



**Linnæus University**

Sweden

Master Thesis

# Internationalisation through business ecosystems

*What is the value of ecosystems in launching and  
growing digital firms in Europe?*



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## Abstract

This thesis focus lies on the topic of business ecosystems and their use for digital firms in their internationalisation. The aim is to investigate the value creation and capture process for digital firms through the perspective of business ecosystems. For this endeavour, different concepts such as the born digital theory, key interlinked internationalisation process theories and business ecosystems theory are described throughout the literature review. Other models of previous researchers are used as a foundation to render an own created framework that is more applicable to the scenario and combination of the three aspects this paper investigates. The knowledge gap defined by the authors is about adding new insights on the ecosystem perspective in international businesses by exploring the value creation and capture process of born digitals. Furthermore, it will display the bottlenecks and benefits deriving from a business ecosystem. This leads to the research questions investigating the utilisation of business ecosystems for value creation and capture in internationalisation of digital firms, as well as the bottlenecks and benefits that come with it.

For the empirical data collection to receive insights on the research questions and successfully draw conclusions, semi-structured interviews were conducted within the scope of a multiple case study. In addition, secondary data from various authors and experts in the respective research areas were used to bedrock the findings.

As the results of the study showed, business ecosystems are greatly appreciated and utilised by digital firms. Moreover, they create value for them and let them strive in many ways, such as focusing on their core business, to succeed and be able to enter new markets. This is only possible with the cooperation of the various actors in the business ecosystem. Nevertheless, there are also severe bottlenecks that have been brought to light that reach beyond what has been present in the literature and considered by other scholars, as well as benefits that keep them competitive.

Furthermore, this study provides managerial implications on how to deal with the liability of outsidership and smallness, and for the policy implications, that policymakers should be aware of global and political issues, and their impact on businesses.

Keywords: Business ecosystem, born digital firms, value creation and capture, bottlenecks

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Writing a thesis paper always comes with obstacles and difficulties on the academic level of writing and gathering information, but beyond, it also involves not only an emotional part of the author's but includes their personal life's, which should not be overlooked.

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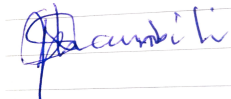
Thank you to all of you.

Sincerely,

Raphael Diehm and Ngqabutho S. Siphambili



Raphael Diehm



Ngqabutho S. Siphambili

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# 1. Introduction

*This part of the thesis shall be seen as the general introduction of the topics researched as well as the approach the scholars have taken. Within the upcoming subchapters, the reader will be provided with a background to the study, the topic areas that will be investigated within this paper, as well as the problem discussion. Furthermore, the narrowed-down knowledge gap will be presented, a glimpse of what awaits the reader in the literature review, and lastly, the research questions to be answered throughout this paper, as well as the purpose of the research and its delimitations.*

## 1.1. Background

Airbnb is a well-known company that has spread widely across the globe within a short period of time and is now almost available in every country around the world. What started back then in 2007 as a simple idea to host conference attendees for a San Francisco conference, while all hotels were booked, became one of the most disruptive companies in the hospitality and travel industry, recording 1.4 billion guests to date (Airbnb, 2023). But the interesting questions are more about how did customers become aware of them, how did they internationalise, what was their value creating and capturing process, what strategies have they used, what kind of business model do they apply and were business ecosystems involved in this success story? Surely, this is only one example of a digital company that has disrupted their market segment, other companies are players such as PayPal (Forbes, 2017), that disrupted the financial sector with their different approach to a customer solution to solve issues through their instant online payment application.

These kinds of developments and strategies will be investigated during this thesis to not only discover how digital firms managed their online presence and internationalisation strategies but moreover, how digital firms can make use of ecosystems to foster their value creation and capture process. To have a better understanding of what value creation and capture stands for, Lepak et al. (2007) have described it as the two sides including the customer and the company. While value creation is for the customer, to offer a better value with a product or service, the capturing process is about turning the goods and services into profits for the firm. Furthermore, another of the concepts that will be further explored in the literature review is

digital firms, which are described by Laudon and Laudon (2014, p. 41) as firms where “nearly all of the organization’s significant business relationships with customers, suppliers, and employees are digitally enabled and mediated. Core business processes are accomplished through digital networks spanning the entire organization or linking multiple organizations.”

When still using Airbnb as an exemplary organisation, it provides a great illustration of a digital firm that uses a platform-based business model to reach the consumers, being the ones looking for accommodation, while at the same time providing a platform for people to become hosts as they call them on their platform, to offer their place. To be able to do this, Airbnb has made use of a business ecosystem, which was coined in 1993 by Moore, stating that “a business ecosystem [...] crosses a variety of industries. In a business ecosystem, companies co-evolve capabilities around a new innovation: they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations” (Moore, 1993, p. 76).

An internationalisation strategy, according to Calof and Beamish (1995), can be seen as the strategy used by a firm that intends to sell its goods or services within other countries. As Forbes (2016) presents, many aspects have to be considered when going abroad and providing goods and/or services in other countries, such as the language, which in Airbnb’s case was about the page being translated into English, making the person looking for accommodation perceive the host’s being able to communicate in English, which does not necessarily have to be the case. For an issue like that, Airbnb had to find a solution to further push their internationalisation and not lose customers with a predetermined set-up in a new country. Another aspect they displayed was the payment options available, which in the beginning was limited to the US dollar and was by now also adapted accordingly for the convenience of the customer. These are only two precise examples of how Airbnb has adapted to foster its internationalisation into foreign markets, which are essential to a firm but could be extended to a manifold of aspects as stated in Blend (2020), though exceeding the range of this subchapter. It does provide a glimpse of what Airbnb is doing to evolve in a variety of aspects, which comes when looking at the approaches they take, partially from the use of their internationalisation but more even so from the use of an ecosystem they are involved in or by now are building around them, as seen in BCG (2019). Further examples of companies that have disrupted their markets are as aforementioned PayPal, with its instant payment solution, or also Shopify, which according to Harvard (2020) has started as a small



software solution provider that today customises and develops e-commerce for over 1 million businesses around the world. A last example to take is ASOS, which is according to Harvard (2022) a British-founded e-commerce company offering anything from fashion to cosmetics to around 26.4 million active customers around the world, using machine learning to tailor the customers' experience and preferences of goods and drives them to their page from other social media platforms. All these are examples of digital firms making use of aspects such as business ecosystems, being digitised, as well as internationalising their business, which shows that those terms are by now all part of the business world, some for a longer, some for a shorter period.

As briefly introduced above, the internationalisation of a firm can be seen as a crucial part of expansion and growth, while it is connected to many facets that come with it. Especially when going into a foreign country that has a different institutional framework, governmental or legal wise, as well as other aspects like language or culture play an integral role in successfully moving abroad with a company. Many more aspects play a role in internationalisation which can vary greatly, as can be seen by the research of Chrysochoidis and Clegg (1997) who investigated all sorts of influences such as environmental and investment options on the internationalisation of a firm. Furthermore, Howe and Martin (1998) and Elkin et al. (2008) deepened their research on how universities can strengthen their international ties and strategically focus on the model of internationalisation. Lastly, Castagna et al. (2020) examined the possibilities for small and medium enterprises to internationalise and what they need to consider, to successfully do so. This showcases that a vast variety of research within the fields of internationalisation and what concepts or methods can be applied by an organisation has been done.

Moreover, when considering that the term business ecosystems has been coined by Moore already in 1993, the research topic has not flattened and is still in demand as Baumann (2022) shows with her paper on the evolution of business ecosystems in regard to digital platforms, or Tsai et al. (2022) with their paper on how to stay competitive in the vastly changing business world today. Other papers that show an interest in business ecosystems are from Clarysse et al. (2014), who investigated the value creation using ecosystems, while Ben Letaifa et al. (2013) investigated how firms can succeed and better understand not only the use but also how to use those business ecosystems to their full potential.

The last term that plays a crucial role within this paper, and that was gaining attention in regard to research, is about born digital firms which operate solely via the internet through various platforms. As Monaghan et al. (2019) with their study on born digitals and their effort to internationalising, as well as Chidlow et al. (2019), who talked about the impact of the phenomenon of digitisation for born digital firms focusing on internationalisation, confirm, the topic of digital firms is in demand.

When now looking at the presented research that has been done on all three research areas of 1) business ecosystems, 2) digital firms, and 3) internationalisation strategies, it becomes apparent that those areas are of great interest to organisations, particularly for digital firms applying business ecosystems for an enhanced internationalisation. Though most of the research is addressing different directions, for example, Rong et al. (2018) researched the more dynamic, more embedded, and more internationalised agenda of business ecosystems. They investigated the use of business ecosystems focused on the Asian market with a variety of firms located in different countries, whereas our study will focus on Europe. Another article from Autio and Thomas (2021) is investigating ecosystems in an innovative context and dives deeper into their quick adaptation and the different concepts of ecosystems that can be applied by a firm. What all the presented articles confirm is the interest in the different topics and their adjacent areas, but what is almost unprecedented is the research of the connection of all three, the business ecosystems, born digital firms, and especially how they can or have made use of business ecosystems to launch, grow, capture as well as create value, particularly in terms of their internationalisation.

This is where the value of this study is seen, particularly for digital firms in the European setting, because the focus will be on firms that were founded within the European market and have or are in the process of internationalising.

## 1.2. Problem Discussion

The Business ecosystem perspective has been studied by various business scholars in the past years. Moore (1993), one of the key scholars of business ecosystems investigated companies as an ecology of competition and explored the various evolution stages of business ecosystems of firms namely birth, expansion, market leadership and self-renewal. The research also explored through a business ecosystem perspective how software companies such as Microsoft and Intel became global players supporting the IBM ecosystem in the

computer industry and how they have evolved to be leaders in their ecosystems, the success of Walmart, the US retail giant in their business ecosystem amongst others.

The perspective has remained contemporary amongst international business scholars, especially in the area of digital firms, internationalisation process, value creation, capture and bottlenecks in business ecosystems. Parente et al. (2018) investigated business ecosystems of sharing economy firms, internet-based firms - of the likes of Uber and Airbnb amongst others. The authors explored the main characteristics of these firms and the dynamics around their internationalisation process, as well as the challenges these firms have faced in terms of regulation in foreign markets, local competition, local adaptation, and failure to have first-mover advantages due to a late entry. A classic example is the failure of Uber to penetrate the Chinese market due to late entry and lack of local adaptation which made them eventually sell their business to their major competitor Didi.

Nambisan et al's. (2019) study explored global platforms and ecosystems as an avenue for value creation and capture for multinational enterprises and their implications on international business. Whilst their study explored value capture and creation for global customers, as is the aim of this thesis, their research took a different route considering multinational enterprises and facilitating new ways of building knowledge and relationships, while this paper will focus on digital firms founded in Europe. On the same line of value creation and capture, Adner and Kapoor (2010) examined value creation in innovation ecosystems wherein they sought to identify challenges from the external environment that can affect the focal offer by looking at upstream components and downstream complements in an innovation ecosystem. Their study is aligned with this research paper in some aspects, however, their focus was on an innovation ecosystem and not a business ecosystem as well as excluding the challenges in an international business context which this study strives to address.

Moreover, other authors like Monaghan et al. (2020) have written about born digital firms, an area of interest in this study. Their study investigated those firms' internationalisation process in comparison with traditional international business theories such as the Uppsala Internationalisation theory by Johanson and Vahlne (2009). Furthermore, they looked at the technological affordances that born digital firms have, including the features of automation, direct engagement with stakeholders, network effects, flexibility, and scalability, which assist in their instant access to international markets. Another research from Rong et al. (2015)

explored the key stages of nurturing business ecosystems in a foreign market. Hannah and Eisenhardt (2018) highlighted the importance of balancing cooperation in value creation and competition in value capture within business ecosystems and the three strategies namely component, system and bottleneck strategy.

Whilst all these studies mentioned above capture to an extent some areas of the core research that is sought out by the authors for this paper, it precisely covers the knowledge gap of adding insights and information on the ecosystem perspective in international businesses by exploring the value creation and capture process for the internationalisation process of born digitals. Moreover, it will be about the bottlenecks in their business ecosystem, either upstream or downstream to the delivery of their focal offer in international markets, and lastly about the benefits of using a business ecosystem for value creation and capture.

## 1.3. Research Question

Based on what has been displayed throughout the introduction so far, the research questions become apparent. When looking at it through the lens of business ecosystems, the factor that digital firms are considered as prospective firms to this study, and that the value capture and creation process through internationalisation is the centre of attention to this paper, the research questions will be:

- How do born digital firms utilise business ecosystems for value creation and capture in their internationalisation?
- What are the key bottlenecks in the ecosystem for value creation and capture in international markets?
- What are the key benefits of a business ecosystem for value creation and capture?

## 1.4. Purpose

The main purpose of this paper is to identify and add knowledge on the business ecosystem perspective in international business through the exploration of value creation and capture for the international businesses of digital firms. Moreover, the research will be about the possible bottlenecks a firm faces through upstream components and downstream complementors to the focal offer in international markets, as well as the ecosystem strategies that have been applied for value creation and capture. Lastly, it will be investigated what benefits a digital firm has from using a business ecosystem to also stay competitive.

Therefore, the scholars will conduct interviews with internationalised digital firms founded within Europe, to elaborate on their use of ecosystems, how they have helped them to go international, what kind of support they provided, what security and possible risks they could bring and lastly how it is beneficial for them to prosper through such a system in place, hence capture and create value in the process. This qualitative study, working through the lens of business ecosystems, will provide rich, in-depth insights on a micro level, that will not only answer the research questions and display the knowledge gap that exists in the combination of the three mentioned aspects but moreover, deliver useful data for other digital firms that are about to launch or try to grow, through the use of ecosystems.

## 1.5. Delimitations

Even though the research will be based on firms that are internationalised, thus operating within other countries, what cannot be expected in this paper is the inclusion of firms that are based or founded outside Europe. Moreover, firms outside the scope and the author's definition of digital firms will not be considered in this research, so the reader should therefore not expect any findings on other types of firms than born digitals.

## 2. Literature review

*The theoretical chapter sets a foundation by considering and reviewing literature relevant to the topic at hand. Several popular internationalisation theories namely the Uppsala Internationalisation process model and Born Global theory in comparison to the Born Digital theory, as well as the ecosystem theory will be discussed. Furthermore, a conceptual framework, synthesising the concepts of the Ecosystem theory and born digital firms in international business, will be presented.*

### 2.1. Framework and Theories

#### 2.1.1. Internationalisation

The key characteristic of the Uppsala model, which was researched and based on manufacturing firms, is that they gradually internationalise from their home country into international markets. Initially expanding their business to foreign markets which are close to the domestic market in terms of psychic distance and with minimal language and cultural barriers. However, as companies create knowledge which enables them to overcome the liability of foreignness in foreign markets, they also grow in terms of market penetration into markets further away from their domestic market. The authors have developed their work further to incorporate issues such as the importance of investing in relationships in circumventing what they refer to as the liability of outsidership (Johanson and Vahlne, 2009).

