1934).

In business research, it is hard to say who the first person was to conceptualize the EE approach (Brown and Mason, 2014). It was a lengthy path the theory had to come across in order to conceptualize to an advanced enough stage to get more adapted. For that reason it is argued that the Entrepreneurial Ecoystems is only just another scientific method in a chronological series of advancing concepts to capture and describe the value of entrepreneurship within economics. In an earlier stage of the twentieth century, research on entrepreneurship revolved around what kind of characteristic traits, charismatic levels and other self-absorbed qualities a person should best have in order to best start a business and scale it to becoming a sizeable enterprise. From 1990 and onwards researchers and practitioners started to incorporate a more extensive view considering the foundation and evolution of businesses.

One of the first to initiate the shift from personality and number thinking towards the panorama view of ecosystems were Howard E. Aldrich (1990) and James F. Moore. Moore (1993) published the paper “Predator and Prey: A New Ecology of Competition”. In this paper he underlines that, since Schumpeter’s distinct description of entrepreneurship (1934), various moderating and mediating effects on productive value creation have been researched. However, Moore (1993) states inventively that new ventures do not evolve in a vacuum. They emerge in the setting of an ecosystem. And most preferable, a healthy ecosystem which knows not only straightforward actors, rules and structures but also the ability to overcome crises, demographic changes and initiate technological innovations.

Furthermore, the concept of EEs and their operating elements can be conceptualized on multiple levels: local, regional, national and supranational. As stated, the aim of this paper is to review EEs within the European Union on a regional scale as this topic has been researched much over the last years. Secondly, because EEs on a regional level are the most agile and mobile when considering policy interventions (Brown and Mason, 2017).

In addition, Moore (1993) presents the evolutionary stages of a business ecosystem. This approach still overlaps to some extent the later discussed current theories thus giving a clear indication of the starting point of the EE. Table 1 below summarizes the discussed theory of the evolutionary stages of business ecosystems.

The Evolutionary Stages of a Business Ecosystem		
	Cooperative Challenges	Competitive Challenges
Birth	Work with customers and suppliers to define the new value proposition around a seed innovation.	Protect your ideas from others who might be working toward defining similar offers. Tie up critical lead customers, key suppliers, and important channels.
Expansion	Bring the new offer to a large market by working with suppliers and partners to scale up supply and to achieve maximum market coverage.	Defeat alternative implementations of similar ideas. Ensure that your approach is the market standard in its class through dominating key market segments.
Leadership	Provide a compelling vision for the future that encourages suppliers and customers to work together to continue improving the complete offer.	Maintain strong bargaining power in relation to other players in the ecosystem, including key customers and valued suppliers.
Self-Renewal	Work with innovators to bring new ideas to the existing ecosystem.	Maintain high barriers to entry to prevent innovators from building alternative ecosystems. Maintain high customer switching costs in order to buy time to incorporate new ideas into your own products and services.

Table 1: The Evolutionary Stages of a Business Ecosystem (Moore, 1993)

Nowadays the birth and expansion stages are often indicated by the terms 'start-up' and 'scale-up'. Leadership and self-renewal belong to the contemporary concept of intrapreneurship, which is discussed later as well.

The idea of businesses acting in ecosystems is comparable to flora and fauna in a South-American rainforest. This environmental view reminds us of the fact that if by any chance the conditions in which actors in an ecosystem cooperate change too rapidly, ecosystems can instantaneously collapse. If one puts too much pressure on one or few actors of an ecosystem, this could imbalance the aggregate. If external influences fluctuate too much, markets will be handled with too much insecurity. The revolutionary framework by Moore (1993) provided a new way of reviewing how to nourish new business ventures. In his words it does not matter from an ecological perspective which particular ecosystems stay alive; it's only essential that competition among them is fierce and fair (Moore, 1993).

In years after further exploration of the subject led experts into controlling for more and more elements within the EE. However, there was only little accord among involved researchers on where the theory should evolve towards. After some time it was Isenberg (2011) who took the lead by giving more depth and direction to the concept. In the first place he introduced six domains of which an EE should exist. Policy, Finance, Culture, Supports, Human Capital and Markets. As the figure 1 shows, the collaboration and interrelated status of the six domains determine the quality of the setting in which entrepreneurship is facilitated. Furthermore key take aways considering EEs are that there none alike another. That each EE has a physical base which is practically limited to some extent. And, that each EE in the long run will become durable in itself in some manner (Isenberg, 2011).

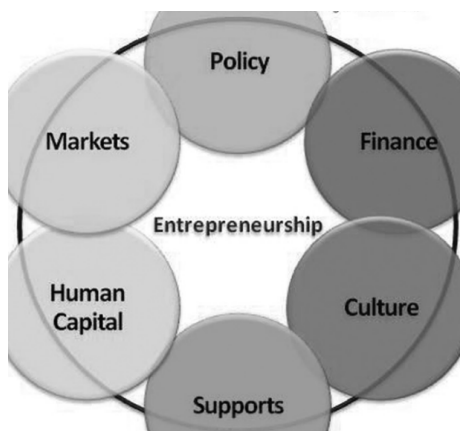


Figure 2: Domains of the entrepreneurial ecosystem (Isenberg, 2011)

Figure 1 resembles the core of the theory by Isenberg (2011) which was again a leap ahead in research on business environments. It is of utmost importance to commemorate that the set of EE elements is co-dependent. If one element is over-stimulated, or another gets neglected, this affects the other elements, and thus the EE as a whole. EEs commonly share a culture including values and beliefs (Mason and Brown, 2017). Moreover EEs have a physical piece of land, a region, in which they are based. Governments, entrepreneurs and schools should along these lines always be able to identify EEs keep the bigger picture in mind when attempting to improve an EE's output: new value creation.

4.2. Contemporary Entrepreneurial Ecosystem Theory

4.2.1. The Elements of the Entrepreneurial Ecosystem

In an Entrepreneurial Ecosystem, the concept of entrepreneurship is put in a systematic perspective. The definitions, conceptualizations and measurement of the elements constructing an Entrepreneurial Ecosystem used in this paper are derived from established researchers in this field Erik Stam and Andrew van de Ven (2019). Their view on the matter is shared by other researchers and practitioners, but also opposed by few, as is discussed further down. In addition, the origin, application and examples of Entrepreneurial Ecosystems are stated in later chapters. Below a visual representation of an EE and its elements is depicted as well as a table indicating the definitions of the elements (Stam and van der Ven, 2019).



