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**Finnish SMEs' manifestation of agility in the
uncertain US business environment**

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Liiketoimintaympäristön epävarmuus on lisääntynyt viime vuosina merkittävästi. Poliittiset ja sosiaaliset muutokset, sekä ekologiset katastrofit ovat aiheuttaneet mittavia taloudellisia häiriöitä ja odottamattomia haasteita yritysmaailmalle. Ympäristön epävarmuus aiheuttaa haasteita erityisesti dynaamisessa ulkomaisessa ympäristössä toimiville pienille ja keskisuurille yrityksille, joiden resurssit ja valmiudet yllättäviin muutoksiin ovat rajalliset. Ketteryys on yksi strategisista keinoista selvittää arvaamattomista muutoksista ja sen suosio akateemisissa tutkimuksissa on kasvamassa.

Tutkimuksen tarkoitus oli tutkia suomalaisten, teknologia-alalla toimivien pk-yritysten keinoja toimia epävarmassa USA:n toimintaympäristössä. Tutkimuksessa selvitettiin mitkä tekijät ympäristössä ovat aiheuttaneet epävarmuuksia ja haasteita ja miten yritykset ovat vastanneet näihin haasteisiin. Tutkimuksessa keskityttiin tutkimaan yritysten ketteryyttä (agility).

Tutkimuksen teoriaosuudessa käsitellään ympäristön epävarmuustekijöitä ja haasteita erityisesti pk-yrityksen näkökulmasta kansainvälisillä markkinoilla. Teoriaosuus kattaa lisäksi ketteryyteen liittyvää kirjallisuutta. Tutkimuksen empiirinen osuus toteutettiin laadullisena monitapaustutkimuksena neljän suomalaisen teknologia-alalla toimivan pk-yrityksen kanssa, joilla on toimintaa Yhdysvalloissa.

Tutkimustulokset osoittivat, että yritykset kokevat haasteita vallitsevan covid-19 pandemian ja ympäristön klassisten epävarmuustekijöiden, kuten poliittisen epävarmuuden vuoksi. Lisäksi tutkimuksessa todetaan, että yritykset kohtaavat ulkomarkkinoilla haasteita pk-yrityksille tyypillisistä piirteistä johtuen.

Tutkimustulokset osoittivat, että yritykset ovat hyödyntäneet ketteriä toimintatapoja ja organisaatorakenteita vastatakseen koronaviruspandemiasta seuranneisiin epävarmuustekijöihin ja tapausyritysten voidaan nähdä olevan joustavia ja reagoivia sekä osoittavan muutoskulttuurin piirteitä. Tutkimus vahvisti myös ketteryyden ensisijaiset ominaisuudet, joista erityisesti joustavuus sekä sopeutumiskyky nousivat olennaisiksi piirteiksi ketteryydelle. Tutkimustulokset vahvistavat lisäksi kirjallisuuden aikaisempia tuloksia suhteiden, verkostojen ja yhteistyön hyödyistä pk-yrityksen ominaispiirteisiin liittyviin haasteisiin liittyen.

Asiasanat: ketteryys, epävarmuus, haasteet, pk-yritykset, kansainvälinen liiketoiminta

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Abbreviations

FDI= Foreign Direct Investment

IB= International Business

SME= Small and Medium size Enterprise

1 Introduction

1.1 Background of the study

During recent years, the business environment has been changing rapidly and volatility of the business environment has generated more uncertainties to firms. Furthermore, globalization is turning into a new phase which requires companies to move from glocalization toward more country-centric approach. Digital technologies and decentralization of global governance have resulted in companies to bring production back from abroad. In the new phase of globalization, more emphasis is placed on the circumstances in which organizations operate (Boston Consulting Group, 2016; Primc & Cater, 2016). External environment is important particularly for SMEs that operate in foreign markets as the external environment formulate the base for SME strategy formulation and implementation. However, while internationalization may generate opportunities, SMEs face a range of challenges in foreign environments (Nemkova, 2017; Parnell et al., 2014).

Besides the 'general challenges' arising from the foreign environment, complex events such as political and social changes, ecological disasters and severe economic disruptions generate challenges for firms (Hong et al., 2012). Indeed, ongoing global covid pandemic has triggered a massive spike in uncertainty and resulted in unprecedented scale of global economic downtrend. As Jerome Powell, the Chairman of Federal Reserve, stated "We are now experiencing a whole new level of uncertainty, as questions only the virus can answer complicate the outlook." The pandemic resulted in travel ban between Europe and Unites States in March 2020 and is still in effect in April 2021. The socio-economic crisis caused by the pandemic has forced business managers to take quick actions to respond to the crisis. Moreover, recent changes in political environment in the USA have generated uncertainties in the business environment. The US presidential elections took place under political polarization and shortly after President Trump took office in 2017, the US foreign economic policy moved

from liberalism to protectionism (Boylan et al., 2020). The policies of Trump Administration have been harmful for immigrants and non-immigrants from several countries and the changes to the immigration policies are projected to have an impact for several years beyond his presidency. Furthermore, President Trump's trade policies justified by national security concerns resulted in trade war between the US and China. The economic conflict continues today.

In order to thrive in turbulent environments, organizations need to be able to response to sudden and frequent changes and these decisions need to be different and unique (Prochno & Correa, 1995). This applies especially to SMEs that are forced to operate in highly dynamic environments. With the increase in environmental turbulence, SMEs struggle with aligning the strategy with external environment (Smith & Smith, 2007). In contrast to large multinational companies, SMEs characteristics, such as lack of capabilities and limited access to resources, can hinder SMEs international expansion efforts. Hence, SMEs have limited possibilities to drive the market compared to large companies or have influence over market changes. Thus, turbulent environment forces SMEs to react and adapt to rapidly changing environment (Smith & Smith, 2007)

1.2 Research gap

Researchers have studied how organizations can survive and compete in dynamic, unpredictable and constantly changing environments (Sherehiy et al., 2007). To understand how uncertainty influences organizations and how organizations respond to these changes, many solutions have been proposed, including networking, modular organizations, high performing organizations, employee empowerment, reengineering, just-in-time (JIT) and flexible manufacturing (Sherehiy et al., 2007). However, the traditional methods and frameworks found in current literature are not sufficient to meet the requirements of a highly unpredictable business environment (Pekkola et al., 2016). Indeed, prior studies have concentrated

on minimizing uncertainties instead of embracing volatile market conditions with rapid and unique market solutions. However, agile firms have better ability to cope with unpredictable changes as they continuously search for market opportunities.

Prior studies have examined agility through a broad range, such as operations and supply chain management focusing on an organization's agile functions (e.g. Akhtar et al. 2018; Fayezi et al., 2017), and organizations abilities to cope with sources of continuous global competition (e.g. Arslan et al., 2015). Although from business strategy viewpoint, few studies have focused on examining adaptation to changing and uncertain environments (e.g. Junni et al., 2015; Zhou & Wu, 2010) there is still a lack of academic research on how SMEs deal with unexpected changes in international environment using agility and flexibility (Christofi et al., 2021; Nemkova, 2017). Current studies are dominated by quantitative studies and qualitative studies on agility and flexibility in the domain of international business is scarce (Christofi et al., 2021).

In strategy-performance literature, distinctions between large companies and SMEs have been covered yet the focus has been on large companies (Parnell et al., 2014). Studies focusing particularly on SMEs' agility and flexibility in international business context is scarce (Christofi et al., 2021) and thus, research within this domain is needed. SMEs are rather fruitful and interesting research subject due to SME characteristics, such as lack of resources, and because SMEs are forced to operate under challenging conditions where right decisions determine their survival. In addition, the survival rate of SMEs globally is low in general and thus, the phenomenon needs more research (Parnell et al., 2014). Therefore, this study aims to fill the gap in the literature by conducting a qualitative research on agility in international business field from SME perspective.

Moreover, the environmental conditions in previous empirical studies have to some extent remained weak or assumed, or focused only on one form of crisis, namely economic crisis

(Christofi et al., 2021). This study was conducted amidst of a global pandemic that has resulted in economic crisis but is additionally a context of unanticipated major adverse change and a major source of uncertainty. The context of this study is thus unique and timely and not much research has been conducted around it.

1.3 Research question

The aim of this study is to contribute to research regarding SMEs that operate in uncertain foreign environment and find out how SMEs manage challenges through agility in uncertain and unpredictable business environment. This paper has two objectives: the first is to examine what challenges the uncertainty of the US business poses to SMEs. The second is to investigate how SMEs deal with these challenges using agility. To the research it is critical to formulate a deep understanding in the context of international environment. Furthermore, this study explores the topic particularly from Finnish SMEs' perspective. This results in the following research question:

How do Finnish SMEs apply agility to deal with challenges in uncertain US business environment?

In order to answer questions regarding SMEs agility, in-depth understanding of the attributes of an agile organization is required. To research the relationship between uncertainty and agility, understanding of the challenges that SMEs are facing is required. In this light, the sub-questions of this study are:

1. What uncertainties and challenges SMEs face in foreign markets?
2. How is agility achieved in SMEs?

3. Which are the critical sources of uncertainty in USA markets perceived by Finnish SMEs in high-tech sector and which are the ways they cope with the perceived uncertainty and challenges?

The aim of this paper is twofold. First, this study aims to fill the gap by empirically comparing SMEs responses on different types of perceived uncertainties and challenges in the US business environment and identifying strategies that help managers to deal with dynamic environments. Second, although scholarly interest toward agility and flexibility is increasing, only at the beginning of the year 2021 was a systematic literature review on agility on IB domain conducted by Christofi et al. (2021). This paper aims to contribute to literature on breadth and depth of agility in international business research.

1.4 Delimitations

This paper focuses on the context of US business environment due to recent major political changes and increase in uncertainties and challenges for SMEs. Furthermore, along with China, the United States is the most important economy in the world for many businesses and the US has been the top destination for foreign direct investment (FDI) flow (OECD, 2020b). This paper focuses on Finnish high-tech companies because software and IT services were primary industry sector of FDI from Finland to the United States followed by industrial equipment and communications (SelectUSA, 2020).

In addition, while organizations have different strategic approaches to cope with uncertainty, this study focuses on agility. Other responses are imitation, cooperation/collaboration, control and avoidance (Miller, 1992). In literature, reactive collaboration/cooperation is one of the most common approach for organizations to cope with uncertainties. This applies to both on environmental and industry uncertainties. Previous economic crises have shown that foreign-owned businesses, including SMEs, often benefit from resources of their parent

companies (OECD, 2020a; Sniashko, 2019). However, as qualitative studies on agility and flexibility are scarce, this study aims to fill the gap in literature around these concepts.

1.5 Structure of the thesis

In order to reach the aims of the study, the paper is structured as follows. The study starts with introduction, where background information of the relevance and importance of this study are discussed. Further, the justification of the topic is presented. The main research question is identified and the objectives for the study are provided. Moreover, delimitations of this study are presented.

The second chapter reviews the existing literature on the concept of uncertainty. Definitions and elements of uncertainty are presented, and the topic of environmental uncertainty is addressed in more detail. Furthermore, the chapter focuses on perceived uncertainty and challenges from SME perspective in the international context. Following theoretical chapter covers the relevant literature on agility and its attributes, and the connection between agility and uncertainty is discussed through dynamic capabilities view. Further, the relationship of agility and SMEs in the international context is discussed. The fourth chapter explains the chosen research design, approach and methods used in the study. Reliability and validity of the study are discussed. The following chapter cover the findings of the study. The sixth chapter discusses and analyzes the findings in more detail, and the results are reflected to theoretical framework, prior research and secondary data. Lastly, the conclusions of the study are provided, and limitations of this research are discussed. The study ends with presenting avenues for future research.

2 Uncertainty and Challenges

In this chapter the conceptual framework of uncertainty is introduced and discussed. Uncertainty is a multidimensional concept and prior studies regarding uncertainty view the concept from different perspectives. This chapter explains the different elements and components of uncertainty and introduces the selected elements of uncertainty that are applied in this study. The concept of perceived uncertainty is introduced. SME challenges with regards to liability of foreignness, smallness, newness and outsidership are presented and analyzed in international context.

2.1 Definition of uncertainty

Many definitions of uncertainty have been introduced in the strategic management literature. Nemkova (2017) describes uncertainty as “an inability to forecast precisely what the outcomes of a decision will be due to insufficient information and conflicting signals.” Beckman, Haunschild and Phillips (2004) refer uncertainty similarly as the challenge to predict future that results from lack of knowledge. Respectively, terminology used in prior contributions to describe uncertainty varies to great extent. The various range of concepts regarding uncertainty include institutional uncertainty, country risk, investment risk, discontinuous risk, industry risk, market turbulence and control uncertainty (Sniazhko, 2019). Although many of these concepts refer to risk, Teece et al. (2016) emphasize the difference between managing risks and managing uncertainty. Risks can be described as reoccurrences and calibrating of probabilities with those known outcomes, whereas “uncertainty is about unknown unknowns.” They argue that managers’ superior understanding of the difference between managing risks and uncertainty contributes to managers’ effectiveness under dynamic environments. Furthermore, they point out that managing uncertainty is more significant and prone to economics with dynamic changes. Because there are differences in

interpreting uncertainty, it is important to distinguish the concepts in order to fulfill the validity of this research.

Uncertainty is a multifaceted concept, and there are different types and categories of uncertainty. In the following, the types of uncertainty, categories and components of uncertainty are reviewed.

Prior contributions have identified different types of uncertainty. Milliken's (1987) view is highly cited in international business literature and her framework is based on the lack of certain type of information. According to Milliken's view, uncertainty can be sorted into three types: State uncertainties, effect uncertainties and response uncertainties (Figure 1). State uncertainty refers to experienced unpredictability of the environment and uncertainty is thus resulting from inability to understand environmental changes. State uncertainty can also originate from inability to predict the interrelationships of the environment. In other words, one does not understand the effect that one element of uncertainty might have to another element, i.e. uncertainty about deregulation and competitors' behavior if deregulation occurs. Effect uncertainty is associated with the causal relationship of the uncertainty on the organization. The third uncertainty type, response uncertainty, refers to inability to predict the effect of the response.

In addition to types of uncertainty, uncertainty categories and components are salient features of uncertainty. Beckman et al. (2004) suggests twofold approach for categories of uncertainty: market-level uncertainty and firm-specific uncertainty. Market uncertainty can be classified into firm-specific uncertainty and industry uncertainty. According to this view, firm-specific uncertainty is more controllable than industry uncertainty. Miller's (1992) framework divides uncertainty into three categories: environmental, industry and firm uncertainties. Further, these three variables encompass 13 components of uncertainty (Figure 1).

