SME Internationalization in a Business Ecosystem Context

The Case of Finnish Smart Mobility Companies

Robin Tiivola

Department of Management and Organization
Hanken School of Economics
Helsinki
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Abstract:
As large companies generate the largest share of Finland’s export revenue, recent scholarly attention has been given to the internationalization of SMEs. The degree of SME internationalization is too low, therefore making the Finnish economy narrowly dependent on a few industries. Business Finland, a government agency, has set up so called business ecosystem programs to increase SME internationalization in industries that Finland has key competences. However, the concept of a business ecosystem remains confusing due to overlapping definitions, and governmental and SME understandings of business ecosystems can differ. Therefore, this study aims to explore SME business ecosystem perceptions and their connection to internationalization.

The research was done as a qualitative case study of smart mobility companies in collaboration with Business Finland. Data was gathered from representatives of six companies in the smart mobility industry by conducting semi-structured interviews. Data interpretation was made through thematic analysis.

The findings suggest that SME understanding of business ecosystems can roughly be divided into two views: the fixed structure of ecosystems, emphasizing co-creation, recognizable borders, clearly defined objects, and business, and the dynamic structure of ecosystems, emphasizing networking, information gathering, and relationship building. Also, SMEs take specific roles in their ecosystems, such as niche player or keystone roles, while seeing the established players in mobility as dominators. The connection to internationalization is made through networks and co-opetition, which underline relationship building in a disruptive business environment. Internationalization is not understood as anything special but is taken for granted in SME strategies.

The thesis makes a theoretical contribution by demonstrating how the concepts of business ecosystem and SME internationalization are tightly connected. Also, a managerial implication is that authorities should acknowledge that ecosystem perceptions differ a lot, and that SMEs consider networking and co-opetition as essential mechanisms of their internationalization efforts.

Key words:
Business Ecosystem, Internationalization, SMEs, Co-opetition, Networking
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Sammandrag:
Stora bolag genererar den största andelen av utlandsexporten i Finland, vilket har gjort att internationaliseringen av små och medelstora företag eller SME-företag uppmärksammas allt mer. Internationaliseringsgraden av dessa SME-företag är alltför låg, vilket leder till en snäv exportbas. Statens ämbetsverk för exportbefrämjande och finansiering för innovation Business Finland har startat så kallade affärsökosystemprogram för att tackla problemet. Tanken är att program som understöder affärsökosystem ska leda till en högre internationaliseringsgrad bland SME-företagen i nyckelindustrier där finländare besitter stor kunskap. Konceptet bakom affärsökosystem är dock förvirrande och flera olika definitioner används i såväl offentlig som akademisk diskussion. Därutöver kan uppfattningar om vad exakt ett affärsökosystem är vara väldigt olika för olika aktörer. Därmed försöker denna avhandling belysa hur SME-företag förstår koncepten bakom affärsökosystem, och hur dessa ekosystem hör samman med internationalisering av SME-företag.

Forskningen utfördes som en kvalitativ fallstudie av industrin för smarta fordon och mobilitet i Finland. Datainsamlingen gjordes med hjälp av semistrukturerade intervjuer med sex representanter från olika SME-företag inom branschen. Alla företag hade haft samarbete med Business Finland. Som analysmetod tillämpades tematisk analys.


Avhandlingen bidrar till forskning genom att demonstrera en synlig länk mellan de olika teoretiska koncepten. Därutöver bidrar avhandlingen till en förståelse av hur SME-företag upplever affärsökosystem och hur de förstår internationalisering i denna kontext. Myndigheter kan också tillämpa avhandlingens slutsatser om förståelsen av affärsökosystem i konkret policyarbete.

Nyckelord: Affärsökosystem, internationalisering, små och medelstora företag, co-opetition, nätverk
# TABLE OF CONTENTS

1 INTRODUCTION ........................................................................................................... 1
1.1 Purpose of the research ....................................................................................... 4
1.2 Definitions ............................................................................................................ 5
1.3 Delimitations ....................................................................................................... 6
1.4 Structure of the thesis ......................................................................................... 6

2 LITERATURE REVIEW ............................................................................................... 8
2.1 Business ecosystem ............................................................................................. 8
   2.1.1 Innovation .................................................................................................... 10
   2.1.2 The stages of the business ecosystem ....................................................... 12
   2.1.3 Measuring ecosystem health ..................................................................... 14
   2.1.4 The different roles in an ecosystem ......................................................... 15
   2.1.5 Going beyond the business ecosystem .................................................. 16
   2.1.6 How useful of an analogy? ....................................................................... 17
2.2 Internationalization ............................................................................................. 19
   2.2.1 Networking ................................................................................................ 20
   2.2.2 Co-opetition ............................................................................................. 21
2.3 Theoretical framework ......................................................................................... 22

3 METHODOLOGY ......................................................................................................... 24
3.1 Research philosophy ......................................................................................... 24
3.2 Research design ................................................................................................... 25
3.3 Data collection ..................................................................................................... 26
   3.3.1 Sampling .................................................................................................... 27
   3.3.2 The interviews .......................................................................................... 28
3.4 Data analysis ....................................................................................................... 29
   3.4.1 Coding the data ....................................................................................... 30
   3.4.2 Data interpretation ................................................................................... 31
3.5 Reliability ............................................................................................................. 31
3.6 Research ethics .................................................................................................... 32

4 THE CASE ................................................................................................................... 33
4.1.1 Business Finland ......................................................................................... 33
4.1.2 Smart mobility ............................................................................................. 35

5 EMPIRICAL FINDINGS ............................................................................................... 37
5.1 Co-operation with Business Finland ............................................................ 37
APPENDICES

Appendix 1: Interview guide................................................................. 72
Appendix 2: Introductory e-mail ........................................................... 73
Appendix 3: Participant consent form.................................................... 74

TABLES

Table 1: The Evolutionary Stages of a Business Ecosystem (Adapted from Moore, 1993, p.77)........................................................................................................ 12
Table 2: Respondent roles ........................................................................ 29
Table 3: Two views on ecosystems................................................................ 51

FIGURES

Figure 1: The Business Ecosystem (Adapted from Moore, 1996, p.27)............. 10
Figure 2: Overlapping Ecosystem Types (Adapted from Valkokari, 2015, p.20).... 17
Figure 3: Theoretical framework .................................................................. 23
Figure 4: Business ecosystems as Business Finland customers...................... 35


1 INTRODUCTION

Large companies generate the largest stake of export revenue in Finland. In 2015, the ten largest companies in terms of their value added produced 7.6% of the Finnish GDP (Ali-Yrkkö, Seppälä & Mattila, 2016). The largest companies operate in the industries that are export-intensive, such as forestry and industrial machines, corresponding to 80% of total exports.¹ As the large companies receive the lion’s share of exports, recent scholarly attention has been given to the internationalization of small and medium sized companies (SMEs) (Korsakienė & Tvaronavičienė, 2012). While SMEs accounted for only 16% of total exports in 2016², it is widely acknowledged that they make up the larger share of the workforce, thus making them the biggest employers in the private sector. Therefore, SMEs are important to a nation’s future economic development and wellbeing (Coviello & Munro, 1995).

Usually, SMEs operate in value chains and business networks together with the large companies, making them a part of wider business ecosystems. As they are members of the same ecosystems as the large companies, SMEs are indirectly involved in export as well. However, according to The Federation of Finnish Enterprises, only 20% of the SMEs have direct export activities. Other sources suggest even lower numbers of 15-16%, while the equivalent in Sweden is 20-25% and 60% in Germany (Kauppalehti, 2018). The degree of internationalization of Finnish SMEs therefore remains rather low, which in turn makes the export economy narrowly dependent on a few big companies. One possible way for SMEs to boost their exports is to explore new industries and new markets, thereby widening the Finnish export offering. To succeed in international markets, SMEs need extensive networks (Torkkeli et al., 2012), contacts, and a thorough understanding of the environment in which they operate.

In some industries, business environments are changing rapidly. Currently, the global automotive industry is under such change (Sturgeon, Van Biesbroeck, & Gereffi, 2008). The technological innovation has disrupted the tiered supply chains, which for a long time were hierarchical and cemented, controlled by Original Equipment Manufacturers (OEMs), such as Volkswagen or BMW, and big Tier-1 suppliers, such as Bosch or Denso. These established players traditionally tried to prevent new niches from emerging

¹ Total exports in 2017 were 59,5 billion €
(Iansiti & Levien, 2004), thereby maintaining control of their ecosystems or value chains. Now, new innovative companies have managed to cut in between the suppliers in the lower tiers, selling directly to the OEMs, affecting the old business dynamics. New technologies, such as sensor technology and connectivity are increasingly turning the car into a computer on wheels, which means OEMs need to acquire new kinds of technological knowledge and find new partners to stay competitive.

At the same time, large industrial players are confronted with new trends in mobility; automated driving, electromobility, and new mobility services such as ride-hailing or ride-sharing. These trends could ultimately shape the way we think about transport and mobility, which in turn could have big consequences for the large players in the industry. Hence, the business environment in mobility is changing. Today, this is demonstrated by the rise of companies such as Uber and Tesla. Similar developments can be identified in the maritime industry, where digitalization and automation are also disrupting the business. The technological innovation has led to the development of autonomous ships, which could heavily affect the workforce structure of the industry. The One Sea ecosystem, a collaboration of big maritime players such as Rolls-Royce and Cargotec, aims to create an environment for fully autonomous ships by 2025.³

These changes in business environments leave room for new companies to enter the global supply chains in mobility, both at land and sea. In Finland, such companies have emerged in the last few years, forming a vast network of businesses in the smart mobility sector. These networks involve large companies like Tieto, Nokia, and Wärtsilä, but the majority of companies are SMEs. They mainly fill a need that the technological disruption has brought upon global industrial firms, such as the OEMs and Tier-1s in the auto industry or Rolls-Royce in shipping. According to Torkkeli et al. (2012), knowledge-intensive and high technological SMEs usually operate in niche markets and have no choice but to internationalize. Such companies have sometimes been labelled “born global”, emphasizing international focus from the start (Korsakienė & Tvaronavičienė, 2012). Therefore, the companies aim for expansion in the international markets. In the smart mobility industry, this means partnering up with customers abroad.

As stated by the Finnish Prime Minister in a 2016 speech, the Finnish government has set an ambitious target to double the total export of SMEs by 2020 (Sipilä, 2016). Business Finland, a government body created in 2018 as a merger of the former

³ https://www.oneseaecosystem.net/about/
innovation-funding agency Tekes and the public export promotion & internationalization company Finpro, aims to build business ecosystem programs to tackle the challenge. This is done in cooperation with The Ministry of Economic Affairs and Employment of Finland⁴, which has set up an ecosystems policy to support sectors where Finland has solid expertise. These programs imply that the government tries to understand the business environments of the future and set up supportive policies towards SME internationalization, research & development, and innovation accordingly. While the Ministry of Economic Affairs and Employment and Business Finland do not take leading roles in the ecosystems, they can be seen as stakeholders. Business Finland provides funding and advisory services but is not at the center of the ecosystem. Rather, it functions as a supporter or enabler. The idea is that by introducing ecosystem thinking and promoting whole business ecosystems instead of individual companies, the impact on Finnish export revenues will be positive. However, the concept of business ecosystems is fuzzy and has multiple, partly overlapping, definitions, causing potential confusion (Valkokari, 2015). Thus, governmental understanding of business ecosystems might differ from how companies see it. The question then arises whether public business ecosystem programs are helpful in SME internationalization?

In management literature, business ecosystems have been discussed since the early 1990’s, then inspired by the rise of software and internet companies. In his book The Death of Competition, James F. Moore (1996) argues for a new language for strategy; the introduction of business ecosystem thinking. Earlier, a firm’s competitive advantage was understood in terms of superior value creation (Porter, 1985), but value creation depends on the ability to innovate (Adner & Kapoor, 2010). Furthermore, networks and inter-organizational relationships are crucial for innovation (Valkokari et al., 2017). Instead of focusing on the old industrial strategies where companies compete and collaborate for market share, Moore (1996) suggests that companies should innovate in a process of co-evolution, thereby growing together and producing value to the customers. Because the business ecosystem does not respect traditional industry boundaries, companies need to understand their environment and see the big picture. In this thesis, this context is applied to internationalization of SMEs.

⁴ https://tem.fi/en/ecosystems
1.1 Purpose of the research

Research on internationalization using a business ecosystem perspective is a somewhat new domain and remains scarce (Rong et al., 2015). In the internationalization literature, the process of internationalization has often been studied through stand-alone individual firms, thus ignoring the wider context and the fact that companies are linked to other companies (Vanyushyn, Holmlund & Kock, 2009). Furthermore, much of the business ecosystem literature lacks a specific international perspective, instead concentrating on local regional ecosystems (Valkokari, 2015). In their study of sharing economy firms, Parente et al. (2018) conclude that an ecosystem-based approach is a promising way of studying companies aiming for internationalization, because ecosystems can also be international. This is supported by Valkokari (2015), who states that business and innovation ecosystems indeed are global today. Also, Gomes et al. (2016) conclude that an ecosystem perspective on new markets and innovation related to emerging industries is an important upcoming trend. Therefore, this thesis aims to take an international perspective on business ecosystems operating in a changing business environment.

The purpose of the research is to study the perceived connection between business ecosystems and internationalization. In other words, how companies involved with Business Finland’s ecosystem programs understand business ecosystems and how this understanding manifests itself in their internationalization efforts. This thesis will focus on ecosystems and companies in the smart mobility sector in Finland. The companies operate in a global business environment currently facing technological disruption. As Moore (1996) points out, the need for ecosystem thinking arises from the fact that new opportunities are opening for companies who don’t respect the old-fashioned industry boundaries. This is a good characterization of smart mobility companies, since they aim to find new innovative solutions for transport and logistics. Since Business Finland has set up ecosystem programs with internationalization of SMEs as an objective, it is interesting to examine how the companies involved in these kinds of projects understand business ecosystems, and how they think that ecosystems can help them with their internationalization. Moreover, because they aim to create internationalization policies based on ecosystems, it is important that Business Finland and the Government understand how SMEs view business ecosystems. Therefore, the research questions are stated as follows;
• How do SMEs that collaborate with Business Finland perceive business ecosystems?

• How is SME internationalization understood in the context of business ecosystems?

1.2 Definitions

**Business Ecosystem** – Moore (1996, p.26) defines a business ecosystem as an “[...] economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world. Iansiti and Levien (2004, p.1) define the business ecosystem as a loose network – “of suppliers, distributors, outsourcing firms, makers of related products or services, technology providers, and a host of other organizations”. Peltoniemi and Vuori (2004, p.13) define it as “[...] a dynamic structure which consists of an interconnected population of organizations. These organizations can be small firms, large corporations, universities, research centers, public sector organizations, and other parties which influence the system.” This thesis incorporates influences from all these definitions to build the understanding of a business ecosystem. The core aspect is a network of organizations somehow involved with each other, either directly or indirectly.

**Co-evolution** – Moore (1993, p.75) quotes anthropologist Gregory Bateson for his definition of co-evolution: “a process in which interdependent species evolve in an endless reciprocal cycle”. In a business setting, this can be interpreted as companies evolving, or developing, through a cycle where they learn from each other. An industry, a sector, or a business segment is constantly living through its members and is affected by how the members develop and evolve.

**Co-opetition** – Co-opetition is defined as a process where companies both compete and collaborate with each other (Vanyushyn, Holmlund & Kock, 2009). Co-opetition can be understood as a part of co-evolution. It refers to a situation or a setting where competitors see value in collaborating with each other. This value can manifest itself in mutual benefits.