Born digitals, which are of interest to this study, are digital firms defined by two main attributes. These companies are built from the onset on digital infrastructure and they also rely on the same for communication, computing capabilities and collaboration processes (Monaghan et al., 2020). Their internationalisation process involves instant scaling, wherein the firm has the capabilities to expand quickly worldwide, accumulating many users, for example, WeCash, a Chinese fintech startup which serves customers with finance products by determining their credit risk by using their big data credit assessment tools, which has served more than 160 million users worldwide (Monaghan et al., 2020). Johanson and Vahlne (2009) in their model, unlike born digitals, proposed a slower-paced internationalisation process as firms build trust, relationships, and knowledge. Born digitals can take advantage of directly engaging with stakeholders, network effects, automation, and flexibility to be able to scale up and internationalise their businesses at a faster rate than previously proposed on the Uppsala

Internationalisation process model, which is gradual (Monaghan et al., 2020). Other authors, like Parente et al. (2018), share the same thoughts on sharing economy firms which also experience instant internationalisation due to the use of digitalisation, and also have fewer concerns about psychic distance and cultural differences. Most of these sharing economy firms have the characteristics of born digital companies like Uber and Airbnb represent.

Technology has enabled born digitals to directly engage with stakeholders at a broader and richer level than the buyer and seller relationship building proposed in the Uppsala Internationalisation process model (Monaghan et al., 2020). Born digitals are also able to automate, generate data to fast-track their learning, understand their customers better and make tailored products to those needs and enter new markets. However, under the Uppsala Internationalisation process model, knowledge creation and learning are a gradual process before a firm establishes itself in international markets. Born digitals can also build trust through various digital mechanisms on their platforms such as customer feedback, ratings, and payment verifications, and this is seen in platforms such as Airbnb as enabling both, potential guests and hosts to be comfortable engaging in a business transaction. The trust-building process and knowledge creation conceptualised by Johanson and Vahlne (2009) is gradual through building relationships and covering the gap of liability of outsidership to insidership in international markets (Monaghan et al., 2020). However, other scholars such as Brouthers et al. (2016) highlighted that despite the digital firms' ability for instant internationalisation, they still suffer from the liability of outsidership and foreignness.

To sum it up, the automation that is experienced by born digitals has changed the relationship development, trust building, opportunity recognition and knowledge creation process as compared to the gradual process of relationship building proposed by Johanson and Vahlne (2009) on the Uppsala Internationalisation process model. Against that background, Monaghan et al. (2020) have shown that with born digitals, there are changes in internationalisation mechanisms, as compared to what was proposed by Johanson and Vahlne (2009:1413-14). These changes in a company's behaviour have more to do with changes in the internationalisation environment than with changes in internationalisation mechanisms (Monaghan et al., 2020).

### 2.1.2. Born Globals and International New Ventures

Born globals are defined as start-ups that, from inception, seek to derive a greater proportion of their revenue from the sale of products in international markets (Knight and Cavusgil, 2004). International new ventures, a concept introduced by Oviatt and McDougall (1994), are also like born globals, but distinctive in some ways. They are defined as “business organisations that, from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” (Oviatt and McDougall, 1994, p. 49). Born globals, on the other hand, exhibit a high degree of international entrepreneurial orientation. The birth and growth of these firms are supported by the entrepreneurial ability of the founders and their managers. Despite these firms being relatively small in scale and having limited intangible resources, born globals usually are equipped with unique and distinctive intangible resources and capabilities (Knight and Cavusgil, 2004).

Born globals are premised on entrepreneurial orientation and marketing orientation, however, their entrepreneurial orientation leads to global technology competence which is in line with the automation aspect of born digitals. Furthermore, born digitals' key attributes are technology affordances such as automation, directly engaging with stakeholders, network effects, flexibility and scaling (Monaghan et al., 2020).

### 2.1.3. Born Digitals

Similar to born globals, born digitals can engage in international business almost instantly due to their mentioned key attributes. Therefore, these businesses rely from the inception of operation on digital infrastructure to conduct their business and their connection to international markets (Monaghan et al., 2020). Some examples of digital firms include Shopify, which provides digital fronts, or more popular and known are Amazon and Alibaba, which primarily use digital platforms to sell physical products, and are highly likely to also have a warehouse in the background that makes use of technology such as robots to organise activities.

In the following, the born digital key attributes are explained in-depth, as well as the effects on their internationalisation process due to technological bias (Monaghan et al., 2020).

1. Direct engagement with stakeholders



Technology and digital infrastructure give these types of firms direct contact with stakeholders namely users and local complementors like content creators, and it enables them to solicit information from users. The process in some international markets has rendered local distributors and intermediaries useless, as the company has direct access to the users and local complementors. Examples include firms such as international money transfers like PayPal, World Remit and TransferWise. Another one is Udemy, a learning platform that has partnered with local instructors in international markets for the creation of learning material (Monaghan et al., 2020). Similarly, Chen et al. (2019) highlighted how traditional intermediaries or distributors have been replaced by the direct engagement approach.

## 2. Automation

The firms offer automated trust mechanisms through their online platforms, namely through ratings and payment verifications. A good example of this is Airbnb, which uses the ratings and feedback from both the host and guests to build trust. It also has identity verification and clearance processes to give comfort to the hosts that they are not potentially going to host a person with a criminal record or other potential danger (Monaghan et al., 2020).

## 3. Network Effects

In digital platforms, the number of users determines the value placed on the platform, through more transactions and engagement that can take place. The higher the number of users, the greater the value placed on the digital platform. Therefore, platforms such as LinkedIn and Instagram can grow through network effects, as users interact on the platforms and in the process allow the firms to start serving new country markets (Monaghan et al., 2020). Parente et al. (2018) similarly argued that digital firms strive to leverage network effects by increasing both - supplier adoption and user numbers. Furthermore, the same scholar mentioned that to circumvent the liability of foreignness and build network effects, sharing economy firms can work with established and reputable complementors like what Uber has done with Hilton Hotels, wherein guests can request vehicles and set reminders for an Uber via the Hilton Honors application. Uber has adopted the 'shock and awe strategy' to generate network effects, consumer enthusiasm and attention, which is a risky strategy that helps them in lobbying to regularise its operations. The 'shock and awe strategy' is a military strategy which Uber applies that involves the use of excessive power as they enter new markets by creating consumer enthusiasm, acceptance and attention, and thereafter pressuring regulators to regularise the business in those markets.

## 4. Flexibility

Monaghan et al. (2020) identified three main types of flexibility namely technology, physical and cognitive flexibility. Due to the use of technology, these firms have adopted layered modular architecture wherein components of a product like users and content providers, can innovate and customise products. Born digitals also have physical flexibility wherein due to the digital infrastructure in their business models, they have low levels of physical infrastructure like brick and mortar, and relational commitments in international markets. Cognitive flexibility is shown in the sense that most born digital firms' managers lack experience in internationalising the business and therefore are forced to rely on sharing ideas with others in the industry. Lastly, another avenue is strategic flexibility, which is sometimes lacking in most born digital firms due to capital constraints that are mostly funded by either venture capitalists or other investors. The investor might have other expectations and strategic direction which differs from the founders in the process, sometimes limiting flexibility (Monaghan et al., 2020).

## 5. Scalability

The firms are considered easily scalable and can take advantage of economies of scale in core processes for early and faster international growth. Core processes which are easier to scale include customer identification, customer engagement and value chain linkages. A good example of these successful firms includes Wattpad, a Canadian start-up business platform that has over 90 million users and connects readers and writers through storytelling. Another example is WeCash, a Chinese fintech startup, which serves customers with finance products by determining customers' credit risk using their big data credit assessment tools. The firm has served over 160 million users worldwide and has expanded to Singapore, Indonesia, Brazil, and India amongst others (Monaghan et al., 2020).

## 2.2. Ecosystem Theory

The origin of the word ecosystem is from the field of biology and has been adopted in the business world to describe how a firm's success is dependent on how they manage their environmental dependencies (Astley and Fombrun 1983). The term business ecosystem was introduced by Moore (1993) who highlighted that firms should not be considered as members of a single industry but rather as members of a business ecosystem, which evolves over time and affects members in terms of innovation, cooperation and competition. A typical example from Moore (1993) is how Walmart worked with its various suppliers such as Procter and

Gamble in creating economies of scale in production, selling cheaper to Walmart and therefore offering discounts to the final consumers. Moore (1993) mentioned the four evolution stages of a business ecosystem namely the birth, expansion, leadership and self-renewal. Business ecosystems evolve similarly to a life cycle, as stakeholders interact and adjust. At the birth or early stages, firms will be still trying to figure out how to create value and capture value by defining what the customers want, while at expansion the firm works with the various suppliers and partners to scale up supply and grow market share. Lastly, at the self-renewal stage, firms work with innovators to bring new ideas to the ecosystem to maintain market leadership.

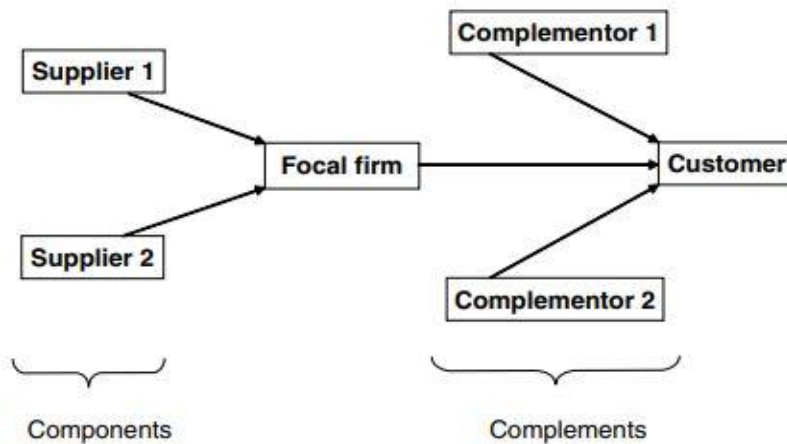
Furthermore, Teece (2007) defined a business ecosystem as a community of institutions, namely suppliers, complementors, research institutions and regulatory authorities. There have been various views of business ecosystems by scholars, which will be discussed, but the distinct one for this study is one wherein it encompasses a set of actors that contribute to the focal offer's value proposition, where this offer could be a product or service with or without a platform (Kapoor, 2018). The key focus is on the focal offer value proposition, where some successful ecosystems that come to mind range from Airbnb, where the focal offer is home accommodation, ride-sharing through Uber, electric cars from Tesla, and international money transfer through TransferWise.

Also worth mentioning is the difference between a network and a business ecosystem, which are often seen as the same. Even though they are quite similar, sometimes only being separated by a thin line or even crossing over to one another, the two systems do have distinct differences. When looking at Mäntymäki et al. (2018), they argued that the two most important differences from an ecosystem to a network are the high interconnectedness, and it being an overall complex system with independent parts that are interlinked and share activities in a coexistence. Kola et al. (2020) defined the differences that a network is mostly contract based while an ecosystem is purpose-driven. Lastly, Autio and Thomas (2021) defined the distinct difference to be seen through four characteristics an ecosystem possesses, respectively being the system-level outcome, the heterogeneity of the participants, its nature of interdependencies and lastly the coordination mechanisms.

In a business ecosystem, the focal offer is analysed in terms of the upstream components and the downstream complements, as well as how they interact in terms of value creation for the user or consumer, and in terms of value capture. In the case of a focal offer of an electric car,

the consideration is on the upstream components such as the batteries and electronics, whilst on the downstream complements it is on charging stations, garages and the electricity grid amongst others (Adner and Kapoor, 2010). Bottlenecks are then identified in an ecosystem as anything that will affect the ability to offer an excellent focal offer by the focal firm and these may include insufficient electricity in the grid to service the electric cars focal offer or inadequate charging stations. Moreover, financial bottlenecks have been studied in-depth in terms of identifying challenges and recommending strategies to resolve them (Kapoor 2018; Hannah and Eisenhardt, 2018). Adner (2012) therefore defined bottlenecks as any actor that constrains the performance of the ecosystem due to scarcity, weak performance and poor quality.

Whilst there are multiple diagrammatic representations of a business ecosystem, a predominant one is known from key scholars on business ecosystems such as Moore (1993). Those look different to the one displayed in Figure 1, where they are usually presented in a circular format with different layers that represent the different participants in the ecosystem, ranging from the core firm, suppliers, distributors, and customers, to regulators and investors. Similarly, other authors such as Parente et al. (2018) have designed a different graphical representation of a business ecosystem, custom-made for sharing economy firms gleaned from the same model, however, they built their own conceptual framework that has the sharing platform at the centre, being supported by suppliers, complementors, final consumer, regulators and competitors. Therefore, this study will make use of the diagrammatic display of the business ecosystem rendered by Adner and Kapoor (2010) in Figure 1, as it clearly displays how the various actors, namely suppliers and complementors, contribute to the focal offer in value creation and value capture.



**Figure 1: Business Ecosystem; Source: Adner and Kapoor (2010)**

The upstream components, which consist of the suppliers, contribute to the focal offer being represented by the focal firm. The downstream complementors also contribute to the focal offer as it reaches the customer, while in the process, both are involved in value creation for the customer and value capture for the focal firm in local and international markets. Hannah and Eisenhardt (2018) highlighted that firms are successful when they simultaneously create value (cooperate) and address bottlenecks to assemble an ecosystem and capture value, which means competing via market power. Along the same thought line, Adner and Kapoor (2010) explained a bottleneck in an ecosystem, specifically from a study of innovation ecosystems, as any challenges that constrain value creation and value capture within the ecosystem. In reference to Figure 1 illustrated above, these can either be upstream component challenges that limit value creation by hindering or constraining the focal firm from producing products, or downstream complement challenges that constrain the customer from receiving maximum value from the focal offer. Parente et al. (2018) highlighted that the key bottlenecks for sharing economy firms (digital firms) in their international expansion are firstly, a lack of complementary providers, secondly local regulations and lastly but not least lack of technology infrastructure.