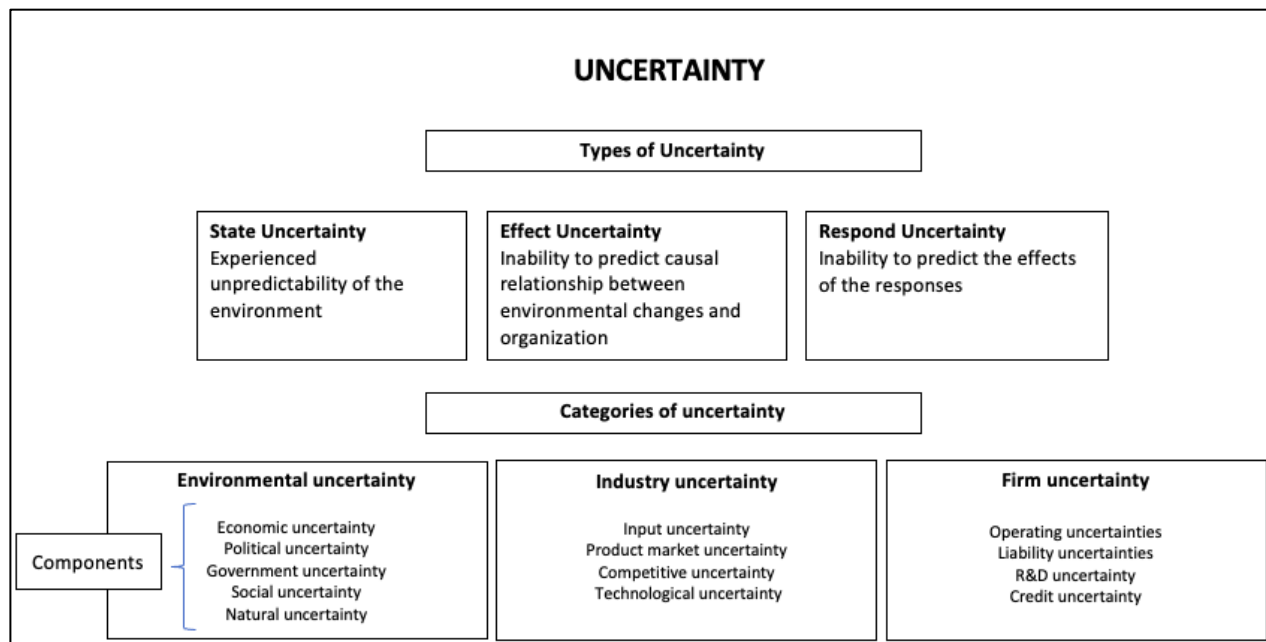


Figure 1. Elements of uncertainty: Types, categories and components of uncertainty.

Environmental uncertainty comprises economic, political, government, social and natural uncertainties. Industry uncertainty refers to input uncertainty, demand uncertainty, competition uncertainty and technological uncertainty. The third category, firm uncertainty, refers to operating uncertainty, liability uncertainty, R&D uncertainty, and credit uncertainty. This study researches the topic on the basis of Miller's framework due to consistency in the conceptualization of uncertainty in prior and future studies. Furthermore, Miller's framework is often cited in international business literature (see e.g. Clark et al., 2017; Oetzel & Oh, 2014). This study is concentrated on environmental uncertainty, more specifically to discontinuous (natural) uncertainty and political uncertainty. Figure 1 illustrates the elements of uncertainty: types, categories and components of uncertainty.

The following subchapters discuss categories of uncertainty in more detail. First, environmental uncertainty is introduced followed by a brief introduction to industry and firm uncertainty.

2.2 Environmental, Industry and Firm Uncertainty

In literature, distinction of environmental uncertainty has been made between “general” environment and “task environment.” The latter has evolved from organization theory to Porter’s “five forces” approach which refers to micro-environment that shapes the business industry, including customers, competitors, suppliers, new entrants and substitute products. General environment in turn refers to external environment that surrounds the micro-environment. General environment is also referred as macro-environment that includes economic, political, societal and technological landscapes (Vecchiato & Roveda, 2010).

According to Ng et al. (2015, p. 4267), “environmental uncertainty refers to the volatility and lack of predictability in the external environment in which firms compete”. In literature, environmental uncertainty has been described using various terms such as hostile (e.g. Miller, 1987), complex (e.g. Duncan, 1972), turbulence (e.g. Tseng & Lee, 2010), and dynamism (e.g. Baum & Wally, 2003). In the context of environmental change, managers need to acquire detailed perception of the environment in order to succeed. Contingency approach is often mentioned in literature in connection to environmental uncertainty as it refers to understanding the environment and explains how factors such as technology, market and external environment influence an organization. Contingency theory is particularly appropriate approach for organizations dealing with uncertain environment because it considers adapting to the environment by taking into account the characteristic of the environment and enables flexibility in strategy formation and implementation. The contingency theory view sees each situation unique and thus, there is no “one best way” to formulate strategies (Darvishmotevali et al., 2020; Weiss & Wittman, 2018).

In general, sources of environmental uncertainty or factors that managers might consider of environmentally uncertain include government regulation and intervention, actions of

competitors, suppliers and customers, degree of predictability of financial and capital markets, technological environment and general conditions (DeSarbo et al., 2005; Kuivalainen et al., 2004).

According to Miller's (1992) classification, economic uncertainty refers to economic activity and fluctuations of prices. Movement in prices may result from general price inflation or changes in relative prices of inputs such as labor or raw materials. Shifts in aggregate production may occur due to volatility of interest rates and exchange rates. Economic uncertainty affects organizations strategic decisions and outcomes at the enterprise level (Doan et al., 2020). Economic crisis in turn refers to "a low probability, high impact situation that is perceived by critical stakeholders to threaten the viability of the organization" (Grewal & Tansujah, 2001, p. 68).

Political and legal uncertainty refer to unpredictability in the political system and actual or potential changes in regulations in the host country (Miller, 1992). Political initiatives initiated by national and transnational governmental authorities result in institutional changes. Governmental actions may impact businesses through public sector contracts, licenses and approvals, industry policies and regulations, tax concessions, tariffs and other protectionist measures (Miller, 1992).

Regulations related to antitrust regulations (co-operation, competition and price), social regulation (environmental law, occupational health and safety and labor issues) and industry-specific regulations, such as prices and output and licensing, can hinder firms' efforts in foreign markets but can also generate positive effects (Hilmersson et al., 2015).

Socio-cultural uncertainty is associated to unpredictability in social environment, including riots, demonstrations, social unrest or small-scale terrorist movements. Socio-cultural uncertainty has the potential to evolve into political instability (Miller, 1992).

Discontinuous uncertainty, also referred as natural uncertainty, includes natural phenomena that influences the operations of foreign firms such as weather patterns and natural disasters. Natural hazards cause natural disasters and can result in human and financial losses, environmental harm and business turmoil. Discontinuous risks are usually difficult to predict and avoid (Miller, 1992; Oetzel & Oh, 2014).

Competition uncertainty and technological uncertainty are related to industry uncertainty. Competition uncertainty focuses on rivalry between existing firms in the industry and potential new ventures. Technological uncertainty refers to degree and rate of new innovations relevant to the product of production process within an industry. Firm uncertainty includes uncertainties with regards to operating uncertainty, liability uncertainty, R&D uncertainty, and credit uncertainty (Miller, 1992; Jaworski and Kohli, 1993).

2.3 Perceived uncertainty

Interpreting the concept of environmental uncertainty, however, may differ among businesses in the same industry. Managers' perception of the level of uncertainty and unpredictability can vary (Parnell et al., 2014). Thus, perceived environmental uncertainty is a vital concept regarding how managers experience volatility of the external environment. General understanding of the environment can indeed be viewed from two perspectives: objective or subjective. The former view considers the environment as an objective entity that defines environment via data and is therefore independent of the subject. The latter view sees environment subjective, and characterization of the environment evolves from perceived uncertainty (Oreja-Rodriquez & Yanes-Estevez, 2007). According to perceived perspective, the volatility of environment is only managers perception of the environmental conditions and the strategic actions are made according to these mental representations (Oreja-Rodriquez & Yanes-Estevez, 2007). Thus, perceived environmental uncertainty can impact the level of

scanning and analyzing environment and further, planning firms' strategic actions (Yu et al., 2016).

Origins of perceived environmental uncertainty can result from managers experience, skills, knowledge, attitude and background (Liesch, Welch & Buckley, 2011). Perceived environmental uncertainty is often linked to lack of information of external environment or difficulties in differentiating relevant information from irrelevant information (Milliken, 1987; Oreja-Rodriguez & Yanes-Estevez, 2007). According to Duncan (1972), influences of external environmental can result from environmental complexity and environmental dynamism whereas former refers to severity and familiarity of change and latter refers to speed of change. Duncan (1972) suggests that perceived environmental uncertainty is influenced more by dynamism than complexity (Milliken, 1987; Oreja-Rodriguez & Yanes-Estevez, 2007).

2.4 Environmental uncertainty from SME perspective

Environmental uncertainty is a key issue in SME strategy research. Evaluating the environment and its dynamic characteristics generates the base for SME strategy formulation and implementation (Parnell et al., 2014). Following Duncan's (1972) classification on environmental dynamism and environmental complexity, dynamism is significant source of uncertainty for SMEs due to lack of resources that would allow SMEs to address those changes (Gaur et al., 2011). In uncertain environments, change is speedy and organizations who have the ability to make decisions under incomplete information about the environment are the ones who survive (Pekkola et al., 2016).

Economic-related policies affect particularly for SMEs compared to other firms, because the performance of SMEs is strongly influenced by macroeconomic and firm-specific uncertainties (Doan et al., 2020). When confronted environmental changes, SMEs also have less

sustainable competitive advantage compared to larger companies which makes them more sensitive to external changes (Lonbani et al., 2016).

2.5 SME challenges in international context

It is widely known that uncertainty is an unavoidable aspect of entrepreneurship (Magnani & Zucchella, 2019). Although born globals are known for the willingness to take risks and face uncertainties (Nemkova, 2017), liability of newness, smallness, foreignness and outsider-ship may cause restraints. These liabilities are evident among SMEs that operate in foreign environments.

2.5.1 Liability of foreignness

In literature, liability of foreignness often refers to “costs of doing business abroad” that foreign firms face compared to local firms that naturally possess knowledge about their market environment (Sethi & Guisinger, 2002). Zaheer (1995) identified four sources of costs regarding liability of foreignness. The first refers to costs that are directly associated with distance to home country, including travel and transportation costs and costs resulting from different time zones. Second liability refers to firm-specific costs that are associated with firm’s unfamiliarity toward the host country. The third explains costs arising from the host country such as economic nationalism and lack of validity. The fourth is associated with costs originating from home country environment, such as “*restrictions on high technology sales to certain countries*”. Hennart et al. (2002) further developed the concept of liability of foreignness and classified the concept into three factors: lack of information about the target country, discrimination by the government, consumers and suppliers, and currency risk.

2.5.2 Liability of outsidership

Vahlne et al. (2012) suggests another liability closely related to liability of foreignness: liability of outsidership. This refers to lack of knowledge of the business actors in the business environment and the causal relationship of the actors. Liability of outsidership is associated with uncertainty that results from being an outsider in the business environment in terms of networks. They argue that markets are networks of relationships and assert that insidership is key asset for successful international expansion. Similarly, Schweizer (2013) assert that new business networks are important source of local market knowledge especially for knowledge-intensive SMEs with niche products.

Firms can deal with liability of foreignness with firm-specific advantages. Utilizing firm-specific resources to gain competitive advantage is based on resource-based view (RBV), where organization's capabilities contribute to strategic success (Zaheer, 1995). According to Malek et al. (2015), RBV was developed to address the barriers of strengths, weaknesses, opportunities, and threats (SWOT). They assert that the concept of RBV may contribute to gaining a competitive advantage in dynamic business environments. In contrast, there has been criticism toward RBV arguing that RBV is applicable in context of stable environment yet fails to take into account changes in external business environment (Hitt et al., 2016). This study continues and expands the discussion of firm-specific capabilities through agility and dynamic capabilities view in chapter 3.5.

2.5.3 Liability of smallness

Expressions of liability of smallness include concepts such as financial constraints and lack of capabilities. In literature, liability of smallness often refers to limited resources and difficulties in accessing to external resources. This results in poorer operating performance compared to multinational enterprises and makes small firms vulnerable to external environment's changes (Lefebvre, 2020).

2.5.4 Liability of newness

Organizations can also face challenges due to their age. Young organizations can suffer from liability of newness. In literature, liability of newness is often related to business failure and organizational mortality. Lack of legitimacy and inability to compete efficiently and can result in organizations premature ending. In order for young and small firms to appear valid, they have to establish legitimacy to create meaningful relationships with various stakeholders. However, this can be expensive and time-consuming. Liability of newness can be examined from two angles. First, it may refer to firm's internal processes such as operational routines and firm competences such as learning and cooperation within the firm. Secondly, newness is related to external processes (Kale & Ardit, 1998) such as relationships with customers, suppliers and other stakeholders (Choi & Shepherd, 2005).

Although liabilities of foreignness, smallness and newness can hinder firm's performance, uncertainty can also fuel organization's success. Firms can outplay competitors and win new customers under sudden, unpredictable situations. In the modern business environment, the ability to surprise the markets has been discussed as a core strategy for competitive superiority (Nemkova, 2017).

To summarize, this study is concentrated on environmental uncertainty, more specifically to discontinuous (natural) uncertainty and political uncertainty. The topic examined in this study has a subjective focus. Furthermore, this paper studies challenges that result from typical SME characteristics. Figure 2 shows the combination of elements of uncertainty and challenges examined in this study.

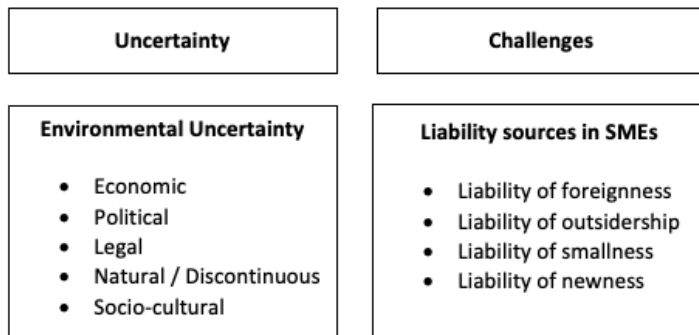


Figure 2. Elements of uncertainty and challenges examined in this study.

