LUND UNIVERSITY
School of Economics and Management

CLIENTS' LOST INTEREST IN BANKS

The Business Model Development of a FinTech Start-Up

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Lund University

May 2017

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ABSTRACT

Title	Clients' Lost Interest in Banks – The Business Model Development of a FinTech Start-Up
Seminar date	2017-05-31
Course	BUSN09, Degree Project in Strategic Management, 15 ECTS
Keywords	Innovation, Digitalisation, Business models, FinTech, Start-up
Purpose	The purpose of this thesis is to address and map out the relationship between business model development within the sector of financial technology, the digitalisation trend, and the impact of innovation
Theoretical perspectives	The basis for this thesis is previous research that examines digitalisation, innovation and its disruptiveness, and business models. The Business Model Canvas will be used to analyse the case company's business model, with a focus on the value proposition, key resources, and key activities
Methodology	The thesis is based on a qualitative method and a single case study. The main unit of analysis is a case company's business model development
Empirical foundation	The thesis is based on primary data collected via interviews and secondary data collected from books, journals, and online sources
Conclusions	The relationship between business model development, innovation and digitalisation is found to enable each other's performance where digitalisation and technological innovations are implemented to limit uncertainty in business model development, which further affect business model structures

DEFINITIONS

Big Data	The collection, storage, and processing of digitised information
Business model	A conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams
Digitalisation	The transformation of existing socio-technical structures
Digitisation	The encoding from analogue to digital formats
Financial technology	A new sector within the financial industry that applies technology in order to improve financial activities
Innovation	A technological product innovation can involve either a new or improved product whose characteristics differ due to use of new technologies, knowledge or materials. A technological process innovation is the adoption of new or significantly improved production methods, including methods of product delivery

ACKNOWLEDGEMENTS

This master thesis in International Strategic Management was conducted during the spring of 2017 in collaboration with an anonymised case company. This thesis represents the end of our Master of Science in Business and Economics at LUSEM. It has have given us an opportunity to apply the knowledge we have developed during our years at the university.

During the process, we have gained many new insights and we would therefore like to acknowledge those who contributed to this master thesis. First we would like to thank our supervisor Tomas Hellström, professor at the department of Business Administration at Lund University. Tomas has given us insights in areas of improvement, shared knowledge and experiences during the process and we could not have imagined a better supervisor for our master thesis. We would also like to thank the case company, the secondary company, and all of the interviewees for making this thesis possible.

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1. INTRODUCTION

If someone would ask us to name some highly successful businesses when we were younger, retail banks would probably be one of them. This is necessarily not the case anymore. After the financial crisis, a number of banks have experienced large losses or even collapses, and not the least a changed client base. The industry is being re-examined - clients want products and services at their digital convenience. Analysts predict that banks need to leave their comfort zone, and start digitising as well as diversifying. The industry is moving towards a more client-centric, self-directed and digital model (Oracle, 2015). Technology and Internet growth has undoubtedly changed the business landscape in many industries, creating new opportunities as well as an intensified competition and accelerated innovation pace (Veit et al., 2014). The innovation pace and digitalisation has further spurred shortened product life cycles and opened up for new entrants (Trimi, & Berbegal-Mirabent, 2012). This opposes Porter's (1980) classical way of creating sustainable opportunities through generic strategies. Instead, D'Aveni and Gunther (1994) identified a state of unsustainable competitive advantages, which they called hypercompetition. This state means that innovative combatants will increase over time within price- and quality positioning, new know-how will be created, first-mover advantages will be established, and competition will be based on financing or alliance possibilities.

Many of the new opportunities are based upon the digitalisation, which virtually means the integration of technologies to convert information into a digital format (IGI Global, n.d.). Globally, industries have been disrupted and affected by the technological advances, and others will likely take the same road (Veit et al., 2014). One of the affected industries is the traditional finance industry, where the emergence of financial technology firms disrupts the competitive landscape. The technology driven non-banks provides simpler financial services within an environment that becomes decreasingly regulated, thus giving rise to further innovations within the sector (Dapp, 2014). The digitalisation is not only affecting products, services, and elements of the financial processes but business models as a whole (Dapp, 2014). Every company has a business model, but it may be deliberately structured or not (Chesbrough, 2007). In other words, the concept of a business model becomes increasingly

important in order to approach new eras in a strategically structured, analytical and designated way (Veit et al., 2014).

Previous business model studies (Chesbrough, 2007; Johnson, Christensen, & Kagermann, 2008) points out that entrepreneurs tend to capture the disruptive opportunities, and introduce innovative value propositions through new business models. Previous research has been deducted within the three main areas of *Innovation*, *Digitalisation,* and *Business Models* as well as the relations between innovation and business models, innovation and digitalisation, and digitalisation and business models. However, little research provides an in-depth analysis of the interconnectedness of the three identified sub-relationships within the FinTech sector. The traditional banks suffer from business model legacy while the FinTech industry and new entrants are moving with a high innovation pace which puts pressure on new, as well as established business models. By looking at the interconnections, this thesis will contribute with theoretical knowledge that can guide actors in the industry.

1.1. Background

Banking, as it is known today, spans and grows on an international level with the opportunity to affect the world economy, as previously demonstrated by the global financial crisis. Given the scale of the financial industry, an interdependence between finance and technology has emerged. The last decades, banks have invested heavily in IT to grasp economies of scale (Sironi, 2016), and since the mid-1990s financial services have been the single largest purchaser of IT (Arner, Barberis, & Buckley, 2015). Financial services have thus been a driving force in the IT industry, and today the ATM is the only point for most clients where finance transitions from a digital to physical experience (Arner et al., 2015). For an extended period, the industry was dominated by the large, well-established financial institutions with strong compliance systems, large client bases and heavy resources to manage tough economic conditions (PwC, 2016). Not only the technology has left the industry exposed, but also toughened regulations that were introduced as a result of the fast growth have affected the current business models (Sironi, 2016). After the financial crisis in 2007, the importance of caring for individuals' and communities interest was highlighted and transparency of costs and fees was now required for the institutions. The digitalisation and rapid growth have revealed flaws within these large institutions' banking systems, which tend to be lagging behind the external development. The rigid and old business models have a hard time to embrace these changes since margins are shrinking and regulations keep pressing them to

adapt (Arner et al., 2015; Sironi, 2016). These inefficiencies have given rise to industry competition within the form of financial technology firms, which refers to firms offering technology-enabled financial solutions (Sironi, 2016). Financial technology has been around a long time, ever since the launch of the calculator and the ATM in 1967, which took the financial services from an analogue to a digital industry. When the Internet emerged, the industry entered a new stage of the development, enabling clients to check their account status online. This removed the necessity for depositors to be present physically, opening the market for actors at another geographical location. Better organised data could further improve the understanding of borrowers' credit risk, improving the alignment between offered product and risk profile of the client. It was in this period where the emergence of Big Data analysis was created (Arner et al., 2015).

The aftermath of the financial crisis has resulted in re-shaped business models and structures of banks, which creates challenges for regulators and established firms, especially in balancing potential benefits of innovation and possible risks with new approaches. New actors that have the resources and legitimacy to provide financial services, establish a new paradigm that is known as *FinTech* (Arner et al., 2015). Clients no longer see the bank as the default provider of capital. Unlike the big banks - constrained by legacy IT systems and operating models - the new actors have an adapted design that meets the need of specific customer segments, making them both focused on positive client outcomes and agility. The FinTech revolution is driven by a wave of start-ups with innovative products, services, and business models - and they are changing finance globally (Chishti, & Barberis, 2016). As a result, an increasingly rapid innovation-circle where the introduction of new goods, new production methods, new markets, new sources of supply and reorganisation of industries occur (Hedman, & Kalling, 2003).

So far the digitalisation has disrupted industries through the creation of new types of relationships between businesses and consumers, reaching any market and interacting with customers at all times. Additional aspects that alter current market standards are interconnected platforms for value-exchange, large data processing to enhance decision-making, customised offers that are produced at economies of scale, and the creation of new low-costs standards (Afuah, & Tucci, 2002; Kane, Palmer, & Phillips, 2015). This transformation poses difficulties in creating new business models since innovations demand risk-taking where the allocation of resources is based on demand or intuition (Zott, Amit, & Massa, 2011). As a result, business model development and further innovations within the business model are difficult processes since there is little understanding of how the current

business model works, or how to develop a new model (Johnson et al. 2008). Often, it leads to an unchallenged business model due to unawareness of how an opportunity would suit or hinder these processes (Chesbrough, 2007; Johnson et al., 2008).

1.2. Problem Description

New advances often create the technological opportunities, resulting in a shortened shelf life for the products or services (Trimi et al., 2012). A study by BarNir, Gallaugher, and Auger (2003) showed that new ventures are more prone to adapt and capture value from digitised processes than established firms. On the other hand, entrepreneurs within financial technology will face the same obstacles as other start-ups - meaning that some models are constructed for long-term success, while others will fail. The financial industry's new entrants are all or mostly competing through digital channels that pose the need to strengthen the digital business model (Weill, & Woerner, 2013). One difficulty is the additional risk that new technology and innovative solutions bring since there are constant changes in the technology and business environment that has an impact on the business model (Ojala, 2016).

The fast innovation pace within the financial technology sector contributes to the need for agile adaptation of business models and the value proposition. Previous research (Chesbrough, 2007; Johnson et al., 2008) has mapped out the difficulty in maintaining a competitive advantage through business model changes since there is little knowledge of how to implement new opportunities. The inefficient business models that the well-established institutions are relying on have fuelled the development of the financial technology sector, which proves the importance of a successful model to remain competitive. The financial industry landscape currently favours entrepreneurs, and especially within technology, but regarding the creation of new ventures, there is little research conducted on how to produce successful business models (Muegge, 2012).

Previous studies have examined the relationship between business models and digitalisation (Weill, & Woerner, 2015; Bhimani, & Willcocks, 2014; Loebbecke, & Picot, 2015), the relationship between innovation and digitalisation (Nylén, 2015; Waupsh 2016), and the relationship between business models and innovation (Mitchell, & Coles, 2003; Burgelman, Maidique, & Wheelwright, 2004; Chesbrough, 2010; Nicoletti, 2017). However, as previously mentioned there are scarce amounts of research available that examine the interconnectedness of the relationships between these three areas, specifically within the FinTech sector. This thesis aims to fill this identified gap and contribute with theoretical

knowledge of possible impacts. It is of relevance since the FinTech sector is moving with a high innovation pace, putting pressure on new and established business models.

1.3. Purpose and Research Questions

The purpose of this thesis is to address and map out the relationship between business model development within the sector of financial technology, the digitalisation trend, and the impact of innovation. With business model development, we refer to the initial generation of a new business model for a firm. We also acknowledge that the term business model development refers to continuous changes to an existing business model, but this thesis will focus on the initial stage, applicable for new ventures. The analysis will partly be based on the Business Model Canvas (Osterwalder, & Pigneur, 2010) due to its applicability on new business model developments (Hong, & Fauvel, 2013). The focus will further lie on the three blocks of value proposition, key resources, and key activities. The value proposition is examined since it seeks to solve client problems and satisfy needs, and is thus a subject for transformation in innovative markets, e.g. within the FinTech sector. Key resources and activities are further examined as they allow the organisation to create and deliver the said value proposition. More specifically, the research questions will be:

- What is the relationship between business model development, digitalisation and innovation?
- How are aspects of business model development affected by digitalisation, specifically regarding the value proposition, key resources and key activities?