Figure 3. Elements of the Entrepreneurial Ecosystem
(Stam and van der Ven, 2019)

Concept	Construct	Definition	Element
Institutions	Formal institutions	The rules of the game in society	Formal institutions
	Informal institutions	Cultural context	Culture
Resources	Social networks	The social context of actors, especially the degree to which they are socially connected	Networks
	Physical resources	The physical context of actors that enables them to meet other actors in physical proximity	Physical infrastructure
	Financial resources	The presence of financial means to invest in activities that do not yet deliver financial means	Finance
	Leadership	Leadership that provides guidance for, and direction of, collective action	Leadership
	Human capital	The skills, knowledge and experience possessed by individuals	Talent
New value creation	Knowledge	Investments in (scientific and technological) knowledge creation	Knowledge
	Means of consumption	The presence of financial means in the population to purchase goods and services	Demand
	Producer services	The intermediate service inputs into proprietary functions	Intermediate services
	Productive entrepreneurship	Any entrepreneurial activity that contributes (in)directly to net output of the economy or to the capacity to produce additional output	Productive entrepreneurship

Table 2: constructs of entrepreneurial ecosystem elements and outputs (Stam and van de Ven, 2019)

Figure 1 and Table 2 display the theory in an clear and complete manner. This is extremely important as it is the intention of the EE approach is to create a better understanding of entrepreneurial economics (Thurik, Stam et Audretsch. 2013). It is a thinking method that helps governments, entrepreneurs and schools to visualize the economy in which they function. These visualizations can then be put to use formulating answers to questions regarding the future of business economics, society and human well-being. Stam and van de Ven (2019) did their job immensely well in making the theory more tangible for a broader audience to pick up and enhance further. The paper's analysis concludes on a high interdependency ratio among the EE elements (Stam and van de Ven, 2019). It is difficult to point out which element is more important or more influential than others as this varies per different situation in which an EE exist. However, intermediate services, networks and finance appear to be slightly more detrimental regarding the evolution of a productive and sustainable Entrepreneurial Ecosystem (Stam and van de Ven, 2019). The EE definitions of the elements and outputs uphold for the ongoing of this paper.

4.2.2. The Outputs of the Entrepreneurial Ecosystem

The next level of the theory regards the outputs of EEs. Governments, entrepreneurs and schools try to facilitate and stimulate EEs as good as possible because EEs provide for productive entrepreneurship. Productive entrepreneurship is orientated on expansion and innovativeness, a phenomenon we stumble upon in three different manners according to Stam and van de Ven (2019). On the contrary, various of his peer researchers include only highly innovative start-ups, with a hyper growth potential, in their theory as the output of an EE.

Firstly, productive entrepreneurship is encountered in the form of start-ups (Stam and van der Ven, 2019), which are innovative business entities who were registered only recently at the Chamber of Commerce (Baumol, 1990). Secondly, scale-ups also (still) deliver productive entrepreneurship, despite the fact that they already exist somewhat longer, consequently losing some of its novelty. Scale-ups typically are young businesses, passed the start-up phase and going onward to becoming established brands of scale by going through years of high-growth and risk-taking behaviour in order to conquer shares of new markets. Thirdly, intrapreneurship is also a generator of productive entrepreneurship.

Intrapreneurship refers to entrepreneurial activities conducted by or innovations taking place inside readily established colossal corporates. The contribution of intrapreneurship to entrepreneurship and innovation is substantial, important and understudied (Ibrahim, 2016).

Moreover, after an EE influenced productive entrepreneurship (start-ups, scale-ups, intrapreneurship), productive entrepreneurship influences productivity value creation. This refers to tangible results the society and economy are able to notify from dynamic and flourishing ecosystems. Productivity value creation holds four categories: productivity, income, employment and well-being (Stam, 2015). All four of which contribute to the development of nations, regions and communities as a whole. Lastly, after an EE establishes productivity value creation through productive entrepreneurship, the new created value affects the elements of the Entrepreneurial Ecosystem. This makes up for a never-ending vicious circle. After a business is started, or scaling-up, or practicing intrapreneurship in EE conditions X, their activities produce value creation Y. The outcome of Y will eventually influence and shape X again in order to repeat set process. By establishing this process, EEs become independent and sustainable. This sequential relationship is depicted in figure 2 below.

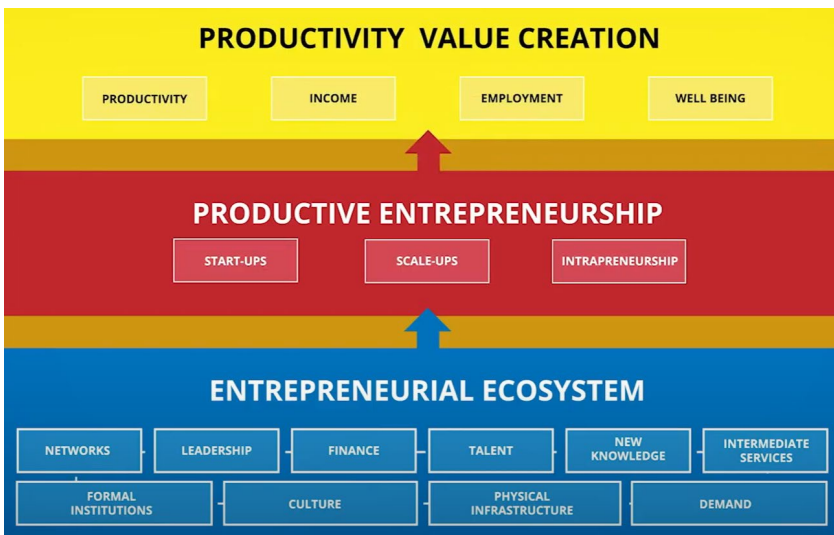


Figure 4: Elements and outputs of the Entrepreneurial Ecosystem (Stam and van de Ven, 2019)

On the one hand, Figure 2 is in total already composed of a lot of elements. EEs are composed of ten elements, we see three different identities of entrepreneurial behaviour and are presented with four different categories of productivity value creation involved. This already indicates the difficulty of governing the elements and outputs of EEs. Consequently, it is made clear once more that when in action policy makers should always contemplate stimulation of designated EE elements thoroughly in order to end up with the desired output in value creation. Which then influences the circumstances of the EE, and by this the EE itself. Again, Stam and van de Ven (2019) do offer very clear insight in how the EE is structured, including interpretations of the actors within. On the other hand, the next stages of new value creation are well described. However, they remain up to now a bit thin and therefore hollow. For future research, it could be very well possible that the amount of identities and categories will increase over the course of coming years as research understanding and conclusion on the subject will multiply. By creating this specialistic and deep understanding of entrepreneurship along with its drivers and turnouts, in terms of businesses and new value, policy makers are enabled to foresee the reaction to their action with only very little room for errors of situational interpretations.

4.3. Commentary on the Entrepreneurial Ecosystem Framework

The framework of EE as presented here has not yet been around for a long time. Therefore, the theory is not completely common and acknowledged by the great masses. In addition, it seems strange to some to include a biological analogy in to the mix by the word Ecosystem. Levin (1998, p.431) states that the estate in which ecosystems exist in nature science are subjective to perpetual modifications. In EE theory, ecosystems are also to be found in more stable settings (Stam and van de Ven, 2019). This is of course logical, business sometimes need some constant context to be condoned in a proper manner, but this would make the implementation of the word ecosystem to the expression ambiguous. Likewise, according to EE theory in order to observe high quality and a vast amount of productivity value creation, well flourished, nourished and matured Entrepreneurial Ecosystem should be in place. And, when productive value creation occurs, such Entrepreneurial Ecosystems should be in place. (Stam and van de Ven, 2019). This makes up for a bit of not sound reasoning as the circle becomes repetitious, providing only a limited amount of new knowledge for practitioners and policy makers.

All-in-all it prevails to be a puzzling task to capture the true identity of the EE. For that reason current research is still short on designating and conditioning the entity. It is underlined that the speedy endorsement of the theory caused for a neglect of the heterogeneous environments of ecosystems (Brown and Mason, 2017). Furthermore the biggest commentary might be that the EE approach proposes a business-like constructive viewpoint considerably more than a completely academic angle on the matter (Isenberg, 2011; Napier and Hansen, 2011).