3 Agility

In the beginning of this chapter, different views of agility, definitions and terminology of agility is presented. Furthermore, attributes of agility and dimensions are discussed. Agility is viewed within dynamic capabilities framework. The chapter ends with examining agility from the perspective of SMEs in the context of international environment.

3.1 Definitions and focus of agility

Among proposals of how organizations can successfully meet unpredictable and dynamic environmental changes, three notions are the most popular: “flexible organization”, “adaptive organization” and “agile enterprise.” These concepts refer to organizations’ ability to adjust and respond to change. The ability to adapt has been discussed frequently among researchers and there exists many different definitions and vocabulary on agility in business-oriented literature. Researchers have similar, but different viewpoints on agility depending on the focus and perspective. In current literature, agility has been examined through a broad spectrum, including operations and supply chain management focusing on an organization’s agile functions, supply chain relationships and processes (e.g. Akhtar et al., 2018; Fayezi et al., 2017), organizations’ abilities to cope with sources of continuous global competition (e.g. Arslan et al., 2015), information technology (e.g. Tallon et al., 2019) and different organizational functions such as marketing (e.g. Combe, 2012).

Terminology that seeks to describe organizational ability to adapt include strategic agility (e.g. Doz, 2020) organizational agility (e.g. Harsch & Festing, 2020), and enterprise agility and agile manufacturing (e.g. Sherehiy et al., 2007). Doz and Kosonen (as cited in Teece et al., 2016, p. 17) focuses on strategic agility and define it as “the capacity to continuously adjust and adapt strategic direction in a core business to create value for a company.” Teece et al. (2016) see agility almost as a synonym for flexibility and define agility similarly as

positioning and reallocating firm resources to value creating and value protecting activities. Grewal and Tansujah (2001, p. 72) describe strategic flexibility as an “ability to manage economic and political risks by promptly responding in a proactive or reactive manner to markets threats and opportunities.” Furthermore, Sherehiy et al. (2007) point out dichotomy regarding agility. They assert that agility can be viewed from agile manufacturing (AM) perspective or from enterprise agility (EA) whereas the former refers to manufacturing while the latter examines agility as a whole. This study utilizes Sherehiy et al. (2007) view on enterprise agility and focuses on attributes of agility (see Figure 3).

Hagen, Zucchella and Pervez (2019) suggest that agility helps firms to deal with uncertainty and to control risk. Agility allows firms to strategically respond to dynamic and turbulent environment with larger pool of options. In this sense, agility helps to decrease risk regarding flexibility and responsiveness by reallocating resources and choices. This is especially evident with early internationalizing ventures that confront challenges of simultaneous occurrence of liabilities of newness, smallness, foreignness and outsidership. Agile organizations can potentially remove barriers of uncertainty and empower and engage employees (Darvishmotevalia et al., 2020).

In management literature, agility is often referred as salient ability that is essential for firms’ survival. However, Teece et al. (2016) criticize that it is not fruitful to assert that organizations should be able to change continuously because change is costly, and inefficiency may occur in the process of pursuing agility. More importantly, managers need to identify *when* and *how much* agility is needed while delivering it cost effectively. Furthermore, although the benefits of agility are known, agility can also have negative impacts and hinder firm operations. In general, agility refers to the ability to react rapidly to changes and thus, the need for “stability” can be overlooked (Hagen et al., 2019). In the following subchapter, attributes of an agile enterprise are presented in more detail.

3.2 Attributes of agility

Attributes of agility are defined differently depending on the focus and context of the study, such as different organization functions e.g. human resource management (e.g. Ahammad et al., 2020), supply chain relationships (e.g. Akhtar et al., 2018) or acquisitions (Junni et al., 2015). However, various prior studies identify speed and flexibility as primary attributes of agile organizations (Sherehiy et al., 2007) although Hagen et al. (2019) argue that flexibility is only one dimension of agility. They assert that while many contributions identify speed and time as a part of flexibility, they neglect responsiveness, of which they see as an essential pair for flexibility.

According to Sherehiy et al. (2007), people, organization, and technology are the most important concepts of enterprises regarding agility. Thus, many concepts and characteristics can be based on either attributes of agility or enterprise structures (Figure 3).

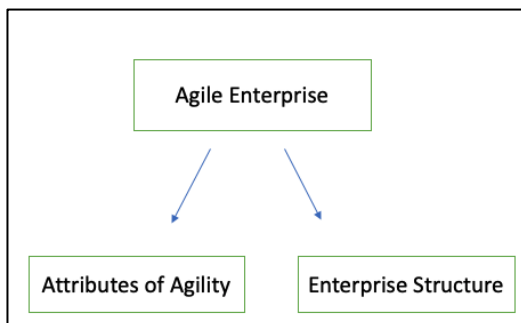


Figure 3. Agile enterprise.

In general, seven main attributes of agile enterprises have been identified in literature. The main attributes are flexibility, responsiveness, culture of change, speed, integration and low complexity, high quality and customized products and mobilization of core competences (Table 1) (Sherehiy et al., 2007).

Table 1. Main attributes of agility with respective concepts (adapted from Sherehiy et al., 2007 & Nemkova, 2017).

Attributes of Agility	Concepts
Flexibility	<ul style="list-style-type: none"> • Workplace flexibility • Flexible business strategies • Flexible organizational structures and practices • Workforce flexibility <ul style="list-style-type: none"> ○ International experience ○ Knowledge of the market ○ Ambiguity tolerance ○ Learning orientation ○ Speed of developing new skills
Responsiveness	<ul style="list-style-type: none"> • Responsiveness to market and business environment changes and trends • Responsiveness to social and environmental issues • Adjustability of business objectives to the changes
Culture of Change	<ul style="list-style-type: none"> • Environment supportive of experimentation, learning and innovation • Positive attitude to changes, ideas, people, technology • Continuous improvement, learning and employee training • Changes management
Speed	<ul style="list-style-type: none"> • Learning, carrying out tasks and operations, and making changes in shortest possible time
Integration and low complexity	<ul style="list-style-type: none"> • Integration of people, technology and organization • Low complexity of structure • Flow of material, communication and information between different organizational structures • Easy and effortless process of making changes
High quality and customized products	<ul style="list-style-type: none"> • Short development cycle • Products and services with high information and value-adding content
Mobilization of core competencies	<ul style="list-style-type: none"> • Developed business practices difficult to copy • Multi-venturing capabilities

The other dimension of agile enterprise is the enterprise structure (Figure 3). On a higher level, agile enterprises should aim for general, global strategies when achieving agility. General agility strategies are customer satisfaction, cooperation, knowledge management and learning, and development of culture of change. On more detailed perspective, agile organization comprises of adaptable and flexible organization structure and agile workforce (Table 2). Adaptable and flexible organization includes characteristics such as low levels of hierarchy, open and informal communication, informal authority, fluidity among units and functions and task-related decision-making (Sherehiy et al., 2007). Agile workforce is discussed in more detail in following paragraph through key decision-makers hard and soft skills. Table 2 shows the characteristics of agile enterprise including agile workforce.

Table 2. Characteristics of agile enterprise structure: Organization and workforce (adapted from Sherehiy et al., 2007 & Nemkova, 2017).

Organization	
Authority	<ul style="list-style-type: none"> • Decentralized knowledge and control • Fewer power differentials (fewer titles, levels, status dimensions, etc.) • Less adherence to authority and control • Loyalty and commitment to project or group • Authority tied to tasks • Authority change when tasks change • Wide span of control
Rules and procedures	<ul style="list-style-type: none"> • Few rules and procedures • Low level of formal regulation (in respect to job description, work schedules) • Fluid role definitions • Informally organized
Coordination	<ul style="list-style-type: none"> • Informal and personal coordination • Delegation of tasks and decision making • Network communication • Goal-directed
Structure	<ul style="list-style-type: none"> • Flat, horizontal, matrix, networked or virtual structure • Teamwork, cross-functional linkages • Loose boundaries among function and units

Agile workforce	<ul style="list-style-type: none"> • International experience • Knowledge of the market • Ambiguity tolerance • Learning orientation • Speed of developing new skills
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3.3 Agile workforce

Agile workforce further extends the concept of agility. It is widely believed that workforce agility is dependent on human capabilities. Study by Nemkova (2017) revealed similar findings on the importance of human capital in achieving agility. Her research showed that there's a clear connection between firms' international market success of agility and firm's human capital resources, including both hard and soft skills. First, in the context of international markets, key decision-makers' hard skills refer to international experience and knowledge of the market, especially with organizations that enter into new markets. It is widely recognized that market knowledge is tightly connected with individuals and therefore, it is difficult to imitate. Market knowledge does not necessarily relate to individual's years of experience, yet unique experience can bring value too. International experience in turn is a valuable asset because it makes firms more open to change. Secondly, decision-makers soft skills include attributes such as ambiguity tolerance and learning orientation. These skills are especially connected with dealing with high uncertainty. Similar findings were recognized in Breu et al. study (2002) where speed of developing new skills was among the three most important attributes regarding agility. The ability to learn is especially important in gaining competitive advance, as it enables the processing of new information and thus, it is an essential attribute for firms that operate in international markets. Moreover, high learning orientation allows examining volatility of business environment. Ambiguity tolerance refers to the willingness to cope with uncertainty rather than desiring to change international environment. Other attributes that were identified important in achieving

agility were creativity, short-term informal planning, and “pushing” and “reaching out” to new areas outside of firms immediacy (Nemkova, 2017).

3.4 Dimensions of agility

Najrani (2016) identifies three dimensions of agility: reactive, proactive and innovative agility. He describes reactive agility as an ability to recognize market changes and respond to those changes. Similarly, Hagen et al. (2019) see *responsiveness* as the ability to understand and react to external signals. Proactive strategy refers to identifying new market trends and adapting and adjusting organizational strategies according to trends. Proactivity includes the ability to act innovatively and thus explore opportunities and manage threats (Sherehiy et al., 2007). Organizations with innovative agility develop new products and markets (Najrani, 2016).

3.5 Agility through dynamic capabilities view

Agility can be explored at a more fundamental level through dynamic capabilities view (Teece et al., 2016). Agility requires both fairly fixed structures that act as a base for resource distribution and decision-making, and dynamic elements that can be quickly allocated to emerging challenges and opportunities (Baškarada & Koronios, 2017). The dynamic capabilities view is a popular theory in the field of strategic management that seeks to answer how organizations gain and sustain competitive advantage in rapidly changing environments (Kachouie et al., 2018; Primc & Cater, 2016). Dynamic capabilities enhance organizational agility addressing uncertainty generated e.g. from competition or other sources (Teece et al., 2016).

Dynamic capabilities view the relationships between environmental conditions and strategic choices of firms and helps to set priorities. Furthermore, dynamic capabilities allow consistency among business environment, strategy and structure (Primc & Cater, 2016; Teece et al., 2016). In contrast to resource-based view, dynamic capabilities focus on dynamics

whereas RBV concentrates more on competencies and firm performance. Thus, dynamic capabilities can be viewed as an extension of the resource-based view (Nkuda, 2017; Easterby-Smith et al., 2009).

Organizations' dynamic capabilities can be defined as "ability to build, create integrations and reconfigurations of competences internal and external to the firm in order to respond effectively to quickly changing environments" (Teece et al., 1997, p. 516). Teece et al. (2016) refer dynamic capabilities as an ability to "read" and shape the environment through organizational and managerial competences.

Teece et al. (2016, p. 17) divide dynamic capabilities into three primary clusters: sensing, seizing and shifting. The first cluster includes the "identification, development, co-development and assessment of opportunities in relationship to customer needs." This cluster is referred as "sensing" of unknown futures. Sensing includes capabilities such as generative sensing, sensemaking, use of scenario planning and "purchase" of real options. The second cluster represents "seizing" which means the mobilization of resources to address needs and opportunities. In addition, "seizing" captures the value of those activities. To put differently, "seizing" refers to implementation and getting this done. There are different ways to do this such as open innovation processes, flexible sourcing arrangements, building organizational "slack" and maintaining nonhierarchical organizational structure. The third cluster, "transforming" or "shifting" explains the continued renewal of dynamic capabilities. Pivoting is also known as the "lean startup methodology" methodology. It is associated with "build-measure-learn" approach whereas firms build a viable product, launch it, learn from it and finally adjusts and improves accordingly. Sensing, seizing and transforming are important in order to survive and long-term growth. Organizations that sense changes and opportunities as fast as possible and seizes such opportunities to maintain competitive advantage can be said to be strategically agile organizations (Gerald et al., 2020; Teece et al., 2016).

However, in order to achieve competitive advantage, dynamic capabilities need to be aligned with the firm strategy. Strategy and dynamic capabilities need to be formulated and implemented together. While agility allows firms to stay active and alert, strategy is required to place new directions. Competitive advantage requires everything to work well together so that value can be created and maintained (Teece et al., 2016).

3.6 Role of agility among SMEs in international context

Today's dynamic international environment pushes firms to provide rapid solutions to quickly changing customer needs. Agility is an essential ability for firms that operate in continuously changing, complex international environments. In international context, customer expectations might be different and the ability to identify changing customer needs is required. Thus, responsiveness is required as it enables understanding and further, responding to these customer expectations (Hagen et al., 2019). Due to typical SME characteristics such as smallness and scarce resources, the decisions made by SME managers are especially important for SMEs because they are required to respond to market changes rather than try to shape markets (Nemkova, 2017). Thus, agility may help to overcome internationalizing SMEs' liabilities.

In fact, agility can act as a driver for international entrepreneurship alongside with other identified drivers including international orientation, capabilities, social capital, strategy considerations, certain high-tech and knowledge-intensive industry patterns and business models. Because small ventures do not possess similar restraints as their multinational competitors do, they can explore more novel strategies in their foreign market growth (Hagen et al., 2019). SMEs' more efficient organizational and communication structures may help SMEs to react changes more quickly. SMEs tend to be more open to accept change and further, implement change because they have flexible structure, flatter hierarchies and less

bureaucratic procedures. They benefit from innovativeness and flexibility more compared to multinational corporations as SMEs “achieve shared mental models more easily and are better able to detect errors and learn from them” (Arbussa et al., 2016, p. 274). Moreover, SMEs are able to maintain close relationship with clients. By contrast, SME managers fear of unknown, age and cultural conservatism, and lack of trust can hinder SMEs ability thrive (Arbussa et al., 2016).

4 Research Methodologies

In this chapter, the methodological choices of the study are introduced. The chapter starts with philosophical layout of the study and moves on to research approach and research methods. Additionally, data collection and data analysis methods are presented. At the end of the chapter, reliability and validity of the study are evaluated and discussed.