Other key scholars, like Jacobides et al. (2018), highlighted that an ecosystem consists of a set of actors of non-generic or unique complementors, multilateral and not wholly hierarchically. Meaning that anything that does not have unique complements is not considered an ecosystem. Therefore, they gave an example of boiling water complementing

tea bags, and these are generic complementors, therefore do not qualify in his definition as an ecosystem. The non-generic complementors make it difficult for other players to copy or join the ecosystem without developing the required skills.

There are many examples of successful business ecosystems, such as Apple, Google, Kindle, and Airbnb. Cusumano and Gawer (2002) highlighted that a business ecosystem of a digital firm consists of the core technology in which complementors can connect their products and services - often via an open interface.

## 2.3. Ecosystem Strategies

Hannah and Eisenhardt (2018) highlighted the importance of balancing cooperation in value creation and competition in value capture in ecosystems, by giving an example of how Apple in 1996 was saved from collapse and given a lifeline to stay afloat before they created the iPhone, which was a game changer in the business. The firm was able to collectively create value through a focal offer of an iPod, by working with various component firms upstream, which provided components such as the MP3 player, flash memory and music rights. The firm also cooperated with complementors such as Universal Music, which allowed them to gain market power (value capture). Similarly, Ozcan and Eisenhardt (2009) studied six game publishers in the gaming industry and they found that these publishers led to the emergence of the industry by bringing together various components such as carriers and handset makers to establish a successful ecosystem. However, scholars such as Ozcan and Santos (2014) show that if firms compete too much, an ecosystem might fail to form and this was displayed in their study of failed alliances in mobile payments.

Hannah and Eisenhardt (2018) have recommended three strategies namely, component, system, and bottleneck strategy, which will be defined below.

### **Component Strategy**

In this strategy, the firm enters one or a few components in an ecosystem and cooperates on the rest with other complementors (Arora and Bokhari, 2007). They create value through cooperation through specialisation and capture value through innovation and doing better than component rivals (Hannah and Eisenhardt, 2018).

## **System Strategy**

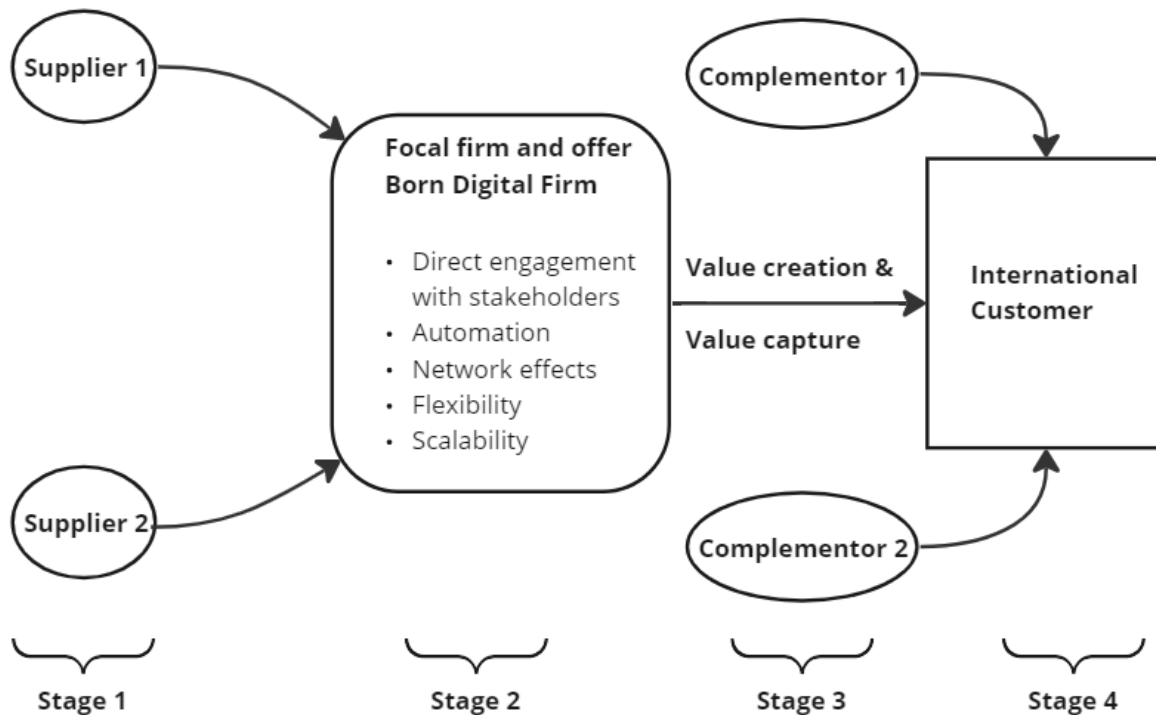
A firm is highly likely to adopt this strategy in mature ecosystems and not in innovation ecosystems. They participate and compete in many or multiple components and cooperate on a few within the value creation process (Arora and Bokhari, 2007). System strategists minimise dependence on partners whilst emphasising competition for value capture (Hannah and Eisenhardt, 2018).

## **Bottleneck strategy**

Bottlenecks constrain the ability to deliver a focal offer to the maximum satisfaction of the customer. Therefore, the Bottleneck strategy is an interplay of cooperation and competition. Firms enter the bottleneck components as they emerge, innovate within them and cooperate with the complementors for the remaining components. Competition to gain market power is emphasised in uncrowded bottlenecks, whilst in crowded bottlenecks, innovation and cooperation are encouraged (Hannah and Eisenhardt, 2018). This concept enhances the work done by Kapoor (2018) on value creation and authors such as Jacobides et al. (2018) on value capture in ecosystems. Parente et al. (2018) displayed such bottlenecks of liability of foreignness and outsidership, in the example of Uber when they failed to have first mover advantage and local adaptation against fierce competition from Didi in their ridesharing business in China. Ultimately, they had to override this bleeding of the business by selling it and buying a stake in Didi, which was previously their competitor.

## **2.4. Conceptual Framework**

Based on the literature review, the conceptual framework illustrated in Figure 2 was created to apply and link the theoretical concepts, thereby building a foundation on which the research questions can be answered. While the conceptual framework is, to a majority, still based on the business ecosystem by Adner and Kapoor (2010), and employing ecosystem strategies in value creation and value capture, they furthermore incorporate the five attributes of born digital firms as they internationalise. This showcases the attempt to build and render a framework upon the original solution or business ecosystem framework to make it more adaptable and applicable for this study.



**Figure 2: Conceptual Framework; Source: Own model derived from Adner and Kapoor (2010)**

Stage 1: Suppliers are the upstream components and incorporate the various suppliers that contribute components to the focal offer. If for some reason a supplier produces a defective product or delays delivery, they automatically create a bottleneck. The quality of the focal offer is affected by any bottlenecks from the suppliers and in the process, value creation and capture are affected. However, if everything is delivered according to expectations, the focal offer is quality and value creation and capture is maintained.

Stage 2: The focal firm displays the digital firm in the business ecosystem. This is the orchestrator of the ecosystem and has control of the customer base. As described in the literature review, digital firms have technological advances such as automation, direct engagement with stakeholders, network effects, flexibility and scalability. The focal offer can be sold to international markets due to the characteristics of digital firms explained before.

Stage 3: Complementors are depicted as what is referred to as downstream complementors throughout the literature review. These firms assist in creating value for the value proposition of the focal offer and can include various partners such as payment providers, technology enablers, transport providers, and warehouse providers - all depending on the type of digital firm. They also contribute to the value creation and value capture process. If there are any



bottlenecks, this will affect the ability of the focal firm to create value for the international customer.

Stage 4: An international customer has to experience and be satisfied by the focal offer. The focal offer from the focal firm is supposed to be seamless as the customer has various other value propositions from competitors to choose from, therefore, it is vital that the customer is satisfied to maintain customer loyalty and remain competitive in the market.

## 3. Methodology

*The methodology chapter will describe and discuss the different aspects of methodology and what has been applied within this thesis. Therefore, the various factors included in such research, like the research perspective, its approach, the method as well as design, the process of the research, the operationalisation, analysis, the quality of the research, its ethics and lastly, the overall authors' contributions will be provided throughout this chapter.*

### 3.1. Research perspective

In this subchapter about the area of research perspectives, light is shed on the two different approaches, the hermeneutic as well as the positivism approach of research.

When looking closer at the positivism approach, it becomes apparent that this sort of approach focuses mainly on the understanding, prediction, and explanation of a phenomenon and its verification through scientific research (Park et al., 2020). Moreover, as Smith (2012) stated, this type of research is out for hypothesis testing to not only generate but rather validate the obtained knowledge. Therefore, it is more closely related to quantitative research, where this approach finds a better application.

Now going over to the hermeneutics approach, which can be understood as the perception of a scholar, the derived meaning and the interpretation of a conducted study (Higgs et al., 2010). To delve deeper into this approach, Smith (2012) mentioned that it is often also perceived as interpretivism and talks about it as the approach that puts its focus on the interpretation of meaningful interactions on the social level. This is, according to Adair-Toteff (2021), also why it is mostly used in social science and qualitative research because it investigates and observes to create rich and in-depth data to better understand a phenomenon.

Since this paper's research, as thoroughly explained further in chapter 3.3, is based on a qualitative methodology, the hermeneutics, or so-called interpretivism approach, applies to this study, because the scholars drew conclusions based on observation, investigation, and interpretation of the collected data.

## 3.2. Research approach

As Alvesson and Sköldberg (2018) described, three different approaches can be considered, which are namely the abductive, deductive and inductive approaches. Saunders et al. (2019), defined the deductive approach as the one following a theory by testing hypotheses to observe and confirm the theoretical framework used in the beginning; thus, it is a so-called theory-driven approach. The induction on the other hand is the exploratory approach that develops a framework or concept out of the data – the observations taken, and patterns found – on the research problem; hence, this one can be understood as a data-driven approach. The third and last approach is abduction, which is an in-between using both theories - data as well as theory perspective - but in a wider sense. Moreover, the abduction often takes place over a longer period and makes use of a back-and-forth for iteration.

When looking closer at the different approaches, it becomes apparent that they are important to be considered right from the beginning of a study because defining and finding a research question of concern will start with the approach that will be used to elaborate and conclude findings. As aforementioned, the inductive approach focuses on the observation and patterns of a topic through applicable research methods and designs, though this does not mean that it entirely omits theoretical frameworks or concepts, just that eventually a framework, theory or concept will be derived by the scholars from the data gathered, in complementation with previous researched theories. Hence, this approach does also emerge in preceding theories and findings but adapts along the way according to the research problem, which provides a greater foundation a conclusion is based on.

For this study, an inductive approach was applied, whereas the reasoning was based on the fact that theories, concepts and frameworks from prior researchers were used within the literature review to build a foundation for the study. Then, the gathered data was used to form its own framework to apply and model it according to the research problem as seen fit. Therefore, the inductive approach is the one offering the support and ability to derive a framework for the scholars and draw conclusions based on the patterns, relationships and behaviours found throughout the data collection.

## 3.3. Research method

A research is defined by Gratton and Jones (2009, p.4) as a “systematic process of discovery and advancement of human knowledge”, which aligns with Saunders et al. (2019), that it

displays a systematic process undertaken by scholars to gain knowledge of the unknown. This provides a foundation for what research methods do because they are there to be able to investigate certain subjects through a collection of information and data carried out by rigorous scholars. Moreover, it can be said that research methods are basically the techniques for data collection and reflect the decision of instruments used to base research on.

This delivers the two types of methodologies that can be employed, which are of qualitative or quantitative nature. Delving into the quantitative methodology, it becomes apparent, as Babbie (2016) argued, that it is based on the quantity of data collection and the objective of measuring quantifiable information that then permits concluding mathematical, statistical, or numerical analysis of said data. Moreover, it can be done through various sorts of designs, such as surveys, questionnaires or polls that provide the scholars with numerical data to exhibit a researched phenomenon, while the research design chosen for this thesis will be discovered in subchapter 3.4.

On the other hand, are the qualitative methodologies which, according to Denzin and Lincoln (2018), have their focus on the quality of the researched subject, often being unities or even entities, whereas the measures are – most of the time – not quantifiable ones, but instead observing the socially constructed nature of things, relationships, and their meaning behind it. Therefore, qualitative research stresses more to answers questions of ‘how’ and ‘what’, which inflicts the emphasis of the research on the topic, as well as a more in-depth engagement in the research, being closer to the events and investigation, instead of being distant, what can be said for quantitative research methods. Looking at some key aspects of qualitative methods, Denzin and Lincoln (2018) have defined three elements that are crucial and present, which they narrowed down to the design, the data collection, and lastly, the analysis.

For the data collection, Denzin and Lincoln (2018) stated that it is visibly broken down into four areas. First of all, they name the data itself, which refers to interviews and observations for a ‘thick description’ of experiences of cases. Further, they said the personal experience is about the researchers’ contact points and closeness to the phenomenon and the overall inquiry, which brings the scholars' personal side of the experience in as a valuable and integral aspect for a better understanding. Moreover, they talk about empathic neutrality, which simply stands for the neutral judgement of the observer, showing sensitivity, respect, and awareness for the subject, while being fully involved and mindful. The last aspect of the

collection of data is the consciousness of dynamic changes and the corresponding adaptation of the processes along the way.

Even though all these aspects are of importance when looking at qualitative research, and shall be present when conducting such, it becomes apparent through the aspects of the data collection why the scholars have decided to go with a qualitative methodology for this paper. Hence, it needs to be explained what kind of methodology was employed to gather data for answering the research questions and objectives.

For the methodological approach, semi-structured interviews were used to collect the data. A semi-structured interview can, according to Saunders et al. (2019), be conducted in several ways, whereas for this thesis, communication via online platforms such as Zoom was favoured for the ease of handling, though also two interviews were conducted face-to-face. With this approach, the interviewers are able to easily connect with companies that might not be within their proximity, as well as record the session to recap later on what was said and make use of statements that were made throughout the interview. Furthermore, four of the interviews were conducted in English, because this posed the common language of the authors and interviewees, though one interview, with Company Z, was conducted in German since one of the author's mother tongue is German. This was done, so the CEO of Company Z could speak more freely and naturally, which also means the transcription of the data and quoting of him has been done carefully and in the most accurate way possible by the scholar.