4.4. Conclusion

In conclusion to chapter four we can conclude that research questions numbers 1 and 2 have been answered. *“What is an Entrepreneurial Ecosystem and of what elements is it composed?”* and *“What beholds productive value creation by Entrepreneurial Ecosystems?”*

Entrepreneurial Ecosystems are composed of ten elements: networks, leadership, finance, talent, new knowledge, intermediate success, demand, physical infrastructure and demand. EEs are ever-evolving bodies which through productive entrepreneurship produces productivity value creation and hereby enhances it own elements. Productive value creation is divided into four categories: productivity, income, employment and well-being. These are all outcomes of entrepreneurial behaviour. The presented theory, and its commentaries, provide a sound basis to review the regional EEs of Europe from the perspective of a policy makers. Within the commentaries some good points are made considering the limitations of the theory.

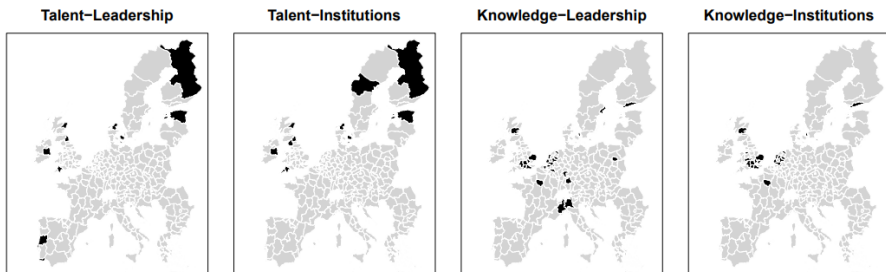
5. Regional Entrepreneurial Ecosystems in Europe

5.1. Regional Entrepreneurial Ecosystems

According to Stam (2015) it is important that governments, educational institutions and businesses stay in good connection with each other through the elements of networks, leadership and talent. The importance of this connectiveness is underlined (Isenberg 2011, Liguori & Bendickson, 2020). After a policy instrument is implemented, it is important that thorough and precise evaluation of the effects of the instrument is formulated. Thenceforth a diagnosis can be written about which involved stakeholders of an EE can step into dialogue with each other.

The policy objective and the successfulness of the initiated change should consequently be revised in order to determine whether certain policy instruments are to be endorsed, altered or vanquished (Pitelis, 2012; Cavallo et al., 2018).

This was an example of how policy making concerning EEs is to be executed. Unfortunately, profoundness in executing these processes are not to be found anywhere in a joined research at University of Utrecht (2021) the high-performing entrepreneurial ecosystem configurations in Europe were mapped as depicted in figure 5 below. Firstly, it is a tad overwhelming to start comprehending the vast number of regional entrepreneurial ecosystems present in Europe. Secondly, it is a bit underwhelming to see how only few regions are coloured black on the maps, as this indicates a high performing setting regarding the elements of talent, leadership, institutions and knowledge. At this point I do not want to dive deeper into the meaning of these elements. It is just a good example of how regional EEs are viewed mapped and researched and it shows that there is still a lot of work to be done, as we had already established.



Notes: Regions in black are member of a particular configuration and member of the outcome set (top 25% Crunchbase firms).
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Figure 5: Map of high-performing entrepreneurial ecosystem configurations in Europe (University of Utrecht, 2021)

5.2. Brainport Eindhoven

The regional Entrepreneurial Ecosystems around Eindhoven, Noord-Brabant, The Netherlands can function as a good example to other region as it has managed to reinvent itself over and over since the nineteenth century (Janssen, 2011).

The inhabitation of electronical giant Philips and automotive titan DAF changed the entrepreneurial setting of the region as these companies have known tremendous growths in the twentieth century, greatly surpassing the unicorn status of one billion euros. This caused for an increase in productivity, income, employment and wellbeing for all persons and families involved in the region. One of the praised success factors of the so called Brainport Eindhoven region is its constant change and hunger for innovation. Philips for example evolved from a light bulb factory to an electronics company to a medical technology enterprise. These rapid fluctuations in operations have caused for significant alterations, still observable in and around Eindhoven. Moreover, Philips has given birth to numerous spin-offs such as ASML, NXP, Signify and VDL. These enterprises in itself also create value through EEs, entrepreneurial activity and productivity, income, employment and wellbeing. Nowadays, since Philips moved a lot of their business activities away from the Eindhoven region, their legacy is still prevailing through these companies, keeping the entrepreneurial spirit of the region alive. Just as it did in the 1990s. After years of deep economical crisis, the economic region had to be built up again from the bottom. Higher education institutes (among them Technical University of Eindhoven), government agencies and various business entities came together to construct an economic strategy and vision for the Eindhoven region in which productivity, income, employment and wellbeing was tried to maximize. This developed a new leadership style for the ecosystem as Philips started to step out of the spotlight from this point onwards in order to let other regional partners shine (Janssen, 2011).

The region credits itself for knowing and understanding that the greatest questions of modern time will only be solved if all, literally all people come together to collaborate. In 2008, the region got again hit hard by the then occurring financial crisis. Nevertheless, the region managed to recover well (Hulscher et al, 2018). Because of the fact that the ecosystem beforehand was connected properly through formal and informal networks and because the adequate leadership was readily in place, the region had the possibility to construct itself in an even more powerful manner than before the crisis (Janssen 2011). The bad times brought upon Eindhoven through the crisis caused for men to stick together and intensively listen to each other's wants and needs. This appeared a fruitful backbone to further evolve the ecosystem on as Moore (1993) intended. Furthermore, what makes the Brainport Eindhoven region a good place for an EE are the facilities in and around the region. For example, Eindhoven has its own airport. Alongside the readily decent Dutch road, rail and water infrastructure, the region also has access to the air.

On the same token has the Technical University of Eindhoven a greatly positive impact on the region. By these infrastructures and knowledge institutes, a great amount of extremely clever and ambitious people are brought together in one region. Not only is the region well internally connected through private and public domains, also externally it is well developed and engaged through companies by the likes of e.g, TomTom.

5.3. Conclusion

This chapter aims to provide an answer to the practical research question: *“How can regional Entrepreneurial Ecosystem in Europe be influenced to improve productive value creation.”*

As mentioned, productive value creation can occur through either start-up, scale-up or intrapreneurial activities. It is not found in literature which one of the three kind of activities is best and should be promoted most. Presumably, this is dependent on the setting in which the entrepreneurial activity takes place. Nevertheless, it has become clear through reading the papers and looking at the example of Brainport Eindhoven that ecosystems flourish the most when they are given the time to unfold itself and when shareholders also really take their time to spend planning the evolution of the EE and its value output. More research into influencing EEs into desired productive value creation is recommended.