4.1 Research philosophy and research approach

Research philosophy acts as a starting point in methodological choices. Defining research philosophy is important for the researcher as it allows finding assumptions on how we view the world. The research strategy and methods are built upon these assumptions. The main philosophies are positivism, realism and interpretivism. In positivism philosophy, only phenomena that can be observed can lead to credible data. Positivism is mainly used in quantitative research. In realism, the phenomena is explained within the context and interpretations of the experiences are based on individuals' background. The third philosophic viewpoint, interpretivism, focuses on subjective meanings and emphasizes understanding differences between humans as social actors. Interpretivist perspective is often used with research in business and management due to complexity and uniqueness of business situations (Saunders et al., 2007). In this study, the context of the phenomena is at the foundation of the research. Furthermore, the research topic is complex and bases on individuals' background. Therefore, the epistemological foundation of this research combines elements of both interpretivism and realism.

Research approaches follow research philosophy by explaining the connection between data and theory. The two main research approaches are deductive and inductive. The former refers to approach where theory and hypothesis are created first and research strategy tests the hypothesis. In inductive approach data is collected first and theory is built upon

the collected data. Abductive approach is a combination of deductive and inductive approaches. While inductive approach takes into account the context in which events take place and allows understand meanings that humans attach to events, abductive approach enables both theory testing and theory generation. This study follows abductive approach by utilizing existing literature on uncertainty and challenges on SMEs in foreign environment as a theoretical basis for this research but allowing also development of new theory based on the empirical data. Therefore, the chosen research approach for this study follows abductive approach. Alternative theories might be suggested after collecting the interview data and analyzing the data (Saunders et al., 2007).

4.2 Methods used in the study

Methodological choices describe how a particular issue or problem can be studied and is more practically linked with research methods and knowledge while closely related to epistemology (Eriksson & Kovalainen, 2008). Methodological choices can be divided broadly to quantitative or qualitative methods or more narrowly to research strategies such as case study ethnography, grounded theory, action research, experiment and survey (Eriksson & Kovalainen, 2008; Saunders et al., 2007).

As the objective is to gain information on SMEs' challenges and agility and to fully understand the influence of the context in which SMEs operate, qualitative data is needed. Qualitative research method was chosen for this study because it allows to identify contextual dimensions, such as differences among countries and cultures (Doz, 2011). To date, not much prior research has been conducted on how SMEs use agility with challenges in foreign business environment, particularly amidst of a global pandemic. Prior literature has often concentrated on large companies within the context of home country and as this study focuses exploring how SMEs deal with challenges in the context of US business environment, this research is exploratory in nature. Exploratory nature is valuable in the research of SMEs

which have not had that much attention yet (Yin, 2003). As a result, qualitative research is the most appropriate approach in studying phenomena with little prior knowledge. Moreover, challenges that SMEs face requires in-depth understanding, and a qualitative research is intended to address this approach. Qualitative research allows the generation of new insights and explore causal connection in real-life situations and furthermore, study knowledge that is based on human experiences (Sandelowski, 2004; Saunders et al., 2007).

A case study research strategy is often chosen to study insights into an issue, a management situation or new theory. The case study strategy enables “doing research that involves an experimental investigation of particular contemporary phenomenon within its real-life context using multiple sources of evidence” (Saunders et al., 2007, p. 139). Furthermore, case study strategy allows gaining deep understanding of the context of the research and processes and further, enables answering ‘why’, ‘what’ and ‘how’ questions. A case study is also described as “a useful method when the area of research is relatively less known” (Welch & Marschan-Piekkari, 2004, p. 109). Consequently, a multiple case study was chosen to this study as it would provide insights on firms’ challenges and volatility of the environment through collection of experiences in the high-tech industry. This study incorporates multiple cases because it allows to examine whether the findings are similar within all the cases or not. Furthermore, multiple case study method provides answers to whether differences occur, what the differences are, as well as why and how these different elements influence the companies. Compared to single case study, multiple case research enhances reliability and validity as it allows comparing findings between case companies.

4.3 Data collection

Selection of the case companies was formulated around the main research question, which was to find out how Finnish SMEs apply agility to deal with challenges in uncertain US business environment. The case companies were selected due to their size following the

definition of SMEs characteristics with less than 250 employees and an annual revenue of less than EUR 50 million (European Commission). The second selection criteria were that the case companies must have operations in the United States. The interviewed companies were found through LinkedIn and Business Finland's network and a preliminary list of potential companies was formulated. Based on preliminary research, eleven companies were identified as potential case companies and were contacted via email. Four of the contacted companies declined to participate in the study and three companies did not respond. Therefore, four Finnish SMEs were selected for this study. This sample size is considered as reasonable by Eisenhardt (1989).

The data was collected through four semi-structured interviews as primary data and from existing sources as secondary data. First, semi-structured data collection method was seen as the most appropriate data collection method for this study because this research requires understanding of motives and personal perceptions of the situations. Moreover, semi-structured interview allows answering both 'what' and 'how' questions and further, enables flexibility for the researcher during the interview. This type of interview outlines topics or themes to guide the conversation (Appendix 2 Interview guide). The interviews were divided into five parts. The first part focused on the interviewee background. The second part concentrated on the company background, the degree of internationalization and company's international experience. The questions in the third section focused on operations in the US market, challenges and changes in the US business environment which continued to the fourth part, how companies had responded to these challenges. The last part considered companies' dynamic capabilities in terms of their sensing, seizing and shifting abilities. The open-ended questions of the interview enabled gathering detailed information about of each particular topic (Eriksson & Kovalainen, 2008) and further, allows more conversational interview. Second, in addition to primary data, secondary data was used in this study. Secondary data refers to existing empirical data which may occur in forms such documents, memos, diaries and video recordings (Eriksson & Kovalainen, 2008). In this study secondary

data on US business environment was used and the data was collected through newspapers and government sources. Secondary data was gathered because it further increases understanding of the uncertainties and challenges of the research context.

The data through interviews was collected through Microsoft Teams within a time span of two weeks between February and March 2021 (Appendix 1). The interviewees are executive level employees of the selected companies and have firsthand knowledge and experience about the companies' business operations in the United States. The interviews were conducted in Finnish as it was the native language of all the interviewees. Each individual interview lasted about 50 minutes. The original goal was to include six to eight case companies. However, the timing of the study in the beginning of the year possibly hindered organizations willingness to participate in the study. All the representatives gave permission to record the interviews which allowed focusing more on the interviews although some notes were taken during the interviews. In qualitative research, validity of the research can be strengthened by recording interviews (Hirsjärvi & Hurme, 2008). The interviewees will remain anonymous in this study due to sensitive information provided during the interviews and the nature of the topic.

4.4 Data analysis

The data analysis process started with transcribing of the interview records and moved over to analyzing the data. This paper adopts Eisenhardt (1989) data analysis process (Figure 4). The qualitative data analysis can be divided into three main components: within case analysis, cross-case analysis and comparison to existing theory. First, the within case analysis includes analyzing each interview by writing a profile or description of the key data. Thus, the data was made manageable by identifying themes and patterns through data reduction and the data was classified and coded into categories. These categories can be derived from predetermined themes and the theoretical framework of the research (Saundes et al., 2007).

The themes were color-coded according to themes studied in this research. The coding started with identifying interviewee and company information, followed by experienced challenges and uncertainties. The third theme included the responses and actions that companies had conducted to answer the challenges. Following themes identified challenges from SME perspective, opportunities generated from the challenges and agility from organization and workforce perspective. The last color-coded theme was based on case companies' dynamic capabilities. The outline of final thematic coding is portrayed in Appendix 4.

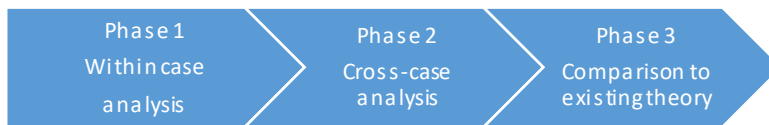


Figure 4. Data analysis process (adapted from Eisenhardt, 1989).

A cross-case thematic analysis was conducted in the second phase of the data analysis process. The cross-case analysis was conducted by comparing individual within-case analyses to each other in order to find differences and similarities between the cases. The data analysis activities in cross-case pattern search refers to finding differences or similar patterns among the cases. Cross-case analysis is beneficial in multiple case study research as it allows comparison between the cases and seeking evidence for causality (Yin, 2003). Moreover, the juxtaposition of similar cases may reveal novel findings. The third phase included comparing findings in prior research and existing literature by seeking similarities and conflicting views toward the theory.

4.5 Credibility of the study

An academic study requires to achieve theoretical trustworthiness to contribute to academic literature and further, remain ethical throughout the process. The quality and

trustworthiness of the study can be evaluated with reliability and validity which refer to the credibility of research findings. Credibility may generate difficulties with qualitative studies as the objective is to understand phenomenon rather than formulate ultimate truths (Eriksson & Kovalainen, 2008). In this research the trustworthiness is achieved by thorough and transparent analysis of the empirical data and discussing limitations of this study at the end of the paper.

4.5.1 Reliability

Reliability refers to replicability of the study and whether another study would yield similar findings. In order to ensure repeatability and consistent findings of this research, the procedures followed in this research are thoroughly documented (Yin, 2003). Including the interview guide (Appendix 2) and recording the interviews enhance the reliability in this study. Challenges associated to reliability include subject or participant errors and bias, and observer errors and bias (Saunders et al., 2007). To avoid participation error, an outline of the topics covered in the interview was sent for the interviewees before the interview. The email stated that the results will be anonymous to avoid the identification of the interviewee and the company which allowed interviewees to answer more openly. The interviews were held at a time that was suitable for the interviewees which reduced interviewee bias to complete the interview under time pressure. However, it should be noted that as the data is based on interviewee's perceptions, opinions and experience, the answers can change in time. Due to physical location of different continents of the interviewee and the interviewer, the interviews occurred via Microsoft Teams which was familiar online tool for all the interviewees. Observer bias and errors are impossible to avoid completely as the analysis of the interviews is based on researcher's subjective view.

4.5.2 Validity

Validity of research refers to measure what was supposed to measure. Validity refers to the ability of the findings of the study reflect the phenomenon referred in theoretical framework and that the findings are supported by evidence (Eriksson & Kovalainen, 2008). Three tests for validity of the research include construct validity, internal validity and external validity. Construct validity refers to researcher's ability to create operationalized set of measures. Internal validity is associated with pattern-matching, logic-models, explanation building and addressing rival explanations (Yin, 2003). External validity the refers to generalizability of the findings and ability to apply findings to another research context or situation (Saunders et al., 2007).

In this study, the empirical evidence was collected from different sources. The validity of this study is enhanced by applying findings on theoretical background of which the empirical research is constructed. Furthermore, the data analysis phase included pattern matching which is a tactic used to enhance the internal validity of the research (Yin, 2003). The generalizability of this study is limited due to small sample size, although it is appropriate for academic research (Eisenhardt, 1989). However, since all the sample companies operate in same industry, some industry-specific generalization can be drawn. Moreover, since the aim was to research SMEs in the context of United States, some country-specific generalization can be deduced. Generalizability of this study is discussed further in section of limitations in chapter 7.8.

4.5.3 Ethical concerns

According to Eriksson and Kovalainen (2008), ethical aspects are essential with qualitative research because the researched phenomena may sometimes be personal and reveal sensitive information about the interviewees. Ethical considerations of the research include that researcher should treat participants of the research and other researchers with respect.

The respect toward other researchers and has ensured through citing and crediting their work appropriately. The participants volunteered to this study and were asked a permission to record the interviews. The objective of the study and the structure of the interview including the themes were explained to the interviewees before the interviews. Moreover, some sensitive company information was discussed during the interviews which are naturally left out from this research. Furthermore, the participants in this study remain anonymous. Each interview was carefully analyzed, and results were objectively generated from the interviews.

5 Findings

This chapter presents the empirical findings of the research. The purpose of this study is to examine how Finnish SMEs apply agility to deal with challenges in uncertain US business environment. First, background information of the case companies is presented from primary and secondary sources. Second, answers around the main research question will be presented focusing on the challenges and uncertainties case companies have faced in the US business environment and how the companies have responded to these challenges using agility. The following section further focuses on challenges especially from SME perspective. The fourth subchapter outlines the attributes that were found important among case companies in responding to the challenges and is followed by findings on dynamic capabilities. Finally, opportunities generated from the uncertainties is presented. The data was collected from four case companies and the interviewees are executive level employees of the case companies. The findings are presented anonymously referring to Company A, B, C and D and respectively Interviewee A, B, C and D.

5.1 Background of case companies

Company A

The annual turnover of Company A is approximately 6 million euros and roughly 70-80% of the revenue is generated from international sales. Company A internationalized to United States in 2015 and in addition to market potential, requirements of their investor influenced the company to enter US market. Furthermore, Company A had also existing big clients in the US.

Company B

Company B employs between 100-150 of which 25-30% are foreign personnel. The revenue of the company is 34 million euros and more than 90% of the revenue is generated from

foreign markets. Thus, Company B is the largest company among the four case companies in terms of employee count and annual revenue. US share of the sales is 'significant'. Company B entered the US market in 2012, because they saw that US market would offer a great market potential. Moreover, many of the firm's end users were located in the US. Interviewee B explained that:

"Of these distant markets, United States is easier market for many Finnish companies to localize in than for example China, Japan or Korea mainly due to its regulatory environment, size, culture, cultural distance" (Interviewee B).

Company C

The revenue of Company C is approximately 3 million euros which makes the company smallest in terms of revenue of the four case companies. One third to half of the revenue comes from foreign markets and one-third is from the US market. The Company C was motivated to enter the country, because they saw market demand in the US market. Furthermore, Interviewee C mentioned that it is easier to internationalize further to other countries from the US than from Finland.

Company D

Company D was established first among the case companies. The company employs currently 20 people, and the share of the foreign personnel is about 10%. Company D is smallest company among the case companies in terms of employee count. The company has divested part of the business and prior to the divestment, the company had been employing 150 people and had a revenue of about 12.4 million euros. The limited domestic market was seen as a main reason for Company D for going international. Interviewee D sees that entering the US market is a necessity for the company since a company in their industry is not considered credible if it is not successful in the US market. Company D started the process

of entering the US market in 2016. Both Company C and Company D have operations in same locations.

Moreover, all the case companies operate in software industry. Table 3 summarizes the details of the case companies.

Table 3. Case company details.