As Saunders et al. (2019) state, semi-structured interviews are so-called 'non-standardised' interviews and are seen as qualitative ones. Moreover, Galletta (2013) aligns with them, that this kind of interview is first and foremost working with open-end questions that can be seen more as a guideline or framework to steer the interview into certain areas and themes that should be discussed and enlightened throughout the interview. This allows the interviewee to express their own experiences and ideas in a broader set-up because they have the possibility to simply explore the question as they see fit, whereas the interviewer can effortlessly keep an eye on what was already covered, so in the end, the purpose of the interview is still fulfilled. This type of interview allows to answer key aspects in an approach that puts the interviewee in the centre point with a certain freedom, but at the same time, it also ensures that answers to the research topic were given, so the intention is true to provide the participant with the potential to go own paths of exploration, which is why this kind of interview is seen as an exploratory approach.

## 3.4. Research design

The term research design has, according to Kerlinger (1986, p.279) the meaning of a “plan, structure, and strategy of investigation conceived so as to obtain answers to research questions”, which presents its overall meaning, because it intends to present the tool that is used to collect data, conduct the research, and eventually be able to conclude the researched phenomenon. It can be said that its overall function is to guarantee an explicit way of collecting data to the defined research questions and its objectives, as well as allow the researchers to better, and with more rigidity, find evidence to answer them. Since several research designs can be applied within the scope of research, some aspects of them can vary but some are always staying true. These range from the clear identification and justification of the research question, the rigour scrutiny of literature review and - if hypotheses are being tested - the precise definition of data that is needed to do so, to the detailed description of the analysis employed to test the hypotheses (Trochim, 2002). After understanding ‘what a research design is and what it stands for’, the upcoming paragraph will provide knowledge about what type of design was selected by the scholars for this research paper.

To investigate the research problem provided in the introduction with its research questions as well as objectives, the scholars have decided to go with a multiple case study. As Saunders et al. (2019) describe in their book, a case study is the investigation of one individuum, organisation or event, to study in-depth relationships, correlations and phenomena that are connected to a certain interest of study. Moreover, it takes all sorts of dynamics and circumstances into account that might influence the real-life setting the study’s object is in. Furthermore, to be able to broaden the findings, and have a greater set of data, different angles and various perspectives, the authors have decided to use a multiple case study, which is seen as the study of the inclusion of at least two, but rather more single cases within one investigation that align with the research questions, objectives and examined phenomenon. So, it indeed deviates from the single-case study design, but the overall methodological framework is seen as the same (Yin, 2017). Finally, this approach is an exploratory and descriptive analysis, which fits greatly with the approach the scholars have taken in investigating the business ecosystem’s role in internationalisation strategies.

## 3.5. Research process

The research process can be divided into two parts, the data collection, and the sampling. The first step is to explore what the data collection includes, before moving on to the sampling, which is the applied method of finding samples accordingly.

Saunders et al. (2019) argued that there are more types of possible data collection, whereas primary, as well as secondary data, are two of them. Therefore, it can be said that primary data mainly stands for interviews, observations, or experiments, thus, was generated by the researchers themselves – it is the raw data set – to better understand a research problem. Secondary data on the other hand was described by them as the already previously collected data in any of its forms, for example, derived from questionnaires, experiments or observations done by other scholars delving into a research topic. More examples of such secondary data are books, journals, PhD publications or any sort of governmental and organisational publications like annual reports. It becomes apparent that data collection plays an integral role within research because it sets a foundation and is basically the gathering of information to eventually draw a conclusion on the researched problem.

According to Alvesson and Sköldberg (2018), it is a precondition for the aimed research and provides an explicit way of conducting and gathering said information necessary to conclude on the researched topic. Clearly, data collection has many facets and attributes that can be applied to research, whereas this paper has put its focus on primary data collection via interviews as described in subchapter 3.3. To complement the primary data, thorough secondary data research was included based on books, journals, organisational reports or other previously conducted research of all sorts.

The second part of this chapter is focusing on the type of sampling that has been employed for this thesis. Therefore, it needs to be understood what kind of samplings are available to researchers and what they mean specifically in terms of finding possible samples or in this case, interviewees.

As Saunders et al. (2019) as well as Emmel (2013) defined in their books, there are two ways of sampling, the so-called probability and non-probability sampling. When looking into probability sampling it becomes evident that this type of sampling is randomised, and every person of the world's population could be part of a research that applies this sort of sampling.

Moreover, it can be said that this type of sampling method is quite time-consuming and more cost-intensive when comparing it with the non-probability method of sampling.

On the other hand, non-probability sampling is, according to Saunders et al. (2019) and Emmel (2013), the explicit selection of units or individuals chosen subjectively, not randomly, to provide insight into the researched problem. The sample selection is based solely on the subjective judgement of the scholars and their understanding of this respective person being able to contribute to the study with their experience and insights. Other than the probability sampling it is a rather fast method of selection as well as handy and inexpensive for the researcher to obtain the data they are looking for.

Therefore, it can be stated that this research has collected its data via interviews and secondary data collection. Moreover, the non-probability sampling method was applied, wherein the researchers found specific prospects that fit their criterions to fulfil the needs and provide possible insights into the research problem at hand.

For this endeavour, some factors must be considered, which were by Merriam (1998) mainly defined as choosing participants according to their knowledge, influence as well as the potential of answering the research question at hand. This means for this paper, the main focus lay firstly on firms that are based and founded within Europe, secondly operate entirely online as a digital firm and thirdly have internationalised or are in the process of internationalising their business. To find such firms a thorough investigation through internet research has been done to narrow down the prospects to fit said criterions and then contact was made via various channels to find out if they are interested and willing to participate in the study. The interviews were aimed to be held with personnel that are involved in the processes of interest, hence handling direct or indirect internationalisation strategies, overlooking areas that influence the value creation and capture process, the nurture of the ecosystem and/or are in an overall decision-making position. Moreover, due to the lack of time and responses, the sample size for this paper was five interviews, and an elaboration on the interviewees, with some facts and figures, can be found in Table 1 below.

<b>Company</b>	<b>Interviewee</b>	<b>Job title</b>	<b>Date</b>	<b>Duration</b>	<b>Mode</b>
OCCDEC	Mr Radszuweit	CEO + Founder	01/05/2023	35 Min	Zoom



VirtualInspect	Mr Anderson	CEO + Founder	12/05/2023	42 Min	Face-to-face
Company X	Mr Svenson	CEO + Co-Founder	12/05/2023	19 Min	Face-to-face
Company Z	Mr Mann	CEO + Co-Founder	12/05/2023	1H 6 Min	Zoom
Company O	Mr Person	Co-Founder	12/05/2023	46 Min	Zoom

**Table 1: Table of interviewees; Source: Own table**

## 3.6. Operationalisation

Transferring the theoretical concepts into empirical results is part of the operationalisation, therefore obtaining knowledge through interview experiences and information is the main objective of conducting the research. To enable this, appropriate variables must be allocated to the specific categories and in this case, the conceptual framework is considered for this next step (Bell, Bryman and Harley, 2019). The conceptual framework includes the business ecosystem with its sub-concepts consisting of the value creation and value capture of the focal offer, and the concept of bottlenecks within the ecosystem - both in the upstream components and downstream complementors as described in the literature review chapter. The third concept focuses on the benefits the ecosystem provides for value creation and capture. In addition, the business ecosystem perspective will be considered under the parameters of international business or an international customer. The semi-structured interview guide (see Appendix I) was then developed while keeping the goal of answering the research questions and resolving the main areas of analysis in the conceptual framework in mind.

The first part of the interview is the ice breaker, which is designed to learn more about the business, its value proposition, where they sell their products and a brief background of the interviewee to confirm relevant expertise. The following parts are designed to work along the conceptual framework, in the process, acquiring insights to resolve the research gap and gain new knowledge on business ecosystems and their application to international business of digital firms. Therefore, the first main concept category is based on questions addressing the business ecosystems, where the start is made by gathering overall insights on the firm's internationalisation approach. The further questions are more specific to the business ecosystem itself, wherein it is mainly about the key actors in the value creation and value capture process for the firm. The second category of questions is on the key bottlenecks in the

business ecosystem, the challenges the organisation possibly faces and how they overcome those hurdles if existing. The third and last category is on the benefits of the business ecosystem to the firm and what it provides them with.

While some of the questions were formulated to answer specific aspects of analysis, others had to be kept broader to create a clear flow and receive general insights before an in-depth understanding was gained. The questions were open-ended to allow the interviewees to give more detailed information on areas they perceive to be more important (Bell, Bryman, and Harley, 2019).

A presentation of the variables of the research, relating to the theoretical concepts and the created conceptual framework, is shown in the operationalisation table (Table 2) below.

Main Concept	Sub concept	Questions	Reasoning
Business Ecosystem	Focal Offer Value creation and value capture	1-6	The intention of these questions was to understand the firm's ecosystem partners, value proposition and how they create value and capture value in their international business
Bottlenecks	Upstream components Downstream complementors	7-9	To understand the key challenges in their business ecosystem as they strive to create and capture value
Benefits	Value Creation and value capture	10-11	These questions are to gain knowledge on the benefits of maintaining their ecosystem partners in their international business

**Table 2: Operationalisation table; Source: Own table**

## 3.7. Method of analysis

There are several ways of analysing collected data, which also depends on the approach and methodology that was chosen for the research. Since now it is determined that a qualitative methodology will be applied for this study, the focus will also just be put on the different kinds of methods that apply to this research paper. As Saunders et al. (2019) describe in their book, there are on the one hand a diversity of tools that can be used, while at the same time,

the analysis of qualitative research comes with some consequences that must be looked out for. In the case of this study, the data is based on interviews, which means according to them that the data stems from the spoken word - the verbal communication from interviewees on the research topic. The collection will take place through conducted interviews, which will be recorded and transcribed, to have the evidence easy at hand and accessible. Throughout the process, the scholars will categorise the data and sort them into different areas that will align with the operationalisation framework described in subchapter 3.6. Since the research will be based on the primary sources of interviews, which will be semi-structured, a guideline is given for certain areas of interest, to which the interviewer will receive answers throughout the process. This means that there might be a bias for the interviewer prior to the investigation due to the research done on the topics. Therefore, it is integral to then compare the factual findings throughout the process and adjust accordingly, thus, the researchers need certain flexibility and open-mindedness when it comes to the process of analysis (Saunders et al., 2019). The overall goal is to answer the research problem the paper intends to solve. Though, to get there, the process of data analysis is a crucial part, where patterns, relationships as well as behaviour will be collected and compared, to find said aspects and draw conclusions based on them in combination with the literature at hand and the framework built by the scholars. As Eisenhardt (2021) has written about qualitative analysis, a constant comparison of the data collected, as well as the theory that has been used, is a vital part. This is done to find correlations between the literature used as the foundation, the operationalisation, as well as the empirical findings. Therefore, the authors have used a thematic approach that makes use of the statements taken during the interviews, to take direct quotes for underpinning their findings and the later on illustration in their conclusion. To do so, the interviews were compared for similarities in various areas to cross-reference them with one another and form a coherent conclusion through patterns and categories pinpointed by the scholars through their operationalisation table.

### 3.8. Quality of research

Research has to follow certain standards and therefore has some characteristics that have to be true to be considered high-quality research. As Saunders et al. (2019) described, the aspects that are taken into consideration are validity and reliability, even though they are more defined for positivism, thus quantitative research, but are in a wider sense also applicable for qualitative research methodologies - just likely to be assessed differently. Whereas they stated that the reliability is referring to the replicability of a study, hence, if

researchers can remodel the study and with the same measures and approaches will conclude the same findings, it is considered a reliable study. The validity on the other hand is more concerning the measures that have been applied and if they are set to measure according to their intention - the accurateness of analysis of the gathered information, as well as its generalisability. Since those are more the facts that apply to quantitative research, the approach looks slightly different for qualitative research. Saunders et al. (2019) spoke about alternative criteria that can be used to evaluate the quality of an interpretivism approach, because its focus lies on the social construct, finding patterns through observation of real-life behaviour and events at a certain point in time. Therefore, Shenton (2004) interchanged the terms for qualitative research and stated that the internal validity for quantitative research is replaced by the credibility, which according to Saunders et al. (2019) stands for the care that is taken to ensure the illustrations correspond to the socially constructed reality of the participants and, above all, what the participants real intention was in the research. Furthermore, the generalisability is offset by the transferability, which clears doubts about the meticulous description of all aspects of the study, being the research question, context, its design, and the interpretation of its findings. The third aspect mentioned by Shenton (2004) is the dependability, which is replacing the reliability of a quantitative study. It simply stands for the precise documentation of any changes that happen throughout the research process, which includes any sort of modification to the study as it proceeds, so it can be understood and traced by the reader. Finally, he mentions confirmability, which is the objectivity of the researchers vis-à-vis their study. This provides the interchanged equivalent parameters that can be used to assess qualitative research regarding its superiority, which were taken care of by the scholars throughout the research to ensure a high-quality paper.

### 3.9. Research ethics

When conducting research in any form, but particularly for qualitative research where close contact with individuals is present, ethical considerations are of utmost importance. As Diener and Crandall (1978) defined, four steps must be taken into consideration to ensure ethical conduct. Respectively they stated that 1) no harm is done to the participants in any way, 2) information is only obtained through and after consent was given, 3) under no circumstances should any invasion of privacy take place at any time of the conduct, and lastly 4) there should never be deception involved throughout the contact with participants. To fulfil all these mentioned criteria for this research paper, first of all, consent was requested and acquired by all interviewees at the beginning of the recording of the interview, and they have

been informed about the intention of the interview as well as the context and research problem at hand. According to the General Data Protection Regulation for students (LNU University, 2021), the names of the firms and interviewees were kept where permission was given, since they were seen as valuable to the study and to add credibility to the research. If consent was not given, the names of the interviewees and companies were redacted and changed, to keep them anonymous. While conducting the interviews, special care was taken for the participants' well-being, for which a comfortable atmosphere was created. Furthermore, it was ensured that they never felt pressured in any way, harmed, or put in a situation where they would have to reveal anything they did not want to share, or which was possibly confidential. Finally, the questions were formed in such a way that they did not seem tricky or far-fetched at any point so that the participants did not feel that there was some kind of deception behind a question they were asked. Language-wise the interviewers made sure that there was no harmful language included throughout the interviews or any perception that could have been seen as directed negatively towards the interviewees.

### 3.10. Authors contribution

Since this thesis was a co-authored work, it incorporated a constant involvement of both authors that worked simultaneously on the entire process of researching and bringing the respective sources and parts of the paper together. A great trust in each other was therefore relevant and inherent, to allow individual work to take place. Both brought in their respective expertise in certain areas and aspects of this paper so that they mostly complemented each other. For the progress, constant communication via several media was necessary, as well as a great number of meetings to not only form ideas and align each other's thoughts on the procedures but mainly to finalise parts and finish up the manuscript for the respective deadlines. This involvement of both authors ultimately puts together a paper that inherits the identity and thoughts of both of them, which was fostered through the process of proofreading the counterparts' writings, not only limiting to grammatical errors but more so to provide further thoughts on what might be missing or could be added eventually. This leads the authors to the statement that an equal part was worked on the paper for each of them.