6. SWOT-Analysis

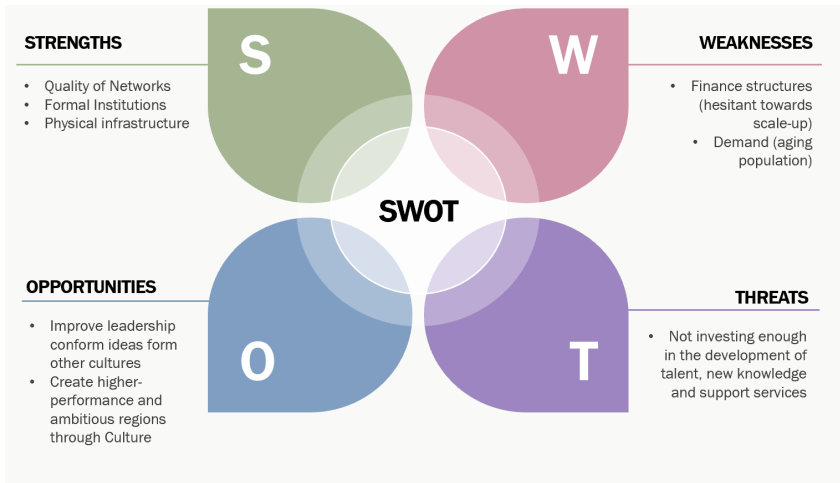


Figure 6: Strengths, Weaknesses, Opportunities and Threats of regional Entrepreneurial Ecosystems in Europe adapted from (Pitelis, 2012; Spigel 2017; van Weele et al, 2018; Sternberg, Bloh, Coduras, 2019; Ratten, 2020; Iacobucci & Perugini, 2021; Romme, 2022)

Figure 6 depicts the SWOT-analysis of the Entrepreneurial Ecosystem elements on a regional scale in Europe. Compared to other continents, there are many facets to living and conducting business in Europe of which other could arguably be envious. Nevertheless, there is also much opportunity to work on and threats to watch out for. For example leadership: Europe should not become to self-centred and always keep an open vision towards other countries in the world. More important, Europe should also always have an articulated vision of where they want to bring the aggregate. Creating a sense of need of high-performing within a region along the likes of Manhattan, New York could also be an opportunity for Europe as this phenomenon has not yet really found its way across the Atlantic Ocean.

Threats for regional EEs in Europe are the not investing enough in elements that have a clear future based root, being talent and new knowledge. Through not only establishing universities, universities of applied science and excellent practical schools, but also supporting investments in R&D promotes the resilience, agility and survival changes of European EEs.

7. Conclusion, Discussion, and Recommendations

Is EE the new scientific entrepreneurial metric for the foreseeable future? I think so. Is the theory perfect? No certainly not. There is actually still a lot of room for improvement and there are some notes one should bear to mind when yielding the EE sword.

For future research it is recommended to dive deeper into the concepts of different kinds of entrepreneurial activities as Stam & van de Ven (2019) only incorporate three different kinds. To my knowledge, there should be more categories as there are more factors that influence productivity, income, employment and wellbeing (forms of productivity value creation). The theory of Entrepreneurial Ecosystem could elaborate as far as to becoming a complete planetarium of entrepreneurship.

To governments I say, do not interfere to heavily in EEs, but always make sure there is a strategic vision and plan for a region. In addition, make sure the acting parties in an EE stay connected with each other and that they know what each other's needs and wants are and ideas about the future. Governments can only steer. Businesses must lead.

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E-Commerce: Whether to Join a Giant or to Stay Independent in Times of a Global Pandemic

Amber Meijering

Abstract

Small and medium-sized enterprises (SMEs) account for the gross part of all corporations worldwide and have an increasingly important role in the e-commerce industry, especially due to the boost the e-commerce sector experienced due to the COVID-19 pandemic. However, little is known about the decision-making process of SMEs in the e-commerce industry. The purpose of this thesis is to discover the effect of big online retail platforms on the SME decision-making process, and the effect COVID-19 has on this relationship.

SME decision-making is often done solely by the entrepreneur, this might result in forecasting errors. SMEs tend to lack in the Information Technology front. In the e-commerce sector, perceived ease of use plays an important role for the customer. E-commerce platforms offer a variety of different services that could take away some of the work SMEs have to do. However, competing in e-commerce is often only feasible under one of two circumstances: competing price based or offering a niche product.

The COVID-19 pandemic forced consumers to go online in some cases. This caused explosive growth in the e-commerce business, especially in emerging economies where the e-commerce sector was not fully developed yet. Mainly the already established e-commerce companies profit from the economic growth. COVID-19 also brought new logistical challenges, which in its place influence the SME decision making process in the e-commerce sector. These findings will be illustrated with an example of the Asian e-commerce market.

Further research must compare different countries and industries and researchers recommend the development of a decision-making framework in times of crisis. Such a framework could be useful for policymakers and decision-makers in companies in possible future pandemics and epidemics.

Keywords: COVID-19, Decision Making, E-commerce, Small and Medium-sized Enterprises

1. Introduction

1.1. Problem Indication

In the current globalised economy, small and medium-sized online retailers must deal with the competition of big multinational online retailers. E-commerce giants like Amazon.com Inc., JD.com, and Zalando for example, are major competitors in a variety of different sectors, with their platforms being accessible from anywhere at any time.

Although countries that are members of the Organisation for Economic Co-operation and Development, SMEs represent 99 per cent of all businesses (European Commission, n.d.) and 90 per cent of business worldwide (The World Bank, n.d.), multinational companies have a growing grip on the market. In 2020, during the COVID-19 pandemic, the share of e-commerce sales of the total retail increased from 16 to 19 per cent (United Nations Conference on Trade and Development [UNCTAD], 2021a). SMEs can sell their products and services on their own platforms or through the online platforms of the bigger parties. In the latter case, multinationals take a part of the profit (Day, 2021). Through the online platforms of MNEs, SMEs gain access to a bigger, possibly international pool of potential customers.

Companies like Amazon are competitors for SMEs, but the multinationals bring small competitors together and offer SMEs an opportunity to profit from the boost in the current e-commerce business through their platform. According to a report by the OECD (2017), SMEs are lacking on the IT front, and therefore are missing out on opportunities that digitalisation offers.

Against this background, we set out to assess the decision-making process of SMEs on staying independent from multinational retailers in the e-commerce industry, and the effect the COVID-19 pandemic has on this decision-making process. This topic is relevant because research on decision making in SMEs is scattered, e-commerce is a relatively new phenomenon, and not all effects of the COVID-19 pandemic are fully known yet. Decision-making in SMEs, e-commerce, and the COVID-19 process is not studied in this combination yet.

1.2. Problem Statement

In this literature review, the influence of multinational companies on the SME decision-making process is discussed. As well as the influence of the COVID-19 pandemic on the given relationship. The following problem statement can be derived:

To what extent do multinational retailers affect the decision-making process of small and medium-sized retailers in the e-commerce industry, and to what extent does this effect depend on the COVID-19 pandemic?

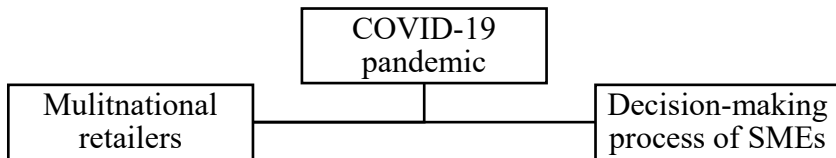


Figure 1: Conceptual Model

1.3. Research Questions

The problem statement mentioned above leads to the following research questions, which are divided into both theoretical and practical research questions.

Theoretical research questions:

1. What does the decision-making process of SMEs look like?
2. How do multinational retailers influence the decision-making process of SMEs in the e-commerce industry?
3. How does the COVID-19 pandemic influence the decision-making process of SMEs in the e-commerce industry?