**Internationalization** – Korsakienė and Tvironavičienė (2012, p.296) define internationalization as “the expansion of [a] firm’s operations to foreign markets [...] through punctual and independent actions”. Internationalization implies that companies want to become internationalized, either by selling directly to a foreign
market, establishing strategic partnerships abroad with other international or local companies, or establishing a physical presence in a foreign country.

1.3 Delimitations

As the academic literature behind business ecosystems is very broad and, as later explained, somewhat confusing in terms of its scope, the theoretical framework is limited to the most cited scholars in the field. Thus, the theoretical understanding of ecosystems is largely based on the early works of Moore (1993; 1996) and Iansiti and Levien (2002; 2004). The same theoretical limitation applies to the internationalization literature. International Business is also a very wide field, and studies on internationalization are broad in scope. As the purpose is to analyze internationalization in the context of business ecosystems, this thesis limits its discussion on internationalization to networking issues and co-opetition.

Another limitation is the focus on the smart mobility industry. Although disruptive industries, such as smart mobility and new mobility services, usually include companies with very different backgrounds, it must be stated that the companies interviewed for this thesis are all technology companies. Also, while technology companies often are at the core of business ecosystem research, the inclusion of companies only operating in the smart mobility sector must be considered a limitation. The smart mobility industry, however, provides an interesting case of an upcoming industry fueled by technological disruption.

An important limitation to address is also the number of interviews conducted. Although a master’s thesis cannot grasp big quantities of interview data in qualitative research, it is a fact that a small number of interviews is a major limitation. For this thesis, six interviews in total were conducted.

1.4 Structure of the thesis

This thesis is structured as follows. Chapter One, this chapter, introduces the research problem and provides a research motivation and the purpose for the research.

Chapter Two, the literature review, presents the relevant theoretical concepts in this study. First, business ecosystem theory will be discussed, followed by networking and co-opetitional aspects related to internationalization.
Chapter Three is the methodology section, where descriptions for data collection and analysis methods are given and argued for. This section also includes a description of the research process.

Chapter Four is a description of the case and presents how Business Finland constructs its ecosystem understanding. Furthermore, the industry of the case companies (smart mobility) is discussed.

Chapter Five presents the empirical findings of the study and is divided into sub-chapters which represent thematic concepts.

Chapter Six provides an interpretation of the findings and aims to analyze those findings by re-engaging with theory.

Chapter Seven presents the overall conclusions of the research project and gives recommendations for future research.
2 LITERATURE REVIEW

The following section will present a literature review and the theoretical frame of reference. The review has a narrative design, due to the interpretivist and qualitative focus of the research. First, a general overview on business ecosystems will be presented, followed by a discussion of ecosystem stages, health, and roles. Then, overlapping concepts will be briefly discussed, followed by a review of the critical discussion about the ecosystem analogy. Last, internationalization perspectives on co-opetition and networking will be discussed.

2.1 Business ecosystem

Business is conducted by several organizations, both public and private, competing for market shares in local and international markets. A market is constructed by interconnected networks in which companies operate, co-operate, and compete. In management literature, the economy has sometimes been viewed as an ecosystem, where organizations and consumers are living organisms in the global economy (Valkokari, 2015). Furthermore, the concept of business ecosystems has been used as a descriptive expression for complex business environments that most companies face today (Peltoniemi & Vuori, 2004). It has proven to be a powerful metaphor for understanding business networks (Iansiti & Levien, 2004) and complex social systems. According to Peltoniemi and Vuori (2004), it is the emerging paradigm of complexity that provides the theoretical background for ecosystem analogies.

The term business ecosystem was introduced by James F. Moore in his 1993 paper Predators and Prey: A New Ecology of Competition and later developed in his 1996 book The Death of Competition. The term is a biological analogy, which according to Moore (1996) is the most direct way to explain difficult system concepts. As Peltoniemi and Vuori (2004) point out, biological ecosystems are dynamic, constantly evolving, and regularly remaking themselves. Furthermore, it is difficult to distinguish biological ecosystems, since no sharp borders between natural habitats exist (Peltoniemi & Vuori, 2004). The parallel is strong with business ecosystems, where the precise boundaries are also very hard, if not impossible, to draw (Iansiti & Levien, 2004). As Valkokari (2015) points out, real-world business ecosystems are global, which makes distinguishing borders even more complicated. Thus, ecosystems can also be subdivided into business domains or related groups, because companies can rely on hundreds, or even thousands, other companies and organizations (Iansiti & Levien, 2004). Hence, the business ecosystem is a very broad phenomenon.
Moore (1993) states that the competitive advantage of companies relies heavily on innovation, which never evolves in a vacuum, but rather in complex business communities and networks. Continual innovation means continual change, which according to Moore (1993; 1996) is not sufficiently answered by the old business strategies of battling for market share in a cemented industry. In the old industrial economy, scholars studied theories of economics of scale and scope, and managers tried to figure out diversification strategies for growth and expansion. Moore (1993) sees this as outdated, because dividing economic activity under the frame of a specific industry limits the understanding of business networks. Also, diversification strategies tend to assume stable or fixed industry structures, yet we see today that industries evolve rapidly and grow into one another, making companies parts of multiple industries (Moore, 1996). As Moore (1993; 1996) points out, the new economy needs a new language for strategy, and new tools for making choices about innovation, alliances, customers, and suppliers. Instead of markets and industry, he proposes that we should talk about business ecosystems.

Moore defines a business ecosystem as an “[…] economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world. This economic community produces goods and services of value to customers, who are themselves members of the ecosystem. The member organisms also include suppliers, lead producers, competitors, and other stakeholders” (Moore, 1996, p.26). Thus, a business ecosystem includes customers, agents, distribution channels, competitors, but also other stakeholders, such as owners, investors, government agencies and regulatory organization. The stakeholders can be divided into three levels: core business, extended enterprise, and business ecosystem (See Figure 1).

Iansiti and Levien (2004, p.1) define the business ecosystem as a loose network – “of suppliers, distributors, outsourcing firms, makers of related products or services, technology providers, and a host of other organizations”. The definitions suggest that business ecosystems are comprised of broad networks with multiple actors and stakeholders. Although business ecosystems are about collaboration, Iansiti and Levien (2004) state that “members” don’t necessarily need to work together directly. For example, a government can be seen as a stakeholder to business even though there is no direct contact with governmental agencies.
2.1.1 Innovation

The main drivers of business ecosystems are innovation and value creation. How, then, according to Moore, is value or innovation created? Drawing from the writing of anthropologist Gregory Bateson, Moore (1996) incorporates the term *co-evolution* into business ecosystem thinking. In business, we superficially watch companies compete and collaborate, but innovation arises from more complex patterns. Much like predator and prey, companies co-evolve as they compete or collaborate, thereby influencing the ecosystem at large. Companies can also both collaborate and compete in what management scholars call *co-opetition* (Kock, Nisuls, & Söderqvist, 2010). This refers to the state when a company seeks collaboration with another company it defines as a competitor.

According to Moore (1996) the concept of “industry” is an artifact with presumed players battling for supremacy within its boundaries. These boundaries, that have been taken for granted, are blurring and, in some cases, crumbling. When describing blurring industry boundaries, Moore (1996, p.13) states: “New technologies, deregulation, and changes in customer behavior are the metaphorical equivalent of floods and fires, opening up new competitive landscapes”. The word *ecosystem* highlights a changing environment, and...
that a certain industry is never stable. It also emphasizes that industries and companies are interconnected with each other, instead of functioning as separate entities. Moore (1993) underlines that a business ecosystem spans a variety of industries, and that companies co-evolve around innovation in it. As he puts it: “they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations” (Moore, 1993, p.76).

In explaining changing business environments, Moore (1996) takes the automotive industry as an example. Already in the mid 1990’s, the OEMs knew that transportation was not a sustainable industry for the environment. The dependency on oil and gas would, in the end, result in worsened conditions for humans on this planet. Moore introduces the intelligent mobility ecosystem as a possibility that will disrupt the auto industry; automated driving and electric cars (or what he calls “Hypercars”). He writes, “For all we know, the car business could become like the personal computer business, with a vast number of small assemblers and direct distributors making hypercars” (Moore, 1996: 101). Today, we see a movement towards this direction in the automotive industry. Small, innovative, new companies are disrupting the old tiered value chains by selling directly to the OEMs, thus bypassing the suppliers in the lower tiers. Their innovation also creates pressure on the OEMs to acquire new kinds of technological knowledge and expertise to stay competitive.

Since the rise of the internet and software economy, many technology companies understood that innovation and value need to be created co-operatively. This led to the discussion about open innovation being the main concern of many companies (Galateanu & Avasilcai, 2018). An open ecosystem means information sharing. If innovation is to happen in collaboration, the business model needs to be open so that everyone involved can share information and benefit from it. Traditional business strategy emphasized protecting your own ideas against competition, which is something that the open innovation business models have stood up against (Chesbrough & Appleyard, 2017). According to Moore (1993; 1996), this is the whole point with modern or current business ecosystems; to move away from old industry thinking into new innovative and collaborative thinking.

A changing business environment means that innovative solutions win over status quo (Moore, 1996). Since innovation is such an important concept of business ecosystems and value creation, several scholars, as explained later, have suggested that innovation
ecosystems are a branch of their own (Adner, 2006) or a continuation of business ecosystems (Gomes et al., 2016).

### 2.1.2 The stages of the business ecosystem

According to Moore (1993; 1996), a business ecosystem develops in four stages (see Table 1): birth (or pioneering), expansion, leadership (or authority), and self-renewal or death. In reality, the stages blur, and the challenges related to every stage can occur in several or totally different stages. Ecosystem stages should therefore not be viewed as linear and deterministic processes (Valkokari, 2015). Still, according to Moore (1993; 1996), many of the four stages are observed in research. In this section I will present the four stages derived from Moore (1993; 1996).

#### Table 1: The Evolutionary Stages of a Business Ecosystem (Adapted from Moore, 1993, p.77)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cooperative Challenges</th>
<th>Competitive Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth</td>
<td>Work with customers and suppliers to define the new value proposition around a seed innovation.</td>
<td>Protect your ideas from others who might be working toward defining similar offers. Tie up critical lead customers, key suppliers, and important channels.</td>
</tr>
<tr>
<td>Expansion</td>
<td>Bring the new offer to a large market by working with suppliers and partners to scale up supply and to achieve maximum market coverage.</td>
<td>Defeat alternative implementations of similar ideas. Ensure that your approach is the market standard in its class through dominating key market segments.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Provide a compelling vision for the future that encourages suppliers and customers to work together to continue improving the complete offer.</td>
<td>Maintain strong bargaining power in relation to other players in the ecosystem, including key customers and valued suppliers.</td>
</tr>
<tr>
<td>Renewal or death</td>
<td>Work with innovators to bring new ideas to the existing ecosystem</td>
<td>Maintain high barriers to entry to prevent innovators from building alternative ecosystems. Maintain high customer switching costs in order to buy time to incorporate new ideas into your own products and services.</td>
</tr>
</tbody>
</table>

Stage 1 begins by several companies cooperating in the innovation process, trying to define and implement the value proposition for a new product or service. This stage is characterized by brainstorming and by companies trying to prove a concept. Companies
co-evolve to satisfy customers, but a leader must also stand out to draw the ecosystem forward. In the late 1970’s, Apple took the leadership role in developing an ecosystem around personal computers. Though the company had full control over design, it encouraged smaller independent firms to write programs for it. In the first stage, while collaborating, companies must protect their ideas from other competing ecosystems, which is why established companies often choose to wait it out and enter the markets in later stages. For those who are active in stage 1, the critical thing is to be able to define and implement an offering which has value to customers. (Moore, 1993;1996)

In stage 2, business ecosystems expand and capture new territories, competing against other ecosystems for market share. In this stage, an ecosystem must satisfy two conditions: (1) a business concept that many customers will find valuable, and (2) the potential to scale up the business. Companies must assess the demand within a market, as well as their own ability to meet it. In this stage, established companies have an advantage in marketing and sales, being able to squeeze out competition. IBMs fast expansion into personal computers in the early 1980’s provides an example of this. The challenge in stage 2 is to stimulate market demand while being able to meet it, but also maintaining good relationships with customers and suppliers to keep a leadership position. As Moore (1996) points out, usually two or more camps with very similar ideas will rise in stage 2. (Moore, 1993;1996)

In stage 3, the fight for leadership and control begins. Companies try to figure out what activities they can take over from those closest to them in the value chain. Furthermore, they battle for the direction the ecosystem will take. In stage 3, further innovation is needed to maintain leadership or authority. An ecosystem leader must have something the ecosystem needs in order to have bargaining power. Suppliers and partners value such companies, because they can keep a tight grip on customers. In this stage, established companies can make it or brake it. In the late 1980’s IBMs open ecosystem and its leadership position was undermined by innovation from companies like Intel and Microsoft, because suppliers depended less on it. (Moore, 1993;1996)

In stage 4, ecosystems must track new trends and innovation closely not to become obsolete. The rise of other competing ecosystems, customer trends, macroeconomic conditions, or regulation can threaten business ecosystems, which is why managers need to systematically question a company’s current situation. Successful ecosystems not only adapt to change, but also direct the future. In stage 4, companies must insert new ideas into the existing ecosystem. (Moore, 1993;1996)
The implication of the business ecosystem stage model is that managers constantly need to question the current situation of their company; do they have the best and most effective partners, or what innovation might radically change their business (Moore, 1993; 1996)? Not only must companies assess themselves in relation to their environment, but also the whole ecosystem that they operate in.

2.1.3 Measuring ecosystem health

Iansiti and Levien (2004) develop the business ecosystem theory further by defining how to measure the health of an ecosystem. They argue (Iansiti & Levien, 2004) that each part or domain of an ecosystem must be healthy for the ecosystem to function effectively. During the boom years of the internet bubble, there was a state of euphoria about business networks and their impact on innovation, but the bursting of the bubble in the early 2000’s shed light on the vulnerability on such networks, making it clear that members of business networks share a common fate; “they could rise and fall together” (Iansiti & Levien, 2004, p.3).

Iansiti and Levien (2004) suggest that every business ecosystem needs to be assessed by three critical measures: (1) productivity, (2) robustness, and (3) niche creation. Productivity refers to the ability to transform technology and innovation into new products and lower costs. The authors suggest that a simple measurement for productivity is the financial measurement tool return on invested capital, or ROIC (Iansiti & Levien, 2004). Robustness essentially means surviving disruptions such as technological innovation or new trends. According to Iansiti and Levien (2004) a simple, albeit crude, measure is to observe ecosystems over time and look at member survival rates. For example, which companies survived the implosion of the dotcom bubble, and are still strong today? Niche creation refers to diversity and variety, which in business means productive innovation. A measure of niche creation is “the ecosystem’s capacity to increase meaningful diversity through the creation of valuable new functions, or niches” (Iansiti & Levien, 2004, p.4). Hence, niche creation essentially means the ability to innovate, which can be examined through the survival rate of new products. Which innovations can prove their concept valuable for the customers?

It might seem obvious that the business ecosystem in which a company operates should be healthy for it to function properly, and that the health should be assessed by the companies involved. However, with no framework for assessing the health of a business ecosystem, companies might choose strategies of short-term financial gains and use
aggressive bargaining power on partners, which is what Yahoo did and ultimately weakened itself by during the dotcom bubble (Iansiti & Levien, 2004).