1.4. Delimitations

This thesis has its standpoint in a case study of a FinTech start-up with an expected launch in the autumn of 2017. The fact that the company has not launched their services yet, imposes a restriction on the thesis, since the business model may be changed when implemented and thus impose changes to the findings. The case company is further located in Sweden, meaning that the thesis' results are based upon Swedish FinTech observations. Nevertheless, data from the overall FinTech sector development and research spanning other industries are included in the thesis. The thesis' purpose and research questions are limited to business model development, digitalisation and innovation within a disruptive industry. The case company's

business model development is used as the main point of analysis but external factors within the context are accounted for in order to provide an extensive overview. Due to the limited extent of this thesis, an introductory overview of the organisation as a whole is presented while the analysis is narrowed down to the Business Model Canvas areas of the value proposition, key activities, and key resources, which means that the full framework will not be used. The generalisability of the results is further discussed in chapter *3. Method*.

1.5. Disposition of Thesis

This thesis begins with the theoretical framework, including previous studies. The literature overview focus on the three areas of innovation, digitalisation and business models, and the interconnectedness of the relationships between these in order to identify the theoretical gap that this thesis aims to address. The following chapter further presents this thesis' empirical findings, depicting an industry overview and in-depth information from the case company. From this, the analysis and discussion highlights the main findings and confirm or disconfirm the previous theoretical findings. This chapter also aims to address the purpose and research questions. In the last chapter, the conclusion, our findings are summarised and placed within its context and future research is suggested within the area of innovation, digitalisation, and business model development.

2. LITERATURE OVERVIEW

In this chapter, we present theories around digitalisation, innovation and business models. Lastly, we present theory and previous results that combine the three subjects in different constellations, and previous studies within the areas. The literature overview follows the hierarchical structure illustrated in Figure 1, where we first present theories about innovation, digitalisation, and business models, followed by the overlapping areas of the three main areas; innovation and digitalisation, innovation and business models, and lastly digitalisation and business models.

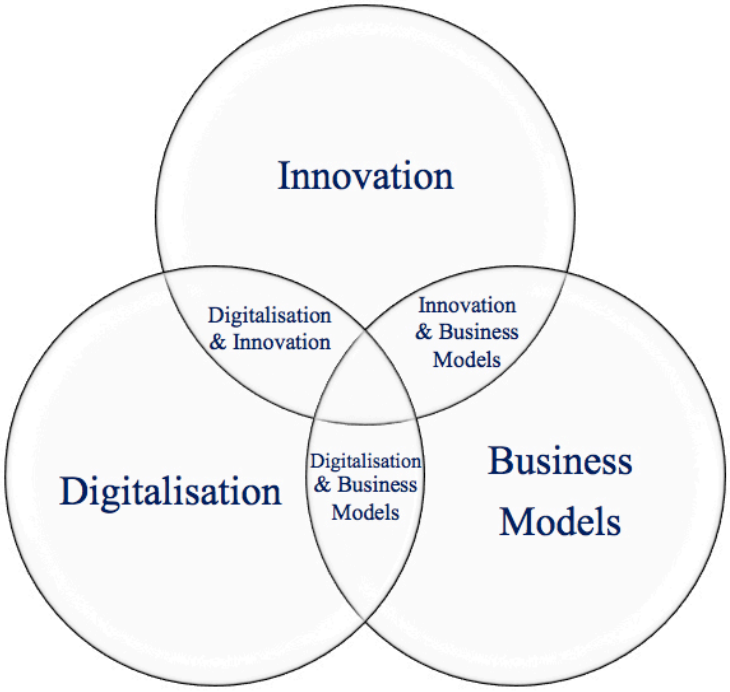

Figure 1. Structure guiding the theoretical framework (Illustrated by the authors)

2.1. Innovation

An innovation is an idea, practice or object that is perceived as new. The newness to the innovation can be in terms of knowledge, persuasion or adoption decisions (Rogers, 2003). Innovations can be seen as outcomes of the innovation process, or as the innovation process itself, defined as the combined activities that lead to new, marketable services, products, and delivery and product systems (Burgelman et al., 2004). As it is problematic to define

innovation precisely, Rogers (1998: 7-8) presented different attempts to define the term where the span comprised the term innovation from "significantly differing characteristics from previous products…", "substantially improved good or service which has been commercialised", to "the application of ideas that are new to the firm…". One of the first economists to shine light on innovation was Joseph Schumpeter, and he presented what has become the most famous definition, which was split into five different types; "The introduction of a new good, or of a new quality of a good; the introduction of an improved or better method of production; the opening of a new market; the conquest of a new source of supply of raw materials or half-manufactured goods; the carrying out of the better organisation of any industry" (Schumpeter, 1969: 66). Rogers (1998) further states that innovation is regarded to have occurred only if it has been implemented or commercialised. The invention of new product or processes is not considered innovation until it's incorporated into the firm's activities. Innovation is, therefore, nothing that can occur separately from core activities of a firm. The Oslo Manual, produced by the OECD/Eurostat (1997: 28), clarified the first two categories of Schumpeter's original definition of innovation:

> "A technological product innovation can involve either a new or improved product whose characteristics differ due to use of new technologies, knowledge or materials. A technological process innovation is the adoption of new or significantly improved production methods, including methods of product delivery."

As the chosen case company focus on technical product innovation, the definition by the Oslo Manual creates the fundament of the thesis, further discussed in section *2.1.1. Technical Innovation*.

Schumpeter also coined the expression *creative destruction*, which describes the process of industrial mutation that ceaselessly revolutionises the economic structure, destroying the old and creating a new one. The newness and innovative aspect will thus be replaced in the future with other new methods, markets, or forms of firms. Every strategic assessment is only significant in the situation it is created in, but creative destruction demands the creator to see the innovation in a long-term perspective (Schumpeter, 2003). Schilling (2013) on the other hand, categorised the different types of innovation as product and process, competence enhancing or competence destroying, architectural and component, and radical or incremental. The first category depicts product innovation as the outputs of an organisation,

and process innovation as innovations in how companies operate their businesses, often trying to improve the effectiveness or efficiency of production. These two often occur in tandem, where new processes can enable the production of new products. It can likewise turn the other way around, where new products enable development of new processes. Lastly, a product innovation can at the same time be a process innovation at another firm. Both are very important for firms trying to compete. For the second category, it is considered as competence enhancing from the firm's perspective if they build on the existing knowledge base and the opposite for competence-destroying innovation. Third, an innovation is considered to be a component innovation if it changes one or more components, but not the overall system configuration. An architectural innovation, on the other hand, changes the system design or how components within the system interact. Strictly architectural innovations only change the configuration, yet most architectural innovations create changes in the system that requires changes in components and their interactions. And for the last category, radical innovations might be seen as the combination of newness and the degree of differentness and could be new to the world, industry, firm or business unit. At the other end of the spectrum, there is incremental innovation, which might not be new or exceptional. Incremental innovations could be previously known and involve only a minor change (Schilling, 2013).

2.1.1. Technological Innovation

Technology refers to theoretical and practical knowledge, skills, and artefacts used when developing products and services including their production and delivery system (Burgelman et al., 2004). Technology is, in its purest form, knowledge to solve our problems and pursue our goals. Therefore, technological innovation is the creation of new knowledge that is applied to practical problems. Networks of innovators that leverage knowledge from multiple sources are some of the most powerful agents of technological advance. A particular innovation can come from one or more components of a system or the linkages between them. Above generation of creative ideas, innovation is also the implementation of those ideas into a new product or process. It is required to combine a creative idea with resources that transform the innovation into a useful form (Schilling, 2013).

Technical innovation origins from inventions or discoveries, which in turn are a result of creative processes that are difficult to predict or plan. The criteria for success when it comes to inventions and discoveries are technical rather than commercial, meaning that it is more about if it is realisable rather than providing economical results. The economic aspect is introduced later, if the invention is successfully patented, i.e. turning it into an innovation

(Burgelman et al., 2004). Some innovations are technology based, e.g. the personal computer, while some are facilitated by new technology, e.g. products within financial services. For a technology innovation, the commercial is more important than the technical. This means that a successful innovation returns the initial investment and future cash flows, and therefore needs to be able to develop a sufficiently large market (Burgelman et al., 2004).

The introduction of new technology changes the way firms operate or clients access products and services. Since technology is a process that evolves over time, Sironi (2016: 34) define innovation as "any change in existing technology used by a firm", and further recognise that this change can take two forms; disruption or sustaining growth. Sustaining innovation refers to product performance improvements, both incremental and radical, that enables the firm to increase the quality of their offer, beat competitors, or increase margins by lower costs or higher prices. Disruptive innovation could result in decreased performance, at least short term. Those products are often cheaper and more easy to use, which appeal to new clients or could create a new need at the installed base (Sironi, 2016).

2.1.2. Managing Innovation

Large firms often deploy high levels of formalisation and standardisation to lower operating costs, thus making it more mechanistic. Smaller firms, on the other hand, are more flexible and entrepreneurial with a higher level of centralisation. In order to be successful in the marketplace, a new product must offer more features, higher quality, or lower prices than competitors which demand a balance of both small and large firm characteristics. Many new product development projects fail to achieve it because they don't know what the customers value the most, what price they are ready to pay or that different customers have different desires (Schilling, 2013). Christensen (2013) discusses why some big companies tend to fail to innovate. Poor management as a root cause was ruled out since the managers in the studied companies understood the future needs of their customers, could identify technologies that would help them meet their needs, and invested to develop and implement them. However, when it came to disruptive technology they failed, and the reason for this was that *good management itself* was the root cause. Great firms stumble or fail because they listen carefully to customers, track their competitors, and invest resources in order to build better products that will yield a higher profit. Expecting that these processes will nurture disruptive technologies - focusing efforts on something customers might reject, lower the profit, focusing on specific markets - is not working and these expectations have to be changed. Christensen (2013) found some fundamental principles that managers in successful firms

recognised, e.g. that failure takes you one step closer to success and that managers therefore should plan to fail early and inexpensively do trial runs. Another principle is that the disruptive technologies are unattractive in established markets since the supply not necessarily meets the demand, and therefore managers should move towards new and/or changing markets where disruptive products have the greatest value. Managers should also align the disruptive technology with the right customer to increase the chance that the innovation gets the needed resources, as one of his principles states that customers control the patterns of resource allocation.

2.2. Digitalisation

Digitalisation is the transformation of existing socio-technical structures and goes beyond the technical process of digitisation, as digitisation merely involves the encoding from analogue to digital formats (Yoo, Lyytinen, Thummadi, & Weiss, 2010). Digitalisation is the use of digital technologies and mediums that enable access, processing, and sharing of information. It has simplified the processes in areas like administration, planning, and operations of the socio-economic domain by enriching the quality of life. Digitalisation has given a boom to the financial, corporate, and administrative sector, which has exponentially expanded the services offered to society (Bhutani, & Paliwal, 2015).

The wave of digitalisation that currently sweeps across most industries is rooted in an exponential growth in the collection, storage and processing of digitised information - often recognised in regards to the buzzword 'Big Data'. The volume of digital information benefits from cloud technology developments, making the access and use of digitised information independent of geographical constraints. The value of this vast amount of data is making algorithms increasingly powerful, allowing companies to e.g. improve customer profiling, behaviour modelling, and interaction mapping (Valenduc, & Vendramin, 2017). Today, digitalisation is one of the primary drivers of profitability and market differentiation as the number of industries and companies increase. Digitalisation has fostered new types of data-driven business models, in which Big Data analytics is a key driver of strategy. The data analytics is used e.g. for cost reductions, quality improvements and development of new services related to products (Iris Group, 2015).

2.3. Business Models

Previous research in the area of business models has shown several opinions of what a business model is since studies have been developed according to research interests both in academic journals and practitioner-oriented studies (Zott et al., 2011). Furthermore, the separation between strategy and business models is a mean of different opinions hence some argue that a business model can function as a strategy itself (Margretta, 2002), while others explicitly argues that a business model is not a strategy but rather a tool that facilitates analysis and validation of strategic choices (Schafer, Smith, & Linder, 2005). This thesis follows the distinction made by Osterwalder, Pigneur, & Tucci (2005), that strategy includes implementation and execution, whereas the business model is more about how a business works as a system. Nonetheless, there is no doubt that the two concepts are strongly linked and interdependent of one another.