Practical research questions:

1. To what extent do multinational retailers influence the decision-making process of SMEs in the e-commerce industry?
2. To what extent does the COVID-19 pandemic influence the decision-making process of SMEs in the e-commerce industry?

1.4. Research Design and Data Collection

A literature review is used as the research method in this thesis. The variables that are investigated are the SMEs' decision-making process, multinational e-commerce companies, and the COVID-19 pandemic. The research solely relies on secondary sources and focuses on the e-commerce industry. As for the type of publications, the theories are based on news articles, government data, European Commission data, and high-quality scientific publications.

To find these publications, Google Scholar and the Tilburg University library were used. Both have the advantage of the ability to use Boolean search operators. Google Scholar's limitation is the inclusivity of scientific magazines that are not as suitable for this thesis as magazines from the Tilburg University library. The Tilburg University library does not include all the scientific research out there however, there were sufficient suitable scientific magazines.

1.5. Structure of the Thesis

In chapter two which contains the literature review, theoretical research questions one to three are discussed. This chapter includes the decision making-process of SMEs, the influence of MNEs on the decision-making process of SMEs, and the effect of COVID-19 on this relationship in the e-commerce industry. Practical research questions one and two are discussed in chapters three and four respectively. These two discussion chapters include the extent to which MNEs have an influence on the decision-making process of SMEs and the extent to which COVID-19 affects this relationship. Chapter four includes the conclusion, limitations, suggestions for further research, recommendations, academic relevance, and business relevance. Lastly, a list of all used references is included.

2. SME Decision Making in E-Commerce and the Impact of COVID-19

This chapter discusses what the decision-making process of SMEs looks like, how MNEs influence this process, and the effect COVID-19 has on this process.

2.1. Characteristics of SMEs and Entrepreneurs

SMEs can differ in size in various regions. In the European Union SMEs, most of the time have up to 250 employees, whereas in the United States an SME can have up to 500 employees (OECD, 2005).

Even though most companies in Europe are SMEs, the lion's share of SMEs lacks proper strategic planning, and few even manage to write down their strategic plan (Hauser et al., 2019). Jøcumsen (2004) shows SMEs often have high failure rates in an international context. SMEs are often characterised by inadequate strategic decisions. According to the research by Wang et al. (2007), and research by Hauser (2019) the primary focus of SMEs lies in pursuing personal goals which are not necessarily economically profitable. In addition, SMEs are known to have high levels of uncertainty as well as poor human, financial and material resources (Knight 2001; Singh et al. 2008).

In small firms, entrepreneurs often make decisions by themselves, which leads to greater forecasting errors. Therefore, in SMEs, entrepreneurs might benefit from adequate economic measurement to avoid overconfident decisions by the entrepreneur that might endanger the company (Invernizzi, 2018). Research by Busenitz and Barney (1997) shows overconfidence is a trait that entrepreneurs more commonly possess than managers. This character trait leads to a more optimistic mindset and is one of the causes of a higher number of start-ups led by overconfident individuals. A confident attitude might also lead to more stakeholders believing in the presented business opportunity.

An integrated software system may lead to a competitive advantage for SMEs because it eliminates forecasting errors. SMEs often lack proper Information Technology (Invernizzi, 2018). Therefore, SMEs have been turning towards Application Service Providers or cloud computing to fit the companies' needs within their resource constraints (Bayrak, 2013). These ASPs are often subscription-based. Some of the benefits ASP can offer to SMEs are lowering costs, having a greater choice, having simple installation, and being able to access the applications from any internet-connected computer. In order for companies to work with new technologies, staff has to accept and see the use of the technology. In chapter 2.4 the Technology Acceptance Model (TAM) will be elaborated on.

A study by Francioni et al. (2015) about decision-maker characteristics in the Italian mechanical industry shows that decision-makers tend to be more rational when it comes to making strategic decisions depending on their level of education. The level of rationality and attitude towards risk is positively related to the level of education.

Meaning, that when the level of education increases, the level of rationality increases in the decision-making process too.

2.2. Effectuation Theory

Sara Sarasvanthy's theory of effectuation is about five principles regarding the decision-making process of entrepreneurs (Saravanthy, 2001). The first one is the bird-in-hand principle. This principle states entrepreneurs must create solutions with the resources available at that moment. Secondly, there is the lemonade principle, which states mistakes and surprises can be used for new opportunities. Third, there is the crazy quilt principle, new partnerships can bring in new funds and take projects in a new direction. Fourth, there is the affordable loss principle which states that an individual should only invest the amount he or she can miss. Lastly, there is the pilot in the plane principle, which is about focussing on the present, not on the situation in one year.

The effectuation theory aims to understand how entrepreneurs start businesses under conditions of uncertainty with a science-based approach. Hauser et al. (2019), discovered in research based on 10 Swiss SMEs, that decisions in most cases are based on the effectuation model.

2.3. E-commerce Giants

Electronic commerce (EC), also known as e-commerce, can be defined in a variety of ways. In this thesis the used definition of e-commerce is the use of Internet for selling, purchasing, transporting or trading, goods, services, or data, and conduct different types of business online, this may include things such as customer service, collaborations with business partners, and e-learning (Turban et al., 2017).

JD.com, Zalando, Bol.com, and Amazon are among the better-known companies in the e-commerce sector. These giants all offer opportunities for partnerships which are described below.

JD.com, which is active in over 100 different countries and regions, offers three different types of partnerships: JD.com Direct Sales, JD.com Marketplace, and JD.com Worldwide (JD.com, n.d.). JD.com Direct Sales allows brands and suppliers to sell directly to customers. The platform is only open to well-known brands and merchants with operations in China. JD.com Marketplace is also available to third-party sellers.

Finally, JD.com Worldwide offers merchants without operations in China to sell in the Chinese market through their website and app.

Zalando is active in 23 European countries with its Partner Program (Zalando, n.d.). Zalando's main selling points toward its partners are that the brand keeps control over its price level, product selection, and easy access to analytics. Zalando takes care of the customer service and the local payment methods too. Zalando offers a service where the company takes care of logistics as well.

Bol.com, which is a part of Koninklijke Ahold Delhaize N.V. since 2012, is an online shop active in Belgium and the Netherlands. Bol.com's main selling points are direct access to Bol.com's customer base, pay only for sold products, starting an online store without start-up costs, and support and service in the partner's language (Bol.com, n.d.).

Amazon works with sellers. These sellers can include both resellers and brand owners. Amazon sellers can choose between two selling plans: the individual plan and the professional plan (Amazon, n.d.). The individual plan has the seller pay a fee per product sold, while the professional plan has a set fee per month, no matter the number of products sold. Amazon also offers a program called Perfect Launch, in which it helps new sellers with protecting and differentiating their brand, optimising product information, logistics, automated pricing and advertising.

The bigger e-commerce platforms are dependent on SMEs for part of their turnover. The greater part of the products in Amazon's product range is sold by third-party sellers (Clark, 2021). Critics claim selling on these big online platforms is not ideal given the competition is mainly price-based, and the host site has access to all available data which leads to a situation with high asymmetry (Rankin, 2017). If the independent company found a niche product where the competition is low, the host platform company can develop a similar product and take over the market by lowering its prices. Independents also must be able to get on the first page of search results to compete in the market. On most host platforms companies have to pay an extra fee for their products to show up on the first page.