## 4. Empirical study

*The chapter on empirical findings presents the gained knowledge from the interviews. Therefore, subchapters of the three topic areas of business ecosystems, bottlenecks and benefits are formed, to sum up the findings from the various companies within those areas, and support them with citations from the interviewees. Furthermore, a brief description of the companies will be provided, what they do, when they were founded, etc., to give the reader a better understanding of the links made by the authors. Furthermore, the subchapters are linked to the operationalisation table (Table 2), which will be the main tool to be used for explaining and connecting the interview findings with the overall research.*

### 4.1. Companies description

#### 4.1.1. OCCDEC

OCCDEC is all about an AI-based security system technology that creates safer public places through smart cities. Therefore, it is about increasing and creating a mentally healthier, safer and more secure and more sustainable environment for children to grow up and people to live in. The company of OCCDEC was founded in 2019 by Mr Radszuweit and is situated in Sweden.

#### 4.1.2. VirtualInspect

The service and product of VirtualInspect is based on an interactive, cloud-based, documentation platform for the construction industry and homeowners to have direct and easy access to every document for claims, renewals, construction and more. Therefore, it provides the ability for quick and easy inspections of construction sites and houses to be sold or bought - for valuation. The company was founded in Sweden by Anders Anderson in 2021.

#### 4.1.3. Company X

Mr Svenson is the Co-founder of Company X, which was founded in Sweden in 2020. This company is focusing purely on tailored ERP business systems, to provide customers with the ability to scale up smoothly and reliably. Furthermore, their system includes processes such as accounting, billing, purchasing, manufacturing and more, to provide the customer with a wide variety of process abilities for the scope of their needs.

## 4.1.4. Company Z

Company Z's inception was in 2010 when Mr Mann and his wife decided to create an online business for jewellery of all kinds, particularly focusing on women, with hand-made jewellery produced in their own workshop. Moreover, they offer affordable jewellery that is uniquely created and designed by Mrs Mann, which started in Germany and now reaches across the German border, delivering to worldwide customers across the globe.

## 4.1.5. Company O

Per Person is the Co-founder of Company O, which has called to life a property management application that provides landlords and tenants with smooth access to their documents, floor plans, measurements, 3D render, error reports and to stay connected. This convenient application provides great value to all generations that are connected and included in the process of Company O, which was founded in Sweden in 2019.

## 4.2. Business ecosystem

When starting off with the internationalisation, OCCDEC, told us that they are in *“Finland and [...] Denmark [...], and [...] have an open invite from Norway, so [...] Scandinavia is our current market”*. Since the technology is quite new on the market, it is therefore often sold to old states that are undereducated in this sector and need an upgrade on their systems, but the connectivity is of course a necessity that must be given to be able to implement the system. This limits their current internationalisation process according to the CEO. When looking at their value proposition Mr Radszuweit said *“with a safer environment, there's less stress, and stress is an interesting factor; [...]. It [...] reduces stress, also decreases medications such as antidepressants.”* This will affect not only the municipalities budget but also the state's budget, and he even went on with a practical example of gun shootings in Kalmar, where he pointed out that a *“criminal act [...] costs about €7.5 million”*. If you were able to *“reduce them by [...] 30%”*, a lot of the budget can be saved. Furthermore, the CEO said, they *“had three shootings in Kalmar [...] so if we could reduce that with one shooting, we would save €7.5 million and the system would cost [...] €1 million. You would save 6.5”*.

Taking into account Company Z's internationalisation, the CEO said it somewhat *“went organically with the evolution of the internet”* but they also always aimed for international sales. They first started off on a platform that was back then called DaWanda, which

*“provided us with shipment possibilities in Germany and within Europe”, before they implemented their own web shop. After this step, the CEO said they jumped on the train of Etsy when it became a name and was on the rise. This “basically presents our internationalisation process right from the start and its evolutions with the different platforms” simply gaining a greater reach, getting more known and eventually becoming a top seller within those platforms and marketplaces, particularly within their segment. By today, they sell all around the world, only excluding “Russia momentarily”, because of the war, and “China overall, because of imitations and replications of their goods”, which still take place, as he said, most likely via photos or intermediaries that order their jewellery and then it ends up with a Chinese company that replicates them and sell it for a fraction and produced with cheaper material.*

VirtualInspects’ first international steps will, according to the CEO, be mainly based on making connections to Denmark, where he has a close contact that is a *“director for [...] a revision company that have over 7000 clients [...] in the construction industry”*. They aim to become a *“reseller on the Danish market”*, to offer their solution outside of Sweden, *“and right after that, [...] we are going to launch in Norway, because [...] we [...] have almost the same process of doing inspection”*. Further steps are to go into southern Europe, where, as Mr Anderson described, the restrictions of an *“inspection does not have as high”* requirements and *“risks for the inspector”* are lower than in the Nordic countries. What differs here mainly is that in the Nordic countries, the inspector *“has to be physically present”* at the inspection site, while in countries like Germany, Spain or Italy, the *“real virtual inspections”* can take place, because the client can do it via taking pictures and videos, where third party freelancer like *“architects or builders”* are eligible to be on-site, with sort of *“a checklist”* they tick off to be sufficient enough for verification.

Company O has plans to expand within Scandinavia namely in Norway and Denmark as the ecosystem and infrastructure are quite similar to Sweden. Mr Person advised *“I think like when we come to Norway and we come to Denmark, we're going to face challenges when it comes to the legal parts because I mean, it's not 100% similar”* but the demographics are similar and how apartments are owned is similar to Sweden, so the transition will be easier.

OCCDEC’s current market segment is convenient for the company because AI is a buzzword that makes it *“easier to get investors”* and people's attraction to the service. What on the other hand poses a problem to get into play, the CEO said, is that *“it's embarrassing for*



*politicians to admit they basically did terrible mistakes in the Swedish immigration system”, that lead to the need of such a system, thus, this is usually causing a hurdle for the company to get into play with their service, because the state is the one implementing it.*

When looking at what Company X said about their market segment, it becomes apparent that the *“market is quite sort of overheated”* as Mr Svenson stated, so there are *“too few consultants”* which eventually is great for them because *“customers contacting us instead of we chasing them”*. Nevertheless, that does not mean the market is not competitive, but bigger companies *“have their salespersons that are actually actively working on getting new clients”*, while they do not invest in those kinds of things right now, because they already have more requests than they can cover.

The current market situation of VirtualInspect, they described as small or limited, because yes, there are walkthrough inspections for construction buildings, but *“none of them have been focusing on a niche for inspectors”*. Therefore, they are not specialised for the purpose of the rigour inspection of a building and the condition it is in, whereas their system *“will be perfect for inspectors”* to do exactly that, without any limitations. Moreover, a *“really important aspect [...] is the [...] simplicity of the software”*, which means that also older inspectors that might not be that technically versed, can make full use of it. Another aspect that sets them apart from the competition is that the documentation is all stored together and well developed by the inspector, so that in case you get sued *“you have not missed anything in your documentation”* and can deliver the necessary documents. Also, the *“inspector will save in average 1.5 hours for each inspection”* so that means *“they can save money”* because *“they can do more inspections in a year”*. The last aspect is that the inspector can use the software also to collect *“some information that we can resell to other companies that normally [...] have to send somebody there”* to get the specific job done, for example, inspecting *“the ventilation systems”* and selling then the information and update to the company that must modernise them.

Company O mentioned that the property management space is intensely competitive, however, due to their unique product offering to the niche of small to medium-sized landlords, there are so many growth opportunities. To enhance their value proposition, the CEO mentioned *“today we're having integrations with Fortnox, it's an accounting system”* to enable landlords to send bills through their system.

Furthermore, OCCDEC spoke about partners with us, where one company was of great value to them for their development, but they never actually worked together, though legally still being *“partners without communication”*. It is a Chinese company called Hikvision, *“which are [...] far beyond the technology in anything we have in Sweden”*, which provided them with a lot of knowledge in *“software design, hardware design, and connecting us with the correct products from the United States”*, which eventually was *“purely beneficial”* for them. Those advantages and advice could be used by OCCDEC to advance and gain a competitive edge. Some other partners within their ecosystem are Google, still with strong ties today and are a need for them, IBM with their solutions, or Telenor with their connectivity and network. Axis was another partner in the beginning because they *“wanted more knowledge in this area”*, which was of value and mutually beneficial as well as the reason that made them attractive after interception. But by now Axis *“wanted to create their own solution”*, which is why ways have parted.

Company X for example, partnered right from the start with Microsoft, because they already worked with the system and knew they could rely on it. Moreover, Mr Svenson said, they have *“some third-party extensions to the solution that we have selected”*, which are further partners within their ecosystem. Those are so-called ISV, standing for *“independent service vendor and/or system vendor”*. These partners allow them to build in *“functions that are missing in Microsoft, for example, warehousing system, or document scanning systems connected to the ERP system”*. Why they chose exactly those partners is quite simple, because with those extensions the CEO said, they were able to further tailor the systems based on the customer’s request and not only *“fulfil 90% of what they needed”*, but the extensions allow them to base their *“customisation on top of these to reach 100%”*. Those also display their most important partnerships. *“Microsoft is the biggest one, because without them we do not have the system”* to sell the product, and in the next step it is the *“ISV solutions that provide extra functionality to the standard system”*.

A closer look at Company Z and its ecosystem reveals two streams with a *“great variety of actors”*. Etsy is one of them, where nearly everything on the complementor side is *“included, such as marketing, payment service, currency exchange”* and more, while within their web shop, they have and need the *“extra contracts with the different payment providers such as PayPal, Visa or a simple Bank for old school bank transfers”*. Moreover, when selling via their web shop, they have to handle everything themselves, from marketing to shipments and

transactions, whereas Etsy includes all of this. Though, *“Etsy and its service comes of course also with a cost”*, which Mr Mann said is *“20% of their earnings via the platform”*, while the web shop goes *“100% into our own wallet”*. Etsy’s advantage, particularly on the American market – including also South America – he said, is that it has *“a certain reputation for being trustworthy”*, so the people *“trust in ordering something from Germany and that it also arrives and has a certain standard”*, which can be seen is less via their web shop, when *“checking the analytics”* and analysis they run via matomo. Nevertheless, he said *“we still sell directly via our web shop all across the globe”*, and quite decent numbers, though coming sometimes with more hurdles. The strategic advantage they had was firstly that they started when those platforms were on the rise, and more so to go with Etsy right from their inception. Secondly, when DaWanda was shut down and closed their platform, customer data was according to the CEO *“partially taken over from Etsy”*, so they could keep their *“standing, reviews and high reputation”*, which makes them today according to him the *“top German seller on Etsy”*, and globally *“one of the top sellers within the jewellery industry”* via the platform. Etsy’s platform and offers had its attraction and simply felt natural to make use of, as Mr Mann stated. The overall package offered by them, which includes marketing and more, is just great for their business because, beyond that, the *“algorithm picks us very greatly and often for representations on social media platforms”* such as Instagram, Facebook or Google, to lure customers to Etsy’s platform, which comes down to their *“high standing and reputation”*. So as can be seen, it came very naturally for them, they did take action and had surely first-mover advantages, but eventually it also is about the service and product they deliver, because *“customers satisfaction is what provides”* them with the status they have within the industry.

Therefore, Company Z clearly says that their *“most important direct partners”* are Etsy, as well as PayPal, and *“indirectly it is Google”*, where *“we also appear organically”* by now on the *“first page when searched for”*. But, as aforementioned, *“we do not spend money on Google”*, which is why Mr Mann said it is *“indirect, because the marketing via Google comes solely from Etsy’s marketing advertisements”*. Why they see PayPal as such a valuable partner, he elaborated, is basically *“because of the smooth transaction possibilities, its quick processing”*, and moreover, *“in times of crises as businesses had it throughout the Covid-19 pandemic, PayPal was very generous to smaller business like ours when it came to credits”*. The conditions of *“paying back the credit as well as the interest rate were very moderate and easier handled than with a bank”*, because in autumn the CO-founder said, *“we simply need*

*more material*”, thus *“higher costs for supplies, to cover the Christmas shopping time”*. Therefore, they felt they could rely more on PayPal than getting credit at the bank. Another important partner to them is matomo, which is an *“analysis company based in New Zealand”*, which also shows the internationality and reach of their business ecosystem. Some smaller partners, but nonetheless essential to them, are *“Gambio, which is a German version of Shopify”* as he explained, and *“Billbee, which is an enterprise resource planning system (ERP)”*, such as the one Company X provides to firms, that handles everything for example from procurement, invoices, warehouse stock and orders.

Delving into key partners VirtualInspect sees for themselves, the founder said, a marketing firm, as well as an accounting firm, will be of the essence. The marketing firm for representing the business and hiring personnel, while the latter deals with *“the accounting part of the company, [...] the receipts, [...] VAT and all that kind of stuff”*. In the next step, Mr Anderson said, a *“virtual assistant for virtual support”* is planned, so clients can have *“an online chat and [...] support”* that speaks languages like *“Italian, Spanish, French, [...] English, Arabic, Turkish”*, which becomes their first contact point with the firm. This will also be *“something that I am going to outsource to an external company”*, the CEO said, so he can put his full focus on the development and improvement of the service and support and does not need to program anything himself. A last key aspect for him is the involvement of sustainability, but in this example in a different way than one would maybe think of. Mr Anderson wants to make use of the back migrated people from and to northern Iraq, particularly the women that *“speak fluently Swedish, Danish, Norwegian, [...] because they were studying”* in the respective countries, and are most of the time unemployed when they go back, sitting at home or getting underpaid jobs. Therefore, the CEO wants to offer them office jobs with the respective *“average salary in Iraq for the office work”*, so they can be a *“support assistant, [...] for invoice problems, and [...] technical support”* the virtual assistant cannot complete. This would provide them with a job *“they feel comfortable with”* language-wise, because *“they will use the language they are born with”* or have studied for quite some time. Moreover, for him, this means the company *“will save [...] 60% on salaries in Sweden”* for the same kind of work, but since it is his heritage, it is not only this perspective that drives him, it is more about getting the Iraqi women out of their house, provide them with good jobs, so they can live more comfortably and support their families.