2.1.4 The different roles in an ecosystem

Since ecosystems are broad and involve many different players, or members, scholars have pointed out that the players involved also have different roles within the ecosystems. Even though they are not managed hierarchically (Jacobides, Cennamo & Gawder, 2018), most ecosystems seem to have a leading firm (Williamson & De Meyer, 2012), and according to Moore (1996), they need leaders to function properly. Iansiti and Levien (2002; 2004) suggest three main roles that companies take; *keystone*, *dominator*, and *niche player*. An important note is that these roles are not static, and a company can have different roles in different settings (Iansiti & Levien, 2004).

Keystones are organizations that aim to improve the overall health of an ecosystem by increasing productivity, enhancing robustness, and encouraging niche creation (Iansiti & Levien, 2004). They do this, for example, by connecting companies to one another, incorporating technological innovations to their network and providing a good point of reference for their associates (Iansiti & Levien, 2004, p.6). Keystones are important to the ecosystem as a whole, and their removal can lead to the collapse of the ecosystem (Iansiti & Levien, 2004). Thus, keystones are often the leading firm of a business ecosystem.

Dominator are companies that, according to Iansiti and Levien (2004, p.8), try to exploit their position in more traditional ways, for example by taking over networks and striving for full ownership of a product or concept. As their name suggests, dominators are usually large players (Iansiti and Levien, 2002) with considerable resources available.

According to Iansiti and Levien (2004, p.9), niche players are the most common type in business ecosystems, because they aim to develop specialized knowledge and thus differentiate themselves from others. Niche players are dependent on other bigger businesses and aim to create value through innovations that complement the businesses of keystones and dominators. Niche players have fewer resources and power than keystones and dominators, but since most firms in an ecosystem are niche players, they have strength in numbers. If a keystone or dominator begins to control the environments too much, niche players can move away from it, steering their innovation elsewhere. (Iansiti & Levien, 2004)
2.1.5 Going beyond the business ecosystem

Although the initial discussion relies heavily on business ecosystems, the literature also identifies other types of related ecosystems; industrial, service, social, innovation, and knowledge ecosystems. This has to do with the fact that although business, knowledge, and innovation go hand in hand, there sometimes is a need for differentiation. These concepts are partly overlapping and cause some confusion in literary reviews (Valkokari, 2015). However, as Valkokari (2015) argues, especially innovation and knowledge ecosystems should be incorporated as separate but connected types into the analysis of business ecosystems. Concepts like innovation ecosystem evolved from the business ecosystem theories (Gomes et al. 2016) and can thus be considered a natural continuation in the literature. Although Moore (1993; 1996) sees innovation as one of the key aspects of business ecosystems, Valkokari (2015) points out clear differences between the ecosystem types.

According to Valkokari (2015, p.18), the discussion of business, innovation, and knowledge ecosystems highlights different things in the literature. First, the literature on business ecosystems focuses on economic outcomes and business relationships, thus emphasizing companies. Second, innovation ecosystems are about mechanisms and policies related to creating innovative start-ups in regional clusters, thus emphasizing both companies as well as public innovation funding organizations. Third, knowledge ecosystems consider the creation of knowledge through research and collaboration, thus emphasizing research institutes and universities. Valkokari (2015, p.1) points out that these types of ecosystems are “interconnected from the viewpoint of the ecosystem actor”, as seen in Figure 2. This means that a company might just look at it as being in the center of its own ecosystem.

Some notable papers (Adner, 2006; Adner & Kapoor, 2010) argued for an approach with more emphasis on innovation ecosystems, because of the lack of innovation perspectives in the early literature (Adner & Kapoor, 2010). However, Gomes et al. (2016) note that the early work on business ecosystems focused on both value creation, which is more about innovation, and value capture, which focuses on business aspects. As the concept of innovation ecosystem evolved, the business ecosystem literature started focusing more on value capture, whereas innovation ecosystem literature focused on value co-creation (Gomes et al. 2016).
Gomes et al. (2016 p. 16) define the innovation ecosystem as “[...] the co-creation, or the jointly creation of value. It is composed of interconnected and interdependent networked actors, which includes the focal firm, customers, suppliers, complementary innovators and other agents as regulators”. They also point out, that their definition implies that ecosystem members co-operate and compete in a co-evolutionary process. This definition is very close to the early work on ecosystems (Moore, 1993; 1996; Iansiti & Levien, 2004), underlining both co-creation and multiple actors involved. Thus, this thesis will use the terms business ecosystem and innovation ecosystem interchangeably and follow the approach of Valkokari (2015): although there are differences, to the ecosystem actor, the ecosystem types are interconnected.

2.1.6 How useful of an analogy?

Even though the term business ecosystem has provided a useful analogy for studying business networks, there is still no consensus on what it is (Anggraeni, den Hartigh, & Zegveld, 2007). As mentioned in the previous sections, this lack of a precise definition causes confusion since many concepts, like industrial ecosystem, business ecosystem,
and innovation ecosystem, are used in related contexts (Peltoniemi & Vuori, 2004; Valkokari, 2015; Gomes et al. 2016). It is precisely this lack of definition why some scholars don’t consider business ecosystems a theory at all. Moreover, analogies in organizational studies sometimes have the tendency to become institutionalized and taken for granted, thus escaping a critical review (Ketokivi, Mantere & Cornelissen, 2017).

Biological analogies and metaphors have limitations, and Moore acknowledges the limitations of the business ecosystem analogy. Unlike biological ecosystems with their co-evolving organisms, business ecosystems are social ecosystems made up and constructed by people who make decisions (Moore, 1993; 1996). A shared imagination and the possibility to see the big picture and plan for the future is something that organizations and people do, but organisms lack. Thus, the man-made dimension of a business ecosystem differentiates it from biological ones (Valkokari, 2015).

In a critical paper towards Moore, Koenig (2012) argues that the ecological references are contradictive in many ways and might bring more harm than value. Koenig (2012) thinks that the ecological metaphor should be abandoned. For example, the notion that only ecosystems, instead of companies, compete with each other makes no ecological sense to Koenig (2012), since individual organisms also battle for survival in nature. Iansiti and Levien (2004) also recognize the critique towards the analogy and admit that it is not perfect. However, as they argue (ibid. 2004), to be perfect, an analogy would be so simplistic that it wouldn’t offer much real insight. Although ecosystem theories have their obvious limitations, the constant use of the term by organizations makes it significant for analysis.

Business ecosystems can also be seen from a wider perspective, as Moore (1996) suggests in the closing chapter of The Death of Competition. Instead of just looking at the boundaries between industries and businesses, one could look at the vanishing boundaries between business, society, and the ecological environment. Business cannot exist without society, and society cannot exist without a healthy ecological environment. Therefore, business is a part of, and affects, the environment. In this way, Moore views business and societal systems as subsystems of the ecological or biological. This is demonstrated by businesses more actively addressing issues other than economical (Moore 1996, pp. 272-277). For example, climate change or societal issues such as gender equality is something that businesses cannot ignore today. By discussing such issues in public, business takes the step out of its core zone, which is to make money for
shareholders. Therefore, business can also be seen as something bigger and broader than made-up entities searching for profit by making transactions. Business is a part of society, which is a part of nature. As Moore (1996, p.272) puts it:

“So you find yourself moving from ecology as metaphor to ecology as reality”

2.2 Internationalization

If we accept Moore’s view that businesses and industries should be viewed as interconnected parts of bigger ecosystems, we should put our focus on the economy as a global phenomenon and think of business ecosystems as global. Several scholars have pointed out that business ecosystem theories lack an international dimension (For example Rong et al. 2015; Valkokari 2015; Parente et al. 2018). Although Moore (1993; 1996) talks about the rapid transformation of industry, which has global implications, he does not discuss international aspects in particular. As it addresses an important gap in the literature, the purpose of this study is to find out how SMEs understand business ecosystems and their connection with internationalization. Thus, the literature review on business ecosystem discussion is expanded by reviewing literature on internationalization.

Internationalization refers to the activities where a business expands to foreign territories, either by selling directly abroad, setting up an office abroad, or by forming international partnerships. Johanson and Vahlne (1977, p.23) define it as “a process in which the firms gradually increase their international involvement”. By analyzing this definition, it is clear that internationalization is not one particular act based on a strategic decision to expand business abroad. Heiß (2018, p.51) points out that internationalization can be understood as a process of becoming a multinational: first, a company sells products domestically; second, a company sells products to international markets; and finally, a company establishes extensive operations abroad.

In international business literature, there is a broad discussion on different strategies related to internationalization. These include, for example, global standardization strategy and localization strategy (Hill, 2014). However, when describing such strategies, Hill (2014), for example, uses large multinational companies as examples. The giant companies understandably have resources to develop sophisticated international go-to-market strategies, something that SMEs usually lack. As Galdeano-Gómez, Pérez-Mesa and Aznar-Sánchez (2016) note, SME internationalization is dependent on horizontal and vertical relationships formed in the value chain. Therefore, and although the
literature on business internationalization is wide and can be studied from multiple angles, this thesis will focus on SME internationalization from a networking perspective. Networking theory and co-opetition are approaches to internationalization that extend the understanding of the company internationalization process.

2.2.1 Networking

Forming business ecosystems requires that people get in touch with each other and form partnerships and relationships. In everyday language, this is referred to as networking. To form partnerships and ecosystems and to enter new markets requires that companies actively network and establish new business contacts. In this subchapter, I discuss the link between networking and SME internationalization.

Kock, Nisuls and Söderqvist (2010: 113) define internationalization with the following network-oriented approach: “[…] a continuous process where a company gradually internationalizes by developing knowledge and by increasing commitment to both international markets and to new and existing members of the company’s business network”. In other words, the process of internationalization requires networking. Apart from visiting seminars, industry forums, and conferences, such networking can take form in different cooperation projects, joint-ventures, and alliances between companies. A company needs to be proactive and constantly broaden its network.

For small firms, networking is often the most crucial part of business development and growth (Vanyushyn, Holmlund and Kock, 2009). Indeed, studies have found that networking is very central in the process of internationalization (Torkkeli et al. 2012) and that it is essential for SMEs aiming for internationalization (Torkkeli et al., 2019). This is because networking relationships often lead to international business opportunities (Coviello & Munro, 1995). For example, a study on Chinese SMEs showed that strategic networking with different partners can accelerate business development in foreign countries (Tang, 2011). Furthermore, a study on small Malaysian software companies showed that networking and forming relationships both triggered and motivated internationalization processes (Zain & Ng, 2006). Therefore, networking can be seen as mandatory if a company wants to internationalize.

Networking can take form in both business and social networking (Torkkeli et al., 2019). When making official contracts, deals, and transactions, companies are, of course, networking, because they are communicating and building professional relationships. But the role of informal networks is also important. Aspelund, Madsen, and Moen
(2007), for example, state that many managers in small companies can decide which markets to pursue based on their personal networks. A company might develop different strategies for internationalization, but the selection of foreign markets and the initiatives to pursue those markets often originate from personal networks and contacts (Coviello & Munro, 1995). Therefore, networking is not done only in official settings through company meetings, but through personalized meetings between people who wish to expand both their personal and professional networks.

Companies also form networks and relationships with foreign companies because they believe that a successful entry to a foreign market requires local partners (Hill, 2014). In other words, it is more convenient to enter a foreign country or market if you already know someone from there.

**2.2.2 Co-opetition**

As Moore (1993;1996) points out, companies engage in innovation through a co-evolutionary process, collaborating and competing to find new competitive solutions in business. In management literature, the process of combining cooperation and competition has been described as co-opetition (Vanyushyn, Holmlund & Kock, 2009). Co-opetition occurs when companies that otherwise compete with each other decide to collaborate in a certain setting or project. Sometimes it has been referred to simply as strategic alliances (Hill, 2014). Nonetheless, management scholars have been interested in the phenomenon at least from the late 1980’s, when Hamel, Doz, and Prahalad (1989) published a paper called *Collaborate with Your Competitors and Win!* Moreover, some scholars have even argued for a paradigm shift in international business, where collaboration with competitors is not seen as a barrier anymore, but rather as an opportunity to find new markets (Kock, Nisuls & Söderqvist, 2010). However, most studies of co-opetition lack both conceptual and international research, instead being limited to local case studies (Vanyushyn, Holmlund & Kock, 2009). For example, Gnyawali and Park (2009) have studied co-opetition as a strategy for SMEs to pursue technological innovation.

More recently, co-opetition has been studied as a motivation for internationalization (Vanyushyn, Holmlund & Kock, 2009). Also, Kock, Nisuls and Söderqvist (2010) studied how co-opetition increases international opportunities. These studies shed light on SME strategies to enter foreign markets and emphasize the role of networks in SME internationalization. Galdeano-Gómez, Pérez-Mesa, and Aznar-Sánchez (2016) state
that export capabilities by SMEs are dependent on co-opetition, but that complex international supply chains also drive SMEs to engage in co-opetition.

Kock, Nisuls, and Söderqvist (2010) found that co-opetition emerges in different ways. For example, competitors can collaborate in sales and distribution, supported by Coviello and Munro (1995), but they can also simply share information when there is a mutual interest involved. Furthermore, co-opetition can be a conscious search for a common goal, or it can have a more informal nature, occurring serendipitously (Vanyushyn, Holmlund & Kock, 2009).

The reasons to engage in co-opetition have been studied in several industries. Kraus et al. (2019) found that factors such as trust, mutual benefits, and commitment are crucial drivers in co-opetition in the beverages industry. Ceptureanu et al. (2018) found similar results in the energy industry, also emphasizing drivers like trust and outcome (meaning positive benefits). Interdependence was found less important, albeit significant (Ceptureanu et al., 2018). In their study of financial firms, Kraus, Schmid, and Gast (2017) found that companies are interested in benefiting from each other and recognize potential in sharing resources and know-how. They (ibid. 2017) also found that co-opetition is a good enabler for business model innovation. When studying the food industry, Galdeano-Gómez, Pérez-Mesa, and Aznar-Sánchez (2016) found that exporting activities and internationalization were motivators for co-opetition, partly because of resources. In their study of Finnish SMEs, Vanyushyn, Holmlund, and Kock (2009) found that the top reasons for co-opetition were finding new customers, decreased market costs, increased productivity, and new knowledge. To summarize, many companies see value in cooperating with competitors, particularly when entering new markets.

An interesting observation by Kock, Nisuls, and Söderqvist (2010) is that companies in the same networks and ecosystems don’t necessarily look at each other as competitors. The authors (Kock, Nisuls, & Söderqvist, 2010) therefore point out that the question arises who defines a competitor in the first place; is it the customer, the company, the researcher, or someone else? Are two companies necessarily competitors just because they happen to be active in the same industry?

2.3 Theoretical framework

This chapter has outlined the theoretical framework for the thesis. I described both classical business ecosystem theory in detail (Moore, 1993; 1996), as well as later
influential contributions in the area (for example Iansiti & Levien, 2002; 2004; Adner, 2006; Adner & Kapoor, 2010; Valkokari, 2015). The business ecosystem theory was complemented with brief internationalization theory, dealing with network aspects (for example Coviello & Munro 1995 or Torkkeli et al., 2019) and co-opetition (for example Vanyushyn, Holmlund & Kock, 2009).

The inclusion of internationalization aspects helps to shorten the gap between business ecosystem theory and internationalization theory, because they provide important knowledge on why companies choose to collaborate with competitors, and how the business ecosystems are formed in the first place. Since networking is crucial for SME internationalization efforts, it is also crucial in establishing international business ecosystems. In such networks or ecosystems some collaboration between competitors can be expected.

To summarize, the theoretical framework for this thesis is based on how the author views the connection between the different theoretical concepts discussed. This view is presented and conceptualized in Figure 3.

*Figure 3: Theoretical framework*
3 METHODOLOGY

This chapter presents and argues for the methods used in the thesis. First, the philosophical presumptions of the thesis will be discussed, followed by an outline of the research design. Then, the data collection process will be described in detail, followed by a discussion on data analysis. The chapter ends with brief discussion on reliability and research ethics.