2.4. Technology Acceptance Model (TAM)

According to the Technology Acceptance Model, initially created by Fred Davis in 1986, the motivation of an SME to use a service or technology is directly influenced by the perceived usefulness and the perceived ease of use which then leads to the attitude toward using the service or technology (Fayad & Paper; 2015). The attitude of the users toward a new service or technology leads to the actual use of the service or technology. Figure 2 shows a graphical representation of TAM.

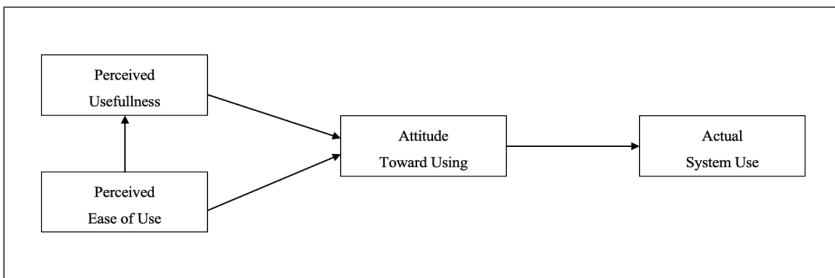


Figure 2: Technology Acceptance Model

Users are often already or more familiar with websites of e-commerce multinationals like Amazon, Zalando, and Bol.com. Therefore, the attitude toward using the platform is more positive and consumers are more likely to place an order in an environment which they are already familiar with. Moreover, big platforms often have more brand equity (Bhattacharya & Sen; 2003). The consumer or client trusts their platform because they are familiar with it. This could be a reason for an SME to join a bigger e-commerce platform and therefore play a role in the decision-making process.

2.5. The COVID-19 Pandemic

At the beginning of 2020, the COVID-19 virus spread worldwide. Over 100 countries went into a partial or full lockdown by March 2020 (BBC News, 2020). These lockdowns often included distinguishing between essential stores, which were allowed to stay open, and non-essential stores, which had to close. For a certain part of the stores, this meant looking for different ways to get their products to the consumers.

Leaders and companies had to make decisions under immense uncertainty levels on new and complex issues.

The Dutch mail company PostNL had a record year of 337 million delivered packages in 2020, the company expects 25 million of the packages are related to the pandemic regulations (PostNL, 2021). The OECD (2020) found that at the end of May 2020, online orders were 50 per cent higher in Europe and had doubled in North America year-on-year.

According to a report by UNCTAD (2021b), the share of e-commerce in the globally conducted retail trade increased from 14 per cent in 2019 to 17 per cent in 2020. The biggest shift was in the emerging economies. In the least developed countries, there was no boost in the e-commerce business. This has to do with a few barriers like expensive broadband services, high levels of relying on cash, low levels of consumer trust, and generally poor computer skills among citizens.

The virus forced consumers to do their shopping online, which led to an automatic boom in e-commerce. According to research by Beckers et al. (2021), the impact of COVID-19 on retail accessibility is a combination of social-distancing rules, shop closures, and faltering global supply chains. This research also showed that mainly the already established online retailers are the winners in the e-commerce boost.

COVID-19 caused a shortage in the market because companies shut down their production facilities to reduce the unknown risks (Kumar et al. 2020). Current inflation levels are caused by disruptions in the supply chain caused by measurements against the virus (Tepper, 2022).

The pandemic increasingly made it more difficult for small and medium-sized companies to get their offline logistic capacity in order, as prices of real estate were already high before the pandemic hit. A study from China showed banks were more flexible and generous to SMEs regarding loans (Song et al. 2021).

A study by Han et al. (2022) on Alibaba, a Chinese e-commerce company, shows that the boom in the e-commerce business comes with offline logistic challenges and restrictions. These challenges include having enough inventory and delivering the products on time. If this is not the case, it might lead to a decrease in e-commerce sales instead.

A survey conducted by UNCTAD and Netcomm Suisse eCommerce Association (2020) on the COVID-19 pandemic and e-commerce conducted in 9 countries shows the pandemic has changed the way consumers behave online. This survey shows that the biggest shift happened in emerging economies. However, the spending per shopper has changed, especially the share of larger expenditures has dropped.

The shopper's focus lies on the essential products. The results also show the growth was strongest in countries where consumers were not shopping online a lot already.

In a study by Schippers and Rus (2021) on group decision making in times of crisis, three failures regarding information processing that can distort group decision making were identified. These failures include failure to look for information and share the found information, failure to elaborate on this information and analyse it, and failure to revise and update policies with the newly found information. Adding a reflective element to the decision-making process would reduce the chance of information processing inaccuracies, especially in times of a crisis given multiple factors should be considered such as public health, human rights, and economical interests. It was found that a good decision-making process increases the chances of a better outcome (Nutt, 1999; Bloodgood, 2011; Wolak, 2013).

A study by Satapathy (2021) on SME decision making in India suggests the development of a decision-making framework would help service providers, policymakers, and decision-makers to reduce the impact of COVID-19 on SMEs.

3. E-Commerce Giants and SME Decision-Making

In this chapter, the extent to which multinational retailers influence the decision-making process of SMEs on joining a host platform in the e-commerce sector is discussed.

As mentioned in chapter 2 for most SMEs, entrepreneurs are the centre of the decision-making process. These entrepreneurs often make most of the company decisions by themselves, which may result in some shortages. SMEs often do not have a strategic plan, have high levels of uncertainty, have poor human, financial, and material resources, and lack information technology. However, entrepreneurs do tend to become more rational in the decision-making process when their level of education increases. Entrepreneurs are also more likely to be overconfident than managers, which influences their decision making. The theory of effectuation states entrepreneurs should create solutions with the available resources at that moment, use mistakes and surprises for new opportunities, use partnerships to take the project in a new direction, invest only the amount that the entrepreneur can miss, and focus on the present.

3.1. SME and Entrepreneurial Characteristics and Decision-Making

Entrepreneurs are known to possess the character trait of overconfidence (Busenitz & Barney, 1997). It is much more common for an entrepreneur to be overconfident than for a manager. Due to the optimistic mindset entrepreneurs start new businesses more often, and because entrepreneurs often make decisions on their own there is a greater forecasting error. Invernizzi's (2018) research on overconfidence is based on behavioural finance literature. Busenitz and Barney's (1997) research focussed more on the differences between managers in large firms and entrepreneurs. 124 entrepreneurs in start-ups and 95 managers in the US gave useful responses. Given the study used actual entrepreneurs and managers, it is more generalizable. The findings were in line with Invernizzi's (2018) findings, meaning overconfidence is a more likely characteristic amongst entrepreneurs than amongst managers.

The effectuation theory which distinguishes effectuation from causal decision making (Sarasvathy, 2001), dating from 2001, could be outdated. However, it is still used by researchers nowadays. Between 1998 and 2016 there were 618 works published related to effectuation theory (Alsos et al. 2019). The research by Hauser et al. that supports the effectuation model for decision making is solely based on a qualitative study in Swiss with managers from 10 businesses and is therefore not representative of other regions, this decreases the generalizability.

As the research on Swiss entrepreneurs, the research by Francioni et al. (2015) conducted in the Italian mechanical industry is not as generalizable because it was only conducted in one specific industry in one country. However, the study used a sample of 165 decision-makers, which improves generalizability. Therefore, it can be said there is a correlation between the level of education and the level of rationality in the decision-making process.