Case Company	Founded	Industry	Locations	Personnel	Revenue
Company A	2011	IT, software, information technology	Finland, United States, United Kingdom	65	EUR 6 million
Company B	2004	IT, software, nanotechnology	Finland, United States, Japan, Taiwan, China, Singapore, Europe	100-150	EUR 34 million
Company C	2010	IT, software, industrial automation	Finland, United States, Germany	30	EUR 3 million
Company D	2002	IT, software, information technology	Finland, United States, Germany	20	EUR 12.4 million

5.2 Challenges in the US business environment

The discussion provided interesting findings on SMEs experiences in US business environment. The interviewees were able to openly share their experiences and while there were differences in the responses, there were several similarities as well.

First, all the interviewees shared experiences regarding the market size. For example, Interviewee A mentioned that the company had different expectations regarding the sales areas within the United States.

“When you hire a salesperson, she/he may have accustomed to sell only in a specific area within the United States when we were talking about the whole country, it’s huge. So you need to think how to divide the country and the sales areas” (Interviewee A).

Companies had similar experiences in US related to the initial entry location. Both Company A and Company D mentioned that their initial entry location was not the most appropriate one. Company A had to relocate from New York to Atlanta due to expense reasons and talent acquisition reasons. Relocation shows signs of flexibility e.g. in terms of flexible business strategy. Interviewee A explained that it is easier to find talent in Atlanta due to its growth and degree of recently graduated students. Company D on the other hand had initially expanded to Chicago, Illinois as it saw customer potential in nearby states. Good connections and tolerable time difference to Finland influenced company’s choice to locate Chicago. However, Interviewee D stated that although it saw the nearby states liberal, the business culture turned out old-fashioned. According to Interviewee D, clients in Illinois were not as open toward new solutions compared to cities on the coast.

Respectively, Interviewee A mentioned that there is a difference between east coast and west coast in terms of people and clients and noted that “they are not from the same mold”. Regarding different locations within the United States, Interviewee B mentioned that different areas should be considered when you establish your own office. While Texas is cheaper than Bay area, the expenses should not be the driver, yet the decision should be driven by the business. Interviewee B further emphasized overall consideration. Similarly, Interviewee C noted that the country is very big which should be kept in mind.

Interviewee B mentioned that the biggest learning has been how far plans have to be made right in the beginning. He highlighted the importance of vision and strategic thinking.

-- so that you don't think opportunistically, hey that looks nice, should we collaborate with them so that it's really thought through, making a proper plan for yourself, what customerships, what markets you're reaching for, how to get in, what you need to buy elsewhere, what you do inside. Then to schedule it, at this point we can take this risk, work only with a channel partner, at this point we can invest more-- (Interviewee B).

Another interesting finding was the importance of relationships in the US business environment. Interviewee D emphasized that due to the lack of legitimacy among clients, they had to build the relationships in order to do business. He further stated that the relationship needs to be built in same physical location. Interviewee B and C had similar thoughts. Interviewee C stated that "the circles are small." Hence, it is easier to proceed with different products on the market if one has familiar, big companies assisting the company. Interviewee B explained that in a business environment similar to theirs, companies often begin their operations via channel partners because it's a safer way to begin approaching new markets.

"Relationships and customer service and such are highlighted in the US, that you're always available and you get recommendations to next clients from that" (Interviewee C).

We partner typically for example with a distributor who might sell these kinds of products and it can take your product to its selection and distribute your product, and they have existing networks, customerships and such so they can distribute your product faster (Interviewee B).

Furthermore, Interviewee C mentioned that the business environment in the United States is really different compared to Finland or most of Europe. He encourages everyone to use locals or Finnish-Americans as much as possible. He explained he had experienced the hard way how things are done in the US and how the environment influences the company. This ultimately reflects to the headquarter and investors. Interviewee C also expressed difficulties in collaborating with big companies. Interviewee C explained that decision-making in

big firms can be really slow and can take up to two years. Furthermore, the decision may not “come automatically” but one has to chase them.

The salary level in the US was seen as a surprise for Company A and the company have had to make adjustments during the years. Interviewee A highlighted that the sales job in US is highly valued and well-paid compared to Finland. The company has made research of the salary level and further, match both the salary and benefits to appropriate level. Interviewee A explained that they get the data from interviewing people and hearing from somewhere else.

For Interviewee A the level of benefits in tech industry in the US was also surprising. She explained that they saw Finnish benefits such as five-week vacation, PTO and maternity and fraternity leave as a competitive advantage from the talent acquisition angle, yet these benefits are used among other companies in tech/IT industry as well. In addition, one of the major challenges for the company is how to train the US employees due to time difference and physical distance to Finland. Moreover, establishing a proper team in United States was seen as a challenge. Company A sees that a team from Helsinki should establish operations in the US and the local people could then learn from this team. The company used this new strategy in their new location which reflects learning from past experiences.. In addition, Interviewee A mentioned that the competition in the United States is tough yet there are more opportunities as well.

Covid 19-pandemic

The novel coronavirus, COVID-19, emerged in Wuhan, China in December 2019 and has since spread to nearly every country. Coronavirus was declared as a global pandemic by The World Health Organization on March 11, 2020 (Taylor, 2021; International Trade Centre, 2020). Travel was restricted from China to US at the end of January 2020 and from Europe to U.S. in March 2020 (Taylor, 2021; Restuccia et al., 2020). Initially the travel restrictions

from Europe to U.S were placed for 30 days (Restuccia et al., 2020). The travel restrictions are still in effect to date as President Biden continued the suspension of entry from South Africa, the Schengen Area, the Republic of Ireland, Brazil, and the United Kingdom in his presidential proclamations in January 2021 (Travel.State.Gov., 2021).

IMF stated on March 2020 that “the world is now in recession”. Covid pandemic has dramatically changed people’s interaction and behavior in society. Consequently, also businesses have been affected by the pandemic. The phenomenon has reached around the world due to lockdowns. The United Nations Conference on Trade and Development (UNCTAD) estimated a decrease of 5 to 15% on Foreign Direct Investment (FDI). The pandemic has affected firms’ supply chains worldwide and especially SMEs have been influenced hardest (Thukral, 2021; International Trade Centre, 2020). SMEs are especially vulnerable during economic crises due to the lack of resources. Dorothy Tembo, Executive Director of International Trade Centre stated: *“With fewer resources to ride out the storm, MSMEs have been particularly vulnerable to the repercussions of the crisis”* (International Trade Centre, 2020).

Beyond common immediate tasks conducted by SMEs in response to the pandemic, the responses have diverged. SME responses have included employee lay-offs, drawing down assets and retreating strategies. Moreover, temporary responses such as resilience, scaling down and adjusting the business have been utilized by SMEs. Strategies toward perseverance and agility have included actions from sourcing reallocation to shifting sales online channels and telework. Agile firms have adapted to the new situations (International Trade Centre, 2020).

All respondents mentioned that they were impacted by the pandemic to some extent. The main impacts resulted from covid-19 pandemic were related to travel restrictions and the issues occurred from the inability to send people from Finland to US and vice versa.

Interviewee A mentioned that the employees the company hires for their US unit are usually sent over to Finland for two weeks. However, due to covid pandemic it has not been possible. Hence, they have had to figure out new ways to operate and the company has held “online sessions” which is associated with responsiveness to market and business environment changes. Moreover, the company does not have a physical location currently in the US due to the pandemic which indicates workplace flexibility.

Interviewee B in turn felt that US market felt stable until the covid pandemic and as a result, the company understood the importance of local units and the vulnerability of supply chains.

Let's say it felt quite stable until corona appeared which was a fierce system shock for all of us and what it caused to us was that we understood how extremely important strong local companies are because suddenly we were in a situation where we need to support clients but are not able to transfer workforce from Finland to support them – suddenly in one month's notice the local organization should be able to do everything 100% because it is not possible to fly from Finland to United States and now we have been in this situation almost for 12 months. So that really made us think how vulnerable those supply chains are that we have built. (Interviewee B).

Consequently, Company B has had to reorganize daily operations corona-safely. The company has utilized modern technology in remote work and developed solutions to replace in person attendance. These findings indicate efforts for improvement and learning which in turn reflects culture of change. Furthermore, since Company B was not able to send people from Finland to United States, the company responded to these restrictions by hiring new local employees and training existing employees. Consequently, this action refers to responsiveness to changes in the business environment. Interviewee B stated that it was a great opportunity to strengthen their local operations.

“It kind of confirmed that strong local offices are very important part of an international company’s operations meaning that you can’t operate centralized or that all of your resources are in one same place” (Interviewee B).

With regards to sales times, both respondents C and D had similar experiences. Interviewee C explained that when covid-19 pandemic appeared the first time, it did not influence Company C at all. However, the company has recently noticed that “things” are hard to get proceeded because people are not in the office. He continued that their sales are capital investments where the cycle is slow even in a normal situation and now the covid pandemic is slowing it down even more. Furthermore, Interviewee C mentioned that sales times have prolonged due to covid pandemic and new customer acquisition is harder because no trade shows are arranged. Thus, the company has used more novel ways to gain clients such as specific, unique campaigns for different industry verticals. Moreover, Interviewee C explained that they have experimented different models and used panels and blogs, yet the results have been weak. These findings show that the company environment supports experimentation, learning and innovation. Moreover, the company is planning to conduct discussion forums in near future.

Interviewee D stated that due to covid-19 they have experienced their US business development slower and weaker than planned. However, the company employees have proved flexible despite the changes which shows workforce flexibility.

“--our organization has been quite capable to confront these changes so that there’s always a way, and people have proved surprisingly flexible” (Interviewee D).

Nevertheless, the company has been transferring their short- and medium-term focus on Germany where the company has local employees and easier to operate at the moment. However, Interviewee D noted that despite focusing more on Germany, US is still “under

their radar.” Moreover, Interviewee D felt that building relationships became harder due to covid pandemic.

“--building relationship takes time and it just does not work with Zoom” (Interviewee D).

Political uncertainty

Donald Trump was elected as the 45th President of The United States in 2017 and thus surprised both the American electorate and the international community. At early stage the focus was on Trump Administration and its foreign policy priorities as the Trump Administration emphasized American nationalistic interests and “America first” – policy. In the first weeks in the White House, President Trump pledged to renegotiate NAFTA (North American Free Trade Agreement), withdrew from the Trans-Pacific Partnership and called NATO obsolete (Paterson, 2018).

One of the goals of Trump Administration was also to decrease reliance of foreign resources and reinvigorate the manufacturing sector (Boylan et al., 2020). The US has started to bring manufacturing from China back to the United States as a response of the political measures. This is a result of the trade war between US and China and the tariffs set by Trump administration (Darsman, 2020). Moreover, near-term market uncertainty caused by covid-19 pandemic and geopolitical instability has disrupted supply chains worldwide (Semiconductor Industry Association, 2020). The disruptions caused by covid-19 have further facilitated the shift in manufacturing.

One of the perceived uncertainties for Company B also were the trade war between United States and China and political tensions in the US. According to Interviewee B, the trade war culminated during Trump’s administration which emphasized the protections of US interests. Interviewee B saw that the escalation of trade war was not surprising and saw that the trade war was a logical consequence. He explained that the trade war combined to covid-19

pandemic has influenced on companies' subcontracting chains and supply chains. Consequently, the manufacturing of critical components is being shifted from China back to United States and US has started to refinance the semiconductor industry. There has been delays in launches of consumer electronics which in turn has increased the need to pull critical operations back to home country to gain more control. Hence, Company B has invested significantly more in environment.

They (United States) noted that due to trade political reasons that Trump once stressed, the dependence from China can be a risk. But above all when added by these significant supply line shocks, suddenly all the transferability between countries closes so we are moving from distributed networks, into centralizing critical network back to the own country. So we're kind of deglobalizing actually. (Interviewee B).

Economic nationalism / protectionism

Economically, President Trump's protectionist policies and 'America first' view sought to maintain U.S. economic power (Paterson, 2018). Trump administration justified protectionist trade policies with national security concerns and after a year of threats, President Trump alongside with advisors with track record of trade protectionism began setting tariffs and other trade barriers for China which ultimately resulted in 'trade war' in 2018 (Steinbock, 2018). With regards to US trade measures, China condemned United States for protectionism and set counter tariffs for US. To date, the economic conflict is still ongoing.

Moreover, shortly after taking office, Trump ordered 17 executive orders of which seven were immigration related. His "Buy American and Hire American" executive order revised temporary work visa classifications and the admitted visas were "awarded to the most-skilled of highest-paid petition beneficiaries." Trump's immigration policies have been disadvantageous for almost every category of non-immigrants and immigrants from many

countries and the scope of these restrictions will have an impact for several years beyond his presidency (Waslin, 2020).

Respectively, Company D had experienced challenges due to political changes. The company had chosen a person who would move to US and start building company's business in the United States. However, due to stricter immigration regulations under Trump administration, the visa application was denied. Thus, they continued with a "travelling salesman plan" which refers to conducting the sales activities by traveling onsite from Finland. This approach was seen as a cheaper yet slower alternative than recruiting a local person. Interviewee D mentioned that an option would have been to hire a local person, but the company saw that it was too expensive in terms of risks because the person would then oversee the business. Furthermore, this would have meant giving this person the decision-making power. Instead, they reversed back to "travelling salesman plan." This approach indicates that the company has flexible business strategy and furthermore, the company has been able to adjust of business strategies to the changes in the business environment.

5.3 Challenges from SME perspective

Three of the four interviewees had all faced challenges due to high expenses in the US. Interviewee A explained that they had an office in New York, but they relocated to Atlanta due to high expenses in Manhattan. Moreover, talent acquisition in New York was seen expensive. She mentioned that hiring in United States is notably more expensive compared to Finland. Interviewee D had similar experience and stated that hiring a single employee in United States is surprisingly expensive. Furthermore, Interviewee C emphasized high costs.

"-- it requires a lot of money especially if you want visibility and events and such, you may need more than you first realized" (Interviewee C).

Interviewee A mentioned that gaining top talent is difficult due to smallness, foreignness and lack of legitimacy. Furthermore, the company sees it is not able to compete with salaries. In addition, the lack of visibility is seen as an issue both from the talent acquisition angle and client point of view. Thus, Company A has used local head-hunting agencies that have assisted with recruiting people.

The smallness, foreignness and lack of legitimacy are also seen as a challenge from Interviewee D's point of view. Interviewee D sees that companies are not willing to buy from 'unknown' company.

With regards to covid-19 pandemic, Interviewee C emphasized that new customer acquisition is hard especially from SME perspective because covid-19 has caused the cancellation of trade shows that have been an important avenue for meeting both existing and prospective clients and gaining visibility. In addition, it is easier for multinational companies to maintain important relations as those have been maintained for years. SMEs are dependent from new customers and new customers are a major part of the revenue. Although the company has been able to acquire new customers to some extent, it is only a fraction of what it would be under normal situation.