3.1 Research philosophy

Research philosophy refers to the concept of development of knowledge and the beliefs and assumptions that the researcher undertakes to construct the world. These assumptions will shape the research process and allow for a coherent research design. (Saunders, Lewis, & Thornhill, 2016).

This thesis follows the philosophy of social constructivism and is therefore epistemologically subjectivist. Subjectivism implies that social reality is made of perceptions, narratives, and opinions of social actors (Saunders, Lewis, & Thornhill, 2016). Furthermore, social constructivism means that humans construct their own reality and interpretation of the world. Thus, the human perception can never be absolute or objective because of intersubjectivity (Patton, 2015). This intersubjectivity is constructed by social interactions in which humans create shared meanings and interpretations of realities (Saunders, Lewis, & Thornhill, 2016). Therefore, an objective truth is extremely hard to capture, because it is always a consensus and a shared interpretation among people (Patton, 2015). This means that two people can look at the same thing but understand it completely differently. Social constructivism and subjectivism imply that the researcher is also engaging in social construction, not just observing it (Patton, 2015).

These philosophical presumptions are suitable for this thesis, because business ecosystems are complex social systems made of social interactions. Business is also characterized by continual processes, constant change, and disruption. According to Saunders, Lewis, and Thornhill (2016, p.130), such situations need to be studied in detail in order to understand how the reality is experienced by the actors involved. Furthermore, the research philosophy implies that the research seeks to capture multiple understandings of the world and therefore not seeking a universal explanation (Patton, 2015).
3.2 Research design

Bryman and Bell (2015) point out that whereas quantitative strategy emphasizes quantification and analysis of data with the objective of testing theories, thereby taking a natural scientific approach, qualitative strategy emphasizes words and the generation of theories, taking a view of social reality as constantly shifting. In qualitative research, emphasis is also put on how individuals interpret the world (Bryman & Bell, 2015). Furthermore, Patton (2015) points out that qualitative research focuses on interpreting meaning and how people and groups construct it.

The research questions of this study suggest the use of qualitative methods, because the purpose is to understand how business ecosystems are perceived by people working for small companies involved in ecosystem programs, and how those programs could enhance SME internationalization. Since the term business ecosystem is sometimes used in abstract ways to explain complex business networks, it is interesting to study how companies interpret the meaning behind such terms. In other words, the aim is to understand the perceived reality of business ecosystems and what it means to the companies interviewed for the study. Using qualitative methods provides the researcher the opportunity to produce descriptions and understandings of the informants’ meanings and definitions of a situation (Gephardt 2004).

This study is exploratory in the sense that the aim is to gain insight into a certain topic. As the study aims for clarification of the perceptions and understanding of business ecosystems, an exploratory approach is useful. According to Saunders, Lewis, and Thornhill, (2016, pp. 174-175) exploratory research is flexible and adaptable to change. This means that the data can give insights that can lead to the researcher changing direction, thus providing a flexible way for understanding a phenomenon.

In this thesis, no explicit theory is being tested, which rules out a strictly deductive approach to theory development. Since business ecosystem literature remains somewhat conceptual and lacks theoretical consensus, an approach based on testing theories is not optimal. Neither is the aim of a master’s thesis to generate and build new theory, which rules out a strictly inductive approach. The goal is rather to pursue a mix of these approaches, meaning that by incorporating existing theory and analyzing the findings, theory can be modified through exploring the phenomenon of business ecosystems and its connection with internationalization. Therefore, it is suggestable to use the abductive approach to theory development. In practice, the nature of a master’s thesis is likely to
lead to the use of this approach of combining the inductive and deductive elements (Saunders, Lewis & Thornhill, 2016). This approach is also useful given the exploratory nature of the study, because it allows for flexibility and changing of the direction if necessary.

The research design for this thesis is a case study. As Bryman and Bell (2015) point out, what distinguishes a case study from other designs is a focus on a situation or system, with emphasis on a certain setting. Berg (2001) points out that case studies are often used in business studies to bridge a gap between theory and practice. Also, the selection of case study as research design is based on an opportunity to learn more about a phenomenon (Bryman & Bell, 2015). Also, this phenomenon is often a contemporary one, as opposed to a historical one (Yin, 2014). The use of “how” questions and an exploratory approach are also likely to lead to a case study design (Yin, 2014).

In this thesis, the research interest lies in a group of companies within a business ecosystem, or several ecosystems. I want to understand how they see themselves in that setting, and how they understand the setting as a whole. Furthermore, this thesis aims to study the perceived connections between business ecosystems and internationalization efforts. Therefore, the case can be described as follows: A group of companies in the smart mobility sector, who have done collaboration with Business Finland, trying to make sense of their environment and internationalization. A more detailed description of the case is provided in Chapter 4.

### 3.3 Data collection

In qualitative research, the most commonly used method is probably the interview (Bryman & Bell, 2015). The interview allows us to see other persons’ perspectives and capture their interpretations and perspectives of meaning (Patton, 2015). Also, in qualitative research, interviewing is usually less structured than in quantitative research, with an interest in the interviewee’s point of view (Bryman & Bell, 2015). Therefore, interviewers can flexibly depart from the structure or guide if they think they can get insight of something relevant (Bryman & Bell, 2015). The semi-structured interview is sometimes seen as the heart of qualitative research (Gioia, Corley, & Hamilton, 2012). As described earlier, the approach to theory development is abductive. The process, however, begins inductively by collecting the data and making preliminary analysis before considering theoretical aspects. In accordance with the inductive approach, the researcher should aim at keeping an open mind, so that theorizing can emerge out of the
data collected (Bryman & Bell, 2015). Therefore, I used semi-structured interviewing as a data collecting method.

According to Bryman and Bell (2015), the semi-structured interview is constructed as a set of questions with specific topics that need not to be followed exactly as outlined. Therefore, the interviewer can ask follow-up questions if something relevant or interesting is picked up from an answer. The interview guide (See Appendix 1) was constructed in three parts: (1) introductory questions on cooperation with Business Finland, (2) questions on business ecosystems and co-opetition, and (3) questions on internationalization. The structure of the interview guide was very open-ended. The introductory questions on cooperation with Business Finland were formulated because of the purpose of the research and to gain an understanding of the setting. Questions on business ecosystems relied somewhat on theory but were left open as not to influence the answers too much. The questions on co-opetition and internationalization were also very open in nature. This structure was checked with the thesis supervisor prior to the interviews, which resulted in some additional questions being added and slight modification of the first version.

3.3.1 Sampling

Bryman and Bell (2015) point out that in case study research, where the units of analysis are small, appropriate and purposeful informants should be selected. Even though the number of informants is few, it remains relevant to the research. Furthermore, the goal is to understand the case in depth, and the samples should be set at the same research criteria as the case (Bryman & Bell, 2015).

The wider population is defined as all Finnish SMEs, and the sample is six firms operating in the smart mobility industry. Data is gathered by interviewing people that represent these companies. Furthermore, all companies have been in some collaboration with Business Finland, either through R&D funding or involvement in export promotion programs.

The data collection strategy can be considered a mix of convenience sampling and purposeful sampling. A convenience sampling strategy implies interviewing those who are available, close at hand, or easily accessible (Berg, 2001). Some scholars argue that convenience sampling is used because representativeness is not as important in qualitative research as in quantitative research (Bryman & Bell, 2015). Also, convenience sampling can be used when the researcher is restricted by interviewee selection (Bryman
& Bell, 2015). Purposeful sampling, on the other hand, implies selecting information-rich informants that appear to be of central importance for an in-depth study of a phenomenon (Patton, 2015, p.264). Purposeful sampling suggests selecting companies that the researcher finds relevant to the case.

As this thesis was done as an assignment for Business Finland, there were some restrictions in the interviewee selection, leading to a mix of convenience and purposeful sampling strategies. Firstly, the people from the Smart Mobility team at Business Finland helped me identify relevant firms and interviewees for the study. The relevancy was determined by how the companies' business models fit a hypothetical business ecosystem setting. However, all companies involved in Business Finland’s Smart Mobility activities could be considered relevant, because they all aim for internationalization. Since business ecosystem theory underlines new and modern ways to co-operate and often emphasizes technological and commercial disruption, smart mobility companies have a good fit for this study. Secondly, the convenience sampling strategy had to be applied due to circumstances such as availability, schedule, and program activity. Since the people in the Smart Mobility team at Business Finland knew well many of the prospect companies, they had an idea of who might not even answer a phone call or an e-mail. Also, some of the companies involved in the Business Finland ecosystem programs are very inactive members, which led me to choose companies that have been very active during the past years. This was a purposeful strategy, because one of the objectives of this study is to look at companies that have been involved in public ecosystem programs. Therefore, being an active member in the program was a relevant criterion for interviewee selection.

### 3.3.2 The interviews

The initial goal was to conduct 5-10 interviews, but during the data gathering process seven potential interviewees were ultimately contacted. Out of these seven, access was easily gained to six interviewees. The seventh person stopped answering e-mails and calls and was therefore dropped. Five interviews were conducted face-to-face and one as a Skype call through the web. Originally, the plan was to conduct all the interviews face-to-face, but one interviewee had to cancel due to illness. Because this person is mostly stationed abroad, the interview was rescheduled as a web-based Skype interview. The face-to-face interviews lasted between 24 and 45 minutes each, and the Skype interview lasted for 49 minutes. I had reserved enough time for all interviews and did not feel that
any conversation was too short to provide meaningful answers. I did my best to follow the interviewing principles as outlined by Patton (2015, p. 428).

The interviews were conducted at both the facilities of Business Finland and in the offices of the interviewees. Some companies with an office in Helsinki were kind to provide facilities for the interview in their premises. Others, coming from other cities in Finland, agreed to meet at the Business Finland office in Helsinki. The language of the interviews was English.

Already in the introductory e-mail (see Appendix 2), as well as before the interview, the interviewees were informed about the objectives of the study. Permission to record the interviews was asked. I have also considered anonymity issues, since some of the interviewees expressed a concern for sensitive information being made public. Thus, companies are referred to as Company A, B, C, etc., and the interviewees are categorized according to their role in the companies. These roles are 1) CEO, 2) Head of Business Development, and 3) Sales Director. The interviewees (respondents) are referred to as R1, R2, R3, etc. (see Table 2). All interviews were audio recorded and later transcribed in writing. All interviewees also signed a participant consent form (See Appendix 3), except R6, who was interviewed through Skype. This was settled by asking permission to use quotes and explaining the objectives again before beginning the recording.

### Table 2: Respondent roles

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Company</th>
<th>Role</th>
<th>Date interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Company A</td>
<td>CEO</td>
<td>10.12.2018</td>
</tr>
<tr>
<td>R2</td>
<td>Company B</td>
<td>CEO</td>
<td>11.12.2018</td>
</tr>
<tr>
<td>R3</td>
<td>Company C</td>
<td>Head of Business Development</td>
<td>3.1.2019</td>
</tr>
<tr>
<td>R4</td>
<td>Company D</td>
<td>CEO</td>
<td>8.1.2019</td>
</tr>
<tr>
<td>R5</td>
<td>Company E</td>
<td>CEO</td>
<td>9.1.2019</td>
</tr>
<tr>
<td>R6</td>
<td>Company F</td>
<td>Sales Director</td>
<td>18.1.2019</td>
</tr>
</tbody>
</table>

### 3.4 Data analysis

The data analysis method chosen for the thesis is thematic analysis. This method is suitable, given the research questions of the study. Since the aim is to research how SMEs in the smart mobility sector perceive business ecosystems and understand internationalization in that context, I am looking for reoccurring themes or patterns that
might shed light on SME understanding of these concepts. Thematic analysis is a systematic approach that allows for the researcher to move between deductive and inductive approaches (Saunders, Lewis, & Thornhill, 2016), thus making it suitable for the abductive approach of this thesis. Also, the findings can reveal themes that the researcher wants to explore more in depth, instead of analyzing the whole data set (Saunders, Lewis, & Thornhill, 2016). Thus, thematic analysis is a suitable and flexible analysis method for the abductive approach.

3.4.1 Coding the data

In accordance with the approach described by Saunders, Lewis, and Thornhill (2016, p.580), I started out by becoming familiar with the data, searching for the most relevant and interesting points related to the research questions. Such “playing with the data” is helpful in finding promising emerging patterns and concepts (Yin, 2014). At the same time, I also created self-memos to write down the different stages of the coding and data interpretation. When going through the data, I also wrote down some initial thoughts on the connection with the literature, thus already beginning the interpretation process.

I categorized the data by creating themes and sub-themes to be able to analyze the data systematically. In essence, I created summarized versions of my transcripts, leaving out the data that I did not find relevant in terms of my research questions. The categories, or themes, were 1) Co-operation with Business Finland, 2) Business ecosystems, 3) Co-operation and collaboration and, 4) Internationalization. All these categories included some sub-categories, such as “understanding of the term”, “ecosystem health or rules”, “relevancy to get involved with Business Finland”, and “internationalization strategy”. This categorizing of the data was done in accordance with the abductive approach, as some categories, such as “open and closed ecosystems” emerged inductively by looking at the data, while other categories, such as “co-opetition” were expected to emerge based on the literature.

After this initial categorization, I went through the data one theme at the time, looking for reoccurring concepts, patterns or variation among the respondents. At this point, I wrote a first draft of the findings, Chapter 5 in this study. Then, I started coding the units of data under codes second-order categories such as “Relevancy to get involved with Business Finland” → “funding”, “networking”, “internationalization”, or “understanding of the term business ecosystem” → “dynamic”, “organization”, “collaboration”, “mutual benefits”, and so on. This two-stage coding and categorization of the data made it easier
to analyze the data and to find the reoccurring themes and patterns. After the coding was finished, I modified the findings and began the interpretation process.

3.4.2 **Data interpretation**

The data interpretation began by reading through the findings multiple times, searching for patterns and themes that resonated with the theoretical framework of the thesis. I noticed that some themes covered areas that were absent in the theoretical framework, which led to small modifications and additions in Chapter 2. I then moved back and forth between the data and the theory to find resemblance and dissimilarities when answering my research questions. This constant interplay helped me to develop my interpretations of the data and to make a theoretical contribution, to the extent possible in a master's thesis.

3.5 **Reliability**

Since it is difficult to determine the reliability and validity in qualitative research (Bryman & Bell, 2015), this thesis has methodological limitations. First, the small number of interviewees and the limitation to one industry make the findings difficult to generalize. Second, the subjective nature of the research means that the researcher is biased. It is possible that personal bias affects the interpretation of results. After all, researchers are “as human as managers” (Mantere & Ketokivi, 2013, p.3), and therefore prone to error.

However, generalization should not be overvalued, as a single case study can give much insight on the studied phenomenon (Silverman, 2011). Also, the insights found can falsify previous generalizations on the subject (Silverman, 2011). Moreover, there are other methods of evaluating qualitative research, as suggested by Bryman and Bell (2015, pp. 400-403) and Silverman (2011).

For instance, **credibility** of the data is claimed due to the high relevance of the interviewees; all respondents were decision makers in their firms and active members of the smart mobility spectrum. In terms of **transparency**, a vast number of anonymous quotes have been provided in the findings section. In terms of **transferability**, I have strived to provide a thorough description of the case and social situation in question. In terms of what Silverman (2011, p.365) calls **low-inference descriptors**, reliability is claimed due to the fact that all interviews were recorded and thus available for re-examination, carefully transcribed, and extensively presented in the study in the form of
extracts. Also, the inclusion of a purposeful sampling strategy gives credibility to the representativeness of the case (Silverman, 2011).