A way to fight the lack of IT in e-commerce is through using Application Service Providers (Bayrak, 2013) or working together with an e-commerce host platform. Both take part of the decision problem away from the entrepreneur given they take away some of the problems companies must solve, like lowering costs.

3.2. The Influence of E-Commerce Giants

There is little research on the actual influence of e-commerce giants on the SME decision-making process. What could be found are areas in which SMEs generally slack, which were discussed in the previous paragraphs. These slacking areas include the IT front, resources, and a strategic plan. Looking at the provided information of four well-known e-commerce host websites on partnering in chapter 2.3, these are fronts which most of the investigated companies offer a program for. Usually, these programs include services like marketing, customer service, and administration. Some even go as far as warehousing and arranging all logistics. One might argue that this takes away part of the decisions the entrepreneur must make, and therefore might simplify the decision-making process. However, there is insufficient research on the role of e-commerce giants in the decision-making process of SMEs.

As mentioned before, the services the e-commerce giants offer similar services to their partners. These services also include the ability to sell through the host platform's website, analytics on the available sales data, and (local) payment methods. Usually, the third-party seller is in control of the price level as well as the product variety it wants to sell. The information was only gathered from the websites of the companies mentioned in chapter 2.3 and does not say anything about the quality of the offered services and the quality of the relationship the host platform has with the partner companies.

The Technology Acceptance Model has a few limitations (Fayad & Paper, 2015). TAM namely does not say anything about the used technology itself. In addition to that, it is also dependent on factors like age and gender and how technology is perceived. TAM assumes that people plan their behaviour and are rational in their actions, while in real life people are not solely rational in their decision making. Lastly, TAM does not tell us how to make a technology that is easy to use.

The Technology Acceptance Model is included because the model can be improved and adjusted for the e-commerce field. An extended version of TAM could have an influence on the decision-making process of SMEs on whether to join an e-commerce platform.

A study by Fayad and Paper (2015) suggests extending the Technology Acceptance Model into the e-commerce field, as electronic commerce grew to a size of significant importance since the TAM was first developed in 1986, and the online purchase process is voluntary contrary to the technology adaptations within organizations. In addition, the consumer has multiple options as well, whereas the employee often does not get to pick between different technologies.

The extension includes four new prediction factors, namely process satisfaction, outcome satisfaction, expectations, and e-commerce use (Fayad & Paper; 2015). The extended model would also measure actual behaviour instead of intentions which were used in previous studies, and therefore improve the generalizability. The extended model can be seen below.

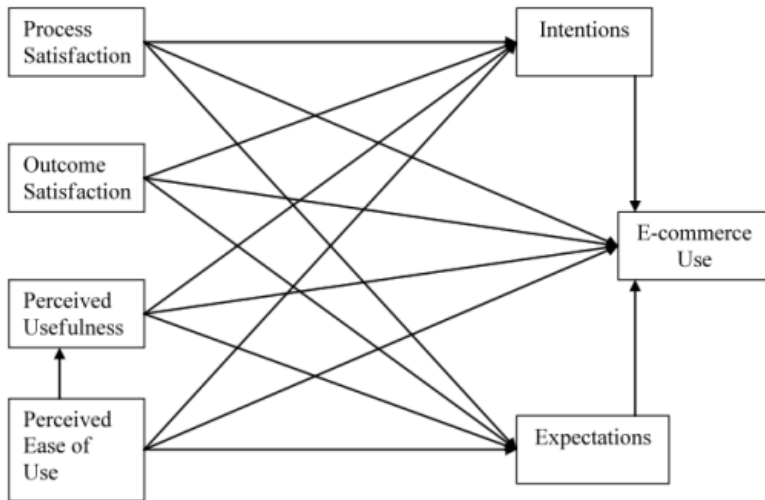


Figure 3: The Extended Technology Acceptance Model

The extended version of TAM could be a helpful tool for decision-makers in SMEs. Further research should be done on the inclusion of the above-mentioned character traits in a model that helps entrepreneurs and SMEs in the process of deciding whether to join an e-commerce host platform and/or develop their own platform. The extended version of TAM includes factors that could be useful in such a model, given it takes customers' needs and the e-commerce industry into account.

4. COVID-19 and SME Decision-Making

This chapter discusses the extent to which the COVID-19 pandemic influences the decision-making process of SMEs in the e-commerce industry.

The measurements implied by multiple governments to fight the COVID-19 pandemic resulted in a boom in the e-commerce share of the retail industry because consumers were partially forced to do their purchases online.

Noticeably, this boom was biggest in emerging countries, whereas the growth was not as big in developing and developed economies. However, the pandemic brought some new challenges for (online) retailers regarding the supply chain, as well as the online user experience.

As a lot of countries are in the process of lifting all regulations against the COVID-19 virus, specialists are careful to declare the end of the pandemic, while some even go as far as to stating new variations of the virus will come soon (Yadav & Moon, 2022). The virus spreads and changes rapidly and is therefore difficult to predict. It is difficult to state all the impacts of the pandemic given new research is constantly being published.

4.1. The Winners in E-Commerce

According to Beckers et al. (2021), the already established online retail companies are the big winners of the e-commerce boost that happened due to the pandemic. The surveys used for this research were only conducted in Belgium, and are therefore not generalizable for all countries, but since Belgium already has an established e-commerce segment, the results of the study might be generalizable for countries with similar consumer behaviour and economic environment.

The survey by UNCTAD and Netcomm Suisse eCommerce Association (2020) seems reliable and generalizable given the research was in collaboration with the Brazilian Network Information Center and Iveon. The 3,700 participants came from nine different emerging and developed countries on different continents. The sample was evenly distributed among participants in China, Germany, Italy, the Republic of Korea, the Russian Federation, South Africa, Switzerland, and Turkey. The gender distribution was equal between males and females, and the respondents were between the ages of 16 and 65 years old. However, the sample included a large share of highly educated people where 54 per cent of the respondents had at least a bachelor's degree or equivalent education. This is not generalizable to the entire population of a country, but it is more generalizable for higher educated people with access to the internet.

Therefore, it is likely that growth in the e-commerce sector was indeed the biggest in emerging economies where consumers have access to the internet. Whereas in already developed economies consumers were already purchasing a significant number of products online. In developing economies, consumers often do not have enough money or internet skills to purchase online.

An example of this can be seen in Asia, where there was a big boost in the e-commerce business during the COVID-19 pandemic. The continent has multiple emerging economies namely Indonesia, the Philippines, Malaysia, South Korea, Taiwan, China, and India (Dunis & Shannon, 2005). Additionally, the middle class in the Asian countries mentioned before is rapidly growing and consists of a young population (Pongsak, 2018). These younger consumers are more likely to purchase online given their internet skills are better and their GDP is growing. The population of these emerging economies has good characteristics for the development of the e-commerce industry.

Additionally, Asia already has multiple big established online retailers like JD.com, Alibaba, Suning.com, Vip.com, etc. These companies often work with a click-and-collect method where the customer can pick up the package at a given location, or they ship the ordered goods to the consumer. According to the OECD (2021) not only has the use of e-commerce accelerated in the emerging Asian countries, but also the use of digital health tools, and online education. These countries still have not developed their digitalisation optimally (OECD; 2021), meaning there is still room for the e-commerce industry to grow even further. SMEs could use the e-commerce giants to profit from the boost in e-commerce while outsourcing some of the work to their partner platforms like customer service, logistics, or safe online payment methods. SMEs could also benefit from the brand equity the big e-commerce companies already accomplished and the ease of use for the customer.