2.3.1. Business Model Definition

One of the most prominent benefits of the business model concept is the creation of a strong competitive advantage that it is difficult to replicate (Margretta, 2002). The benefits have been widely discussed with different interpretations (Zott et al, 2011). One of the most used definitions of the business model concept is from Timmers (1998: 4) who describe it as "an architecture of the product, service and information flows, including a description of the various business actors and their roles". Another more comprehensive definition of business models was presented by Osterwalder et al. (2005: 10):

> "A business model is a conceptual tool that contains a set of elements and their relationships allow expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams."

Although, no matter the definition and usefulness of the business model concept, a key finding is seemingly the creation and capturing of value from the underlying activities (Schafer et al., 2005; Chesbrough, 2007; Johnson et al., 2008; Osterwalder et al., 2010). From the creation and capturing of value, different blocks to build the business model have emerged from different perspectives. Amit and Zott (2001) researched business models which showed

value creation from a transactional perspective. Thus, the focus of their model lies within the processes of transaction content, structure and governance in order to create and capture value both for itself and external stakeholders. Johnson et al. (2008) on the other hand, argued that focusing on customer satisfaction and identifying true needs will achieve the optimum of created and captured value. Timmers (1998) argue for the need of complementary models in order to classify commercial viability, as a mean to deconstruct and reconstruct the underlying processes, integrating the blocks based on interaction patterns.

Osterwalder et al. (2005; 2010) developed the Business Model Canvas which is commonly used both by entrepreneurs and researchers and his work has been cited over five thousand times in academic contexts. The most prominent benefits have been described as its simplicity to use, practice orientation and the possibility to start from the beginning without any prerequisites, which makes it applicable for innovation. It is described as a good starting point for entrepreneurs in order to map out structures and create a mutual understanding of the underlying idea (Hong et al., 2013). The model has received critique due to lack of focus on external factors as competition and potential synergy effects in the market. It further presents mixed levels of abstraction among the proposed categories, where some are simple and others not simple enough. Lastly, it is critiqued for overlooking performance measures and transformation of existing models (Hong et al., 2013).

This thesis will use the Business Model Canvas as a foundation for the analysis of a start-up's business model development due to its benefits with the application of innovative ideas. It will further focus on the areas of value proposition, key resources and key activities in order to analyse the bottom-line business logic built upon the relationships between these three blocks. This will mitigate the mixed levels of categories. The three blocks are theoretically connected, where the key resources allow the firm to create and offer a value proposition and key activities enable the company to deliver the value proposition through internal operations. The value proposition constitutes the main reason for why customers choose one company over another. The value proposition is interesting since it is transformed by technological innovations (Chesbrough, 2007). The external factors will be considered in the form of primary and secondary data to balance the analysis.

2.3.2. Business Model Canvas

Business Models are becoming increasingly complex with relationships between elements that not always are observable, especially when information communication technologies and e-business components are added. The opportunities from aligning strategy with the

organisation would be reduced coordination and transaction costs through increased partnerships and ventures, multi-channels, multi-owned distribution channels and revenue streams. The model rose as a research result from a comparison of the previous, most mentioned models and their components (Osterwalder et al., 2005; 2010). The nine building blocks, which are independently optimised and reinforcing of one another, can all be areas of innovation. Osterwalder et al. (2005) thus propose nine individual opportunities to enhance performance and sources of competitive advantage, see Figure 2:

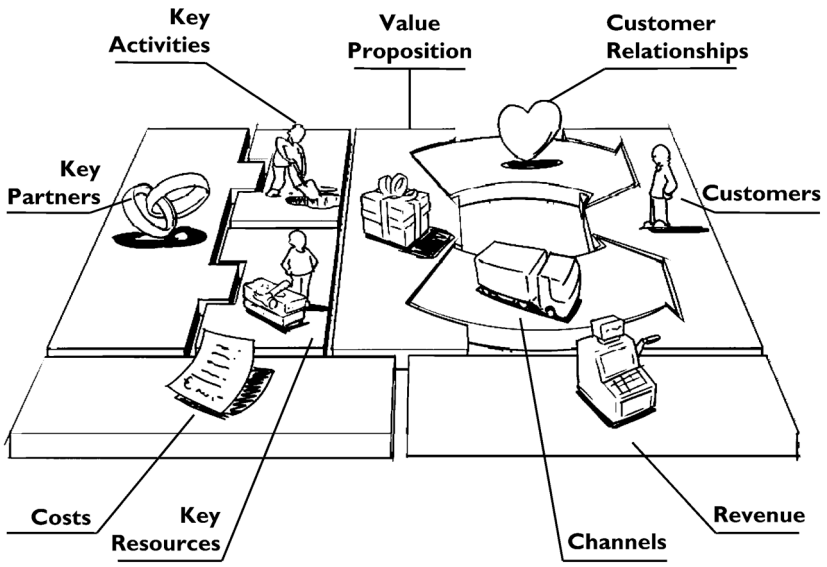

Figure 2. The Business Model Canvas' nine building blocks (Osterwalder et al., 2010)

First off, *customer segments* comprise the different groups of people or organisations an enterprise aims to reach and serve. The block purpose is to satisfy profitable customers' needs, and a company may group them into segments based on needs, behaviour or other attributes. In the middle, the *value proposition* describes a bundle of products and services that create value for specific customer segments. The value proposition reflects an aggregation of benefits a company offers customers. The company then communicates and reaches customer segments to deliver a value proposition through *channels.* The type of relationships with different segments is then described in *customer relationships,* from personal offerings to automated interaction. *Revenue streams,* the cash a company generates from each customer segment after cost has been subtracted and differs between transaction revenues from one-time payments or recurring revenues from ongoing payments. *Key resources* and *key activities* describe the most important assets and activities required to make

a business model work since they allow creation and offering of the value proposition, reach markets, maintain relationships and earn revenues. *Key partnerships* represent the network of suppliers and partners to acquire demanded resources or to reduce risk within the business model. Last, the *cost structure* describes all costs incurred to operate the chosen business model, creating and delivering the value proposition, maintaining customer relationships, and generating revenue streams (Osterwalder, 2005; 2010).

2.3.3. Value Proposition

Value propositions may be disruptive and innovative, and the source of competitive advantage for the company, while others may be similar to competitors but have different features or attributes. A disruptive value proposition may encourage the customer to develop a new set of needs that did not exist until offered. The value can also origin from sources of risk reduction such as guarantees and repairs, or simply base the value proposition on superior accessibility. To create a successful value proposition one should consider key aspects as value delivered to the customer, problem-solving ability, customer need and customer segment offers. A second part of the value proposition is to determine the customer's willingness to pay. It may come from product or service content which in turn creates the output's value, for example, a product or service that reduces costs for the customer or long-term relationships (Osterwalder et al., 2005; 2010). Furthermore, complex and integrated solutions are harder to monetise than tangible products due to the involvement of professional and/or operational services which transfer risk to the supplier. Customised products are more cost-intensive than standardised offerings, but the main complexity within pricing lies in extracting the true value of the value proposition from the customers (Bonnemeier, Burianek, & Reichwald, 2010). Regarding the value proposition for FinTech firms, deep customer insights, foreseeing expectations and personalised services are highly important. The technological aspect further has the ability to create an effective, efficient and economical customer process - accomplished with quality (Nicoletti, 2017).

Creating a Value Proposition

For new ventures, quick decision-making and ownership of processes are advantages for crafting new value propositions. Nevertheless, the associated challenges are budget restrictions, investor involvement, and liquidity restrictions before the right business model is aligned with the value proposition. In order to craft a successful value proposition, possible pain relievers and gain creators for the customer should be identified. From these

opportunities, the customer profile should be outlined where wanted outcomes are achieved from the company's proposed value. Taking a customer perspective, the value proposition should solve a task that has a significant value for the individual in order to create a demand. Working to solve a customer pain often involves solving potential risks or obstacles. On the contrary, customer gains often come from exceeding expectations, cost-savings or expected features. The last point is to consider the customer preference and how they prioritise their need for getting the job done (Osterwalder, Pigneur, Bernarda, & Smith, 2014).

2.3.4. Key Resources

Every business model requires key resources hence they allow the firm to create and offer a value proposition, reach markets, maintain relationships with customer segments and earn revenues. Types of key resources depend on business model type whereas distinguishments, for example, are made between manufacturing or knowledge-intensive models. Some of the most prominent key resource categories are physical, intellectual, human and financial. To evaluate key resources the company should consider what kind of resources the value proposition, distribution channel, customer relationships and revenue streams require (Osterwalder et al., 2010). Specific for FinTech models are the usage of data and forecasting of information to improve customer experiences and analysis of transactions or behaviour. Other proposed resources are text and speech analytics to meet customer objectives and optimise call centre or middle office administration. By analysing work patterns, guidelines and staff optimisation can be utilised (Nicoletti, 2017).

2.3.5. Key Activities

Similar to key resources, key activities are essential to every business model's operations. Key activities enable the company to create and offer a value proposition, reach markets, maintain customer relationship, and earn revenues. Key activities are often divided into the three business model categories; production, problem-solving, and platform or network management. The same applies for activities as for resources; they are dependent upon business model type. To align key activities with the business, aspects as a distribution channel, customer relationships, and revenue streams should be taken into consideration (Osterwalder et al., 2010). Often, the services and products are unique to the given industry, sector or market. To support FinTech activities such as relationship establishment and marketing it is proposed to use Big Data analytics, open data, and customised customer content, putting action campaigns on media channels (Nicoletti, 2017).

Findings of specific relevance from the three main areas

From the three main areas - innovation, digitalisation, and business models - there are some aspects that are especially interesting for this thesis in regards to FinTech and the case company. One of the definitions for technical product innovation is that it can involve new or improved products. These products differ due to the use of new technologies, knowledge, or materials. The creative process that results in technical innovation are difficult to predict or plan, and for the innovation, the criteria for success is commercial than the technical as it shall generate a return on investment. Another must for success is that the product should offer more features, higher quality, or lower prices than competitors. The firm should also try to develop or find new markets where disruptive products create the greatest value. Digitalisation has simplified the processes for firms and given a boom to many industries, one of them being the financial industry. The wave of digitalisation is partly based on Big Data, which allows companies to improve e.g. customer profiling and behaviour modelling. Big Data is a key driver of strategy and is used for e.g. cost reduction, quality improvement, and product development. Business models allow us to understand and analyse how a business works as a system, and they help companies to create and capture value from underlying activities. The Business Model Canvas provides benefits when applied to innovative ideas, and is therefore chosen for this thesis. The three blocks of interest - value proposition, key resources, and key activities - are chosen in order to analyse the bottom-line business logic built upon the relationships between the three. In regards to the value proposition, personalised services, foreseeing of expectations and deep customer insights are important. As for key resources, data, forecasting of information, and text- and speech analytics are useful. Big Data analytics, open data, and customised customer content are proposed to be used in order to support key activities as relationship establishment and marketing.

2.4. Innovation and Digitalisation

The current wave of digitalisation is seen as the third or fourth wave of industrialisation. Schumpeter (1939) studied the roles of innovation and entrepreneurship in the transition between cycles, commonly known as industrial revolutions. The transitions are characterised by ‘innovation clusters’, grouping incremental and radical innovations that give rise to new technological systems. Connecting back to his previously mentioned work in regards to creative destruction, the transitions require new business models and institutional frameworks, including both creative and destructive changes (Schumpeter, 1939).