Thus, reliability is argued for by the choice of methodology, as advocated by Silverman (2011), and by the rigorous conducting of the methodological process, as advocated by Mantere and Ketokivi (2013). I have tried to use appropriate methods and handle the data critically and objectively, while making an effort to explain the research process in detail in this chapter.

3.6 Research ethics

There were some ethical issues raised during the research process. For instance, as the project was conducted as an assignment for Business Finland, the agency also had an interest in how to conduct the research. This was, however, limited to the formulation of the purpose of the research, as Business Finland is interested in company perspectives of business ecosystems. As explained earlier in the sampling sub-chapter, Business Finland also took part in recognizing potential interviewees, mainly because of reasons related to gaining access. During the data collection process, I had full autonomy in how I chose to conduct the research. I asked for opinions on the interview questionnaire, which led to some additional question being added, but didn’t result in erasing any. In conclusion, there was no conflict of interest between Business Finland and Hanken School of Economics.
4 THE CASE

In the thesis, the case is defined as a phenomenon where multiple companies from the smart mobility sector engage in internationalization activities in collaboration with each other and with Business Finland. The interviewed companies were to meet the following criteria:

- The company is active in the Finnish Smart Mobility sector
- The company has done co-operation with Business Finland
- The company already engages in, or aims for, internationalization or export activities

All companies are SMEs, except for Company C, which is a large company. However, Respondent 3, from Company C, used to be CEO of a start-up, which was later acquired by Company C. The acquired start-up continued as a business unit at Company C. Thus, R3 answered questions from the viewpoint of the former, now acquired, start-up.

While Business Finland as an organization is a relevant actor for the interviewed companies, it is not at the center of the ecosystem model. Rather, it works, in its own understanding, as a “builder” of ecosystems. This is partly why it is interesting to study how SMEs involved with Business Finland understand the concept behind business ecosystems. According to Business Finland, it constructs ecosystems or makes them possible through funding and internationalization support. What this study explores is how the SMEs see it and how the business ecosystems are connected with their internationalization efforts.

4.1.1 Business Finland

Business Finland was created in 2018 as a merger between innovation funding agency Tekes and export promotion company Finpro. Finpro operated so called growth programs or internationalization programs, whereas Tekes had different innovation funding and loan programs. As of the 2018 merger, these services are integrated into the new ecosystem programs. Although formally being two separate organizations before the 2018 merger, I only speak of Business Finland as one entity in this thesis.

Between 2015 and 2018 the internationalization program related to smart mobility was called Intelligent Vehicle and Mobility Solutions and was referred to as a growth
In late 2018, a new program called Smart Mobility began its operations. Essentially, the Intelligent Vehicle and Mobility Solutions program was integrated with the new program. The difference between the programs is that as of 2018, Business Finland started emphasizing the word “ecosystem” in its organization, and whereas the earlier program mostly dealt with the car industry and new mobility services, the Smart Mobility program deals with all things related to mobility. This includes cranes, drones, mobile machinery, forestry, etc. Another difference is that the old program only covered export promotion services, while the new program also covers funding services. Similar ecosystem programs or teams have been launched in various sectors, such as cleantech, circular economy, and healthcare. All companies selected for this interview were part of the Intelligent Vehicles and Mobility Solutions growth program and are therefore now also members in the Smart Mobility program. Therefore, and because of clarity, I refer to both programs as the Smart Mobility program.

The objectives of the ecosystem programs are to support Finnish companies in building new innovative solutions and in internationalizing those solutions to new markets. Although funding is always provided to some individual company, Business Finland has defined a business ecosystem as the customer, meaning that the support is channeled to joint ventures or projects with a group of companies co-creating a solution.

Business Finland has divided the business ecosystems into three categories (see Figure 4): Co-operation networks, Value networks, and Growth Engines. Co-operation networks and Value networks are fairly similar. They are business-driven but can also involve research organizations, they require common goals for common projects, and aim for the creation of new solutions. The Growth Engine is a funding program with big ambitions, aiming for internationalization and huge revenue streams for a specific ecosystem applying for funding. In Business Finland’s view, the best ecosystems can evolve into Growth Engines. These ecosystem funding channels mean that companies form a service proposal and apply for funding together. Usually, funding is given to only one company per ecosystem, which then becomes the ecosystem leader. This company is usually a platform company at the center of the ecosystem. Sometimes the projects also involve facilitators or orchestrators, which are expert organizations facilitating and organizing ecosystem joint activities. An example of such a facilitator is Dimecc, a company facilitating the One Sea autonomous shipping ecosystem.

With its ecosystem policy and understanding, Business Finland has a long-term view of how the world is changing. The purpose of the ecosystem programs is to aim for new
disruptive business. Usually, this means identifying a key or lead firm, which then needs other companies around it to build a successful ecosystem. In essence, the view of Business Finland is that ecosystems should create new markets, not just adapt to old conditions.

**Figure 4: Business ecosystems as Business Finland customers**

Growth engines

Value Networks

Co-operation networks

### 4.1.2 Smart mobility

The companies chosen for this case study have all collaborated with Business Finland and are part of the smart mobility industry. Not all of them have participated in a Growth Engine project of the like described above, and hence Business Finland does not view this group as one entity or ecosystem. In this thesis, the Growth engines, Value networks, and co-operation networks serve as a reference point to how Business Finland understands ecosystems as its customers (see Figure 4), but the purpose of the research is not really to investigate the programs in particular. Rather, the purpose is to examine how SMEs involved with Business Finland understand the concepts behind ecosystems and how they relate to internationalization.

Smart mobility, as explained in the introductory chapter, is an industry that has emerged due to technological innovation, which is currently disrupting traditional transport and mobility businesses. Smart mobility is also driven by climate change and the need for sustainable technologies. The word “smart” refers to new innovative technologies in mobility, such as connectivity, ride-sharing, electrical mobility, or autonomous driving.
These technologies and innovations are disruptive, because they are changing the way we think about transport and they have the possibility to change established ways of business in mobility. This is a challenge for the established players in the automotive and transport industries, because they are used to stable business models and control of their value chains. Automotive OEMs and public transport monopolies operate in closed ecosystems and are not keen to share information, because they want to protect the status quo.

Finland has never been a big country in the automotive industry and has never had any OEMs. Therefore, it is interesting that so many Finnish smart mobility companies are now rising and establishing partnerships with the big players in the industry. This goes to show that the driving force behind smart mobility is technological innovation and knowledge. Since it is in the interest of public authorities to support industries and companies were Finland has solid knowledge, the smart mobility companies provide an interesting case for research.

It is motivated to do research on business ecosystems with smart mobility as a case, because ecosystem scholars have emphasized the role of disruption (Moore, 1996) and innovation (Adner, 2006), both of which are highly relevant for an industry like smart mobility.
5 EMPIRICAL FINDINGS

This chapter presents the empirical findings of the study. Through the abductive process, my research questions emerged as follows:

- *How do SMEs that collaborate with Business Finland perceive business ecosystems?*

- *How is SME internationalization understood in the context of business ecosystems?*

The structure of this section is done in line with the thematic analysis method explained in Chapter 3. The four sub-chapters 5.1, 5.2, 5.3, and 5.4 are the broad themes and each include sub-themes. These themes and sub-themes are essentially the result of the relevant findings of the research. Respondents are referred to as R1, R2, R3, etc. For a more detailed outlook on respondent roles, see Table 2.

5.1 Co-operation with Business Finland

The findings show that the interviewed companies got involved with Business Finland due to different reasons. Some of the companies needed funding for their ideas and R&D and thus applied for Business Finland or former Tekes funding. Some respondents stated that the co-operation with Business Finland started by coincidence, for example by meeting people from the agency at different events. Often Business Finland made first contact, asking if the companies would be interested to participate in the Smart Mobility internationalization program. Some of the respondents had already earlier had funding discussions with Business Finland before joining the internationalization program. One company had also been in co-operation with other public sector organizations, thus making it easy to approach Business Finland.

One respondent viewed the co-operation with Business Finland as an essential part of the company’s business model, stating that the organization had a big role in ecosystem building in the smart mobility sector. As Respondent #5 (R5) put it:

“Well I think Business Finland was part of the whole ecosystem building from early on. Both from former Tekes side but also from creating the Maas ecosystem and explaining it to the rest of the world. So even before the company was founded, since the whole company is about ecosystems, Business Finland was an active and, let’s say, a core player into all this.”

The interviewees expressed the opportunity to get international contacts and finding possible partners as the most relevant reason to get involved with Business Finland. Most
of the respondents saw Business Finland as a good channel to get connections abroad and to find relevant events to attend. It was emphasized that small companies saw the opportunity to get connections that they would never get on their own. These kinds of connections are, for example, large OEMs like Audi. Other reasons to get involved included support on internationalization strategy and company promotion activities.

Besides international contacts, one reason to get involved with Business Finland was also the opportunity to network with other Finnish companies. Some respondents saw the internationalization program facilitated by Business Finland as an ecosystem in itself, and the opportunity to network within that ecosystem was emphasized. As R4 put it:

“The other [reason to get involved with Business Finland] is the opportunity to network within the ecosystem. There were a lot of interesting companies within the [Business Finland internationalization] program, and the opportunity to network with them was another thing. But the possibility to get connected with companies abroad was definitely the biggest thing.”

R5 mentioned Business Finland being a core player in Company E’s own ecosystem, seeing the agency as an active supporter of the business model. R5 also stated that Business Finland was a crucial part in the common ecosystem development and its internationalization. This is something that Company E cannot do alone, according to R5.

5.2 Business ecosystems

5.2.1 Understanding

The respondents did not share a common understanding of the meaning behind the term business ecosystem, although many did bring up similar points of view related to some of its characteristics.

Some respondents thought of business ecosystems as modern or future ways of operating or scaling a global business. What was described as modern was that no-one should own an ecosystem, meaning they shouldn’t be controlled by a single player, and that there are always multiple relationships involved with the service provision. R1 stated that business is taking ecosystem structures nowadays because “that’s just how the world works”. This was supported by R5, who stated that the business ecosystem comes with change and disruption. R2 stated that the business ecosystem is an effective way to organize business, and that it is not a trend anymore, but a practical way of conducting business. R2 continued by saying that ecosystems are built after identifying a common problem and creating a solution for it:
“It means that you find the end users starting to say ‘hey, we have a common problem’. And then, there might be companies who are saying ‘what if we put our technologies together, then we can meet their demand and make more business for us and more business for them’.”

All respondents saw the business ecosystem as something that brings benefits and synergy when working together with other companies. It was emphasized that companies can create more as a collective or group that what they could on their own outside a business ecosystem, meaning they can be stronger together. An ecosystem, hence, would be more than the sum of its parts. It was also stated that ecosystems can lead to interesting opportunities and co-operation. R2, for example, saw ecosystems as a good way to establish partnerships.

However, there was no consensus on the borders of an ecosystem, i.e. how big a group of companies should be to be called an ecosystem. R3 stated that there needs to be more than ten companies involved in order for an ecosystem to emerge. When asked why, R3 stated that is was a gut feeling. He then became unsure of his own answer and started thinking aloud that basically a smaller ecosystem of, for example, three organizations could form an ecosystem as well, thus changing his opinion. R4 stated that Company D was involved with several ecosystems, because different business domains need different ecosystems. R4 also became unsure of the definition:

“But now you got me thinking about the definition of ecosystems and what it actually means. Do the companies need to even know about each other, or do they just work in the same field? I’ve always thought of ecosystems as something that works in a conscious way [...] I wouldn’t say that two companies that have nothing to do with each other are part of an ecosystem, the way I understand it. Even if they have a similar product”.

R1 had a view that an ecosystem can span different industries and saw partners from different sectors being part of Company A’s ecosystem. R1 talked about business partners and technology partners being part of the ecosystem, although these two sectors or groups were quite different from each other and not necessarily interlinked in any other way. R1 stated that technology partners are mostly Finnish, whereas business development partners are international. Hence, there was also a geographical dimension to the understanding of ecosystem borders. R5, for instance, stated that Company E is part of multiple ecosystems, because they are still quite local, implying that each country or city would have an ecosystem of its own.

The understanding of the organizational nature of business ecosystems was therefore different among respondents. Some, like R5, were very clear with their own definition and understanding, whereas others expressed uncertainty and started re-thinking their position. Some thought that a business ecosystem is something formal or organized,
something that needs facilitation or even a brand for it to function properly. R2, for instance, stated that Company B was part of branded ecosystem such as Vamos. As R3 explained:

“You can make an unformalized cooperation with some parties, but when you start doing something concrete in business you always make a contract, you always formalize it”.

R3 also stated that ecosystems need facilitation especially when they are young or in an early phase. It was emphasized that someone needs to take responsibility, formalize the ecosystem and set up goals for what it wants to achieve. Furthermore, there needs to be money involved, or there is no dedication to the ecosystem from its members. After this early phase, however, the situation can change. As R3 continued:

“When they [the business ecosystems] mature, it can basically just be a formulation of independent organizations which have been able to generate the connections. […] [T]here is a lifespan.”

Some respondents thought that although a business ecosystem needs to be formal, there doesn’t need to be money or business involved. Sharing and exchanging information was something that came up more than once. As R4 put it:

“You know, the way [an ecosystem operates] doesn’t have to be making business, it can be exchanging [information] or networking”.

Others saw the ecosystem as something more informal. R1, for instance, talked about ecosystems being organic and volatile, and that the business ecosystem is a hybrid model. With this, R1 emphasized that business models based on ecosystems can change fast. Related to the lifespan that R3 was talking about, R1 stated that ecosystems are a way to search for organic growth, but when fixed arrangements are made with customers, it is no longer an ecosystem. R1 thought of ecosystems as an aggressive way to search for opportunities. In this sense, R1 had the opposite viewpoint than, for example, R3 and R4 related to formality and organization, because when such factors enter the picture, R1 did not think of it as an ecosystem anymore:

“If you look at the maximum effectiveness in seeking growth in the fast-growing market, globally, then you need to be part of an ecosystem which will create opportunities. Of course, it’s a hybrid model. If you are in a specific market in one country, let’s say, it’s often the reasonable and the only possible way to proceed. To grant so called exclusive rights in a certain market for a certain player means it will no longer be an ecosystem, but a fixed arrangement. And this actually rules out competition. But in that case, you are already quite far, and it’s no longer an ecosystem based aggressive organic search for the opportunities.”

R6 saw the business ecosystem as somewhat of a buzzword, essentially understanding it as a group of like-minded companies operating in the same industry. He had not, however, actively been talking about an ecosystem to customers or partners. According
to R6, when referring to a business ecosystem, he thought of it as the group of companies involved with Business Finland’s Smart Mobility program. In R6’s view, a business delegation or an internationalization program could be seen as a business ecosystem. As R6 put it:

“I mean, if I would use the term and what I think it could refer to is probably the kind of community built around for example the Business Finland activities. Bringing together different sized, perhaps more of the small- and middle-sized, companies with similar objectives, similar targets, and similar growth plans. And then [...] bringing the network together for the companies to share information and learn together [...].”

R4 also raised the point that ecosystems mean different things to different actors. For example, just because the government or Business Finland sees a group of companies as an ecosystem, the companies themselves might not do so. R4 clarified this as follows:

“If you are a company and think about your ecosystem, it’s of course the organizations and the people that you choose to deal with [that constitute the ecosystem]. But if you are kind of outside the ecosystem, let’s say the government, and if you think about the smart mobility ecosystem in Finland, it really doesn’t matter whether they [the companies] are interlinked or not. They are just doing business in the same domain and they, in your eyes, form ecosystems. So, it depends on who you are and what your viewpoint is.”