In a study by Han et al. (2022) based on Alibaba, it was found that e-commerce in China had a drop and recovery pattern. Meaning the Chinese e-commerce sector dropped by over 20 per cent during the first lockdown in Wuhan and then recovered within five weeks in most cities. The study by Han et al. (2022) also highlights a key driver in the recovery process, namely the logistics capacity. It was found that a complete lockdown has a more negative effect on the e-commerce industry than a partial lockdown. Another finding was that retailers should invest in their logistics to prevent a competitive disadvantage from happening due to the possible restraints from a lockdown.

4.2. New Offline Challenges due to E-Commerce

Tepper (2022) reviews inflation caused by COVID-19 in a news article in Forbes. The pandemic caused a shortage in the market because production facilities were shut down due to the uncertainties the virus brought.

Research by Kumar et al. (2020) supports this, stating that managers are looking for strategies to get production back on track and meet consumer demand.

The study by Han et al. (2022) based on Alibaba claims the problems which arose due to the boost in e-commerce due to the pandemic might decrease the e-commerce industry as it is harder for companies to get their logistics in order. The orders might arrive at consumers later than promised, which might lead to dissatisfaction of the customer. This contradicts the general view of the development of e-commerce.

4.3. Decision-Making During COVID-19

Schippers and Rus' (2021) work on group decision making in times of crisis points out three errors that should be tried to avoid. These errors include failure to look for and share information, failure to analyse and elaborate on this information, and failure to revise and update the policies and conclusions during times of crisis. It suggests a reflective element in the decision-making process would minimize the possibilities of the errors mentioned before. As the study states, a limitation to decision making progress in times of COVID-19 is the non-transparency of the decision-making processes.

Sataphaty (2021) suggests a decision-making framework in times of crisis should be developed in her research on SME decision making in India during the COVID-19 pandemic. Results from the different studies could lead to a decision-making framework in times of crisis that takes different factors into account. Both the research by Schippers and Rus (2021) and the research by Sataphaty (2021) suggest the development of a decision-making framework in times of crisis would be useful, combining the findings of these studies could lead to an even more inclusive decision-making framework.

The full extent to which the COVID-19 pandemic impacted the decision making in the e-commerce business is not clear yet. The full effects of the pandemic have not worn off, as there is still a shortage of products in all different types of markets, which in its place causes more logistical problems. Like keeping the inventory levels right and getting products to the customers in time. Scholars are still to conduct more research on these topics when the full, direct, and indirect effects of the COVID-19 pandemic will be known. Another aspect that is still to be researched is the effect of different COVID-19 regulations and time periods on the economy, which influences the decision-making process of SME managers and entrepreneurs.

Another thing that should be researched is if retailers were more likely to join an already established e-commerce platform during the COVID-19 pandemic and if the retailers will remain partners after the pandemic. As well as which aspects were the decisive factors in the decision-making process. Given some traditional retailers were forced to close their stores due to government measures, it could have generated growth in partners for the online platforms.

5. Conclusion, Limitations and Recommendations

5.1. Conclusions

In most SMEs, the decision-making is done by the entrepreneur. The decision making is often done under certain circumstances. These circumstances include high levels of uncertainty, and poor financial, human, and material resources. The character traits of the entrepreneur influence the decision-making process as well. Studies showed entrepreneurs are more likely to be overconfident than managers, which affects them both in a positive and negative way. The overconfidence character trait leads to a more optimistic mindset, and stakeholders are more likely to believe in the business opportunity while overconfidence also leads to greater forecasting errors (Invernizzi; 2018). SMEs are also known to lack on the IT front. The level of education plays a role in the decision-making process of SMEs too. The higher the level of education, the higher the level of rationality in the decision-making process. Successful entrepreneurs create solutions with the available resources, use surprises for new business opportunities, bring in partnerships to take the business to a new level, invest only the amount they can lose, and focus on the present (Sarasvathy; 2001).

Multinational online retailers can provide the entrepreneur with online tools which could help them simplify their decision making in fields like marketing, administration, and logistics. The extended Technology Acceptance Model could help SMEs to decide on joining an e-commerce platform or developing their own platform (Fayad & Paper; 2015). The quality and satisfaction with alternatives like Application Service Providers play a role in this too.

The COVID-19 pandemic forced more retailers to go into the e-commerce sector. The biggest shift to online retail was in the emerging economies, therefore the impact of joining an e-commerce platform might be bigger in emerging economies. Research showed the already established online retailers experienced the biggest growth.

This impacted the decision-making process because SMEs were more likely to benefit from the e-commerce boost if they partnered with one of the e-commerce giants. It was also shown that competing based on price is the most effective way to grow a business online. The boost in the e-commerce industry brings new challenges, especially in offline logistics. Companies could experience troubles with their inventory and supplying their customers on time, as production facilities were shut down at the beginning of the pandemic. This could potentially lead to a decrease in the e-commerce industry. A decision framework which takes the newly found challenges into account and includes a reflective element could improve the decision-making process.

5.2. Limitations

The research was mainly done in settings that are not international and focused on a specific industry. This decreases the generalizability of the findings. Given the continuation of the pandemic is hard to predict, new mutations of COVID-19 might come, and opinions of experts differ on the topic it is hard to demarcate the full effects of the pandemic. Another limitation regarding the pandemic is the non-transparent available information on the decision-making process of SMEs. There are also some indirect effects of COVID-19 that impact the decision-making process that should still be studied, such as the high levels of inflation.

5.3. Further Research Suggestions

There needs to be further research done which would compare SMEs in different countries and industries to see if there is a difference in the decision-making process, given differences in culture might play a role in the decision-making process too, specifically in the e-commerce industry. Additionally, the impact of frameworks like TAM on the decision-making process should be studied, as well as why and how companies would decide to leave a partnership in the e-commerce sector. Further studies should focus on the direct and indirect effects of the COVID-19 pandemic, and how these effects influence the decision-making process in SMEs because as mentioned before, the full effects and to which extent they impact the economy are not known yet.

5.4. Recommendations

Based on the findings, it would be recommended for SMEs to join an e-commerce platform if the retailer mainly competes on the price level, or if the retailer offers a unique, niche product. With the second category mentioned, the SME bears the risk that the MNE imitates the product after looking at the data of good selling products. It would also be useful to join the e-commerce platforms in countries where the economy is emerging, with a bigger middle class that increasingly has internet skills and a growing GDP, like China, as SMEs have more potential to profit from the boost the e-commerce industry is experiencing.

5.5. Academic Relevance

This thesis studies a relatively new sector, namely the e-commerce industry, as well as the effect the COVID-19 pandemic has on the decision-making framework in the e-commerce industry, which is an effect that has not been studied before in the context of the e-commerce industry. The effects of COVID-19 could also be useful to compare to possible future pandemics or epidemics.

5.6. Business Relevance

As for the business relevance, entrepreneurs and decision-makers could use the findings to take into account when making decisions, as well as in which economies and with which type of product (price-based competition and niche products) to join an e-commerce platform. The development of a framework for decision making in times of crisis might be useful for future pandemics or epidemics.

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