5.4 Agility

Interviewees were asked which attributes have been essential in responding to the challenges that they have experienced both from organization and workforce viewpoint. Flexibility was found both from organization and workforce viewpoint. Table 4 summarizes the findings on agility. Interviewee A highlighted flexibility and ability to cope with change.

“Flexibility for sure and ability to cope with continuous change – when I think my time in Atlanta, things didn’t go as planned, a lot of setbacks occurred, and you just had to cope and have strength to push forward” (Interviewee A).

“--ability to make decision quickly but doing them based on data – ability to analyze data and numbers. And of course international perspective and experience. And also understanding the industry as a whole” (Interviewee A).

Similarly, Interviewee C emphasized adaptability and speed when going through a change.

-- adapting according to situation, and agile movements are emphasized amid this type of change. You just have to adjust your activities really quickly and try to forecast on a check board few steps forward, what we think might come next when this happened, that nobody was prepared for or knew what was going to happen – and ability to cope with stress in general -- (Interviewee C).

Interviewee D on the other hand saw honesty and clarity as essential characteristics for organizations in responding to changes and that people have been surprisingly flexible. Interviewee B in turn saw the ability to “think outside the box”, openness and flexibility as important characteristics.

“—ability to think outside the box and openness. In my opinion that has distinguished winners and losers— it has required flexibility from the people and the organization, a lot more flexibility than before” (Interviewee B).

Table 4. Summary of findings on agility.

Organizational Agility	Workforce Agility
<ul style="list-style-type: none"> • Flexibility • “Think outside the box” • Agile movements • Ability to adjust quickly (speed) • Forecasting • Honesty • Clarity 	<ul style="list-style-type: none"> • Flexibility • Ability to cope with change • Ability to adapt • Ability to cope with stress • Openness • Ability to analyze data and numbers • International experience • Understanding the industry • Knowledge of competitors • Quick decision-making skills based on data

5.5 Opportunities generated from uncertainties

5.5.1 Covid pandemic

According to the Interviewee B, the covid pandemic has boosted the sales of consumer electronics which has affected Company B positively. Interviewee B added that the year 2020 was seen profitable both for the industry and the company. Covid pandemic further generated positive impacts for the company, such as more flexibility to work. This is result from remote work becoming socially acceptable and Interviewee B believes that the positive impact will remain after the coronavirus. Interviewee D had similar thoughts and felt that due to covid, remote sales is easier and more normal due to the lack of other alternatives.

“--Sales and doing business remotely have become easier and normal--” (Interviewee D).

Furthermore, Company C sees that covid-19 has generated opportunities relating to the company’s ability to produce automatic solutions. The need and increased priority for automatic solutions and modern solutions is on the rise in the US due to covid pandemic which is beneficial for the company. Furthermore, Company C sees that companies’ ongoing

general trend to renew their modes of operation is an asset for Company C as it operates in clean tech industry.

Due to covid pandemic, Interviewee A personally felt more closer to people as videos were turned on during online calls and further, more “online coffees” and team building sessions were organized.

5.5.2 Trade war / political tensions

Although trade war between China and United States had impacted negatively to Company B, it had generated positive opportunities for the company as well. As companies have doubled the capacity to increase risks due to the trade war, Company B sees this as an “extra opportunity” for them. Furthermore, they saw that Europe acts as a neutral party between United States and China which has strengthened Europe’s position in general which in turn has been a positive factor for Company B. Furthermore, the United States has started to refinance semiconductor industry back to US, and thus has generated an active business environment for Company B.

5.6 Dynamic capabilities

First, the interviewees were asked to what extent the company senses the business environment. Company B sees that long-term planning, good vision and clear strategy formulate the basis of sensing and they are trying to create the trend themselves.

“--rather than following the trend, trying to create the trend yourself” (Interviewee B).

Contrary to the findings of Company B, Company C and D felt that sensing is based more on client needs and market changes. Interviewee A explained sensing activities are driven by the top-level executives which is then implemented to the whole organization.

In terms of future scenarios, Company C stated that they “try to think forward with small resources”. Both Company D and Company B explained they try forecast future scenarios through sensing.

With regards to news and regulations, Company C follows information actively as regulatory environment is important for their business whereas Company D gains information from different information sources, instincts and via public information, but it is not systematic. Interviewee A explained that she follows news regarding their industry and gains information regarding products via customers.

Second, interviewees were asked about company’s seizing abilities including extra resources “slack”, required knowhow, organizational structure and innovativeness in terms of developing and reassessing existing products. Company A and Company D said they do not have extra resources and they respond to sudden changes with reprioritizing and allocating existing resources. On the contrary, Interviewee B stated that it is important to have extra resources that can be directed as needed. Company C in turn has always had a strong cash and strong investors and hence, have extra resources to some extent.

All the interviewed companies believed that generally, they have the required knowledge to answer sudden changes, but some acknowledged that they have room to improve in preparedness in major and sudden changes such as a pandemic or emergence of a big, unexpected competitor.

With regards to product assessment and renewal, Company C stated the ideas come from clients and added that he compares competitors to some extent. Interviewee C explained that he gives constantly ideas to production regarding improvements of the products. Similarly, Company D said that they have one product which gains all the attention. Hence, the

product is under continuous development. Company A receives information regarding product improvements from clients and clients' feedback assists with product development.

Third, the interviewees were asked about the companies' shifting abilities which refer to renewing of processes. Company B stated they have thought it through, spend a lot of time on it and see process renewal as an important source of innovation. Company C stated that they don't renew processes enough yet emphasized that instead of renewing processes, strategies should be renewed. Company D thought similarly and stated they try to avoid process renewing expect those that involve money such as product development and marketing. However, safety processes are being renewed in Company D. Process renewal is frequent in Company A and according to the respondent, the company renews their processes constantly.

"Well quite often, really often, all the time. New changes come constantly and we're thinking how some things could be done more efficiently, what works, what does not, okay this is not working, how can we change it. So I would say all the time" (Interviewee A).

Table 5 summarizes the findings on dynamic capabilities.

Table 5. Summary of dynamic capabilities of the case companies.

Dynamic Capabilities	Companies			
	Company A	Company B	Company C	Company D
<i>Sensing</i>				
Sensing the environment	Information from clients, driven from the top-level executives and implemented to the whole organization	Based on good strategy and vision, try to create the trend themselves	Based on client needs, trigger comes from the market	Based on changes in the business/technological environment
Future scenarios	Driven from the top-level	Based on strategic planning process,	Tries to think forward but	Forecasts future scenarios through sensing

	executives and implemented to the whole organization	scanning business environment, forecasting market	resources are limited	
News and regulation	Follows news regarding the industry, shares findings with CEO, gain information from clients	-	Follows actively, important for their business	Not systematic. Via public information, different information sources, instinct
Seizing				
Extra resources	No extra resources, allocate existing	Have extra resources, is important to have	Have to some extent	No extra resources, allocate existing
Required know-how for sudden changes	Quite good	Quite good but could improve	Quite good	Yes
Organizational structure	Low, not complex	Could improve	Low enough to answer needs	Quite low
Product assessment and renewal	Information from clients	-	Ideas from clients, compares competitors to some extent, gives improvement ideas continuously	Have one product which takes all the focus, under continuous development
Transforming				
Process renewal	Frequent, company renews processes constantly	Spend time over and sees it as an important source of innovation	Don't renew enough, strategies should be renewed instead of processes	Avoid process renewal expect product development and marketing

6 Discussion and Analysis

This chapter focuses on discussing findings in more detail and comparing empiric findings to the previous research. Moreover, the theoretical framework is reflected to findings of this study. The first part discusses the challenges SMEs have faced in the US business environment and responses in the light of agility which is followed by an in-depth analysis of attributes of agility and agility through dynamic capabilities view. Lastly, challenges from SME perspective are analyzed.

6.1 Challenges and responses

The main challenges companies had faced in terms of environmental uncertainty were covid pandemic and political tensions combined to trade war. First, challenges related to covid pandemic are discussed. Furthermore, how companies used agility is analyzed.

6.1.1 Covid pandemic

As expected, this study found that the covid pandemic has impacted all of the case companies operating in the US. A research conducted by International Trade Centre (2020) revealed that two-thirds of studied SMEs reported being strongly impacted on their business operations by the covid pandemic compared to large companies of which 40% were strongly impacted. The phenomenon among case companies was perceived as sudden which is aligned with work of Duncan (1972) who suggests that perceived environmental uncertainty is influenced by dynamism of changes. Issues that case companies reported were mostly related to travel restrictions. Other challenges were prolonged sales times, weakened business development, challenges in new customer acquisition due to lack of trade shows and difficulties in relationship building (Figure 5).

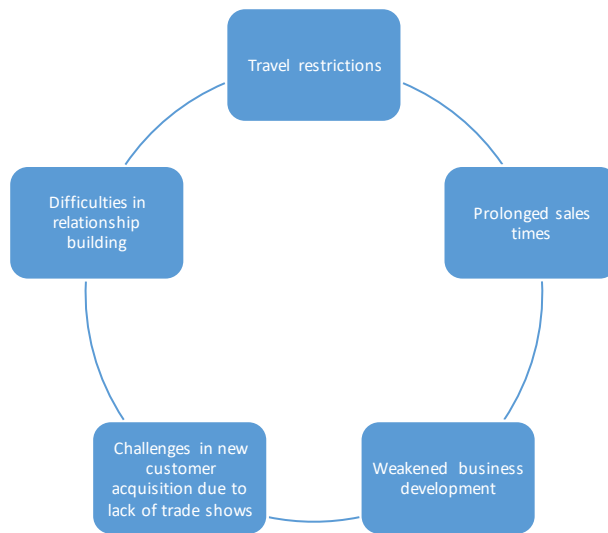


Figure 5. Challenges companies have faced with regards to covid pandemic.

6.1.2 Agility in responses to covid pandemic

SMEs responses to challenges generated from covid pandemic showed that all the companies have been flexible and companies had figured out new ways to operate. It can be concluded that the companies were responsive to market and business environment changes and were rather rapid in their responses to covid pandemic. The interviewed companies had responded to restrictions generated by covid pandemic by utilizing more remote and online solutions, blogs, panel discussions, modern technology and shifting to remote work. This study supports findings of previous studies, which have outlined that SMEs are capable to deal with crisis with limited resources using creativity and innovation (e.g. Eggers, 2020; Hong et al., 2012; Nemkova, 2017; Thukral, 2021). Moreover, case companies' ability to implement change may be due their flexible structure, flat hierarchy and lower level of bureaucratic procedures (Arbussa et al., 2016). In addition, shifting to remote work implies culture of change and workplace flexibility (Sherehiy et al., 2007).

Interestingly, more employees were hired and trained by Company B in response to travel restrictions occurred from covid pandemic. Compared to other companies, this approach

may have been possible because the company stated that it possesses extra resources to respond to sudden changes.

One of the case companies stated that they are transferring their short- and medium-term focus to some extent to another country. This finding contributes to previous research and secondary data (Hong et al., 2012; International Trade Centre, 2020) stating that SMEs may use retreating strategy and target market switch as a response to the crisis.

6.1.3 Political tensions and trade war

This study found that political tensions were experienced as a source uncertainty, supporting the work of Miller (1992) and Hilmersson et al. (2015). Both primary data and secondary data of this study revealed that the trade war combined to covid-19 pandemic has influenced on companies' supply chains. Companies are pulling critical operations back to home country to gain more control and protect their critical supply chains. Due to the trade war between USA and China, more investment was made in environment to gain more control. Hence, it seems that control response was used as a strategy with this stance and thus, agility as such was not applied in responses to political uncertainty. A conclusion supporting the finding of control response was reached by Miller (1992) in his framework of managerial uncertainty.

6.1.4 Restrictions on US entry

Both the primary data and secondary data of this study revealed that Trump administration posed strict immigration policies which resulted in a denied visa application. The outcome was surprising and hence, the finding is in line with Miller's (1992) concept of political uncertainty which reflects the unpredictability of the political system. Furthermore, the finding relates to protectionism under Trump administration's immigration policies. The response

to continue with 'traveling salesman plan' shows signs of flexibility with regards to flexible business strategy (Sherehiy et al., 2007).

The competition was also seen tougher in the United States which agrees to Miller's (1992) framework identifying rivalry among existing firms in the industry as competition uncertainty. The interview data did not reveal further actions toward this finding.

6.2 Attributes of agility

In the following, case companies' attributes of agility are analyzed in more detail. The analysis is based on attributes of agility presented in Table 1 in chapter 3.2. Table 6 summarizes the findings on agility. It should be noted that the table shows the findings from the interview data and the actions that were mentioned and taken by the companies, however these might not represent an exhaustive list of attributes of agility that appear in each company. The matrix identifying the attributes of agility from the empiric data is presented in Appendix 4.

Flexibility

In line with expectations, flexibility was found to be highly relevant attribute for the case companies in responding uncertainties, mainly to covid pandemic. The findings showed that companies need flexible workplace flexibility and business strategies to confront SME liabilities and uncertainty occurred from the pandemic. These findings are line with findings in Table 4, where companies reported that flexibility has been important attribute in responding challenges. In terms of workforce, flexibility and ambiguity tolerance (ability to cope with stress and change) were found to be important. The finding regarding workforce agility is line with Sherehiy et al. (2007) and Nemkova (2017).

Table 6. Case companies' attributes of agility.