R4 concluded that because of the possible different points of view, it might even prove to be impossible to define what an ecosystem is.

5.2.2 Ecosystem affiliation

All interviewees replied positively when asked if they see their company as part of a business ecosystem. Some respondents gave examples of branded ecosystems in the mobility sector that they are part of. R2, for example, stated that Company B are part of an ecosystem called Vamos. This ecosystem advertises itself as a group of companies partnering up together to offer services in event promotion, mobility, and payment services. R3 mentioned Company C being part of an ecosystem called ITS Finland, seeing it as an example of a quite functional ecosystem. ITS Finland is a national unit of an international umbrella organization called Intelligent Transport Systems which serves as an interest organization and networking forum for all organizations interested in smart mobility. It does not advertise itself as an ecosystem explicitly but is at least seen as one by R3.

Many respondents stated that their business model is based on working with ecosystems, which means that they are part of one or several ecosystems. R4, for example, described Company D being involved with three different ecosystems, while R5 said that business ecosystems are what the whole Company E is about. Many companies found that being a platform company requires an ecosystem model. Because platform companies don’t
create all capabilities needed for a service in-house, they need partners. These partners, then, effectively constitute the ecosystem around the companies.

Company F, which had a somewhat different business model from some of the platform companies, understood being part of a business ecosystem as taking part in Business Finland activities, although they had not used the term as such. As R6 put it:

“[…] I haven’t been using [the term business ecosystem] if we are speaking of a particular term. And if in this case it would be referring to Company F being a participant in Business Finland activities and the [Smart Mobility] program, I haven’t been speaking of an ecosystem. But perhaps it’s just me. Perhaps this is a term that other people have been using. I have been talking more about a community or program or delegation of Finnish companies.”

When asked if R6 thought of Company F as part of an ecosystem, R6 stated:

“Yeah, I guess. If we are using the ecosystem term in a way that I described earlier and what it could mean to myself, sure. Of course, we are part of that.”

Even though almost all the companies saw themselves as parts of business ecosystems, R4 started questioning the nature of a company role in an ecosystem:

“I started thinking whether you must decide to be a part of an ecosystem or whether you just are. For me, somehow, an ecosystem is something you choose to be part of.”

5.2.3 Ecosystem roles

The respondents looked at the most relevant actors in relation to their own business’ through the company roles. R1 stated that there are basically no irrelevant members in an ecosystem, and that Company A needs partners for growth. R1 continued by saying that Company A operated as a “Trojan Horse”, bringing the partners with them wherever they go. R1 saw that the partners in the ecosystem offer individual solutions, therefore needing a platform to partner up with. At the same time, the platform companies cannot develop all capabilities in-house, which is why they need niche players in their ecosystem. R2 from Company B, for example, stated that no other company in the world provides exactly the same solution as them right now, making them a good partner for platform companies. Company B stated that, in fact, it was in the same ecosystem as Company A.

R4 saw Company D’s role as an enabler. Company D, being a platform, can connect different players with each other by providing the basic technology. R4 explained the enabler role as follows:

“For existing players, let’s say taxi operators, special needs transportation operators, public transport operators, we provide them tools that they can use for making their services more efficient, or to create new kinds of services for their customers. And then we have start-ups.
Company A as a startup have built their product on top of our platform. So, with our platform we enable them their service and fast time to market, and so on. [...] And without us it would take them years to develop these capabilities.”

R5 saw different transportation partners as the most relevant actors for Company E’s business. Being a platform company as well, R5 saw Company E’s role as a one-stop shop touching the end user, meaning the customer using the application.

5.2.4 Open ecosystems

One theme that was not included in the interview guide, but which emerged in many of the interviews, was the distinction between open and closed ecosystems. The distinction was understood as open ecosystems being modern or up to date, whereas closed ecosystems are old-fashioned. Openness was understood as a condition for ecosystems to function properly. An open ecosystem was seen as productive, because it was the only way to integrate offerings and products effectively. R1 and R5 argued that open ecosystems imply no sole rights for anybody, meaning that no one is in strict control. R2 also emphasized that although an ecosystem is open, it doesn’t mean that there would be a lack of proper contracts and agreements.

Closed ecosystems were seen as control mechanisms, usually used by old players in the industry. Both R2 and R5 used public transport monopolies as examples of actors who want to control their ecosystem. R5 described closed ecosystems as follows:

“A closed ecosystem is something that is controlled by someone, meaning that someone holds the key and access to that ecosystem.”

R5 understood closed ecosystems as a reaction of old companies like Daimler or Deutsche Bahn to try and protect their business from disruption. R2 viewed it in a similar way, stating that certain transport monopolies are afraid to lose their user data, which is why they want to control their ecosystems. This control was not, however, only limited to public transport actors. R5, for example, mentioned new companies such as Uber trying to set the game rules by buying every small actor out of the market to establish control. As R5 continued:

“That [Uber controlling and dominating] would just mean that for the city there will be tens of silos again, and for the end user it’s not a nice outcome eventually. So, there’s a lot of those that want to set the game rules themselves, because everybody in transport is big. Everybody is used to my rules”.

5.3 Co-opetition and collaboration

All respondents confirmed having collaborated with someone they considered to be a competitor. R5 stated that “that’s the whole idea of this”, meaning that the business
ecosystem business model requires co-operation with competitors, or co-opetition. R1 said that in a business ecosystem, basically anyone could be considered a competitor, and that it makes more sense to collaborate than to build everything in house. R4 said that the company policy was to work with anyone.

The reasons for co-opetition included mutual benefits and having supplementary products or services in relation to the competitor. Many respondents said that seeking collaboration with competitors is done in the interest of both, particularly when aiming for internationalization. As R1 explained:

“Here, again, we [Company A] provide the solution that they [Company E] don’t have, which is the ride sharing. And this gives both several benefits, also in Finland. Especially outside Finland it’s a good thing for both, because they have a very good footprint on the market. [...] So, it will strengthen both, in trying to look for the new markets and big international customers.”

R1 continued by saying that he couldn’t remember a case where Company A would have chosen not to collaborate with someone because of a potential competitor situation.

Supplementary products or services where the main characteristics for the mutual benefits described by the respondents. Most of the companies collaborate with competitors because of some solution they have that the competitor does not have. It also came down to the business models of many of the companies. As R4 put it:

“So, we have overlap with the offering, but then again our components can update their [the competitors] products. But it helps that we basically don’t even plan to provide full systems. [...] But the positioning is kind of the thing you need to understand. We are purely a platform, purely enabling with our capabilities, not selling full services. And that gives us the opportunity to sell, basically, to anyone.”

Some respondents also brought up some problems with co-opetition. One respondent quoted an anonymous person by saying that “the ecosystem will be a blood bath at some point”, meaning that co-opetition can sometimes be considered unfair. R1 gave an example:

“It was one of our platform ecosystem partners who were quite pissed off when they found that we had participated in some tender where they were participating as well. And we actually beat them.”

Respondent #5 also stated that co-opetition works well just as long as the rules are clear, which, according to R5, are not. This had to do with different players in the industry trying to dominate and set their own rules. R5 provided the following analogy:

“It is of no-one’s interest, eventually, what we are seeing now in the ecosystem. Someone goes out there and wants to play football, and then the other one comes into the court in with ice hockey sticks, and then there’s someone who wants to sumo wrestle. [...] And eventually you’ll end up in a mess where there is nothing out there. [...] It doesn’t mean that because it [the ecosystem] isn’t owned by anyone, the rules shouldn’t be there. Exactly then, the rules are extremely important.”
5.3.1 Dream team

Many respondents brought up global companies when asked what a “dream team” of companies to collaborate with would look like. What was emphasized was players that have a good foot print on the market, that have existing customer volumes and big resources. Partnering up with such companies, for example global consultancies or the big technology companies, was seen as a help in scaling business globally.

Some respondents also mentioned local players and startups all over the world to join their ecosystem and help them in their internationalization efforts. The key component in both global and local companies was that all respondents aim for collaboration with international partners.

5.4 Internationalization

5.4.1 Previous experiences and challenges

All respondents have had some experiences in international markets. Many companies had already established active business ventures in several countries, and some even had offices abroad. Many respondents emphasized an international mindset from early on, looking at several different markets at the moment.

The challenges in internationalization that the respondents brought up were finding the right partners, some cultural or language barriers, local protectionism, and challenges with existing business partners abroad. Some Asian regions, for example, were given as examples of a business environment, where cultural differences might have an impact on business. These sorts of differences can relate to, for example, communication.

Regarding language barriers, some companies even stated that doing business in Sweden might be difficult, because usually people want to do business in their own language. Some respondent thought of this as one form of protectionism, where customers choose the local company in favor of the foreign one. Of course, language barriers are not the only reason for protectionism. R4 gave an example of a tender offering Company D had participated in in a European country. Company D lost the bid to a local company, even though that company, in R4’s view, didn’t have the capabilities the customer was asking for.
5.4.2 Networking

Several respondents brought up networking approaches to internationalization, stating for example that events where a good way for finding new contacts in new markets. Events are seen as forums to find possible partners and sales channels. One respondent also brought up the value of the Government or Business Finland being involved in many of these events, because it brings credibility.

Networking was also seen as one of the most important aspects of going international. As R6, Sales Director of Company F explained:

“[T]he importance of business networks is really huge, especially when you go to a new market or country. So, you have to basically find your way somehow into the network where your potential partners and customers are already involved and active.”

Some respondents described that networking can take place in informal settings, but also through different networking organizations, like the aforementioned ITS Finland or other kinds of industry forums. Informal networks were also emphasized by R2 and R6. R2, for example, stated that one reason for Company B’s internationalization is due to R2’s personal extensive international networks, which makes the internationalization process easier. Similarly, R6, who is stationed in another European country, stressed the importance of informal networks. However, R6 also put emphasis on different industry associations or forums, where all interested parties meet to discuss future trends.

Thus, networking is seen as crucial for internationalization. However, one respondent stressed that networking was even more important than internationalization itself. As R4, CEO of Company D, put it:

“I’ve never actually thought about something being international or national. Frankly speaking, I don’t believe in the idea that you have to have some kind of footprint in your home country first. For us, it’s only been a convenience, because we have a very good network here. So that’s why we have a lot of operations in Finland. I think ecosystems and networking at least shouldn’t have borders.”

5.4.3 Internationalization strategy

Most respondents had the view that the company internationalization strategy was built around finding right partners, contacts, and sales channels. R6 explained that relocating abroad and setting up an office in a target country was part of a renewed company strategy. Some other respondents also had offices abroad with their companies.

Many respondents did not feel the need to differentiate their internationalization strategy from their business strategy in general. It was emphasized that finding the right
partners and just start selling is the main point, and that internationalization at this point is opportunistic. R5 called it the “apple tree strategy”:

“[...] We have independence of the product. We need to be able to have the elements that we need for our product, that are quite local, and we need to access them. So that’s the first thing. To build the product, we need to have a contract and an API from these different transport providers. So, what we do is we shake the apple tree and see where the apples fall.”

Many respondents also viewed internationalization as nothing special in itself, emphasizing that they don’t believe in setting a footprint in the home country first and then going abroad with the concept. R4, for example, stated that starting out in Finland was merely a question of convenience, because the company had most relevant contacts in Finland. Furthermore, R3 considered Europe to be an inner market for the company and didn’t even want to think of it as an international market. R3 continued by saying that companies need to have the right attitude to see Europe as an inner market.

Most respondents saw a clear connection between business ecosystems and internationalization efforts. It was emphasized that finding international partners require the ecosystem approach, because partnering up with international players gives the opportunity to scale globally. R2, for example, stated that Company B wants to find global partners that are the key players in their industry in 5-10 years. In order to grow fast, as start-ups usually want to, these global players are the desired partners.

Some of the respondents also agreed that ecosystems should not have borders, and that it is inevitable that a business ecosystem model becomes internationalized. R5 explained that due to the disruption that often comes with modern business ecosystems, they are likely to get internationalized:

“That’s how it is. Even if the offering would stay local, the ownership structures will eventually be consolidated [internationally]. This is what will happen with also the ecosystem or ecosystems that I’m representing. They will be converged, because technology allows that and makes it easy to come up with similar models everywhere.”
6 ANALYSIS AND DISCUSSION

This chapter is dedicated to the interpretation of the empirical findings and the result of the analysis. In this section, I will present the judgements I formed through re-engagement with theory, when applicable, and by returning to the research questions:

- *How do SMEs that collaborate with Business Finland perceive business ecosystems?*

- *How is SME internationalization understood in the context of business ecosystems?*

I begin with a brief discussion of the part that Business Finland plays, followed by an analysis of the business ecosystem understanding. Then, I discuss co-opetition and networking as drivers and mediators for internationalization. Finally, I aim to connect the themes to form an understanding of internationalization in a business ecosystem context.

6.1 Co-operation with Business Finland

The empirical findings suggest that the interviewed companies got involved with Business Finland due to networking and funding aspects. Some companies established initial contact through funding or loan negotiations and joined the internationalization activities later. Many companies also saw the Smart Mobility program as an ecosystem in itself, which meant that being part of the program created networking opportunities for the companies. The view seems to be that Business Finland makes an ecosystem, or a network, possible by having such a program. This view is supported by Moore’s (1993; 1996) conceptual understanding of business ecosystems, where government is included as a stakeholder in a company’s ecosystem (see Figure 1). In this case, contact with Business Finland is established due to a possibility to gain support in internationalization and to get important contacts from abroad. Therefore, Business Finland is seen as an important stakeholder for the companies.

Networking theory also supports the relationship building between Business Finland and the SMEs. As Torkkeli et al. (2019) stated, networking is essential for SME internationalization. The companies feel that they would not find crucial international contacts without the help from Business Finland, which is why they are happy to be involved in public programs such as Smart Mobility. Through the program, the companies get support for attending international industry conferences and other
events. This also serves as a channel for promotion and sales for the companies. Moreover, they can apply funding for R&D. Thus, networking with and through the government can be identified as an important step in SME internationalization.

The fact that some companies considered the Smart Mobility program to be an ecosystem is an interesting bridge to the analysis of understanding business ecosystems. According to Iansiti and Levien (2004), ecosystem borders are hard to establish, and companies that are not working directly with each other can be part of the same ecosystem. This is certainly true for the Smart Mobility program, as almost 100 companies are members. Of course, all 100 members are not active and do not collaborate or even network with each other, but the fact that some companies saw the program as an ecosystem supports the understanding of ecosystems as broad entities that are hard to define.

Business Finland remains a crucial part of the equation, because the companies view it as an enabler, builder, or supporter of business ecosystems. Through Business Finland, companies get information, connections, and internationalization support, all of which are relevant when understanding business ecosystems. Therefore, the role of Business Finland is an essential part of the SME ecosystem understanding.

6.2 Analysis of the business ecosystem understanding

The findings support the notion that there is confusion and multiple meanings behind the term “business ecosystem” as outlined by Valkokari (2015). This is demonstrated by the fact that the respondents did not share a common understanding of a business ecosystem. Some respondents, such as R5, had a very clear personal understanding, whereas others were less familiar with the term and its use. In this section, I will discuss and analyze the business ecosystem understanding according to the findings and the theoretical framework of the thesis. The units of analysis are the themes that I have derived at through thematic analysis of the findings. These are ecosystem characteristics, modern ecosystems, and co-opetition.

6.2.1 Characteristics

6.2.1.1 Borders

The issue of ecosystem borders provided some insightful information about how the respondents saw the structure of a business ecosystem. That is, how many companies need to be involved in a group for it to be considered an ecosystem? Because the issue
was not mentioned in the interview guide, it is interesting that many respondents nonetheless brought it up.