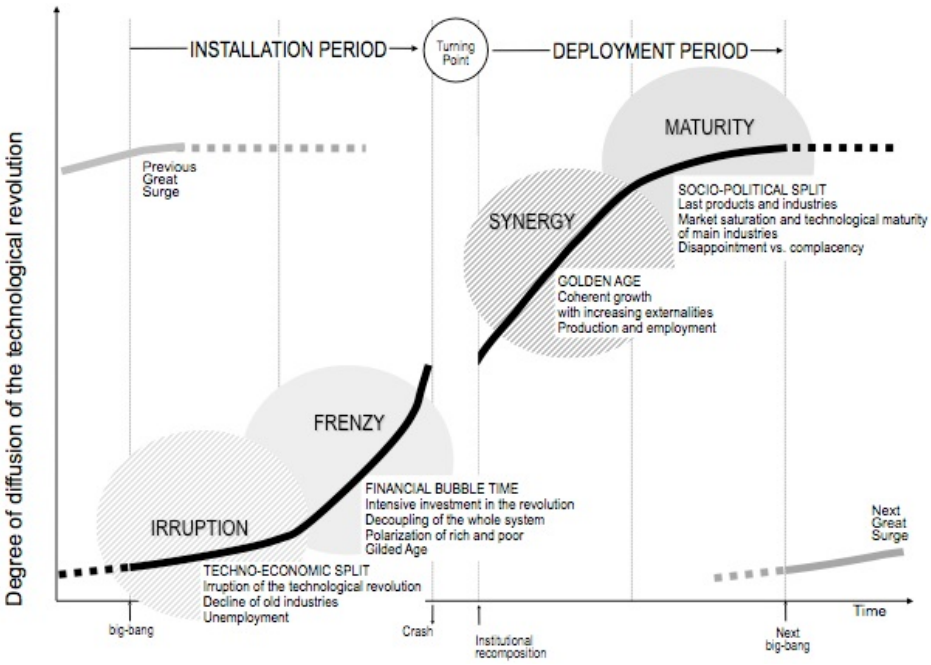

Figure 3. Recurring phases of each surge (Perez, in Valenduc et al., 2017)

The current technological surge started already in the early 1980s, as computer and communication network innovations converged. Currently, we are in the 'golden age', as illustrated in Figure 3, where new paths of wealth creation and wealth distribution are formed (Perez, 2013). The term 'digitalisation' is not the irruption of a new revolution, i.e. the start of a new curve, rather a synergy of digital innovations (Perez, 2015). Digitalisation is one of the most important factors reshaping the terms of innovation-based competition. It has had important effects on organising structures and business logics (Nylén, 2015). Digitalisation applies to digital technology across industrial and organisational contexts, and when the application include elements of newness by transforming the creation, storage and distribution of products, services, and content, it is labelled digital innovation. Digital innovation requires the use of digital tools, as PCs and Internet. More use of digital technology enhances the proliferation of digital tools, creating externalities and positive feedback loops (Yoo et al, 2010). As digitalisation is spreading, firms within different industries engage themselves more in digital product innovation, and thereby change or expand previous offerings by including digital technology as a component (Nylén, 2015).

One can wonder why many big companies struggle with digitalisation, for example, the lack of a digital customer engagement within banks, despite the awareness that it is demanded and acknowledged. Waupsh (2016) states that the challenge to digitalisation in the banking

industry lies in the legacy of existing business models and practices, as 89 % of banks see this as a barrier to engagement. Another barrier is the lack of appropriate technology in the organisation. Digitalisation and technological innovation have contributed to the emergence of a sector that put pressure on the traditional banking industry; FinTech.

2.4.1. Financial Technology

Financial technology, or FinTech, is a sector driven by a wave of start-ups with innovative business models, new services, and products (Chishti et al., 2016). A company can also offer FinTech products even if the company itself is not a FinTech company, e.g. Apple and their product ApplePay (Waupsh, 2016). Shueffel (2017: 45) proposed a definition of the term, after supposedly comparing every definition available in previous research; "Fintech is a new financial industry that applies technology to improve financial activities". The FinTech firm offers users financial services once offered exclusively by banks. While banks offer a wide service portfolio, many innovative FinTech companies just focus on one simple service with great user experience. The banks have a hard time keeping up since they cannot grow every niche of the financial services sustainably (Chishti et al., 2016).

The banking industry landscape is changing and in the future, it is likely to see digitally transformed actors dominating the market, while traditional institutions become laggards. Traditional firms might meet two typical challenges; deciding on the level of investments to dedicate to sustaining innovation, and recognising that disruptive innovation tends to be the main case of business failure. Sironi (2016) present an edited version of Clayton Christensen's representation of the interaction between sustaining and disruptive innovation:

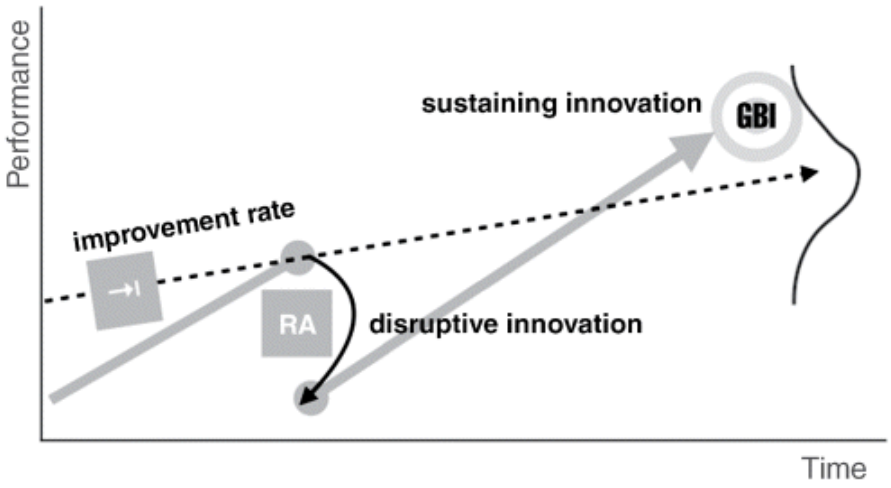

Figure 4. Relationship between innovation and product performance (Sironi, 2016)

Figure 4 represent the relationship between innovation and product performance. GBI stands for Goal Based Investing, which is an investment philosophy that places the client in the centre, making sure that the risk tolerance, preferences, and ambitions of the client are met. As time goes by, industries evolve, and technology and the behaviour of customers change. This means that markets could saturate, and then disruptive innovation has the best chance of success. Disruptive innovation has the ability to make customers start favouring the new solutions, putting the established players out of the game since they do not have time to adjust their business models and workflows. After the disruption, the cycle of sustaining innovation starts over and the firms increase their margins. This cycle becomes shorter and shorter, as new technology can be deployed faster today (Sironi, 2016). As the digital world is evolving, financial advice is becoming more client-centric, more value-added focused, more fee-only transparent, and more focus on financial well-being. The global financial crisis increased the demand for higher levels of transparency on costs, risks, and incentives. As the compliance framework tightens, scalable fee-only businesses are favoured. The investment philosophy that corresponds to these changes is GBI, which focus on personal goals instead of trying to beat the market and give advice based on benchmarking. GBI has the potential to become the competitive skeleton in the digital transformation as it uses deep learning, Big Data analytics, and scenario analysis (Sironi, 2016).

As Big Data is growing, the predictive power of computer algorithms combined with Big Data can in some circumstances go beyond the human understanding. The processing of vast amounts of data highlights a future trend in artificial intelligence, further referred to as AI (Valenduc et al., 2017). Throughout the history of human development, it has been a never-ending pursuit to build machines that free people from manual and mental labour (Shi, 2011: 1). AI can be described as intelligence exhibited by machines, common in the form of algorithms used for automated pattern recognition (Fox, 2016). It is usually defined as "the science and engineering of imitating, extending and augmenting human intelligence through artificial means and techniques to make intelligent machines (Shi, 2011). AI has been available in the financial industry for a while, mainly in trading, where algorithms scour the financial system for investment opportunities by unearthing profitable patterns in Big Data. A branch of AI is machine learning, which takes it a step further (For a practical account of this see Financial Times, 2016). Machine learning is about making computers modify or adapt their actions so that they get more accurate. Accuracy is measured how well a chosen action reflect the correct one (Marshland, 2015). For example, let's say one would play chess against a computer. First, one would win easily, but the more games played, the more games the

computer would win. Eventually, one would never beat the computer as it learns how to play, and can use what it has learned against the next opponent. A machine-learning algorithm scans through large data sets, e.g. stock prices, weather patterns, and earnings statements, identifying predictive signals (Kim, & Han, 2000; Kotsiantis, Koumanakos, Tzelepis, & Tampakas, 2006; Witten, Frank, Hall, & Pal, 2017).

2.5. Innovation and Business Models

A study on the business model's role in capturing value from innovation, conducted by Chesbrough and Rosenblom (2002), showed the value of insights to both technology and markets in order to create a well-functioning model and overcome the barriers to capture value from early stage innovations. Chesbrough (2010) argues that the recipe to success not solely lie in an innovative business model, but also in idea generation and technologies. These are parallel processes were the old business model may act as a barrier to implementing new technologies, and old technology may be more beneficial to offer the market than invest in a new uncertain revenue stream. The root of conflict is thus tracked to the shift of resources from the old to the new instead. The tools provided to find the right balance and maintain the market position are experimentation, effectuation that discovers a latent need in the market, and organisational leadership to guide the changes. Mitchell et al. (2003) further conducted a case study on how to maintain competitive in the market. The findings showed that companies should establish an unchangeable core vision for serving customers and stakeholders, either through disruptive opportunities or 'catch-up' business model changes. The results also favour becoming a niche, expert player and construct the business model so that external trends are accounted for and tolerate experiments. With this in consideration, the study found that agile and quickly scalable improvements to the business model instead would be less costly and improve the market position.

2.6. Digitalisation and Business Models

A study from Weill et al. (2015) within various industries showed that a narrow focus on the value chain for implementing digital disruption was at a disadvantage. In order to think broadly about the ecosystem and understanding the end customers, the study suggest utilising digital capabilities and gather customer data, take customer opinions into account for learning and adapting the offerings to the market. Decision-making should hence be evidence-based

with real-time Big Data. The study further showed the importance of becoming the first choice within the industry as markets become consolidated, meaning that brand promise, customer recommendations and quality execution are of great importance (Weill et al., 2015).

A good digital business model must offer good *content* such as information, price, and products offered, *customer experience* as of how the content is packaged and digitised business processes, and *platforms* where networks, partners, customer data, and hardware are included (Weill et al., 2013). Customers are ever more involved through web-based platforms which create cross-sale opportunities and market experimentation. The customer involvement in the process is hence a key component in creating and capturing value. This involvement is dependent on trusted reputation, customer relationship management, branding, and customer lock-ins (Giessman, & Legner, 2016). Production and consumption of products or services lead to new pricing strategies and product life cycle costs. Thereby, cost, revenue, and organisational structures are affected by how well data, information and knowledge can be utilised (Bhimani et al., 2015).

2.6.1. FinTech Business Models

Well-established firms struggle to adapt their business model, while innovative start-ups take advantage of low barriers to entry (Loebbecke et al., 2015). Digitalisation of business processes is associated with both innovation and low costs (BarNir et al., 2003), as it allows exploration of digital distribution channels, creating and serving new segments in new ways and establishing new forms of relationships. Processes of human labour are substituted with machines, transforming the decision-making process through data analytics and usage (Loebbecke et al., 2015). Business-to-business solutions within FinTech are categorised as either supporting established banks or creating solutions that make decision-making more efficient and compliant. Related to this, some emergent business models have been developed in order to satisfy the needs of convenience, mobility, and speed. In addition, FinTech platforms facilitate investments, peer-to-peer or marketplace lending which essentially means that capital can be raised and transferred across clients and companies, without bank involvement (Chishti et al., 2016). The digitalisation has enabled new dynamic payment platforms, where structured or unstructured data can be efficiently handled and transactions can be settled at all times. Nonetheless, complexities within these business models are often taxation regulations, long sales cycles, or cultural inconsistencies if the business enters new markets (Chishti et al., 2016).