Attributes of Agility	Company A	Company B	Company C	Company D
<i>Flexibility</i>				
Workplace flexibility	- "online sessions" - Relocation - No physical office in US	"utilized modern technology in remote work"		Remote sales
Flexible business strategies	- Relocation - No physical office in US	"has required flexibility from the people and the organization, a lot more flexibility than before"	Specific campaigns for different industry verticals	"Traveling salesman plan" <i>"our organization has been rather capable to confront these changes so that there's always a way"</i>
Workforce flexibility	"Flexibility for sure and ability to cope with continuous change"	"has required flexibility from the people"	Ability to cope with stress	"people have turned out surprisingly flexible"
<i>Responsiveness</i>				
Responsiveness to market and business environment changes and trends	Have to figure out new ways to operate – online sessions	- Hired and trained new people -More investment in the environment	Specific campaigns for different industry verticals	
Adjustability of business objectives to the changes				"Traveling salesman plan"
<i>Culture of change</i>				
Environment supporting experimentation, learning and innovation		Experimenting "crazy stuff"	Specific campaigns for different industry verticals	

			Blogs, panel discussions "we have tried different approaches"	
Continuous improvement, learning	Learned from previous strategy and applied new strategy when establishing team to Atlanta	"you learn to utilize modern technology to operate remotely"	"we have tried different approaches"	
Speed	"ability to make decision quickly but doing them based on data"	"because suddenly we were in a situation where we need to support clients"	"You just have to adjust your activities really quickly"	
Integration and low complexity	Low, not complex	Could improve	Low enough to answer needs	Quite low
High quality and customized products	Information from clients	-	Ideas from clients, compares competitors to some extent, gives improvement ideas continuously	Have one product which takes all the focus, under continuous development
Short development cycle	Product under constant renew		Gives continuous feedback for product improvements	Product under constant renew
Creativity		"experiment all these kinds of "crazy" ideas"	"Finding new customers has required more creativity"	

Responsiveness

Regarding responsiveness, this study found features of both responsiveness to market and business environment changes and trends, and adjustability of business objectives to the changes. Companies' actions regarding new ways to operate and utilizing 'online sessions'

show responsiveness to market and business environment changes. In addition, investments in the environment due to trade war and covid pandemic refer to responsiveness to market change and business environment issues. Moreover, the findings showed signs of responsiveness to business environment issues when hiring and training new people. Furthermore, 'traveling salesman plan' can be seen associated with adjustability of business objectives to the changes.

Culture of change

Culture of change comprises of concepts such as supportive environment toward experimentation, learning and innovation, and continuous improvements and learning (Sherehiy et al., 2007). The findings revealed signs regarding experimentation e.g. allowing to test "crazy stuff" and trying different operation models. Moreover, these are in line with the reported finding of attributes of agility regarding "think outside the box" (see Table 4) and "pushing" and "reaching out" to new areas outside of firms immediacy (Nemkova, 2017).

"—when we are not talking about thousands of hundreds of thousands of people, it is easier to pilot and experiment all these kinds of "crazy" ideas. And see if they work and how it work" (Interviewee B).

"-- we have tried different approaches"" (interviewee C).

Moreover, learning from organizational viewpoint can be found from the answers e.g. utilizing new strategy after relocation. Findings also show that the case companies learn and deploy modern technology that enable operating remotely.

Speed

Assumingly, all the companies had to respond e.g. challenges from covid pandemic quite rapidly. Interviewee C that stated it has been essential to respond changes quickly by stating

“you just have to adjust your activities really quickly.” Moreover, “agile movements” (see Table 4) can be associated with speed and thus, these are in line. Speed was also found as an important attribute regarding agility in prior research (Breu et al., 2001). The lack on mores specific answers on speed may be due to the fact that the companies were not directly asked about the speed and therefore, might have not come up during the interviews.

Integration and low complexity and high quality and customized products

With regards to organizational structure, all the companies reported rather low organizational structure (see Table 5 Summary of dynamic capabilities of the case companies) and hence, it can be concluded that the attribute of integration and low complexity apply to all case companies. Interviewee D stated that due to the size of their organizational structure, hierarchy is low. This might be applicable toward other companies as the selection criteria was to research SME companies which employ less than 250 people and have annual revenue less than EUR 50 million (European Commission). In terms of product development cycle, both Company C and Company D reported that the company’s product is under continuous development.

Creativity

Some companies responded to the covid pandemic by applying creativity. These findings are in accordance with Thukral (2021) and Nemkova (2017). Similarly, Ratten (2020, p. 509) highlighted creativity in responding crisis by stating “Creativity is important for dealing with the covid-19 crisis as it can offer a way of providing a competitive advantage in the global marketplace.”

To summarize, this study strongly supports the findings of previous studies, which outline the attributes of agile organizations. First, this study showed that flexibility was seen as primary attribute of agile organization (e.g. Sherehiy et al., 2007). Furthermore, the study demonstrated that attributes such ability to adapt, speed, forecasting and ability to “think

outside the box” were recognized important characteristics of organizational agility which apply to previous literature (e.g. Sherehiy et al., 2007).

Dimensions of agility

Based on the empiric findings, all the case companies had recognized, responded and further, adjusted to changes in the environment. Hence, it can be concluded that companies have been proactive. Company B stated it aims to build trends which implies the company utilizes innovative agility. In prior studies, proactive agility is associated with identifying new markets trends and adjusting to trends. Innovative agility refers to developing new products and markets (Najrani, 2016; Sherehiy et al., 2007).

6.3 Agility through dynamic capabilities

This study demonstrated that overall, the case companies possess dynamic capabilities (see Table 5 in section 5.6) and it seems that seizing activities, including organizational structure and having extra resources contributed to agility in companies’ responses. Most companies reported their organizational structure and hierarchy level quite low which in turn is most likely contributed to agility e.g. enabling an environment that has been supportive of experimentation and further, allowed speed in responses. This finding support previous studies (e.g. Arbussa et al, 2016) that state that SMEs are open to change and implement changes more easily due to flatter organization structure and less bureaucratic processes.

However, some differences can be seen in companies’ dynamic capabilities. Preserving agility through seizing include activities such as building “slack”. Thus, companies differed in possessing extra resources which may in turn explain responses to sudden changes, such as Company B’s strategy to hire more people in response to restrictions resulted from covid pandemic. Nevertheless, it should be noted that differences in having extra resources may be related to company size. Another difference in dynamic capabilities between the

companies can be seen in transforming activities. Company A reported frequent renewal of processes and Company B sees process renewal an important source of innovation. On contrast, Company C and D see that processes should not be renewed. Thus, these findings reveal mixed results in achieving agility through transforming. It remains unclear what explains these differences between the results. Nevertheless, as dynamic capabilities need to be closely connected to strategy (Teece et al., 2016), the assessment or interpretation of dynamic capabilities in more detail is not fruitful because case companies' strategies and dynamic capabilities as such were not researched in this study.

6.4 Challenges from SME perspective

According to literature, SMEs are subject to liability of smallness, foreignness, newness and outsidership especially when operating in foreign environments (Sethi & Guisinger, 2002). Respectively, this chapter categorizes and discusses findings gathered from the empirical data under each liability.

6.4.1 Liability of smallness

Three out of four interviewees stated that they had suffered from liability of smallness. Respondents highlighted challenges related to smallness and newness both from customer acquisition and recruitment point of view. First, this finding is in line with Eggers (2020) who stated smallness often coincides with newness. Second, liability of smallness was evident among the case companies in terms of financial constraints, yet in general, lack of capabilities was not seen as a constraint. Thus, this finding support partially prior literature (e.g. Knight & Cavusgil, 2004; Zhou et al., 2007) that link SME constraints to resources and capabilities. With regards to agility, Company A's response to relocate due to high expenses demonstrate flexibility (Sherehiy et al., 2007).

6.4.2 Liability of newness

The study found that companies have had difficulties in sales and gaining top talent due to lack of legitimacy. This relates to liability of newness that arises from firm's external processes that include relationships with customers, suppliers and different stakeholders (Kale & Ardit, 1998). These findings support previous research (e.g. Choi & Shepherd, 2005) in terms of lack of perceived reliability. Companies had responded to liability of newness and smallness by building relationships in order to compete efficiently. Respectively, this supports findings in prior literature (e.g. Kale & Ardit, 1998; Lu & Beamish, 2001) stating that young and small firms need to build relationships to appear valid. Relationship aspect is discussed in more detail under chapter 6.4.4. Liability of outsidership.

6.4.3 Liability of foreignness

This study largely supports findings of prior studies, which have outlined that SMEs in foreign markets are subject liability of foreignness (e.g. Zaheer, 1995). Liability of foreignness is associated with costs and difficulties which foreign companies face when entering foreign markets. Hence, local companies are not subject to this liability. The difficulties that foreign companies face are related to lack of information, discrimination by the government and foreign exchange risk (Hennart et al., 2002). The case companies in this study were subject to lack of knowledge with regards to salary level in the US, benefits in tech industry, distribution of sales areas and initial entry location within the United States. Moreover, establishing a team and training local employees were seen as challenging due to time difference and physical distance which supports findings in Zaheer (1995) that companies face challenges of foreignness with regard to distance to home country, including travel and transportation costs and costs resulting from different time zones. Contrary to the findings of Hennart et al. (2002), this study did not find that case companies had encountered issues related to foreign exchange risk or discrimination by the government.

In the case of salary level, market research was made which supports findings in Liesch et al. (2011). In addition to previous studies (e.g. Hennart et al., 2002; Zaheer, 1995), these findings support work of Lu and Beamish (2001) stating that firms need to acquire new capabilities and knowledge of the new market.

6.4.4 Liability of outsidership

Vahlne et al. (2012) identified that liability of outsidership often coincides with liability of foreignness. Liability of outsidership refers to uncertainty that arises from being an outsider in the business environment in terms of networks. New business networks are important especially for SMEs with niche products, because they obtain local market knowledge (Schweizer, 2013). The results of this study demonstrate that use of locals is recommended as they are more knowledgeable of the US market. Moreover, the importance of relationships and physical presence were emphasized which supports findings in Liesch et al. (2011) and Kalafsky (2009). The use of channel partners, head-hunting agencies and collaborating with big firms refer to choosing foreign partners to exploit local networks (Galkina & Chetty, 2015). Getting closer to clients and accessing new networks is important and can be done by using company's internal resources or establishing meaningful relationships with stakeholders (Liesch et al., 2011; Magnani & Zucchella, 2019). In foreign markets, networking is useful to gain access to market information, resources and opportunities. These factors contribute to firm growth and performance. Since US business environment was perceived quite different compared to Finnish business environment, networks and relationships help to cope with overall uncertainty arising from foreignness (Liesch et al., 2011) These findings further support the work of Miller (1992) on organizational responses to uncertainty through collaboration. However, although collaboration was seen beneficial, it has generated difficulties such as slow-moving decision-making of the big companies and required follow ups.

6.4.5 Summary of findings on liabilities

Table 7 summarizes the findings of this section based on challenges companies have faced with regards to liability of foreignness, smallness, newness and outsidership. The table shows that a challenge can be due to several liabilities.

Table 7. Findings on liabilities.

Challenge	Liability of smallness	Liability of newness	Liability of foreignness	Liability of outsidership
Cost level	✓ Financial constraints			
Relationships				✓
Sales area			✓ Lack of knowledge	
Benefits in tech industry			✓ Lack of knowledge	
Salary level			✓ Lack of knowledge	
Difficulties in sales	✓	✓	✓	
Difficulties in gaining top talent	✓	✓	✓	
New customer acquisition	✓	✓	✓	

6.5 Opportunities

When companies operate in turbulent or uncertain environment, disruptions may generate opportunities (Nemkova, 2017). The empiric findings of this study demonstrated that uncertainties created also opportunities for all case companies. Covid pandemic increased the sales of consumer electronics which in turn was seen profitable for Company B. This

supports findings in previous studies (Eggers & Kraus, 2012) that customer behavior influences new ventures during hard economic uncertainty. However, customer behavior is industry specific, and the impact may have been different in other industries. Furthermore, although trade war, political tensions and covid-19 pandemic has affected negatively to Company B, they have experienced positive outcomes: “--when things are built again, it is always an opportunity for you to go in that business.” Moreover, the study found that the shift to remote work was seen also beneficial.

Respectively, both Company C and Company D saw opportunities due to covid as remote sales has become easier and more normal due to the lack of other alternatives. Furthermore, covid pandemic has generated opportunities for Company C relating to the company's ability to produce automatic solutions. In addition, Interviewee A had experienced that due to the pandemic she felt closer to people because more remote gatherings and teambuilding meetings were arranged.

7 Conclusions

In previous chapters, the findings have been presented and analyzed. This chapter summarizes the study and concludes the most relevant findings. The limitations of this study are evaluated and suggestions for future research are presented.

7.1 Summary of the study

The aim of this study was to find out how Finnish SMEs apply agility to deal with challenges in uncertain US business environment. Theoretical framework in the study focused on uncertainties and agility, and literature on SME liabilities was also explored. This research was conducted through multiple case study in which the participants and companies remained anonymous due to sensitive nature of the topic. The empiric findings are based secondary data on primary from four Finnish case companies that have operations in the US. Semi-structured interviews with executive level representatives were conducted for data collection. The qualitative data was analyzed using thematic data analysis. The objectives of the study were to find answers to the following sub-questions:

1. *What uncertainties and challenges SMEs face in foreign markets?*
2. *How is agility achieved in SMEs?*
3. *Which are the critical sources of uncertainty in US markets perceived by Finnish SMEs in high-tech sector and which are the ways they cope with the perceived uncertainty and challenges?*

7.2 Major findings of the study

The challenges that SMEs have experiences in US business environment have mainly related to environmental uncertainty and challenges due to typical SME characteristics. In terms of

environmental uncertainty, this study found that challenges were associated with political and natural environment and more specifically to covid pandemic, and protectionism resulted from Trump's administration. Challenges from covid pandemic were travel restrictions, prolonged sales times, weakened business development, and difficulties in new customer acquisition and relationship building. Political environment generated uncertainty in supply chains and a strict immigration policies resulted in a visa denial. Interviews did not reveal challenges related to economic uncertainty, legal uncertainty or socio-cultural uncertainty.

7.2.1 Challenges from SME perspective

The study found that perception of uncertainty is not only related to classic environmental uncertainty components e.g. political or economic uncertainty yet typical SME characteristics generate challenges for SMEs in foreign markets. This study points out that the main liabilities that represent constraints for SMEs in the US business environment are liability of foreignness, smallness, newness and outsidership. These findings strongly support findings on previous studies. The empirical findings showed correlation between previous literature particularly in terms of financial constraints referring to liability of smallness and lack of knowledge of the foreign target market relating to liability of foreignness (Hennart et al., 2002). Moreover, relationships and networks verified to be important factor in foreign US environment due to liability of foreignness and outsidership, as new business networks are important source of local market knowledge. These findings contribute to the significance of business networks (e.g. Johanson & Vahlne, 1977) among SMEs in pursuit of success in foreign markets.