Based on the findings, it seems that there are roughly two ways of looking at the organizational structure, or borders, of an ecosystem (See Table 3). Firstly, business ecosystems are perceived as somewhat fixed entities with clearly recognizable members and borders. These members are then in direct co-operation with one another, and each member fills a specific role. Furthermore, the members need to be actively involved with the ecosystem, not just passive observers. The point is creating something together, which rules out inactivity. In this view, an ecosystem should have proper contracts, facilitation, and possibly even a brand. It is not enough that two companies are active in the same business field or industry to be considered members of the same ecosystem. For example, R4 did not see Company D as belonging to the same ecosystem as Uber, although both are active in smart mobility. As R4 explained, companies that have nothing do with each other cannot be in the same ecosystem. This is because companies have not consciously signed up for co-operation and co-creation in an ecosystem. The implication of this view is that you choose to be part of a business ecosystem. I call this view the Fixed structure of a business ecosystem.

The second way of looking at ecosystems is more informal. In this view, no borders are clearly definable, and the ecosystem is seen as an organic process, rather than a fixed agreement. According to this view, “members” need not to be in direct co-operation with one another, perhaps thus only being passive parts of the puzzle in a big network. In this view, loosely related companies can be part of the same business ecosystem. Moreover, there is no explicit need for contracts among members, because an ecosystem can also be about exchanging information or networking. Thus, forming ecosystems is also about forming relationships. In this view, companies that have no direct contact with each other can still be part of the same ecosystem, because their actions affect one another indirectly. For example, if Uber tries to control the ecosystem by making life hard for other smart mobility companies, it affects the whole ecosystem. The implication is that you just are a member of an ecosystem. I call this view the Dynamic structure of a business ecosystem.

This categorizing of ecosystems is supported by Adner (2017, p.40), who talks about the ecosystem “as structure” and “as affiliation”. Ecosystem as affiliation is closely related to the loose and organic way of understanding ecosystems, as described above. This view is also supported by Iansiti & Levien (2002; 2004) and Moore (1993; 1996).
1996), for example, viewed ecosystems as organic and modern ways to conduct business beyond traditional industry borders, whereas Iansiti and Levien (2002; 2004) defined business ecosystems as loose networks with possibly thousands of “members” and unrecognizable borders. Moreover, the early literature on ecosystems brings up the variety of organizations involved in a business ecosystem, such as governmental organizations, owners, investors, and other stakeholders (see Figure 1). Thus, no direct contact is needed between ecosystem members.

Table 3: Two views on ecosystems

<table>
<thead>
<tr>
<th>Business Ecosystem type</th>
<th>View 1: Fixed structure</th>
<th>View 2: Dynamic structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borders</td>
<td>Strict and recognizable. All members are active participants in the ecosystem</td>
<td>Unclear and organic. Potentially hundreds or thousands of members</td>
</tr>
<tr>
<td>Type of co-operation</td>
<td>Emphasis on common solutions through co-creation. Business driven</td>
<td>Emphasis on exchanging information and networking. Relationship driven</td>
</tr>
<tr>
<td>Implication</td>
<td>You consciously choose to be part of a business ecosystem</td>
<td>Ecosystems emerge, and you just are a “member” of a business ecosystem</td>
</tr>
</tbody>
</table>

The fixed structure of ecosystems puts emphasis on agreements and contracts, which is something that is absent in the conceptual ecosystem theory. Perhaps this is a good example of the gap between theory and practical business life. Moore (1993; 1996) and Iansiti & Levien (2002; 2004) do not discuss contracts and other practical matters, instead seeing the business ecosystem as something that just is there. In theory, ecosystems just emerge, while in reality, there are demands for conscious signing of contracts in case of co-operation. The “Ecosystem as structure”, as outlined by Adner (2017), is leaning more towards the fixed structure (See Table 3), because it focuses on
the value propositions that businesses engage in when collaborating. A value proposition requires co-operation and planning and could be understood as a common business plan shared by companies involved in the same ecosystem, because they propose to create a solution to a problem. Also, Adner (2017, p. 42) emphasizes fixed or defined membership, as opposed to open-ended membership. This fixed structure of ecosystems had more appeal to the respondents of this study. This could be interpreted as a need to address practical matters, which is absent in classical business ecosystem theory.

The interesting thing about these two ways of looking at a business ecosystem is that some respondents started thinking critically about it during the interviews. At least two respondents had an opinion on ecosystem borders, but the discussion got them thinking of the definition and, ultimately, changing their opinion. Thus, the interview setting influenced their thinking and made them look at it from different angles. It is possible that they started thinking about business ecosystems more “academically”, instead of just seeing it as an organizational buzzword for their business model. Furthermore, some respondents had a mixed view of ecosystem, incorporating characteristics from both views. For example, one respondent stressed that ecosystem borders must be recognizable and that there are no indirect members in an ecosystem. At the same time, that same respondent talked about ecosystems not necessarily being about business and transactions, instead focusing on the exchange of information and networking. Therefore, these two rough categories of ecosystem border understanding are not carved in stone, and some contradictions occur.

Another interesting observation is that the companies can have different perspectives on their ecosystems than other stakeholders. One respondent stressed that just because the Government has identified some companies in the same industry being in the same ecosystem, the companies might not see it that way. Many respondents talked about their ecosystems, implying that they see themselves in the center of the ecosystem. This means that loosely related stakeholders or companies in the same industry are not necessarily incorporated in their view of ecosystems. A plausible interpretation of this is that companies try to concentrate on what is relevant to them and their business. If they don’t consider Company X relevant, why would they consider it to be a part of their ecosystem?

Nevertheless, a company operating in the same industry can be a possible competitor, which, of course, makes it relevant. Even if a competitor does not fit into the description of a company’s business ecosystem, it still needs to be acknowledged as a force that can affect it. If a competitor can disrupt your business, why wouldn’t you consider it relevant?
Thus, if competitors are not relevant *per se*, it could mean that companies determine the relevancy according to other measures. For example, the emphasis must be on the co-operative side of things. It doesn’t matter who companies work with, but if they create something together, they are in the same ecosystem. Hence, co-creation becomes a keyword in ecosystem understanding. This view is supported by Moore (1993; 1996), who talks about co-evolution as a key mechanism in a business ecosystem. Co-creation and co-opetition are examples of co-evolution, as companies evolve by creating new business together with partners. Thus, the business ecosystem must also take competitors into account, because co-opetition requires competition.

6.2.1.2 Roles

The findings suggest that the companies understand themselves as having specific roles in a business ecosystem. The companies seldomly strive to build a comprehensive market solution on their own. Rather, they rely on components and products from other companies. Hence, they need to collaborate within an ecosystem, possibly even with competitors. The business models require collaboration and co-creation, because SMEs don’t have resources to build all capabilities themselves. Valkokari (2015) argues that this need of complementary resources leads to the forming of strategic partnerships and not necessarily ecosystems. However, the importance of different company roles is apparent according to Iansiti and Levien (2004).

Iansiti and Levien (2004) suggest that there are three roles in a business ecosystem: keystone, dominator, and niche player. The findings of this study suggest that most of the SMEs in smart mobility think of themselves as niche players, because they are small and have a unique offering. Also, compared with keystones and dominators, niche players tend to have limited resources (Iansiti & Levien, 2002; 2004), which, of course, is true for many SMEs. The companies involved in the study also rely on, and constantly seek, co-operation with bigger players, such as municipalities, big transportation companies and operators, which is also a characteristic of a niche player. Furthermore, they aim to create new and innovative solutions.

However, many respondents also talked about *their* ecosystems, effectively putting themselves in the center of the ecosystem. According to Iansiti and Levien (2002; 2004), keystone organizations take such a role, and the whole ecosystem is ultimately dependent on their survival. Because some of the respondents represent platform companies that touch the end user, they could also be understood as keystones. R1, for
example, said that Company A takes the partners with them whenever they search for new markets, which is an example of keystone characteristics, such as leadership and dependability. Also, keystones encourage niche creation in their ecosystem (Iansiti & Levien 2002), which is something that many smart mobility platform companies are all about. Niche creation can be disruptive, which is what the companies are aiming for.

None of the interviewed companies demonstrate dominator characteristics. Instead, to them, it seems like the dominators in the smart mobility ecosystems are the old established players with big resources; the OEMs and public transport monopolies. After all, dominators want to exploit their position as established players by striving for ownership and control (Iansiti and Levien, 2002; 2004), which is, according to many respondents, what the old players are doing. The dominator role does not, however, limit itself to the old companies. As the findings suggest, Uber was also seen as a company aiming for strict control over its partners and ecosystems. Uber is also a disruptive force in the mobility climate, for sure, and can perhaps be considered both a keystone and a dominator.

6.2.1.3 Benefits

The findings suggest that the benefits of the ecosystem model are one of the main reasons for membership or affiliation. The respondents viewed ecosystems as something that is more than the sum of its individual parts, meaning that companies can create more together. This perceived strength in numbers is somewhat supported by Iansiti and Levien (2004), who discussed niche player strategies. If keystones or dominators are trying to control the ecosystem, niche players can direct their innovation elsewhere. If they are many, they have influence and power. However, these sorts of observations were not made in this study.

Mostly, the respondents talked about opportunities that arise due to business ecosystems, implying that a group of companies find opportunities together and through each other. One respondent, for example, said that you can encounter potential benefits that you didn’t even know that existed before. These benefits often arise from new connections with possible partners. This underlines the importance of networking, which is emphasized by many authors (For example Vanyushyn, Holmlund and Kock, 2009; Torkkeli et al., 2012).

Some drawbacks concerning ecosystems were also mentioned. For example, frustration over the behavior of the established players in mobility was expressed, which points to
the difficulty in being involved with new and disruptive business. When old businesses want to play by my rules, small companies in a new field, such as smart mobility, perceive frustration over the rules of the game. The SMEs want to establish partnerships with large and established firms but are at the same time critical towards their attempt to control the ecosystems and value chains.

Other drawbacks pointed to the volatile and organic nature of business ecosystems. This is related to uncertainty that might rise due to ecosystem thinking. For example, one respondent pointed out the analogy of the blood bath, which suggests a perception of unfair rules of the game. This is related to the topic of open and closed ecosystems, discussed in the next sub-section. The key aspects in an open ecosystem are openness and sharing of information. I interpret the perceived drawback of unfairness or injustice as something that is related to closed ecosystems, where big firms want to control their value chains.

Many respondents said that their business model was based on working with business ecosystems, which points to an analysis done by the companies that the benefits outweigh the drawbacks. It might also be that many respondents just feel that this is the way business is supposed to be conducted in high technological industries, such as smart mobility. Iansiti and Levien (2004) have pointed out that ecosystem models are common in these sorts of industries. After all, many respondents thought that the formation of ecosystems is “just the way the world works”, and that ecosystems are becoming mainstream. One could ask if Moore’s (1993; 1996) vision has come true? But one must also ask the question if a business model based on co-operation with other parties necessarily means a business model based on ecosystems. It might be that the interviewed SMEs simply see the business ecosystem as the new “value chain” (Porter, 1985) or “strategic alliance” (Hill, 2014). Therefore, it is possible that the business ecosystem is a buzzword in today’s world, and that it simply is taking over the use of old terms describing co-operation between companies. The distinction between a business ecosystem and a value chain, however, is the fact that industry barriers are broken (Moore 1996). This leads to the need for new concepts in the analysis of the global economy, the business ecosystem being such a concept. Perhaps the value chain, in all its hierarchy and control, is understood as portraying “the old economy”, while concepts like the business ecosystem seek to explain something new.
6.2.2 Modern ecosystems

As the findings suggest, business ecosystems are viewed as a modern or future way of operating a global business. What began as a trend initiated by the rise of the software companies has now become mainstream, at least for high technology companies. This is supported by Moore (1993; 1996), who stated that the whole point of business ecosystems was to look beyond the traditional ways industry and business. Traditional industrial borders with cemented and controlled structures were not to be respected. This attitude is visible in the findings of this study. For instance, some companies thought that modern ecosystems are open, and that they should be owned by nobody.

The old and cemented industrial control is something that the smart mobility SMEs still perceive in the big players in mobility, such as OEMs in car manufacturing or operators such as Deutsche Bahn. Also, local public transport monopolies were perceived as protecting their business against innovation and disruption. These kinds of players were thought of as old-fashioned “protectors of my business.” Big players in mobility don’t want to see an open ecosystem, because they are afraid of losing the game. Hence, according to many respondents, they engage in closed ecosystems. This is supported by Chesbrough and Appleyard (2017), who state that traditional business strategy has manifested itself in building barriers instead of promoting openness. Iansiti & Levien (2004) had similar remarks about the automotive industry.

As discussed briefly above, the findings suggest that what some of the respondents viewed as modern ecosystems are essentially what the literature describes as open ecosystems. This is related to open innovation, which means that companies need to share critical information if they are to co-create something new. Although Moore (1993; 1996) does not talk about open innovation or open ecosystems, this is what he means when talking about innovating through a co-evolutionary mechanism. Moreover, a parallel could be drawn to the ecosystem health discussion by Iansiti and Levien (2004), who state that all parts of the ecosystem must be healthy to function properly. The problems with the closed ecosystems that the respondents brought up points to an unhealthy ecosystem, characterized by control and domination. As one could assume, “protecting my business” is not necessarily a healthy way to run an ecosystem.

To summarize, modern, open ecosystems are to a large extent understood in terms of information sharing in a disruptive environment. That is, new ways to brake the old patterns of industry where the established giants have control, which in turn is perceived
as a closed ecosystem. Closed ecosystems are fighting against disruption and new ideas, thus setting up defenses against new ideas. Also, open ecosystems are understood in terms of co-creation and finding solutions together, which requires information sharing and openness.

### 6.2.3 Co-opetitional aspects

The fact that all respondents engaged in collaboration with competitors is an interesting observation, because it raises the question if co-opetition is something SMEs from technological industries take for granted. As stated before, some respondents talked about their business being based on an ecosystem business model. Similar viewpoints were expressed regarding co-opetition, which implies that it is an essential part of business ecosystems.

The reasons to engage in co-opetition are very similar to the reasons to be involved with business ecosystems and are also supported by earlier research. The respondents saw mutual benefits in co-opetitional activities, which many scholars studying co-opetition have also found (for example Kraus et al., 2019). Moreover, many respondents had the attitude of not ruling out collaboration with anyone, underlining R5’s statement that “that’s the whole idea of this”. With “this”, R5 was referring to the business ecosystem. Also, as R1 stated, in a business ecosystem, basically anyone can be viewed as a competitor. This is somewhat supported by Kock, Nisuls and Söderqvist (2010), who note that it is not always clear who your competitors are.

The strongest reason for co-opetition was the perception of supplementary or complementary products or services, which can be viewed as mutual benefits from a company perspective. If two companies want to internationalize but cannot do it alone, they can complete the service proposal by adding their own elements to a joint venture or common cause. Rong et al. (2015) suggest that this is an important first step in internationalization using a business ecosystem approach. Alternatively, companies can try to acquire the skills and competences of competitors through collaboration. This is what Hamel, Doz, and Prahalad (1989, p. 134) call “absorbing the skills of each other”. Furthermore, companies can acquire knowledge through mergers and acquisitions. This is what happened when R3 was searching for strategic partners; R3’s start-up got acquired by Company C.

The findings suggest an apparent link between co-opetition and internationalization. Therefore, co-evolution and co-creation are relevant in a context of internationalization.
Many respondents talked about co-opetition as beneficial when entering foreign markets. The companies feel that by collaborating, they can attract the attention of big international customers easier than they could on their own. Moreover, competitors can have experience or footprint on a desirable market, which makes collaboration attractive in terms of learning. The link between co-opetition and internationalization is heavily supported by Vanyushyn, Holmlund & Kock (2009) and Kock, Nisuls and Söderqvist (2010), who emphasize co-opetition as a potential leverage to find opportunities in new markets.