2.7. Theoretical Framework

The theoretical framework follows the structure presented in Figure 1. This structure of theory help us to focus on the components of our research questions and consequently address them. As previously mentioned, this thesis aims to fill the knowledge gap between these areas, as illustrated in Figure 5. Few studies have examined the interconnectedness of the relationships between innovation, digitalisation, and business model development within the FinTech sector.

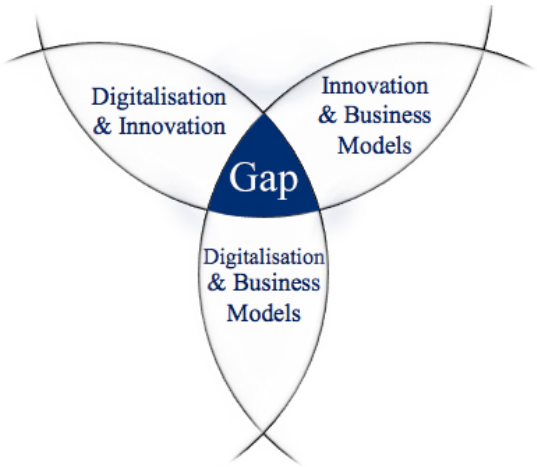

Figure 5. Identified gap (Illustrated by the authors)

The framework generates a couple of more specific key questions that guide our empirical data gathering:

- In what way does digitalisation affect a business model?
- How did the business concept evolve?
- How has the development process of products/services looked like, from idea until today?
- Which type of resource is the most valuable for the offer?
- How will the company ensure that the client is in the centre and that their risk tolerance, preferences, and ambitions met?

The method for data gathering is presented in more detail in the method section, *3.1.1. Data Gathering*.

3. METHOD

In this chapter, the process for this thesis is explained and the credibility discussed. The research method follows four main steps where some are approached simultaneously, see Figure 6:

Figure 6. Steps of the research method (Illustrated by the authors)

3.1. Research Approach

The main unit of analysis is the case company Company X's business model which provides primary data for this thesis. Company X is a start-up within the financial technology sector with an expected launch in the autumn of 2017. The collected data have not been tried on the market yet; however, this thesis aims to study business model development. The credibility of this method will be further discussed in section *3.2. Credibility*. This thesis uses a single case study approach with the purpose of providing in-depth knowledge of how and why business model development, and its relationship to innovation and digitalisation, occurs. The case study and this thesis primarily focus on local knowledge for a deep insight and understanding of the specific characteristics, and the method for answering the thesis' research questions is considered to be legitimate (Easterby-Smith, Thorpe, & Jackson, 2015). A complementary case study of a similar company in the same sector, Company Y, is used in order to ascertain if the main single case study of Company X is relevant and central, and not an outlier. The function is to increase the reliability and external validity, and not as an additional source of data gathering. The thesis contributes with qualitative insights within the business model development for companies within FinTech, or other disruptive industries, and analyse the theoretical relationships between innovation, digitalisation, and business models.

The approach for conducting the case study is an interactive process of collecting theory and data which is supported by the explorative case study approach, beginning broadly and narrowing down the content toward the purpose and research questions. This thesis has a cross-sectional design (Easterby-Smith et al., 2015), measuring Company X's business model from one point in time due to the limitation of it being a start-up. The data is obtained from a direct contact through interviews with the case company and a complementary interview with the secondary company. Company Y received a compromised set of questions, in order to test the findings from Company X's external validity and generalisability. Company Y is used as an additional source, while the main unit of data collection still is Company X. The additional company is an actor within the FinTech sector and have experience from the market.

3.1.1. Data Gathering

The main source of data is primary, qualitative data from Company X's Management Team and Board of Directors, hereafter abbreviated as MT and BoD. Additional data used for comparisons was obtained from an interview with Company Y.

Interview

Qualitative interviews are chosen for this thesis since it provides opportunities for mutual discovery, understanding, reflection and explanation (Easterby-Smith et al., 2015). The interviews were held on-site and individually with Company X's stakeholders in order to withdraw their perspectives on the research in an, assumedly, unbiased manner. The interview with Company Y was held through Skype. The interviews have a semi-structured character where a guided open interview format was adopted. This implies that the topic guide was adapted and a selection of issues related to our research area were covered (Easterby-Smith et al., 2015), see Figure 7:

Figure 7. Process for conducting interviews (Illustrated by the authors)

The topic guide was developed according to the themes illustrated in Figure 8, and consists of opening questions, open-ended key questions and closing questions (see Appendix A). During

the interview, follow-up questions and additional in-depth questions were asked to clarify and deepen the answers to key questions. The topic guide and questions were refined after a pilot interview conducted with the Chairman of the Board in Company X. The topic guide for the second case company was created after an initial analysis of Company X's results. From this, the most important arguments were pointed out and reformulated into questions (see Appendix A).

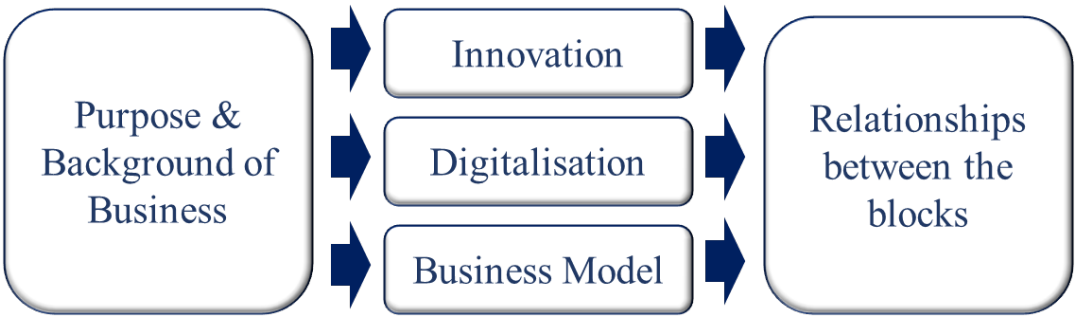

Figure 8. Formulation of interview themes and topic guide (Illustrated by the authors)

For this thesis, the CEO, CTO, Chairman of the Board and Member of the Board have been interviewed. These comprise the company's complete MT and BoD as of today. Beyond the MT and BoD, three developers exist within Company X's peripheral context, involved with coding and development of the technological parts for the company, one located in Stockholm and two located in Ukraine. The three programmers were not interviewed since they mostly focus on the technical functions, and are not involved in the parts that this thesis aim to address. Since the company is not yet launched, both company names and interviewees have decided to be anonymous. They will hereafter be referred to as their positions within the company, Chairman of Board, Member of Board, CTO and CEO, the company will be referred to as Company X. For Company Y, an interview with the CEO was held and this person was considered to be sufficiently knowledgeable for being the only interviewee representing the company and fulfilling the purpose of the extra company. During the interviews, both authors have been present and the dialogues recorded.

3.1.2. Data Analysis

For this thesis, a loosely applied template analysis approach has been conducted to focus the analytical attention on the results. The thesis has a starting point in the theoretical framework that guides the interview questions and analysis in order to address the research questions.

The themes are developed according to the research questions and empirical data, thus not restricted by a pre-developed coding hierarchy. The primary data derived from the interviews are discussed with the aim to focus the thesis toward the purpose, rather than strictly analysed according to the template approach. The aim and purpose will be to search for content and individual perceptions of the context and derive a data structure from this (King, & Horrocks, 2010; Easterby-Smith et al., 2015).

3.2. Credibility

In terms of this thesis' credibility, the areas of validity, reliability, and representativeness will be outlined and discussed. This is done in order to help the reader value this thesis' contribution and applicability for future research.

3.2.1. Validity

Validity concerns the thesis' ability to measure what is intended to measure, thus posing the correlation between theory and real results (Easterby-Smith et al., 2015). The internal validity is seen as high due to the amount of collected data for the specific case. However, all of the four interviewees within Company X have different backgrounds, thus presenting different perspectives of the development. The results obtained are based on one single case study, indicating that the validity of the single case is high but should be critically viewed before applied onto another company or context, which gives a weaker external validity. In order to strengthen the external validity, a second company within the FinTech sector was contacted, allowing for a comparison between the study's result and a second perspective, which strengthens the external validity.

3.2.2. Reliability

Reliability concerns the accuracy of the measurements made and results obtained. Hence, the results should be the same regardless of the point in time and who conducts the research (Easterby-Smith et al., 2015). The reliability in this thesis is affected by the fact that the results are not yet tested in the market since they are derived from a start-up. However, the thesis focuses on the development aspect. Further on, the reliability of the results obtained from Company X is seen as high since the whole MT and BoD were interviewed from the organisation, although excluding the programmers who were considered to manage the more technical aspects. Furthermore, the reliability of the thesis is affected by the collection of primary data. During our interviews, the material has been recorded and later used for

transcription. The collected material is translated from Swedish to English, which may impose differences in expressions and textual interpretations. During the interviews we did not ask leading questions in order to avoid biases as interviewers. Some individual questions were asked throughout the interviews to get more in-depth information on individual areas of expertise. These may be viewed in the transcriptions that are available upon request, otherwise see Appendix A for the topic guide.

3.2.3. Representativeness

In general, a single case study rarely allows for generalisation of results due to its lack of rigour (Easterby-Smith et al., 2015). This thesis has followed Yin's (2014) suggestions to strengthen the validity of this case study. Yin (2014) argues that with a clear research design before collecting any data, a formulated research question, an identified unit of analysis, and a structured way of interpreting links between data and propositions, the study may be both rigorous and logical in regards to comparisons. The following analytical generalisation can be divided into two steps of conceptual claim; firstly strengthening primary data findings with a theoretical framework, and secondly applying the theory to similar situations.

This case study depicts findings from one single case within the FinTech sector, indicating that a generalisation of the findings should be done with prudence. This thesis shows several perspectives upon the area of business model development and its relationship to innovation in a disruptive sector and may, therefore, be utilised in similar settings. Although, we propose that the results should be generalised and applied to other contexts with caution and with this thesis' aim in mind, as it shows one in-depth example in a relatively new and fast moving sector.

4. EMPIRICAL FINDINGS

In this chapter empirical findings are presented, both from primary and secondary sources. It begins with an outline of the FinTech sector and the Nordic market characteristics in order to identify main opportunities and barriers for new ventures. It further presents our findings from the interviews with the case company, which are organised according to the themes of business development, usage of innovation and digitalisation and future outlooks. Lastly, the complementary data is presented in order to compare and discuss the results further in chapter 5 and 6.

4.1. Financial Technology Sector

Traditionally the financial service institutions have dominated the whole financial industry by providing products to a large client base in cooperation with stock exchanges and payment service providers (Deloitte, 2017). There are several factors that have contributed to the FinTech emergence where the first and most prominent one is technology. New funding models, applications, analytics, speed of transactions, transparent operations and mobile access are some of the factors that have been to FinTech's advantage (International Trade Administration, 2016; PwC, 2016). FinTech reshapes the financial service industry by cutting costs, while at the same time improving the quality, and creating a more stable financial landscape. The main roles of financial services in any economy is considered to be facilitating payments, create credit, manage wealth and risk, while more and more revenues from the traditional financial services, as a result, will be reachable for FinTech solutions (Meola, 2016; International Trade Administration, 2016). The sector is booming worldwide and start-ups attract investors who are considered to be one out of four key actors within the FinTech sector. The others are regulators, financial service institutions, and financial technology firms. Investors fund the new ventures, and banks are seemingly more aware of the need to partner up with FinTechs and innovate their digital channels. Financial service institutions, on the other hand, needs to develop their services either in competition, co-opetition or collaboration with the new market incumbents (Deloitte, 2017). FinTech sector organisations have estimated that these external actors are the most beneficial within Sweden and UK, as it

requires the least time in Europe to start a FinTech venture in these countries (International Trade Administration, 2016).