In terms of key partners, Company O has from inception worked with the incubation hub Kalmar Science Park and the Y combinator, which has provided a platform for the firm to pitch their business to potential investors. This opportunity resulted in them partnering with Almi and Vinnova, which have provided funding to grow and establish the business. The Y combinator is an American technology incubation hub which has been instrumental in the launch and growth of successful global businesses such as Airbnb, Dropbox and Reddit. Furthermore, they work closely with a technology partner from Bosnia called JS Guru on software development, which has enabled the firm to build an innovative and user-friendly platform for the landlord and tenants. Company O reiterated this by mentioning *“Kalmar Science Park and our partners down in Bosnia called JS Guru, so we got a team almost of 10 people that has worked for us and helped us with all parts”*. The application takes into account that within apartments there can be a combination of young and old tenants, and through their technology partner, they developed a user-friendly application which can be used by tenants to report faults and get responses within 5-10 minutes from either the landlord or janitor.

### 4.3. Bottlenecks

The main challenges OCCDEC made out for themselves or on a global base, where he said that *“global politics”* and the *“economic struggle between USA, China, Russia”* bring challenges because they *“cannot really have a straight communication and straight technology”* transfer, which hinders their service, supply chain and more. The core problem of this is that *“the best researchers in the world”* cannot communicate with each other, so the company has to be *“very careful [...] because if we would side with one and give them a technology transfer, we would not be able to sell it in another country”* anymore. This means, what they are doing right now is literally *“keep legal distance to our partners”* to not give any of them any sort of access because the siding with either one of them could crumble their business entirely. This is where Mr Radszuweit said that *“being neutral is very important and as Sweden now is siding with the USA, that is actually very bad”* for their business because it simply *“closes down the global possibilities in many ways”*. This is one of the challenges they struggle with momentarily and unfortunately, there is not much they can do about it because it is on a country level where those decisions were made.

Even more bottlenecks arise for OCCDEC when looking at the supply chain or relocating outside the EU. Within the EU it still is quite easy, the CEO said, which is mainly *“because*

of tax laws” and constitutional frameworks being so similar. But when going outside the EU, for example, “entering the United States is a huge problem, [...] a lot of paperwork” and more so “you have to be very careful” because “getting sued in the United States [...] that is most likely the end of your company”. With entering China a company faces different kinds of problems, because yes, you are entering the “largest market in the world” which provides you with the opportunity of making “a lot of money”, but the problem is you will have to employ locals and also have an “agreement with the state that you have to [...] transfer funds, which is very hard to make happen, especially when you have a high tech technology company with sensitive data”. Russia is another example of a lucrative market, but there the founder said the transfer of money to Europe is simply not possible as of right now, “because all the banks are closed, all the accounts” and the “economic sanctions from the European Union are heavy”. When looking at the supply chains of key components such as silicon, the “production lines are mainly in China”, and the Western world cannot produce this component, so “China and a bit of Japan have a monopoly on silicon”. At the moment the delivery time from China is “6 to 8 months”, which does not even allow the military to cover their needs, but within the Western world, there simply is no one that can provide the goods. So, those sorts of partnerships have drastically shifted from being helpful to not being useful at all. This impedes their hardware production immensely and therefore slows down the growth process of the overall company. This bottleneck is a severe one for OCCDEC and can harm the business in the long run.

One further aspect OCCDEC mentioned as concerning and occurring bottleneck, is about having certain connections. In the beginning, it was integral to have “technology partners”, but within today's “very unstable and insecure” economy, it becomes even more important to have a “financial partner that you can work with, because the rules for when you work with international customers” become more complicated by the day. More so, you need a “close connection, [...] preferably a bank” that you as a company can rely on to solve problems and international affairs, so you can “securely and on time” transfer and receive your money. Otherwise, you might run into “much trouble going through all the loops” to not diminish your cash flow or production, to deliver your service.

The key challenges Company X is facing, as Mr Svenson mentioned already within the business ecosystem, are that they momentarily get overrun by customer requests. So, he said,

*“the biggest limiter is time [...] to do all the work that needs to be done because I mean you are only a certain amount of people and you have only a certain amount of work hours”.*

Looking at further challenges for Company X, it is mainly about internationalisation, which brings some hurdles, particularly because other countries use slightly different systems, and they would have to adapt theirs. But the Co-founder said, *“as long as we are inside of the EU, then it is no problem, [...] if we go outside of the EU, I am not really confident [...] with the rules”*. To overcome this challenge, a registration and adaptation would have to take place, which is possible to overcome. Moreover, he said, since they are delivering their *“knowledge and [...] extra development for customisation”* solely online, they can do that *“wherever we are in the world for whoever”* is interested in it, because they *“do not have a physical product”*.

Concerning the challenges of marketing themselves Mr Svenson simply stated that it is not a big issue as of right now, because as above mentioned, the market is overheated and *“word to word of clients”* is working quite well for them.

When asked about their ecosystem bottlenecks, Company Z answered that *“it is mainly about getting our materials”*. Here the CEO said, *“we do not have fixed contracts or certain suppliers we usually reach out to”*, therefore, with their packaging and materials, especially for their *“silver and other materials for production”*, they simply go for the *“lowest price”*, and also there they use the *“entire world market [...] and sometimes order materials from as far away as Australia”*. Since the packaging has also become more expensive throughout the past years, they rearranged and adapted accordingly, cut down a little, but therefore went *“more sustainable with the packaging”*. What of course also greatly varies and affects them to a certain degree is *“the volatility of the gold and therefore silver price, because they are coupled”*. A last aspect is the *“currency exchange rate, which also affects us”*. When looking here at Etsy, Mr Mann said that they *“can choose in what currency they want to get paid into their account”*, which means either their *“home bank eventually exchanges the money, or Etsy themselves”*, which mostly has a lower rate because they also try to earn a little on the exchange and transfer of foreign currency. These are all challenges they can handle or overcome more or less, but not necessarily something where they can *“actively do something about”*, and make huge changes so they would disappear. The only way, he said, is to *“stay flexible with ordering materials”* and working together with the abovementioned *“reliable partners”* that can also help them out when there are shortages on any end.

When Company Z talked about their regulatory obstacles and legal issues when selling in another country, they stated that *“within the USA it is quite comfortable”* for them because *“Etsy is handling all sorts of local laws”* in that sense. Mr Mann joked about the typical American example that someone would maybe *“try to swallow a ring and then sue us for millions”*, those issues they overcame by *“founding a GmbH”*, which is a certain German legal form of a company, that *“lowers or even takes away entirely the liability”* for those challenges. Therefore, he stated that it is *“far more comfortable in other countries”* such as Australia, Thailand, Brazil, or the USA, to sell their goods, when *“comparing it to within the EU”*. Because within the EU *“we must accommodate so many different laws, taxations in the different countries, ranging from 18-25%, the data protection laws and the consumer protection”* which are all much more strenuous within the EU. Moreover, *“we have to provide evidence for the discharge of packaging materials”* etc., which just causes a lot of *“paperwork and consumes a great amount of time and storage space”*, as these data have to be kept for a certain period of time, usually still in paper form. When talking about taxation, the founder even went that far and said, *“out of our own web shop, we do not deliver anymore to the UK, Norway and Switzerland”*, because of the taxation laws, paperwork etc. is *“so costly”* that *“we eventually end up with less money than what we have sold”*. When selling it through Etsy, it is no problem for them, because then the platform does *“all these transactions”* and that is included in their margin of the sold item.

When talking about the greatest bottleneck for VirtualInspect, it is that the *“company will die if I am not at work for one week, [...] so everything is on me and that is the biggest risk, especially for investors”*, the founder stated. This means Mr Anderson is handling everything from negotiations to marketing and more, otherwise, the firm is at a standstill. What he said about this problem is, yes *“I have partners, but I do not have employees”* that can take care of that, so the biggest goal is *“getting a partner in the company right now”*. Though his greatest obstacle is himself, because he has *“a high expectation of people, [...] because I burn for the company, it is like my third kid and I live for it, and it is really hard to expect other people to burn for the same”*. He is struggling but working hard to change up these high expectations because he said himself that *“I will never find somebody that will burn as much as I will do”* for the company, nonetheless he needs someone that works for him to keep this running. Therefore, *“the key challenge right now”* is *“to find the person and changing my own set of view”* more towards *“ok this guy, he gets salary and that is it, he will*



*not think about it when he goes home and I have to accept that, which is really hard”, but he gets the job done and I can rely on him.*

Another bottleneck and crucial partner VirtualInspects CEO made out, is his key developer in India that is developing the entire software and program for the company. If he would leave or *“go down, then there is no software because he built it from scratch and he knows exactly where everything is”*. Furthermore, since it is a *“SaaS product and a software licensing we are delivering”*, Mr Anderson said it could become a bottleneck, but he does not see it as an imminent threat, because *“we are using file based Google, [...] it is more expensive but then I know that Google will not go down [...] suddenly”*. If this would happen *“then we have a bigger problem, then we [...] cannot deliver virtual inspection”* anymore.

The regulatory and legal challenges VirtualInspect is facing are clearly the scrutiny of the respective countries they want to move into, where, as above mentioned, the Scandinavian countries do provide a great opportunity, but at the same time have great hurdles and a rigorous inspection. In southern Europe, he would be able to simply give advice based on photos, documents or reports, but in the Nordic countries, because he is a *“certified inspector, [...] if somebody asks, [...] I am going to buy this house, what do you think about it”*, the CEO said he cannot say anything because they can sue him for it because he *“has to be physically”* at the site. To get the legal knowledge Mr Anderson did a two-day seminar on *“legal parts of the inspection”* to not get into any situation that could cost him everything. So this challenge can only be handled by following the rulebook, while in southern Europe, as mentioned before, the *“real virtual inspection”* could take place. This is simply because in Germany for example, *“where they have 2000 freelance inspectors”* that can do virtually any inspection via online video or photos, they can go to the house one wants to buy and you *“pay them 400€ and then you have”* a freelancer showing you the house. According to his research *“the insurance is totally ok with”* that, *“they just have a checklist [...] they need to be looking at”* and then you are good to go.

Company O highlighted that the biggest bottleneck in their business ecosystem is inadequate funding for the business. *“Money, money, money is always a bottleneck”*, Mr Person stated. The firm got a letter of intent from one of the actors, a housing company, which requested that they develop an application which would display their apartments in 3D, which was not part of their original specs. Unfortunately, the investor pulled out due to a change in CEO and Board members, which had a different direction and appetite, and in the process creating cash

flow challenges for Company O. This setback has slowed down improvements in software development of the application, however, they are at advanced stages to launch an enhanced application for its clients in June 2023. They are also receiving funding from their financial partner, a bank, to help cover the cash flow challenges.

Furthermore, Mr Person mentioned the bottleneck of resistance to change or slow buy-in of their value proposition by the older generation of wealthy landlords. Moreover, he said that tenants can just call in case they need something fixed. However, he stated that the younger generation is tech savvy and prefers to use applications -*“the demographics of today, like younger kids, young adults, what are they using, smartphones and applications”*.

Company O also mentioned that inflation in Sweden has worked in their favour as they can showcase and get buy-in from wealthy landlords of a solution that helps them cut costs and improve their efficiency to customers. They are focusing on building on more real-life cases, which show landlords the amount of savings from adopting the application. They are also building network effects through attending network events organised by organisations such as Kalmar Science Park.

In terms of regulatory challenges, Mr Person said, the firm has been guided by General Data Protection Regulation (GDPR) since its inception in 2019, to protect the personal data of consumers, *“so we made the entire system compliant from the beginning, so we don't need to think about it”*. However, they are concerned that they will face legal challenges as they internationalise the firm to Norway and Denmark in terms of data protection as the markets are not 100% similar to Sweden. They have sighted that, to some extent, they might also face marketing challenges in Norway and Denmark as the tone of language is different from Sweden.

## 4.4. Benefits

Concerning the benefits of the current ecosystem of OCCDEC, the CEO said that they *“cannot help us much anymore”* and it is rather integral for them to *“find new leads”* with other states and countries and maintain what they have. Concerning competitiveness, some partners are surely supportive and crucial, like the Google cloud or IBM solution, but they are just keeping them competitive to some degree because bigger developments are merely possible in this current period of shortage on other ends like the hardware.

The core benefits for Company X to make use of their business ecosystem are clearly that they otherwise “*would need to build those solutions for the customers*” themselves, which would not only mean “*a lot of customisations*” but kind of “*reinventing the wheel over and over again*” which is why they make use of the extensions to work with. Moreover, it would mean “*great cost for development*”, and instead they can sell fully functional extensions that they know work well within their system. Therefore, the Co-founder pointed out again how “*crucial [...] those extra extensions*” are for them to be able to “*deliver a complete solution of the system that actually works for the customers*” and their intentions, especially “*in the long run*”. This means their benefit is a cost reduction, less time-consuming to build the tailored program for the customer, and lastly know it works well. That is also why Mr Svenson said that the “*ecosystem with these partners [...] are everything*” to them.

The main benefits Company Z sees in using their ecosystem vary greatly but range from “*the abundance Etsy offers via their platform*” – payment processing, international import, taxes, marketing – where almost “*all services are included and run in the background*”. This means, they only have to take care of the other side of the transaction, the production and delivery of the materials to do so. At the same time, Mr Mann said, “*we do know and appreciate the value of our own web shop*” where they are “*entirely independent*” and work together with the service providers themselves, because if something like Etsy would go down, it would not necessarily mean that “*the business crumbles down entirely to bankruptcy*”, because also the “*web shop has its standing*”. Overall, the value they see in both ways they sell today is the “*internationality*”, so they can reach “*everyone around the world*”, and some particular markets are of great value to them, such as the “*Americas*”. As already mentioned before, the advantages that come with Etsy are its “*worldwide reputation and reach*”, and moreover that they have “*immense market power and market share*”, which allows them to affect the market, ultimately providing customers to Company Z. Furthermore, this “*power comes with money*”, which Etsy so far uses “*wisely on their marketing*” and other things, eventually putting them on a stance, because the algorithm likes to pick their shop because of their success and great reviews from customers.

Another benefit Company Z pointed out again was PayPal, which offers them “*a great flexibility*”, which they also need, as seen throughout the bottlenecks, so there lies a lot of “*value for us, not having to deal with a bank all the time*”, but simply being able to access money and be “*liquid to buy the materials we need*”.

The last benefit Mr Mann mentioned was through matomo, which simply provides them *“with necessary insights on where, how often [...] people have clicked on our web shop”*, thus providing information for their marketing strategies to foster their web shop sales.