7.2.2 Agility

Generally, it can be concluded that case companies have utilized agility in their responses to changes in the external environment. In line with Sherehiy et al. (2007), all the case

companies can be seen flexible, responsive and possess features of culture of change and the responses have been quick. Some companies used creativity. Two of the dimensions of agility was visible among case companies: proactive agility and innovative agility. Supporting findings in Nemkova (2017), agile firms are argued to be able to cope with changes due to their ability to sense opportunities in the market and act upon them. Furthermore, this study verified primary attributes of agility. The empirical findings demonstrate that flexibility is an essential feature of agility based on the responses of the companies. The latter shows connection to work of Lee and Makhija (2009) indicating that flexibility is beneficial in responding unanticipated and negative events. In addition, the findings show that adaptability, responsiveness, culture of change, speed and ability to “think outside of the box” formulate the rest of the agile organization. With regards to workforce agility, companies reported attributes including flexibility, adaptability, ambiguity tolerance, openness, ability to analyze data, international experience, industry knowledge, competitor knowledge and quick decision-making skills. Moreover, in addition to agile responses, this study found that strategies such as control and target market switch were used among the case companies.

7.2.3 Agility through dynamic capabilities

The study showed that case companies possess dynamic capabilities. Companies’ low organization structure has most likely contributed to agile responses and one case company showed agility by possessing extra resources to meet changing business needs. The main difference could be seen in the area of transforming whereas two of the companies renew processes frequently and see them as important source of innovation and other two companies see that processes should not be renewed. However, because dynamic capabilities need to be closely linked to company strategy (Teece et al., 2016), and researching company strategies were not the aim of this study, findings on dynamic capabilities in this paper provide an overall understanding of companies’ dynamic capabilities with regards to agility and thus, remain in general level.

7.2.4 Summary

Figure 6 summarizes the findings of the study to the main research question of how Finnish SMEs apply agility to deal with challenges in uncertain business environment. The model contributes to knowledge of SMEs' agility and flexibility in IB domain.

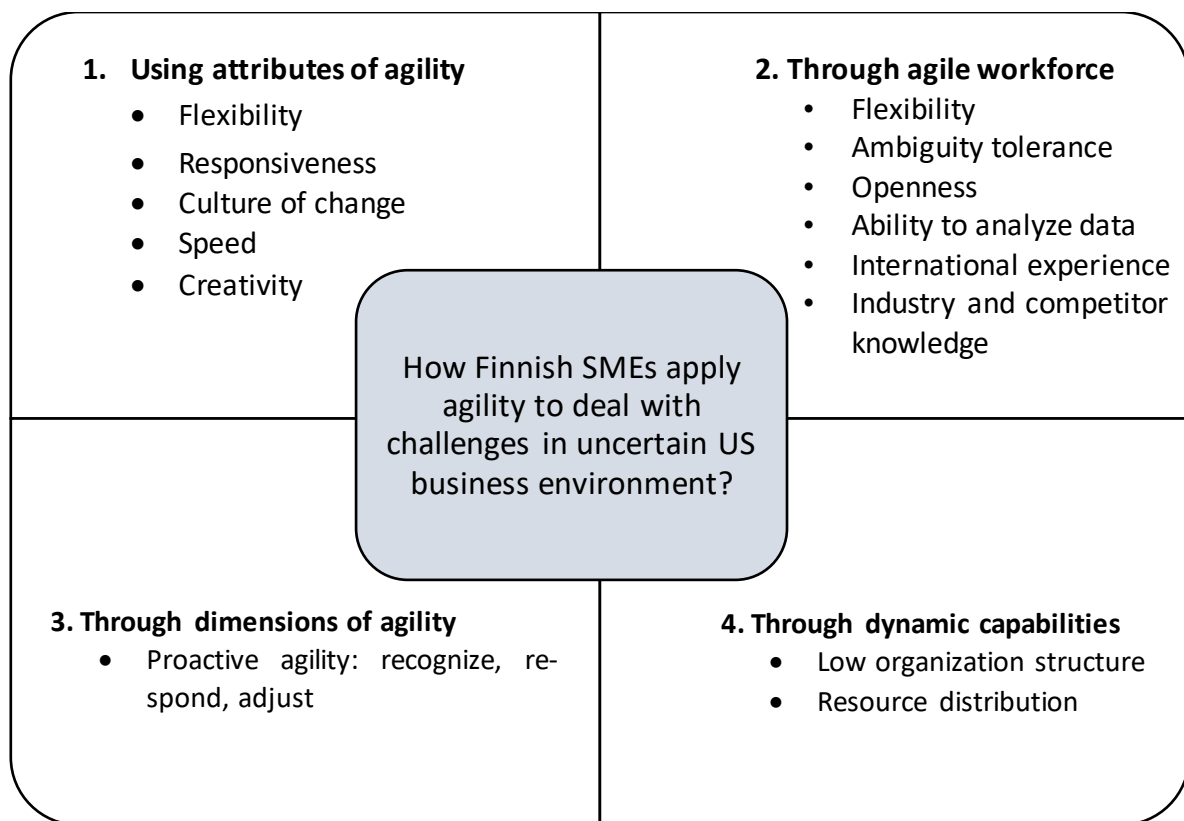


Figure 6 Summary of Finnish SMEs' agility in responding to challenges in uncertain US business environment.

7.3 Theoretical and managerial implications

This study contributes to research on what challenges SMEs face in foreign business environment and how SMEs deal with unpredictable changes in foreign markets. The findings provided answer to research questions.

7.3.1 Theoretical implications

This study completes strategic management literature and contributes to fulfill the research gap of how SMEs deal with unexpected changes and challenges in international environment using agility. As stated previously, not much of research have conducted around the topic. This study examines SMEs in foreign business environment where recent changes such as global covid pandemic and political uncertainty have contributed to the volatility of the business environment. This study empirically compares responses of different types of perceived uncertainty and challenges of Finnish SMEs in US business environment which contribute to SME strategy literature.

Second, past research concluded that agile firms cope better with unpredictable changes in the environment (see e.g. Nemkova, 2017). In line with prior research, it was found that agility and flexibility enable to manage uncertainty.

Furthermore, this study contributes to the literature of breadth and depth of agility and flexibility in IB research (Christofi et al., 2021) by complementing attributes of agility. Agility in SMES in international context is achieved through flexibility, responsiveness, culture of change, speed, creativity, low organization structure and ability to distribute resources. In this study, proactive agility was found to be the dominant dimension of agility.

From workforce angle, the study revealed that flexibility, ability to cope with change and stress (ambiguity tolerance), ability to adapt, openness, ability to analyze data, international

experience, knowledge of competitors and quick decision making-skills were identified as attributes of workforce agility. Thus, the findings of this study add to the findings by Nemkova (2017) as well as Sherehiy et al. (2007) who identified ambiguity tolerance, international experience, market knowledge, and learning orientation important attributes from workforce perspective in international markets.

7.3.2 Managerial implications

The theoretical framework and empirical research suggested a preliminary assumption that environmental uncertainty is a challenge in today's dynamic business environment. Four executive level employees were interviewed, and the study revealed that their respective companies were exposed to challenges and uncertainties due to changes in the environment. Thus, this study proposes several important managerial implications for SME managers and business practitioners on dealing with high uncertainty and crisis.

First, this study shows that strong local units are important part of international organization's business. Companies should be prepared to manage the business and support customer locally and ensure that local companies are able to operate efficiently if confronted with major, global challenges such as global pandemic. Moreover, this study shows that both global crises and political uncertainty can affect companies' supply chains which SME managers should acknowledge and consider.

Second, when resources are limited, agility and flexibility may help to answer unpredictable challenges. From organization viewpoint, the ability to "think outside the box" and maintaining flexible structure and low levels of hierarchy may contribute to agility. Developing and maintaining an environment that supports experimentation, learning and innovation allows to respond to unexpected changes faster with new solutions. Workplace flexibility and flexible business strategies are required to respond to rapid shifts in the business environment. Moreover, building "slack" by setting aside some extra resources helps to respond

to sudden changes. In order to achieve agility from workforce perspective, attributes such as flexibility, ambiguity tolerance, international experience and market knowledge are important in responding to uncertainty and challenges and therefore should be considered e.g. in recruitment and employee development processes.

Third, this study demonstrated that the challenges that SMEs face in foreign market are not only due to classical uncertainty dimensions, yet SME characteristics can hinder firms' efforts in international markets. The study points out that due to typical SME features such as smallness, lack of knowledge (liability of foreignness) and lack of legitimacy, collaborating with locals is favorable for SMEs. Local stakeholders have knowledge over the local business environment, access to networks and distribution channels which help to reduce SMEs foreignness when operating in foreign markets. Furthermore, meaningful relationships with stakeholders contribute to establishing legitimacy among clients. Lastly, firms need to acquire or develop knowledge of the new market to decrease liability of foreignness.

7.4 Limitations and further research suggestions

The main limitation of this study is that it is focused only on the context of the United States. Hence, the results of this study might not be generalizable to other countries. Furthermore, the generalizability of the findings is limited due to the small sample size and the number of cases examined require a comparison with findings of further research. Moreover, covid-19 is a vast topic, and the phenomenon is still ongoing. Hence, the scope of the phenomenon poses limits for this research.

In addition, the case companies and interviewees operate at a specific industry; therefore, it is possible that bias may occur toward their own industry. Hence, the findings might not be generalized toward all SMEs in all industries and the representativeness of this study is limited.

Since this research was conducted in US business environment context, the future studies could be conducted in other contexts by exploring how SMEs navigate through challenges in other countries. Moreover, this study was conducted after a year of the emergence of covid pandemic and since the phenomenon is still ongoing, further studies could be carried out at a different phase of the pandemic to determine whether the research yields similar findings. With regards to pandemic and SME characteristics, cross-cultural comparison of agility could be conducted, and a longitudinal research is required to examine the relationship of covid pandemic and SMEs in a long term. Furthermore, the scope of agility opens avenues for further research. This research studied SME challenges and agility at a general level, thus a similar research could be conducted in a more specific area of operations, such as examining the impact of uncertainty and agility e.g on marketing or foreign operation mode choice.

In addition, future research could look more in-depth into companies from different industries and compare empirical findings across sectors. Finally, as SMEs represent over 99% of all companies, they are most likely to create a path forward in macro environment (Eggers, 2020) and hence, are important source for in-depth analysis in the future.

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Appendices

Appendix 1. Interview Details

Case Company	Interviewee Code	Position	Interview date	Interview method	Inter-view length
Company A	Interviewee A	Vice President of Operations Female	23.2.2021	Microsoft Teams video meeting	52 min
Company B	Interviewee B	Regional Sales Director of Americas Male	24.2.201	Microsoft Teams video meeting	56 min
Company C	Interviewee C	CEO Male	25.2.2021	Microsoft Teams video meeting	52 min
Company D	Interviewee D	CEO Male	3.3.2021	Microsoft Teams video meeting	45 min

Appendix 2. Interview guide

Interviewee background

1. What is your role in the company, how long have you worked in the company and in the industry and could you shortly describe your responsibilities?
2. How much international experience do you have in years and from which countries?

Company background and international experience

1. Could you confirm the industry, when the company was established and how many people does your company employ?
2. In how many countries does your company have operations? Where?
3. What is the share of foreign personnel of the total personnel?
4. How much is your revenue and how much of the revenue comes from international markets?
5. Where did you internationalize first and when? How?
6. When did you internationalize to the US market?
7. Could you briefly explain the motives of entering to US market?
8. How much of the sales comes from US market?
9. How has the previous international experience influenced to operations in the US?

Operations in the US market

1. Could you freely share your company's experiences in the US market?
2. What kind of uncertainties have you experiences in US market? What are significant to you?
3. Have the changes been surprising? If, why? If not, why?
4. Have the changes had an impact to the profits of you company?
5. How are these challenges visible from SME perspective?
6. Have the challenges generated any opportunities?

Responses

1. How have you responded to these challenges/uncertainties?

2. Which characteristic have you perceived as important as an organization to respond to these changes? How about workforce characteristics?

Dynamic capabilities

Scanning

1. To what extent does your company map out new opportunities?
2. Who takes part in this phase?
3. To what extent do you forecast future scenarios?
4. To what extent do you follow news/information/regulations regarding your operations?

Seizing

1. To what extent do you have extra resources for sudden changes?
2. Do you have sufficient knowledge to answer sudden changes?
3. To what extent does your company develop or assess existing products?
4. How would you describe your organization structure/hierarchy?

Shifting

1. To what extent does your company renew processes?

Appendix 3. Thematic analysis

Theme	Description
Interviewee & Company Information	Background information of the interviewees and the company
Challenges & Uncertainties	Challenges and uncertainties the company has faced in US business environment including macro-environmental uncertainties and whether these observations were surprising or not
Responses	How the company has responded to challenges and uncertainties
SME perspective	How the interviewees perceive challenges from SME perspective
Opportunities	What opportunities uncertainties have generated
Agility from Organization & Workforce Perspective	Which characteristics the interviewees have experienced important in responding challenges both from organization and workforce perspective
Dynamic Capabilities	The dynamic capabilities of the SMEs

Appendix 4. Matrix: Attributes of Agility

Construct	Evidence
Flexibility	<p><i>Organization</i></p> <ul style="list-style-type: none"> - traveling salesman plan - <i>“our organization has been rather capable to confront these changes so that there’s always a way”</i> - relocation - no physical office in US - <i>“specific campaigns for different industry verticals”</i> - <i>“utilized modern technology in remote work”</i> - <i>“has required flexibility from the people and the organization, a lot more flexibility than before”</i> - Online sessions - Remote sales <p><i>Agile workforce</i></p> <ul style="list-style-type: none"> - <i>“Flexibility for sure and ability to cope with continuous change”</i> - <i>“has required flexibility from the people”</i> - <i>“Ability to cope with stress”</i> - <i>“people have turned out surprisingly flexible”</i>
Responsiveness	<ul style="list-style-type: none"> - traveling salesman plan - have to figure out new ways to operate – online sessions - more investment in the environment - hiring and training new people - Specific campaigns for different industry verticals - Blogs, panel discussions
Culture of change	<ul style="list-style-type: none"> - Company A sees that a team from Helsinki should establish operations in the US and the local people could then learn from this team. The company used this new strategy in their new location. - <i>“you learn to utilize modern technology to operate remotely”</i> - <i>“when we are not talking about thousands of hundreds of thousands of people, it is easier to pilot and experiment all these kinds of “crazy” ideas. And see if they work and how it works”</i> - <i>“trying different operation models”</i>
Speed	<ul style="list-style-type: none"> - <i>“ability to make decision quickly but doing them based on data”</i> - <i>“Adapting according to the situation and adjust ways of working quickly”</i> - <i>“because suddenly we were in a situation where we need to support clients--”</i>
Integration and low complexity	<ul style="list-style-type: none"> - See dynamic capabilities (Table 5)

High quality and customized products	<ul style="list-style-type: none">- See dynamic capabilities (Table 5)
Creativity	<ul style="list-style-type: none">- "Finding new customers has required more creativity"- "experiment all these kinds of "crazy" ideas"