6.2.4 Summary

To answer the first research question, the business ecosystem perception can roughly be divided into two views: 1) the strict view, or fixed structure, of ecosystems with recognizable borders, active members, and a focus on business and co-operation; 2) the organic and loose view, or dynamic structure, of ecosystems with wide and unrecognizable borders, possibly hundreds of members not necessarily in contact with one another, and a focus on networking and information sharing. Most companies built their understanding by incorporating elements from both views, but the fixed structure seemed to appeal to a bigger share of the respondents.

Furthermore, the interviewed companies understand their part in the ecosystem through specific roles, for example as keystones or niche players, seeing the more established players as dominators. The companies see several benefits in ecosystems, most notably mutual benefits in potential business opportunities. The companies advocate open ecosystems, which implies information sharing and openness in order to create the best possible solutions for the end customers. Also, closed ecosystems are examples of old-fashioned ways to do business by setting up barriers for innovation and disruption. Modern business ecosystems encourage disruptive technologies, openness, and co-opetition.

6.3 Internationalization in a business ecosystem context

As all the interviewed companies have taken part in internationalization activities organized by Business Finland, it is apparent that they all want to expand to foreign markets. In this thesis, I seek to find a connection between SME internationalization and business ecosystem thinking, which is why networking approaches emerged as the most important topic. In this sub-section, I aim to analyze the internationalization of the interviewed companies and theorize the findings in relation to the theoretical concepts
of this thesis. The units of analysis are networking and strategy, which are linked to the business ecosystem in the final section of this chapter.

6.3.1 Networking

The findings suggest that networking is seen as a crucial part of internationalization, which is in line with earlier research (For example, Torkkeli et al., 2012; Kock, Nisuls & Söderqvist, 2010; Coviello & Munro, 1995). Both formal and informal networks were emphasized. Formal networks consist of membership or involvement in industry associations and organizations, whereas informal networks consist of personal relationships.

An example of a formal network in Finland was ITS Finland, a unit of a global intelligent transport organization. Through ITS Finland, many companies get information about events where they can network with one another. Business Finland could also be an example of a formal network, in the sense that companies take part in its activities from a professional point of view. Also, involvement with Business Finland, and therefore the Government, brings credibility for small SMEs pursuing international opportunities. This aspect of networking and cooperating with Governmental bodies as a signal of credibility is not something I identified in the literature, which mostly emphasized networking between companies. It is, however, in line with Moore's (1996) view of the business ecosystem extending itself to stakeholders, such as the government.

The difference between formal and informal networks should not, however, be overemphasized. Rather, they are different phases of the same process. A business relationship could, for example, be understood as a product of networking. When companies network at events or industry forums, they form relationships. These relationships can then lead to concrete business and become partnerships. Many respondents stressed the importance of their personal business contacts, which points to already functioning relationships instead of networking per se. Also, most respondents talked specifically about finding partners. Forming partners, of course, requires networking but comes at a later stage.

Although the literature emphasizes networking (For example Torkkeli et al., 2019), it is the later stages of established relationships that lead to business. This notion is also supported by many. For example, Coviello and Munro (1995) stress the importance of personal relationships in foreign market entry, as do Aspelund, Madsen, and Moen (2007). In the context of this thesis, though, networking and relationship building can
be treated as roughly the same thing, because the important factor is meeting new people in order to expand the business abroad. Thus, networking is an important part of internationalization. As most respondents also saw networking as a crucial part of business ecosystems, it seems that networking is one of the connective factors between business ecosystems and internationalization.

6.3.2 Strategy

The findings suggest that the interviewed companies don’t have complex and clear internationalization strategies. Rather, the companies focus more on just selling to anyone and co-operating with anyone to meet their goals. No specific go-to-market strategies were mentioned, apart from finding strong partners in different markets of interest. As discussed above, partners are found through networking, both in formal settings, such as industry association events or trade fairs, or via existing relationships. Partners are also found through co-creation or co-opetition in business ecosystems. Furthermore, co-opetition can in itself be an example of an SME internationalization strategy, as discussed by Galdeano-Gómez, Pérez-Mesa, and Aznar-Sánchez (2016).

What is perhaps contradictory to classical international business theory is that the respondents didn’t see internationalization as something special in itself. In their view, internationalization comes naturally and is an obvious step to take when searching for growth. Such positions find support in literature, where highly technological SMEs and start-ups have been labelled “born global” (Korsakienė & Tvaronavičienė, 2012). This means that the companies have thought of internationalization as a part of their business strategy from early on. Thus, the logic has not been to leave a footprint in the home country first and then export a solution abroad. If it indeed has happened like that, it is because of pure coincidence. This coincidence often manifests itself in the recruitment of personnel, for example, because of language barriers and geographical presence in Finland.

It is also an interesting finding that some respondents considered Europe to be a single market, as advocated by the European Union, and not a foreign market. This is related to the narrative that internationalization is nothing special per se, but something the companies take for granted. It’s not far-fetched to say that most people in Finland consider other European countries to be foreign. Perhaps highly technological “born globals” have a different mindset?
The internationalization strategy is therefore derived from a context where co-opetition and networking play the bigger parts in expanding to new markets. Although SMEs might conduct market analysis of the country they want to enter, they understand that entering a country as an SME has big challenges. Therefore, they seek to enter foreign countries through partnerships.

6.3.3 The link to business ecosystems

The link between SME internationalization among Finnish smart mobility companies and business ecosystems is drawn through networking and co-opetition. Rong et al. (2015) suggest that identifying strong partners is a necessary step in internationalization using a business ecosystem approach. As this study shows, companies find new contacts and form relationships and partnerships through networking. This is often done with the help from Business Finland. These business relationships are then characterized by co-creation, where common solutions are developed. In Finland, companies form ecosystems amongst themselves and create new innovative solutions in smart mobility. These solutions are then expanded to foreign countries, thus creating internationalization. Alternatively, companies look for partnerships abroad to build a solution there, locally. Hence, they form ecosystems internationally.

Internationalization can include co-opetitional mechanisms, because SMEs complete each other by co-creating a comprehensive solution. In that situation, competitors sometimes need to collaborate. Small niche players benefit in combining their skills. Also, keystone firms need smaller companies to build the final offering, which is why keystones bring partners with them wherever they go. Therefore, the business ecosystem, emphasizing co-creation and networking, is a part of the internationalization strategy of SMEs in the smart mobility sector.

The internationalization of SMEs in the Finnish smart mobility sector is characterized by similar themes as the early academic discussion on business ecosystems. The internationalization of the interviewed firms is fueled by networking, partnerships, co-creation, and technological disruption. Many of these themes are ones that Moore (1993; 1996) and Iansiti and Levien (2002; 2004) consider important to the business ecosystem structure. Moreover, co-opetition has been considered important in SME internationalization (Vanyushyn, Holmlund & Kock, 2009; Kock, Nisuls & Söderqvist, 2010). The internationalization process of SMEs seldomly follows a clear strategy, taking
a more opportunistic approach of finding business opportunities through partners and contacts abroad.

To summarize, and to answer the second research question, SMEs who co-operate with Business Finland look at internationalization through characteristics essential to business ecosystem theory. These are engaging in co-opetition, networking and finding partners, and taking specific niche player or keystone roles in the ecosystem. In the smart mobility industry, this process is fueled by technological disruption.
7 CONCLUSIONS

The purpose of this study was to understand the connection between SME internationalization and business ecosystems. By studying SME perceptions of business ecosystems, co-opetition, and networking, the aim was to understand how SMEs look at internationalization in a business ecosystem context. Because Business Finland primarily wants to see business ecosystems as its customers – and aims for internationalization of those ecosystems – the purpose was to examine how SMEs involved with Business Finland understand the big picture and the connection between these concepts. In other words, how are business ecosystems perceived by the SMEs and how does the understanding of those ecosystems manifest itself in the internationalization efforts? The study was conducted as a case study on smart mobility companies in Finland and was done as an assignment for Business Finland.

By conducting interviews with representatives from six companies of the smart mobility sector, I gathered a satisfying amount of data to answer the research questions. The research project reached its objectives through data analysis by providing extensive findings of SME perceptions on business ecosystems and internationalization. Thus, the aim of the research project was met.

The findings suggest that there are many ways to understand a business ecosystem, because the respondents did not share a common understanding of the concept. This is in line with authors who stress that ecosystems are confusing concepts (Valkokari, 2015; Peltoniemi & Vuori, 2004). As a result of my analysis, two views on company perceptions of the business ecosystem emerged: the strict ecosystem with recognizable borders and the organic ecosystem with loose borders. In this thesis I call them the fixed structure and the dynamic structure of business ecosystems (See Table 3). Adner (2017) also makes a similar divide, viewing ecosystems as 1) structure and 2) affiliation. Furthermore, most companies seem to build their business models on characteristics found in ecosystem, co-opetition, and network theories. For example, many companies take niche player or keystone roles, as advocated by Iansiti and Levien (2004), while the traditional players in the automotive business and mobility are seen as dominators aspiring for control. Also, co-opetition and networking are understood as essential parts of the business ecosystem, because they highlight co-creation, which can be understood as part of the co-evolutionary mechanism that Moore (1993; 1996) emphasizes. Lastly, the findings suggest that SMEs view business ecosystems as modern ways to conduct
global business. This modernity is fueled by technological disruption, which is one of the main themes in business ecosystem theory.

With regards to SME internationalization in a business ecosystem context, a conclusion is drawn that networking and relationship-building serve as a bridge between all theoretical concepts in the thesis; business ecosystems, co-opetition, and internationalization. The SMEs don’t have specific internationalization strategies, instead underlining the importance of partners and contacts in search for new business in international markets. The most crucial factor for internationalization is networking, which occurs widely with many stakeholders in the business ecosystem; possible partners and customers, public authorities, and competitors. Networking can lead to co-creation, an essential part of the business ecosystem, which is understood as a good entry point to foreign markets. Thus, the SMEs look at internationalization and market opportunities in a business ecosystem context, emphasizing networks and partners.

7.1 Implications

The theoretical contributions of the research project are twofold. First, the thesis expands the business ecosystem theory into international business and makes an effort to show that the two theoretical concepts are interlinked. While the business ecosystem literature spans large industries and focuses on disruptive effects on the economy, a specific international perspective is often forgotten. Second, due to its empirical nature, this thesis contributes to a theoretical understanding of business ecosystems. Earlier research on business ecosystems is very conceptual and lacks individual company perspectives. In other words, the micro view is often forgotten. Hopefully, this research has shed some light on how SMEs in a certain industry understand business ecosystems.

As this thesis was done as an assignment for Business Finland, there are also managerial implications to be addressed. These are presented in the form of the following policy recommendations. First, it is good to acknowledge that the business ecosystem is not a concept with one clearly understandable definition. On the contrary, perceptions of what a business ecosystem is differ a lot. Therefore, a public authority should recognize this when making policies based on such concepts. This study suggests that the business ecosystem from an SME perspective can be understood in a context of networking, co-opetition and internationalization. This is also one of the reasons why the SMEs get involved with Business Finland in the first place. Second, internationalization should not be considered an intrinsic value for SMEs. Instead, internationalization is only one step
in the process of growing into a meaningful business. SMEs don’t necessarily look at internationalization as something special, therefore adapting a global mindset from early on. To view internationalization as a goal in itself is oversimplifying the reasons why a company wants to internationalize. Therefore, public authorities should analyze the possible and actual impacts of internationalization; what is achieved by internationalization? In the case of ecosystems in the smart mobility sector, one achievable goal seems to be the implementation of new and innovative ways to move around.

7.2 Limitations

Although the methods used in the research project were sufficient to answer the research questions and draw conclusions, there would have been room for improvements. For instance, a larger sample of companies would have added to the representativeness and credibility of the research. Also, the use of secondary data and data triangulation could have improved the understanding of the big picture. This thesis relied solely on semi-structured interviews but could have incorporated other forms of data as well.

As this is an empirical study, one must also acknowledge the limitations of empiricism. For instance, the findings mirror what the informants said, but not necessarily what they actually think or how they behave. Moreover, conclusions can sometimes be drawn on the premise of “what you see is all there is”, which, of course, is probably never the case in organizational research. Also, it is possible that the researcher is affected by certain presumptions of reality and how the world is constructed, thus affecting the results.

7.3 Suggestions for further research

Because of the limitations of this thesis, many potentially interesting spheres were out of reach. Thus, suggestions for further research can be made. For instance, research based on quantitative methods could investigate the correlation between a company’s membership in a fixed business ecosystem and international revenue. The aim of such a research project could be to explore whether active membership in fixed ecosystems has positive effects on a company’s international sales. An example of this would be research on Business Finland’s Growth Engine programs.

Also, a similar research project as this study could be extended into other industries. As this thesis only dealt with smart mobility companies, similar studies could investigate
business ecosystem understanding in other industries as well, thus contributing to a wider theoretical understanding of the concept.

Moreover, I suggest research on the discourse used by public authorities such as Business Finland. As it is apparent that the term “business ecosystem” is sometimes used as a buzzword, it would be interesting to analyze its use by public authorities. Why are authorities using trendy terms from academia and business in their policy process, and what implications does this usage have in terms of economic policy?

7.4 Acknowledgements

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APPENDIX 1: INTERVIEW GUIDE

Introduction:
• Tell me in your own words about how you/your firm got involved with Business Finland?
• Why did you find it relevant to get involved?
• With whom did you collaborate before/after participation in Business Finland collaboration?

Ecosystems:
• Who are the most relevant actors for your business?
• How do you understand the term “business ecosystem”?
• Do you see your company as part of a business ecosystem?
• How do you see your company in relation to other companies (in the ecosystem)? How do you co-operate/compete?
• Have you ever collaborated with someone you consider as your competitor? How and why/why not?
• If you would have a “dream team” of companies to collaborate with, what (kind of) companies would those be?

Internationalization:
• Describe your previous experiences in international markets. When/how did you enter, who did you contact first and why, what were the ambitions/challenges/opportunities/favorable results?
• How would you describe your internationalization strategy?
• How do you think your company could enhance its internationalization?
APPENDIX 2: INTRODUCTORY E-MAIL

Dear name,

I am writing my master’s thesis for Business Finland on business ecosystems in the Finnish smart mobility sector and would like to ask for access to interview you and your company. The aim of the study is to explore business ecosystems as a “tool” for internationalization and growth in foreign markets.

Company X has been chosen as an interviewee prospect, because you have actively collaborated with Business Finland. I want to study the smart mobility sector because of its disruptive impact on the traditional car and mobility business. Therefore, I think your company would suit the study well. Both you and your company can be anonymized in the study, if you wish.

If you could spare 1,5 hours for an interview, I would be very grateful. The interview would be conducted in December or January. Let’s come up with a more precise time and place and discuss further details by phone or email.
I hope to talk to you soon!

Best regards,

Robin Tiivola
APPENDIX 3: PARTICIPANT CONSENT FORM

Participant consent form for master’s thesis

A study on business ecosystems and internationalization in the smart mobility field in Finland

Robin Tiivola
Hanken School of Economics
Business Finland

- I hereby voluntarily agree to participate in this research study
- I have had the purpose of the study explained to me
- I agree to my interview being audio recorded
- I understand that all information I provide for this study will be treated with confidentiality
- I understand that a transcript of the interview will be made and that direct quotes may be used in the thesis
- I understand that my company and I can be fully anonymized

Name and date:

____________________________________
Helsinki, ____ / ______ 2019