Since 2014, Sweden has led the way within the Nordic FinTech sector with investments amounting approximately 400 million euros. The Nordic financial industry has ceased to grow but banks have remained profitable (Deloitte 2017). The industry has been affected by declining and negative interest rates, slowing down the growth rate for financial institutions but the FinTech companies seem to maintain the momentum. FinTechs are considered the fastest growing branch of start-ups and the variety of offerings are expected to grow, partly explained by the supportive Swedish system of funding, education, and technology available (Deloitte, 2017; Nicoletti, 2017). In the Nordics, revised rules for payment services in the EU, labelled PSD2, will become a European legislation by January 2018. It seeks to open up payment markets to new entrants and lead to more competition, greater choice, and lower prices for clients. It means, for example, that banks have to share client information with other actors as long as the client itself gives its permission (Deloitte, 2017).

4.1.1. Financial Technology Opportunities

One of the greatest benefits of FinTech solutions is the low-cost structure which is driving the future development. Current solutions are scalable and the future trends are expected to enable more usage of data analytics to quantify risks and take better advantage of financial service solutions (Nicoletti, 2017). By using complex algorithms, analysis of real-time transactions can predict future client needs and thereby increase client retention and reduce operational costs further. Another way to reduce operational costs is to develop automated advisory capabilities, replacing financial advisors and instead empowering the client. By incorporating automated client advice into the business model, lower client boarding-, conversion-, and funding rates are assumed (PwC, 2016). Additionally, small FinTech companies can more easily adapt their niche operations to further requirements for client safety concerns (International Trade Administration, 2016). Although, the most fuelling factor to the explosive growth of FinTech solutions so far is the client demand. Client habits have changed where flexible solutions tailored to the own specific needs are expected. The matchmaking of client demands and interactive, adaptable solutions is only possible via digital platforms and it is expected to disrupt banking and transfers (PwC, 2016; Nicoletti, 2017). Another benefit is forecasted to be networks of alternative financial providers, facilitation of financial service schemes and provision of leaner and faster financial services within the existing institutions. Many markets, specifically in Europe, are favouring FinTech

ventures and expansion of their operative rights across borders, providing cross-border licensing rights in order to quickly expand the operations (International Trade Administration, 2016).

4.1.2. Financial Technology Barriers

First and foremost, to achieve a widespread adoption of a FinTech solution it is required to have well-functioning telecommunications, information systems, efficient regulations, credit information systems, and electronic payment acceptance within the economy (International Trade Administration, 2016). On a global scale, the FinTech product awareness has further posed as a barrier where clients are unsure of the technology heritage of their products. The regulations regarding client protection and online security pose another barrier and tend to differ between markets, which can alter the landscape and growth opportunities heavily (International Trade Administration, 2016). Trust is generally established for FinTech products, but some segments still prefer human interactions instead of digitalised processes. There is thus a trade-off between the customer segments, either prioritising 24/7 customer service through virtual banking solutions, or maintaining traditional human interaction as a service (PWC, 2016). Other barriers may be regulatory uncertainty, differences in management and culture, and differences in operational processes (PwC, 2016). These new processes and online-centric solutions are expected to pose threats to the company culture. Many FinTechs are small and agile, but many believe that management and culture will act as roadblocks when they deal with large financial institutions (PwC, 2016; Deloitte, 2017).

Summary of Impact on Fintech Companies

As previously explained, the most prominent benefits for FinTech companies are considered to be available investments, client demand, beneficial regulatory changes, low-cost structures, and networks of financial providers. Meanwhile, they will face the barriers of increasing competition, low product awareness, obtaining client trust, and cultural difficulties brought by the digitalisation.

4.2. Company X

Company X is a start-up within the financial technology sector that will be introduced to the Swedish market during the autumn of 2017. The company provides factoring services, invoice management and in the long-term also liquidity forecasts based on the client's cash flow.

Company X will only operate within the business-to-business segment. Factoring is a service that offers the possibility to pledge a company's invoices, where a company can lend money based on the invoice original value to a given rate, which will be based upon the related risk. The company providing factoring services will thus earn money from interest rates, plus any invoice fees from the client's customer, who would receive the invoice. The invoice management would then consist of an automatisation of the process of sending, monitoring and collecting invoice payments and record these in the day-to-day books. The service of liquidity management will in a more long-term perspective use artificial intelligence in order to compile trustworthy forecasts based on the cash flow, to ensure that future liquidity needs are met.

The company currently consists of the MT; CEO and CTO, and the BoD; the Chairman and one member. They have also taken in external shareholders to finance the upcoming launch. The BoD and MT describe themselves to be a part of the digitalisation within the FinTech sector, with the ambition to become fully driven by digital automation. During the development of the company, two parallel roads of technology development and finance of operations have been managed and aligned before the launch (Company X, Chairman of Board). The interviewees agree upon the start-up's purpose to enrich shareholders and the expectations are to expand quickly with the support from external shareholders and existing experience from the industry (Company X, Chairman of Board; Member of Board; CEO). Two additions to the company's main purpose have been identified; making entrepreneurs' lives a bit more fun as they save time from less administrative work (Company X, CTO), and stimulating entrepreneurship around the world (Company X, CEO).

4.2.1. Concept Development

A majority of the interviewees agreed upon the big bank's resistance towards reshaping their services and that many have the wrong attitude towards clients. Lack of service and humbleness creates opportunities for the new entrants with a completely new culture (Company X, Member of Board). Having been on both sides of factoring, some as clients and others as developers or even the CEO, they all experienced the need for alternative financial suppliers and solutions. The old banks have the information to monitor the clients, but they do not offer solutions or services to satisfy the needs of businesses (Company X, Chairman of Board). As a factoring client, the Member of the Board had tried different competitors but was not satisfied due to poor systems, terms and expensive prices. The Member of the Board

told us about the experience he had with a larger bank as Company X had issues with extending their credit:

> "There was a guy who told us about their factoring offer, and it was exactly as poor as it was two and a half years ago. So we told them that we aren't interested in an inferior system with higher prices" (Company X, Member of the Board).

Company X arose as a result of another factoring company being bought by a large corporation. One of the current managers and one of the current board members had met each other before in different contexts and the acquisition acted as a starting point for Company X. The CEO believes that personal chemistry is the key to future success, and it is something they call "the unknown factor"; you cannot see it, but it is there. The Member of the Board was one of the CEO's largest clients at the time and when he received the news that the CEO were resigning he told him that the profitability within the factoring market was too good to step away from (Company X, Member of the Board; CEO). At the same time, another large actor placed a bid on a company within the same sector, showing multiples of 16-17 times EBITDA for the acquired company. They found a great interest from friends and family to invest in a new venture within the industry, and they received more investments than expected. More research within the market led them to discover an unsatisfied need in the market (Company X, Chairman of Board; Member of the Board).

4.2.2. Business Concept

Company X exists to remove administrative work by focusing on invoicing and financing solutions to companies. It is an existing service but there is still a demand, as the Chairman of the Board expressed it; "... our ambition is to help our clients to digitalise invoices because it's completely mad to imagine that people are sending paper invoices in 2017, but it is happening." As Company X takes care of this through a system, the entrepreneurs may focus on core business processes. The interviews showed that the most important resources to operate the company are the functions and the problems that it solves with the clients (Company X, Chairman of Board; CTO). In order to operate and become successful, factors as access to capital, licenses to operate, eagerness to expand through sales and client relations, and the underlying development of the system are pointed out (Company X, CTO; CEO). The relationship between these was then explained to be based on the development of the system to make the client happy, and if the client is happy the growth will come by itself. Something

unique with the specific business concept is the quick onboarding process (Company X, CEO).

Digitalisation and Artificial Intelligence

The CEO describes the whole business model as a creation from digitalisation. From previous experiences he understood that one has to go digital all the way. The service's value chain is hence built fully digital and is mainly operated through a software that collects information from the client into the system where it is handled (Company X, Chairman of Board). Company X can also manually adjust for single events and give clients a better rating than if they had only run the numbers through the software. The sales are managed digitally, with an addition of an initially physical sales force to allow alignment with the services that Company X provide. The offering will be found via Google, ads or referral programs, and thereafter a client will be in the system by solely entering their corporate identity number and email address. When the client's current accounting system has been aligned, Company X's software can be utilised and subsequently activate the client's invoices – which Company X describe as an extremely short onboarding process within the industry. The collected data is combined with additional data from a credit information company, in order to set unique prices to every client and automatically prognosticate risk levels (Company X, CTO).

Company X has identified a demand for outsourcing of invoice management and factoring. The invoice management is a part of the business model where Company X assists in parts, or the whole chain of distribution, monitoring and collection of invoices. The process is digitally managed and support large-scale management of invoices. The value for that client is a smoother administration as well as easier and cheaper invoicing. There is no need for administration and with the additional services that will be added later they can guarantee client liquidity. As an addition to invoice management and factoring, a financial advisor will be built with new technology. The financial advisor will be an intelligent liquidity optimiser, providing prognosis based on full insight in the financial statements and ongoing payments. They saw the opportunity for this advisor from having conversations with banks and clients who did not monitor or manage the cash flow prognosis in a structured way. Similar industries such as the stock exchange have adopted AI to analyse patterns and understand future behaviour, but as of yet it has not been implemented within Company X's market (Company X, Chairman of Board; CTO). Company X is trying to figure out their own definition of AI, but it is clear to them that it is about learning and recognising patterns in Big Data (Company X, Chairman of Board; CTO).

Based on real-time insights within the system, AI will be used to advise clients on how to manage short-term liquidity and the cost of doing so. Company X will then have; “a better picture of the client’s capital need than the clients themselves” (Company X, Chairman of Board). An ongoing calculation of real time values will then be managed within the frames of AI, and improve the decision-making in how big of a credit facility and what terms Company X can offer the clients. The system can then proactively advise clients on lending needs for the future, give notice immediately and offer loans if necessary (Company X, Chairman of Board; CEO). The AI is hence when everything one knows is used to provide advice in advance, given the invoicing and liquidity today (Company X, CTO). “What makes us unique is automatic sync, advisory services, and that everything is managed automatically. The client only has to activate the invoice” (Company X, CTO).

4.2.3. Business Plan

The initial set-up is to launch in the autumn of 2017, add factoring services by the spring of 2018, and buy invoices by the autumn of 2018. On a parallel track, additional countries and AI development will take place (Company X, Chairman of Board). They plan to have an open mind in order to expand quicker, by targeting larger clients, employ more sales people and take on larger credit risks - if the market allows it (Company X, CEO). To launch successfully, timing is expressed to be an important factor, but there is a surrounding uncertainty. The strategy is to launch quick, expand and thereby reach superior volumes in the market. The pricing strategy has not been decided yet, but the principle is to offer the services to a lower price than the resulting cost-savings for the clients. The timing is described as a chain of reactions; “... when you have the right signals, the clients show a demand, and your numbers are positive - then you accelerate with everything you have got and take the market” (Company X, Chairman of Board). Another trend amongst FinTech players is to team up, with each other or with banks, to ensure complete offerings. This is something that would be of interest for Company X if the opportunity to enter a cluster of FinTech companies arises. This will allow the client to tick different boxes and customise what services they want (Company X, CTO). An expressed concern is the accessibility and acceptance from clients; “it is possible that the accessibility is too close for this type of industry, you might become suspicious since it is that easy to get going” (Company X, CTO). To achieve the acceptance, they aim to work with trust, safety and client experience (Company X, CTO; CEO). The long-term plan is to work with AI as sales and client contact, but initially, they will rely on human

sales force and then try to break down the growth in the department in line with the company growth (Company X, CEO).