When it came to the competitiveness that the ecosystem provides for Company Z the CEO simply stated that *“it is indispensable for us today”*, but as already mentioned, *“we had a great advantage that we moved into those platforms so early”* and *“with a certain standing”*. Newcomers, he surmised, *“will have it way harder to reach a reputation”* because the market is so big and competitive that you *“rely on so many factors that are sometimes not in favour of you”*, such as *“being picked by the algorithm”* and displayed on Google advertisements.

The core benefit VirtualInspect sees in using the ecosystem, for example going through inspection firms providing inspectors that only get paid per inspection, is a simple risk reduction, because the founder can go *“big and small in a matter of days”*. What it means for him is that he does *“not have 20 employees”* that have to be paid or put on leave and rehired when needed, but rather have *“close relationships and pay a little bit more”*. This lets him reduce the risk when a Company for example asks for *“5000 inspections a year”*, where he can say, *“I have 350 people in Philippines that could do this inspection, and I do not pay any salary for them because I only pay when they do”* an inspection, *“so I get less margin, but I can say yes I can do 5000 without me going to hiring 200 inspectors to do that”*. When the company then says, *“we do not want it anymore, then I am just closing my deal with this company in the Philippines and say, ok, [...] I only need 10 now, so I am not sitting with 300 employees and paying salaries and then going through the system of firing them”*. Those partnerships would give him a certain freedom and he could get *“a lot of customers or [...] less customers and will in the end always have the same margin of earning money”*.

Another benefit for Mr Anderson are aforementioned key partners like the virtual assistant, where it comes down to cost reduction, time savings as well as putting the focus on other matters or how the support can be improved, not necessarily building it up from scratch themselves. Furthermore, by outsourcing the developers and call centres to India and northern Iraq, the company can save costs on their end, at the same time have people in different time zones that can work virtually around the clock for his company, so it is always reachable. This is eventually one of his goals, having employees in every time zone, so someone is always available. Other key partners like the accounting firm are just a necessity, but they do

provide him with the ability to stay competitive to a certain extent because he can put his time and focus onto other project parts that are invaluable to the company.

Company O highlighted that they have benefited from all their key partners, especially working with incubation hubs such as Kalmar Science Park, which has opened numerous networks and opportunities to grow and scale the business.

## 5. Analysis and Discussion

*In this chapter, the presented theory and empirical findings are discussed, guiding the authors' interpretation according to the conceptual framework.*

### 5.1. Business ecosystem

Adner and Kapoor (2010) defined a business ecosystem in terms of the upstream components and the downstream complements, and how they interact in terms of value creation for the user or consumer. Moreover, it is about the value capture for the focal firm and how the various actors interact to add value to the focal offer. Another perspective on business ecosystems by Teece (2007) defined them as a community of institutions comprising different actors namely, complementors, suppliers, research institutions and regulatory authorities.

In line with the definitions of business ecosystems, all the interviewees showed an appreciation of the importance of the various actors in their ecosystem, from their suppliers and complementors in delivering value, to their customers and for value capture. One interesting and important complementor that became evident in most interviews in terms of value creation for the digital firm as they launch and grow is to belong to an incubation hub, this goes for all firms except Company Z and Company X. One interviewee expressly mentioned that belonging to an incubation hub such as Kalmar Science Park helps to unlock doors for funding through investors, more so, can open growth opportunities through networks. Therefore, incubation hubs are an important partner, particularly after inception for their business ecosystem in addition to the various actors highlighted by the authors' definition of business ecosystems. But beyond that, the companies have mentioned many more key partners, which varied from PayPal, Microsoft, Etsy, and financial partners such as banks, to Google. For example, Company Z relies on a variety of others such as getting advisory support from matomo analytics, which provides marketing analytics for their web shop.

The previously discussed literature has emphasised how born digitals leverage technology in value creation and capture, whereas Cusumano and Gawer (2002) defined a business ecosystem of digital firms as the core technology in which complementors can connect their products and services often via an open interface. Furthermore, Monaghan et al. (2020)

argued the importance of technology in enabling the firm to automate, directly engage with stakeholders, the network effects and scaling. In confirmation of the theory, the interviewees highlighted the importance of a technology partner in delivering value to their customers with Company X mentioning their partnership with Microsoft, OCCDEC with their Chinese AI software developer, and Company O and Z with their respective technology partners namely Fortnox and Etsy.

However, an interesting empirical finding on the business ecosystem structure is how the interviewees expressed the importance of a reliable financial partner for the success of the digital firm in value creation and capture. Company Z mentions how their partnership with PayPal has been instrumental in ensuring that they remain financially sound to deliver their products to their customers. Furthermore, Company O mentions their key investors ALMI and Vinnova and OCCDEC mentions the importance of financial institutions that can ensure that payments are received on a timely basis. As Hannah and Eisenhardt (2018) already mentioned about how some firms encounter financial bottlenecks in delivering value to their customers, the respondents confirmed and expressed this by stating the importance of a financial partner in dealing with financial challenges, which at the same time, brings new knowledge on key actors in an international business ecosystem of a digital firm.

Born digitals take advantage of directly engaging with stakeholders, network effects, automation, and flexibility to be able to scale up and internationalise their businesses at a faster rate than previously proposed on the Uppsala Internationalisation process model, which is rather gradual (Monaghan et al., 2020). Other authors like Parente et al. (2018), share the same thoughts on sharing economy firms, which also experience instant internationalisation due to the use of digitalisation. In terms of internationalisation, most of the interviewees prefer a gradual internationalisation process despite the capability to internationalise instantly, especially the ones from Sweden. Their preference is internationalising to Scandinavia namely Norway, Finland and Denmark first, which is within their psychic distance and holds fewer cultural differences, which is in contrast to the theory from Parente et al. (2018), where they mentioned that digital firms have fewer concerns with psychic distance and cultural differences. It also shows that digital firm start-ups are still affected by the liability of outsidership and foreignness, which is mentioned by Johanson and Vahlne (2009), and therefore proposes a slower-paced internationalisation process as firms build trust, relationships, and knowledge, to reduce the liability of outsidership. The findings are

also in line with the theory of Brouthers et al. (2016), which highlighted that digital firms are still affected by the liability of outsidership and foreignness in their international expansion.

Parente et al. (2018) highlighted that due to the challenges of liability of outsidership and foreignness and the need to build network effects experienced by sharing economy firms, they have to partner with established and reputable complementors like what Uber has done with Hilton Hotels through an integration with the Hilton Honors mobile application. From the interviews, Company Z - a German global jewellery seller - has circumvented the liability of outsidership, foreignness and smallness by cooperating with an established and reputable complementor named Etsy, whereas the other companies have yet to circumvent those factors. Etsy is a US-originated e-commerce platform that has access to a huge global customer base and is conversant in navigating regulation in international business.

Furthermore, most of the interviewees highlighted the importance of creating buy-in with users of the value proposition and building critical mass for the adoption of the technology, especially new and innovative technology such as AI, which most older generations are still sceptical of. OCCDEC and Company O mentioned therefore the challenges of slow buy-in by the older generation users, who actually have the financial capacity and wealth to invest and also adopt the technology as users. Company Z uses two platforms, selling through their web shop and through an international marketplace platform called Etsy. The success of the focal offer in reaching out to many customers in value creation is based on the buy-in of key users in agreeing to integrate with the focal offer, thereby creating network effects. As the theory of network effects argues, a digital platform or firm generates value as users interact on the platform, and the number of users grows (Monaghan et al., 2020). The findings bring in a fresh perspective on the various initiatives that most of the interviewees are adopting, as they strive to build critical mass with users and complementors which includes partnering with larger players within their business ecosystem and presenting their value proposition to key stakeholders during important meetings. Furthermore, this finding is also aligned with the literature that digital firms strive to leverage network effects by increasing both - suppliers' adoption and user numbers (Parente et al., 2018).

Born globals exhibit attributes of being relatively small in scale, experiencing funding constraints, selling across borders and internationally within the first few years of operation, as well as rely on unique products and capabilities (Knight and Cavusgil, 2004). The empirical findings demonstrate that the born digital firms interviewed have similar attributes



to born global firms, which is an interesting finding, and also aligns with findings by other scholars on sharing economy firms (Parente et al., 2018).

## 5.2. Bottlenecks

Bottlenecks are identified in an ecosystem as anything that will affect the ability to offer an excellent focal offer by the focal firm and these may include insufficient electricity in the grid to service the electric cars focal offer, inadequate charging stations, and financial bottlenecks. Adner (2012) highlighted a more detailed perspective of bottlenecks as any actor that constrains the performance of the ecosystem due to scarcity, weak performance and poor quality. Moreover, Parente et al. (2018) highlighted that the key bottlenecks for sharing economy firms are international expansion, lack of complementary providers, local regulations and last but not least lack of technology infrastructure.

In line with the theory, most of the interviewees highlighted that they sometimes experience supplier bottlenecks. OCCDEC and their industry are for example highly dependent on silicon for their hardware which comes from China. They have a monopoly on the production and supply of this key component, which currently causes a delay in supply of up to 8 months, thereby affecting the timely production of hardware, from which the whole industry is affected. Similarly, Company Z talked about their challenges in sourcing packaging material, and raw materials amongst other items, and VirtualInspect is highly dependent on the software developer in India. Therefore in line with the theory, it confirms the lack of reliable complimentary providers (suppliers) that most of the interviewees are experiencing. Digital firms have the option to either maintain a component strategy wherein they specialise in their core business and continue to experience some of the supplier challenges in raw materials, or alternatively adopt a bottleneck strategy to address the challenges faced (Hannah and Eisenhardt, 2018). The interviewees are adopting various strategies in dealing with the supplier bottlenecks, some diversifying supplier base amongst others.

Parente et al. (2018) argued from the literature that sharing economy firms are affected by regulation in the markets that they operate in and that sharing economy firms should closely consider regulation or regulators in their international business. All the interviewees, in line with this theory, highlighted the issue of regulation as a hindrance to entering new markets, especially outside Scandinavia and Europe. Only Company Z mentioned that selling products on the Etsy platform helps them overcome some of the legal and regulatory challenges of selling globally, as Etsy takes care of the tax issues in the US and globally. The interviewees

commented that they prefer to maintain their business interests within Scandinavia and the EU, as there are for example, higher risks in other markets to lose money, more regulation in terms of earnings payouts in markets like China, or tax laws and huge fines in case of breach in countries such as the United States. Unlike Monaghan et al. (2020) argued that born digitals, due to their business models that include automation (use of technology), network effects, scaling and direct engagement with stakeholders, can easily internationalise globally in the shortest period of time and not be affected by issues of psychic distance, the research has shown that this is still not always preferred by the firms, due to different systems or regulations.

Beyond that, the literature highlighted that successful digital firms are serving millions of clients and moving to new markets quickly, like Uber, prioritising first-mover advantage and market share growth, despite the regulatory enforcements and hostile local market competition (Parente et al., 2018). The findings are interesting and at the same time in contrast to the theory, as the companies pointed out that issues of regulation and business differences play a great part in their decision-making process, especially on the level and pace of internationalisation for the Swedish-founded firms, opting to mostly operate within Scandinavia only. A slight exception concerning their internationalisation approach is Company Z - a German-founded digital firm - but when looking at regulation problems, they literally stop exports to the UK, Norway and Switzerland via their own web shop due to taxation and regulatory paperwork. The findings however, whilst in contradiction to born digital and sharing economy theories, validate to some extent the arguments on the internationalisation process theory by Johanson and Vahlne (2009), which proposed a slower-paced internationalisation process as firms build trust, relationships, and knowledge to reduce the liability of outsidership. Brouthers et al. (2016) also shared the same sentiments that digital firms are still affected by the liability of outsidership and foreignness in their international business.

Most of the interviewees are affected by financial bottlenecks in value creation and value capture, as highlighted by Company Z, which has been supported by PayPal in their online business. Moreover, Company O mentioned that they have experienced constraints on growth due to funding challenges, and OCCDEC had issues of delayed payments due to compliance regulations e.g. Foreign Account Tax Compliance Act (FACTA) which requires greater due diligence to be exercised by Banks on international payments. The issue of delayed payments as a bottleneck due to recent issues of cybercrime, tax evasions by some international

companies and money laundering, is an interesting new knowledge that has not been highlighted in the literature, it has normally been issues of funding that caused challenges for the firms. All the interviewees are cooperating with key financial partners to resolve these financial challenges. In line with theory, Hannah and Eisenhardt (2018) mentioned financial bottlenecks and argued that firms become successful when they simultaneously create value (cooperate) and address bottlenecks to assemble an ecosystem and capture value, meaning competing via market power.

Some of the interviewees mentioned a slow buy-in from users, for example, OCCDEC's AI technology for safer cities that requires buy-in from governments and municipalities, or Company O's property management application, which requires buy-in by wealthy landlords and housing companies, who are as of right now slow in adopting the technology. The interviewees advised on the various initiatives to market the products and create network effects among the users, namely by engaging government officials, creating user cases in startup pitches, and riding on more established platforms and partners such as Etsy to market their products - like Company Z. So, the findings throughout the interviews are in contrast to the theory that digital firms always easily scale due to network effects as users interact on the platforms, and in the process allowing the firms to start serving new country markets (Monaghan et al., 2020). For example, Uber has adopted an unconventional method the 'shock and awe strategy' to generate network effects, consumer enthusiasm and attention, which is a risky strategy that helps them in lobbying to regularise its operations in new markets (Parente et al., 2018).

Ozcan and Santos (2014) showed that if firms compete too much, an ecosystem might fail to form, and this was displayed in their study of failed alliances in mobile payments. Most interviewees confirmed the theory, as firms such as OCCDEC are no longer actively working with their software developer from China which was instrumental in building the AI technology. Moreover, Company O had a fallout with a potential complementor and partner - a large housing Company with huge property investments - or VirtualInspect, who fears losing its developer in India. In order to resolve this bottleneck, the digital firms are either looking for and in some instances working with alternative partners in value creation in case of fallouts.

It is interesting to note that some of the interviewees mentioned that due to global politics, they are experiencing challenges in successfully cooperating with suppliers and

complementors, especially Chinese and American component producers or complementors. The digital firms are stifled from either working with a Chinese supplier or a US supplier without being labelled to be aligned to the West or East, which unfortunately is slowing opportunities for value creation and capture. However, they are cooperating in value creation with rather neutral parties through the work with developers from the Baltics, which accounts specifically for OCCDEC and Company O.