Innovation and Positioning

Company X will start off in an environment that currently holds a high innovation pace. They view the business concept as innovative in the way they deliver the service and their approach to their clients; to be a friend rather than a superiority (Company X, CTO). Their possible strength lies in a good platform, which is high-performing but low-cost, cheap to operate, and scalable. This may act as a price disruption in the market, accustoming the clients to the new prices (Company X, Member of the Board). Their positioning is further explained by 'price for a product versus automation'. The old banks have high prices and low automation, stuck in old systems. On the other side, there is high automation and low prices with high margins, and this is where Company X wants to enter (Company X, Chairman of the Board).

There are competitors present today but Company X see it as several actors with parts of their business model, but none alike that have the same. Traditional banks may be seen as competitors in the products they offer, but they are not digitalised and therefore not their biggest threats (Company X, Chairman of the Board; CTO). However, they all agree on that there will not be a sustainable competitive advantage and the company will actively have to work in order to keep competitors at a distance. The plan for future innovations is hence to continue to invest in new developments. The strategy is aligned with the view on further innovations where the CEO described the plan as "to run fast in the beginning and then look at successful companies like Google, Apple, Amazon and find new ways. Either you decide to go all the way, or you can park your car and observe" (Company X, Member of the Board).

They express to be positioned quite differently than other FinTech start-ups. The offered product already exists and the market is known by size and number of potential clients. Hence, the company aims to be more efficient and add a digital revolution to an industry that historically has been manually managed. This position is chosen since uniqueness is described to be expensive (Company X, CEO), especially if it demands a change in a human's or a company's behaviour. Instead, Company X will focus on delivering existing knowledge in efficient ways to beneficial prices. They see themselves more as a software company than a credit company and state that "nothing that we do is unique, but the liquidity optimiser is a game changer" (Company X, Member of the Board). The expectation is that new products will be developed in the future, but it's hard to guess what they will look like which creates the need to be agile and develop what the clients want. Company X has a handful of pilot

companies today that will try the service and detect potentials flaws and opportunities before it is launched. They are to be viewed as a reference group that can inform about needs and expectations. The company is not sure how they will develop their innovation plan in more detail, but the Chairman of the Board compared it to the 'drunken man walk' model. Drunken people move in different directions and they are heading somewhere, but not in a straight line. That's just how it is for a start-up, it is hard to know where to go but a mental preparation in order to follow the clients' demand is necessary (Company X, Chairman of the Board).

Markets and Clients

Company X will be present in the business-to-business segment and plan to keep this position. They will avoid thinking in terms of geography in regards to potential markets since many competitors have restricted themselves locally. Company X's vision is to be a supplier, no matter where the clients are located. Sweden has come pretty far in the digitalisation process, but there are a lot of other opportunities as well (Company X, Chairman of the Board; CTO). The demand is assumed to be ubiquitous, and the platform will be built so that different currencies can be used. It's hard to know where the flexibility is needed, and it will become expensive. On the other hand, it will be easy to adapt which makes it a trade-off (Company X, Chairman of the Board; Member of the Board). They further see the need for companies to move money streams abroad, which generate a demand for this type of scalability (Company X, Member of the Board). There are no limits in the systems regarding how many or how large the clients can be, but the larger the client the lower rate in terms of risk and return. Possible deals will hence be analysed with both hard values such as pure financial data, in combination with soft factors such as values and industries. The company plans to reach out to companies both digitally and via phone calls. Thereafter the communication will be through the digital portal, follow-up calls, on-site education, et cetera. The ultimate goal is that the clients will become ambassadors and spread the word about their services (Company X, Chairman of the Board; Member of the Board; CEO).

4.2.4. FinTech Sector Outlook

The future market leader within Company X's segment is not expected to be present in the market yet (Company X, Member of the Board; CEO). Established players may face a hard time when new price levels and expectations are set, due to lower cost structures. One concern is that an actor like Google would enter the market. So far Google have concentrated on

consumer side processes, but if they enter the business-to-business segment everyone else will struggle (Company X, Member of the Board).

All of the interviewees see the current competition within the FinTech sector as fierce. There are heavy investments made within the sector but there is a difficulty in obtaining capital when the need occurs (Company X, Chairman of the Board). The Member of the Board believes there is a shift of technologies at the moment. Currently, managers are complacent and avoiding risks, but the new generation of managers will probably view things differently and adapt to client expectations no matter what (Company X, CEO). Another cornerstone is regulations in the market. Company X will have to follow governmental regulations, as well as restrictions in the way they are allowed to handle personal information. This further implies that they have a responsibility to work against fraud and money laundering. In 2018, a new legislation will be put in place enabling Company X to access their client's bank information, given that their clients allow it. Currently, the large banks are uninterested in supporting FinTechs financially and they use high entry barriers to capital access as their protection (Company X, Chairman of the Board). However, those banks need to change their culture and embrace the market changes to avoid ending up in a position like Eniro. They have an old business model and are being outrun by new entrants; "... then Google came along, and everyone but Eniro kept on calling their clients. Despite that Eniro is Google's representative in the Nordics, they should have gone into bankruptcy several times" (Company X, Chairman of the Board).

The Future of FinTech

Fintech is expected to grow, and there are things going on that will make it easier, e.g. the up-coming legislation. It is hard to say what will happen in the future, but the sector will probably open up for new initiatives and innovations (Company X, CTO). Many of the hypes will expectedly disappear and the market will become saturated due to lack of expected returns. Nonetheless, the opportunities in FinTech will probably increase with a focus on client-guided solutions (Company X, CTO; CEO). Banking as a concept is built to generate trust between individuals, but this can be replaced with other solutions instead.

> "We are part of a bunch of companies that slowly will slice apart the business for the old banks. We will find a niche that we do superbly good, and with time people will ask themselves 'Why on earth did I use a bank?'" (Company X, Chairman of the Board).

AI is expected to be available for everyone in the future, and the smart services that are being developed will change a lot, but that will not mean that one automatically is out of business. The struggle with digitalisation is to keep being unique as everything that is digital can be copied (Company X, Chairman of the Board; Member of the Board).

4.3. Company Y

Company Y provides company overdraft based on real-time analysis through the clients' bookkeeping systems. Company Y's purpose is to make capital accessible for growing companies in a convenient way. They couple with cloud-based accounting systems and analyse the data from there. Company Y also tries to automate all the processes, making it as easy as possible for the clients and the company itself (Company Y, CEO). Their business model is to borrow money from a few actors with a lot of money, and then lend that money to a lot of other firms. In between, they have an interest marginal from which get their revenues. By automating the management and decision-making to a large extent, Company Y can calculate the risk better than the market, and since it is online they improve the experience for the clients. The CEO introduced their business concept as follows:

> "You could say that we offer a modern version of invoice discounting. We make money by taking a risk, and put a price on that risk in the form of interest" (Company Y, CEO).

4.3.1. Business Concept

The concept was developed as the CEO experienced an unsatisfied need in the market. What Company Y is doing wouldn't have been possible five years ago. They couple with cloud-based business systems, and back then such systems didn't include Application Programming Interfaces, further referred to as APIs. This meant that they would not have been able to build bridges between two systems, and thereby not gain access to the clients' data. Furthermore, to build and get access to hosting capacity was more expensive. Today it is a lot easier to start a company due to lower costs, better tools and support, as well as a capital market that is cheaper to invest in (Company Y, CEO). So, even if Company Y could have gotten the money five years ago, it wouldn't have been technically possible.

> "Without digitalisation, we would have done it in a different way; more traditional, not as automated and not with a Big Data-approach" (Company Y, CEO).

Three years ago, few companies had APIs - now almost everyone has it. Even banks are opening up APIs with the PSD2 legislation so that companies can reach the client's data. The more data, the wiser one will become (Company Y, CEO). For Company Y, it is not critical what kind of business their clients pursue. For them, it is just as important that they have sensible clients and that they have control over their financials. In regards to client demand, the CEO stated that at the start there will always be uncertainties, but his previous experience in combination with industry data was sufficient enough in order to test the idea. The industry data told them that it is was a growing market where actors worked in an old-fashioned way. Further, the trust barrier for unknown actors is higher and Company Y tries to decrease it by sharing interviews conducted with satisfied clients.

Company Y use software to analyse every visit they get on their website - how visitors navigate on the site, where they click, where they pause, et cetera. On top of that, they use Google Analytics to see where the traffic comes from. They measure what is converting and what is bringing in business. The CEO says that Company Y is obsessed with measuring, performing follow-ups, and analysing data. They are not using AI as of now, but they are using very advanced decision models. Their decision trees are supported by massive amounts of documentation, and every night they re-calculate everything. It is not a self-learning system that adjusts itself, i.e. machine learning, but the CEO stated that AI might be added in the near future.

4.3.2. Business Plan

In regards to the future development of the FinTech sector, they will add more products along the way and become more agile in order to be adaptable to the clients' demand, and work more with testing to see what works. It is very important for Company Y to make the client experience as tight and flexible as possible along the whole client journey. They also see themselves going international, which requires researching different countries in regards to licensing, manpower, and which of their current partners they can grow with (Company Y, CEO). Their business model today is similar to the one Company Y imagined in the beginning. In regards to changes in the model, the CEO says that one continuously learn from clients, and thereafter adjust in order to make the business model work better. They use a

backlog, i.e. if they find something that has to be built or changed they add it to a list. Every time they have a two-week sprint and take the time to develop something, they look at the list and do what is the most important at that time. The CEO states that they work likewise in everything they do, being very reactive and changing the plan as they go. Company Y does not see any use of a business plan with detailed budgets and time schemes since one cannot plan activities one year ahead. However, the CEO adds that with a bigger company and more employees, there is a need for a bit more structure. What differs start-ups from traditional companies is that start-ups are more adaptable. It's the fittest and most adaptable firms that survive (Company Y, CEO).

Summary Company X and Company Y

The findings from Company Y have been compared to Company X, and it is found that they have been developed due to a similarly experienced need. Furthermore, the view on digitalisation's effect on the business model, valuable resources, and meeting client ambitions are found to be similar. As a result of the substantial coherence between Company X and Company Y, we choose to interpret Company X as a representative case.

5. ANALYSIS

From the theoretical framework, a given set of questions was formulated in order to collect the empirical data. This has resulted in a focused analysis where the areas of business model theory and the relationship between business models and innovation will be analysed in conjunction with the relationship between the business model and digitalisation. Consequently, the disposition of the analysis will begin with the area of Company X's innovation, followed by digitalisation, and how business models are affected by digitalisation. Lastly, we present the main findings and a comparison with the complementary data.

5.1. Innovation

Company X offer a product with improved features and will position themselves just below their competitors' prices, which is in line with what Schilling (2013) calls a successful strategy. As the product has not been launched yet it's impossible to know how they will perform, however, the margins in the FinTech sector are very attractive and they have experience as well as partner companies that test the product before the launch. As stated by Schumpeter (2003) in regards to the term creative destruction, new changes are only considered *new* in the environment it was created. Company X consider themselves to be innovative in terms of applying forecasting to liquidity demands, as well as seeing their role more as a friend than as a typical, bank-like superiority. These services are not new, e.g. forecasting with the help of Big Data is widely used in the stock market, but within Company X's market, this is new. It is, therefore, possible to see the application of AI in the software, which is the product innovation enabling the process innovation of forecasting, as radical in the market of factoring and invoicing. It is changing the whole architectural design of how calculations of liquidity demands are generated. The software engine in itself is not new either, but in the context of this specific market, it is considered to be new. We see the software engine and the forecasting as competence enhancing since it builds on competence already existing within the knowledge base.