Furthermore, some of the interviewees, especially those with origins in Sweden, complained about how the Swedish government's allegiance with the US, and its gradual integration with NATO, is affecting the business ecosystem, especially in dealing with Chinese companies as either suppliers or complementors in the value creation process. Sweden was previously neutral, but now has taken a stance to align with NATO, thus the US. Global politics are a new bottleneck which was not discussed in the literature review to have a significant impact on business ecosystems of born digitals. Therefore, this provides great insight and new knowledge on challenges faced by digital firms when comparing it with the current research.

### 5.3. Benefits

Concerning the benefits, Hannah and Eisenhardt (2018) highlighted throughout their paper that companies can be successful when simultaneously creating value and addressing bottlenecks to assemble their ecosystem and capture value, meaning cooperate as well as compete via market power. Similarly, concerning cooperation, Ozcan and Eisenhardt (2009) studied six game publishers in the gaming industry, and they found that they led to the emergence of the industry by bringing together various components such as carriers and handset makers to establish a successful ecosystem.

Most interviewees have benefited in value creation from suppliers and complementors namely Company Z in their partnership with Etsy in selling their products through their platform, Company X, with the system extensions, and Company O from their technology partner JS Guru and incubation hubs amongst others.

Furthermore, the findings show that through their partnerships, digital firms are overcoming the liability of outsidership and foreignness which is a bottleneck for them in their international business (Brouthers et al., 2016). Most of the interviewees, particularly Company Z, are protected from handling international taxes and marketing, by cooperating and selling through a bigger, global and reputable platform such as Etsy, which has more

capabilities and experience in handling such issues. Company X via their partnership with Microsoft, and Company O is obtaining international markets and network knowledge through incubation hubs such as Kalmar Science Park and the Y combinator amongst others.

Most interviewees shared the same sentiments that they are able to focus on their core business due to the reliable partners within their business ecosystems. OCCDEC has a strong relationship with a financial partner, similar to Company O and Company Z, where the latter has received liquidity support and payment processing from PayPal. Company X can outsource extensions of their ERP system in order to create value for their customers and be competitive. Furthermore, VirtualInspect gains flexibility through the use of firms that provide inspectors, thus offering adaptability when it comes to taking big offer contracts and reducing labour costs when executing these projects as they do not permanently employ the staff. These findings confirm the theory of ecosystem strategies wherein firms can adopt a component strategy. The strategy entails a focal firm entering one or a few components in an ecosystem to improve specialisation and co-operating on the rest of the other components with other complementors (Arora and Bokhari, 2007). They create value through cooperation with other complementors and as they specialise can innovate and capture value (Hannah and Eisenhardt, 2018).

Arora and Bokhari (2007) highlighted what is termed a system strategy. It is one of the ecosystem strategies mentioned in the literature and is normally adopted by firms in mature ecosystems. When firms use this strategy, they participate and compete in many components and cooperate only on a few, within the value creation process. System strategists minimise dependence on partners whilst emphasising competition for value capture (Hannah and Eisenhardt, 2018). The empirical findings confirm the theory, where Company Z runs its own web shop to sell their jewellery and has an ecosystem which consists of multiple partners from technology partners, marketing analytics, payment services, logistics partners and more. To extend their customer reach, in parallel, the firm also sells its products through Etsy, an American online marketplace company with a global presence. This model allows the business to increase the number of customers and is also cushioned against breaches by adhering to international regulations through Etsy's larger platform. The firm still maintains its own web shop to minimise dependence on partners, therefore the company is successfully balancing competition and cooperation, as they sell through both platforms.

Most interviewees highlighted that through both, the ecosystem partners and their technology bias, they are able to generate data in their business to make more informed decisions. The digital firms mentioned the importance of the data that is generated through their platforms in making more informed decisions regarding their scaling. This is in line with the theory on the attributes of born digitals, which include automation that enables them to generate data to fast-track their learning, understand their customers better and enter new markets (Monaghan et al., 2020).

## 6. Conclusion

*The final chapter of the conclusion is divided into six sub-chapters in which first the research questions will be answered, and then the theoretical implications will be provided, based on those answers. Afterwards, managerial and policy implications will be given before closing this thesis by highlighting the research's limitations and presenting the potential for future research.*

### 6.1. Research Question

To answer the research question, “How do born digital firms utilise business ecosystems for value creation and capture in their internationalisation?”, the empirical findings and analysis are taken into consideration, to provide the answer of the authors.

The literature research has shown that there are key actors within the business ecosystem for the digital firm (focal firm) to be able to create value and capture it. The actors in the business ecosystem consist of suppliers, complementors, regulators and research institutions. The research confirms these actors which include suppliers, complementors and regulators in the value creation and value capture process of a digital firm in their international business. Furthermore, the research suggests that there are more prominent complementors which are critical for the success of the business ecosystem, which are namely a technology partner, a reliable and close financial partner, and an incubation hub - especially for a digital firm at the time of launching and growing the business.

The research also demonstrated that digital firms utilise business ecosystems to cooperate and compete with the various actors mentioned above in the value creation and value capture process and to also overcome the bottlenecks that sometimes develop.

The second question was asking “What are the key bottlenecks in the ecosystem for value creation and capture in international markets?”

Based on existing literature, the main inhibitors in a business ecosystem of a digital firm are local regulation, a lack of complementary providers, and a lack of technology infrastructure. The research not only confirmed the above bottlenecks but also provided additional notable ones. Therefore, the investigation demonstrated that the born digital firms encounter various bottlenecks, namely on the supplier end, as well as complementor bottlenecks in their value

creation and capture process. Some key complementor challenges in value creation and value capture during international expansion include regulation, financial bottlenecks, failed partnerships, slow buy-in from users (network effects), as well as global and local politics. The research has shown that various initiatives are being adopted by born digitals in mitigating some of the bottlenecks, which include balancing cooperation and competition with reputable and more established complementors such as Etsy. This leads, for example, to mitigating regulatory and network effect challenges that come with the liability of outsidership, foreignness and smallness.

The cooperation with complementors that can provide either the technology or extensions to their technology and systems, as well as building strong relationships with financial partners such as banks and other parties like PayPal, is integral for digital firms. Lastly, especially for smaller firms, partnering with incubation hubs after inception, to build beneficial industry networks and attract capital, is a possibility to lower and mitigate this bottleneck.

Last but not least, the question: “What are the key benefits of a business ecosystem for value creation and capture?” has to be answered.

The study has shown that cooperation with various actors within the business ecosystem, for example with complementary providers, has enabled firms to overcome the bottlenecks they encounter within their value creation and capturing process. Through their partners in the business ecosystem, they have managed to mitigate the bottlenecks of regulation and liability of outsidership in the markets they operate in.

Furthermore, the research demonstrates that the business ecosystem has enabled the firms to be more efficient and focused, as well as build expertise in their core business through support from suppliers and complementors. Some notable benefits have been in technology and software development, financial support, advisory support, marketing analytics as well as developing network effects and new businesses.

## 6.2. Theoretical implications

Based on the answers to the research questions, the conceptual framework can be broadened beyond what has been previously presented and incorporated by the authors, because it not only also includes what other scholars have incorporated into their business ecosystems in value creation and capture throughout their studies, but goes even beyond that, after analysing the findings.



When observing the suppliers (upstream components) and complementors (downstream complementors), it becomes apparent that there are more key players in the business ecosystem, such as regulators, financial partners and incubation hubs, which are critical for the success of digital firms' value creation and capture process. The different actors cooperate and compete to enable value creation and capture for the digital firm. The findings on the key actors for value creation and capture complement the knowledge from key scholars within this research area such as Adner and Kapoor (2010) and Parente et al. (2018), but more so, brings new knowledge on business ecosystems by this study.

In terms of bottlenecks within the value creation and capture process, over and above the inhibitors such as technology infrastructure, lack of complementary providers and local regulations from the literature, other prominent bottlenecks exploited throughout the research that should be recognised include financial bottlenecks, the slow buy-in of some users (low network effects) and global politics.

Additionally, the findings show that the regulatory bottlenecks slow down the internationalisation process of born digital firms in Europe and that psychic distance remains a factor, which to an extent contradicts some of the existing literature stating that born digitals prioritise first-mover advantage and market growth above regulatory implications (Monaghan et al., 2020; Parente et al., 2018).

Furthermore, the findings also emphasise the importance of strategic partnerships, both local and global, as a way to circumvent the liability of outsidership experienced by born digital firms. This aligns with existing knowledge of business ecosystems and networks (Monaghan et al., 2020; Parente et al., 2018).

### 6.3. Managerial implications

The results of the research can offer meaningful insights, specifically to digital firm start-up entrepreneurs, to recognise in their business ecosystem the importance of developing local strategic partnerships in the international markets they expand to, as these firms still suffer from the liability of outsidership despite the technological capabilities to instantly internationalise. This will enable them to scale their businesses in these markets faster and avoid run-ins with local regulations. Management and entrepreneurs should also be aware that digital firms can sometimes fail to experience instant scaling and fail to develop the desired network effects. However, through partnering with reputable and established players

in their ecosystem, they can successfully cooperate and compete to scale the business. Alternatively, they can adopt unconventional strategies similar to what Uber, a successful digital firm has done through their 'shock and awe' strategy.

Lastly, it unveils the importance of the management of a born digital to develop good relationships with financial partners, so that they can easily facilitate their payments and also provide liquidity support to grow their business.

## 6.4. Policy implications

This study provides meaningful insights to governments on how global and local politics have a positive or negative impact on the value creation and capture process of these digital firms within their business ecosystem. Governments need to maintain cordial relationships with both - the West and East - so that they create a conducive environment for digital firms to create partnerships for value creation and capture within their business ecosystems. The emerging markets are growing, especially China and India, and are key suppliers of hardware and software that are needed in the mature markets. Similarly to this, the mature markets that are experiencing saturation and lack of growth within their markets, need favourable operating environments in emerging economies so that they can expand there and thrive.

## 6.5. Limitations

The limitations of this study are first and foremost that the multiple case study is limited and based on a small number of firms, as well as a certain range of industries, so if one is to do a generalisation of the findings, this must be done with extra care and consideration of the set up this study was based on. Furthermore, what this paper also does not contain is the inclusion of firms that were founded outside Europe because different continents can have a great variety of different influencing factors and the overall set-up might be a different one. For example, within the USA a company does not necessarily have to go international within the first years, simply because the country itself offers a different size of market than it does within a country in Europe. Specific for Europe is the interconnectedness and easy move within the continent due to several aligning or similar factors such as frameworks, trade or work agreements, and the governmental as well as political situations. Therefore, non-European firms might still be able to draw conclusions for themselves from this, but with restrictions to the findings to the specific set-up for Europe. Nevertheless, despite these limitations, the paper offers insights into the respective areas and can be used by companies outside the scope of research to gain new understandings and knowledge.

## 6.6. Future research

Concerning future research on the investigated topics, it would be supportive to first reach a greater number of companies, favourably acting in different market segments, so a broader scope of partners, thus ecosystems, is involved in the research. Moreover, when focusing on the business ecosystems, a future investigation could as well include other firm types, not solely specifying born digital firms, hence bringing in born digitals, SMEs or even MNCs, to widen the scope and reach of the function of ecosystems. Furthermore, focus points can be set for specific areas this thesis has just opened up, and therefore deepen the investigation on a particular area that has only been presented on its surface, covering just the core of for example the upstream and downstream challenges within a business ecosystem. Here could specifically be looked at a greater range of complementors and suppliers that have been mentioned as important players by the interviewees, as well as certain bottlenecks like global issues and political conflicts that impede an ecosystem. Moreover, new aspects have been brought up by the interviewees themselves which have not been included in the interview guide or the scope of mind of the authors. Though they have sparked interest and seem to gain greater importance to companies as seen throughout the findings, analysis and conclusion. Such an actor is, for example, having a financial partner that assures timely and secure transactions.

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## Appendix I: Interview guide

### Questionnaire Master Thesis - Ecosystems

Date	Place	Interviewer
		RD / NQ

[Introduction:

- Thank you for participation
- Brief explanation about the topic and content that will be covered
- We want to learn from your experience and gain insights
- Interview can be terminated at any time if you feel like it or see reason for it
- If doubts arise due to a question being not formulated to your understanding, simply ask for clarification
- We would like to quote possible statements to underpin our research, therefore we would still require your consent to do so, if you do not wish to be referenced in any way, please let us know now
- Different topic areas will be covered such as:
  - Partnerships or so-called Business networks
  - Challenges that come with them
  - As well as their benefits for value creation and capture]

**Icebreaker:**

1. So to our knowledge you are responsible for XXX at company XX, is this right?

- a. The goods/service you are offering are XXX? Did we forget anything here?
- b. How and where do you sell your goods and/or services? (Online or also physically in any city) → [link to digital firm]

[Transit to next topic area: Thanks, that provides me already with a rough idea about your company, yourself and what you do for the company.]

## **Topic area 1: Business networks (Ecosystems)**

2. When did internationalisation come into play and how did you approach it? (exports or application that is automatically available internationally)
3. What is your value proposition to your clients and customers? (differentiation to competitors, added value for consumer)
  - a. How competitive is your market segment (competitive landscape, key competitors, market share)
4. What companies or organisations did you partner with from the start of your company?
  - a. What attracted you to those partners/How did they attract you?
5. Who are your most important partners and what is their role in creating and delivering your product or service?
6. Have your partnerships from inception to now changed, and if so, what was the reason?

## **Topic area 2: Bottlenecks (challenges)**

7. What are the key challenges in your business network? (upstream and downstream)
  - a. What, if any, challenges do you face concerning your suppliers? (investors, virgin materials, developers)
  - b. What, if any, challenges do you face concerning your complementors for delivering your product/service? (payment services, logistic, packaging)
  - c. How do you handle these challenges?

8. What regulatory/legal challenges do you face when entering a new market, if there are any? (lawful regulations, type of business model provides instant internationalisation)
  - a. How do you overcome them?
9. How do you make customers aware that you are available in a new country?
  - a. What challenges do you possibly have with marketing your company in a new market?
  - b. How are those challenges tackled by your company?

### **Topic area 3: Benefits**

10. What are the core benefits of using partnerships/ a network (ecosystem/shared platform, investor support, economy of scale)? → [value creation and capture through ecosystem]
11. What benefits, if any, does the business network provide in remaining competitive?

[Finish: Thank you so much for this opportunity and the enjoyable conversation with all its content and insight you could provide. I have learned a lot about you and your company concerning our research area and the questions at hand. If I would come up with further questions, would it be fine with you to get back in touch to sort them out and if so, what line of communication would you prefer, an email or rather a quick call? Do you have any last remarks from your end, either towards the topic itself that maybe came up now throughout the conversation or also something else you want to share concerning the interview itself? Then I will stop recording now.]