As Schumpeter (1939) described, the innovation clusters that characterise the transitions between cycles group the innovations and this requires new business models. Following Schumpeter's intuition, Perez (2013) stated that surges separate techno-economic paradigms,

as illustrated in Figure 3. She further pointed out that digitalisation is not surge in itself, but rather a synergy of digital innovations (Perez, 2013). As the digitalisation trend spreads, firms engage more in product innovation where digital technology is a component. This is certainly the case in the financial industry, as more and more companies launch products or acquire start-ups that are digital (Nylén, 2015). The MT of Company X has followed the transformation of financial services, and to them it became obvious that they should enter the sector, having the advantage of their previous knowledge and not being stuck with a business model legacy.

Trying to constantly keep ahead of the competition, running fast in the beginning and investing in new developments are part of Company X's plan ahead. Christensen (2013) studied big companies and what they did wrong when it came to innovation, and it is interesting to see how Company X's MT reasons when it comes to the principles that Christensen derived from his study. Even if Company X is not of the same size as the studied companies, it can say something about predicted success of the firm. In regards to resource dependence, Company X knows who they primarily want to target and can thus achieve the correct patterns of resource allocation. They develop the product together with partner companies in order to know how to invest their resources in the best way. This also allows them to realise faults early on and, therefore, inexpensively. Before the launch in the autumn of 2017, they will beta test the product in a larger extent, minimising the cost of potential failures even more. Company X has also identified a market that is changing and this is, according to Christensen (2013), the right place to launch disruptive technologies.

5.2. Digitalisation

Digitalisation pushes the development of many industries, and the financial industry is changing. The Chairman of the Board believes that it will ultimately eliminate the banks and that is only a step in the process of eliminating unnecessary things. Company X's product is completely digital, as it is software. It is collecting data from different sources, i.e. Big Data, allowing them to set unique prices to every client. When that flow of data gets big enough it will allow them to create liquidity forecasts based on AI. The CTO explains the purpose of Company X to make the life of business owners a bit more fun, enabling them to focus on their core business and not on administration. Their purpose is in line with what Bhutani et al. (2015) said about digitalisation; it is simplifying administration and operations, which allow companies to enrich the quality. The Chairman of the Board states that Company X will have

a better picture of the clients' capital need than the clients themselves. Based on the latest known information, they will be able to calculate the size of their clients' credit facility and what terms they should get. This ability to know the liquidity needs better than the clients is what their whole business is based on, which correspond to what Valenduc et al. (2017) states; the amount of data lets companies improve the customer profiling with powerful algorithms. One of the factors that data analytics conduce to is cost-cutting which is of great value for the clients (Iris Group, 2015).

5.2.1. Innovation and Digitalisation

As time goes by and industries evolve, the behaviour of clients change. As mentioned by Sironi (2016), GBI describes a philosophy that is client-centric and makes sure risk tolerance, preferences and ambitions are met. The CTO expressed that the software is supposed to take care of everything automatically, but if a client would want to meet specific targets it will be possible to tweak the system parameters manually. If a client should have experienced poor numbers during the previous year due to single events, Company X will be able to adjust for this in the software and give them a better (Company X, CEO). In other words, Company X focuses on meeting the clients, finding the right risk level and preferences - all in line with GBI. As Company X will use Big Data and machine learning, they will be part of the digital transformation, according to Sironi (2016).

Company X will have a fully automated onboarding process to make it easier for clients and in the long term make the client experience AI-driven, meaning that clients will be able to interact directly with the system - eliminating the need for employees dedicated to customer service. These features are seen as process-, incremental-, and component innovations, as they are improvements of initial functions that improve the efficiency of operations. Another process innovation of the product that Company X will provide is automated invoice management, saving both time and costs for the client. Instead of manual handling of invoices, the system will retrieve everything automatically and do the job that previously was done by the clients' administrative departments. Schilling (2013) stated that technological innovation is the creation of new knowledge that is applied to practical problems. The technological innovation, in this case, is in the way Company X gathers data about the clients and applies the accumulated knowledge in a new way, in order to provide the best possible offers of financing and advice regarding liquidity needs. Burgelman et al. (2004) made a distinction between technology-based innovation and innovations facilitated by technology.

Since everything Company X does is based on existing technology, e.g. using computers for the coding, their innovations are facilitated by this technology.

The main finding from the innovation and digitalisation relationship is thus how Company X applies innovative solutions through a digitalisation of processes. Examples of this are client relationships, integrated invoice management and monitoring, and AI forecasting solutions. The digitalisation has enabled the company to utilise innovations from other industries and implement streamlined processes in order to deliver value to clients. It will allow them to keep a low-cost structure and improve client experience.

5.3. Business Model and Digitalisation

While Company X's strategy relies on full digitalisation and the grasping of superior volumes in the market by adapting the market to a new price level, the business models depict the underlying business logic of how it will be conducted. Company X's underlying business logic can hence be described as a digital platform where financing and administration are obtained to beneficial prices through easy access and fast processes. Customer segments will be targeted through the platform and able to take part of the value proposition based upon key activities and resources. The business model creates sustainable revenue streams through a low-cost structure and solving the customer segment needs. The business model is developed upon insights and experiences from the industry, which means that, identified customer pains and gains have been taken into consideration during the development. The insights regarded the initial stage of factoring, loans and invoice management. For the future service of liquidity analysis, there will be a new context and possible barriers to take into consideration. Company X's business model development will further be analysed in the categories of value proposition, key activities and key resources.

5.3.1. Value Proposition

Osterwalder et al. (2010) described the value proposition as a bundle of products or services, which reflect an aggregation of benefits to the clients. To analyse Company X's value proposition from this perspective, the bundle of products or services consists of automated and monitored invoice flow, flexible factoring solution, fully digital and fast onboarding, up-to-date credit ratings based on several factors, and prognosis of future liquidity needs. This value proposition then represents a position in the market where Company X provides a bundle of services, which competitors only offer separately or not at all. This position will

thus offer clients the full aggregated value from the bundle of products or services offered. Each customer segment will further be able to have an individual assessment through the rating procedure, but the same bundle of services will remain for every segment. Nonetheless, as the market gets consolidated and more integrated, the value from a full-service provider may be more complex to price and harder for clients to appreciate - especially due to its digital character (Bonnemeier et al., 2010). The market is further expected to rely more and more on networks of financial service providers (International Trade Administration, 2016), which means that the value of the bundle of services will face a different demand if networks of companies in the future will offer the same aggregated benefits in collaboration with each other.

Company X's value proposition is defined as time- and cost-saving for their clients, hence the price will be set lower than cost-savings achieved. The aim of the service is to make entrepreneurs save time by administrating the invoice flow and enable access to capital. Company X can thus solve the client need of access to quick, short-term liquidity and invoice management. The value proposition would be defined as disruptive according to Osterwalder et al. (2010) if it evokes a new set of needs. Company X's proposition builds upon an existing need in an existing market, and can thus not be defined as disruptive in these terms. However, the additional usage of AI in the latter stage fills a need in the market with a liquidity service that some clients may not even currently demand. Relating this to the value proposition creation of Osterwalder et al. (2014), the proposition will both solve pains and create gains. Manual administration and access to capital are customer pains that can be solved by a service. Cost-savings, accessibility and speed, on the other hand, are characterised as customer gains, something beyond expected value. Company X's value proposition is built upon their own experiences and market research where they identified poor terms and systems, expensive prices and reluctant actors that were unwilling to adapt to client demand. Building on the previous analysis of innovation and digitalisation, the value proposition was created upon this identified relationship in order to solve the market pains.

Nicoletti (2017) stressed the importance of client insights and personalised service within FinTech ventures. Company X has a lot of information regarding the sought for customer segment were the need for access to capital and administrative automation has been identified. Pilot companies will, in addition, be used to create insights to client experiences and possible improvements. Regarding the personalised service, there are trade-offs between human interaction and trust (PwC, 2016). Company X will mix the usage of pure online communication and initially a completely human sales force to build relationships and

overcome the trust barrier. To solve the currently identified issue of high prices in the market, Company X must maintain a low-cost structure which full digitalisation will solve. One of the interviewees expressed a concern for trust since the value proposition will be easily accessed and delivered through an online platform after a quick onboarding. The usage of digital sales communication will alter the previous traditions in the industry, and affect the client relationships. It is also important to work with the individual experience in order to obtain trust and create a sense of safety (Company X, CEO).

The main findings for digitalisation's impact on Company X's value proposition were thus found to be how Company X utilise digital processes to solve the client's identified pain of getting access to an affordable financing solution and saving the client valuable time. The client gains from the proposition will be cost-savings from optimised and simplified administration. This proposition is hence enabled from digital processes reliant on client data and analytics, with a low-cost structure.

5.3.2. Key Resources

The value proposition was described as digital, low-cost, accessible and flexible. The underlying key resources are all required for the business model to work, and the most important ones are the licenses to operate, capital to offer the value proposition to clients, software, and a platform to deliver the value. Additionally, management experience is a resource that is needed in order to make the proposition perceived more valuable than the competitor's and also for managing client expectations. From the interviews, the CEO of Company X highlighted the importance of personal chemistry within the company in order to make it work. Although, these resources are not the sole underlying factors needed in order to achieve the value proposition features. An additional intangible prerequisite would hence be the technological development that has transformed the way these resources can be managed and transferred (International Trade Administration, 2016).

The underlying digital interrelation between the key resources supports the underlying business logic, as it is associated with both innovation and low costs (BarNir et al., 2003). The digital platform allows new types of client relationships and low-cost operations. The automated processes enable companies to reach new markets and to serve large customer segments without additional human interference - which restructures the traditional way of expanding an organisation. This is aligned with Company X's ambition to scale up digitally automated processes as the business grows, as well as future implementation of innovation. Another resource that comes from digital processes is the amount of data that can be used for

future decisions by increasing the accuracy and analysis of behaviours or trends. The data can enhance both client relationships and experiences, as well as optimise internal workflows (Nicoletti, 2017).

Weill et al. (2013) defined the key resources within a digital business model as good content, client experience and platforms. The key resources can further be identified as capital and licenses to operate, since they are prerequisites in order to deliver good content. Client experience is taken into account in sales and management experience, and the CTO of Company X stressed factors as relationships and referrals to new clients. Platforms would in the specific case be software, integrated artificial intelligence, data management and automated processes. Although, Weill et al. (2013) discussed the importance of partners and how the content is packaged in order to capture value, something the interviewees mentioned but did not explicitly see as vital aspects of the business model.

The main finding from key resources is hence the data used in order to implement the processes, digitalise relationships and realise the scalability of the business model. It is further contingent upon factors as access to capital, management experience and culture, as well as the actual software.

5.3.3. Key Activities

Osterwalder et al. (2010) depicted key activities as the most important things in order to operate successfully. For Company X, the automated processes and digital monitoring were identified through the interviews; "... automatic sync, advisory services, and that everything is accounted for automatically..." (Company X, CTO). The value proposition requires the key activities to solve the need, deliver the solution, maintain the client relationships and generate revenue streams. In Company X's case, these will be transferred to the digital platform that delivers the solution and maintains the relationships in combination with human interaction, and the value proposition will generate the revenue streams. According to the interviews, all of these key activities will be automatically managed in the software or system, with an addition of manual supervision to ensure correct outputs. This enables and maintains the low-cost structure, the accessibility and scalability, as the software allows for unlimited data storage and number of users. These activities are according to Nicoletti (2017) implemented to optimise processes. However, even though the business model is built upon a low-cost structure, studies shows the importance of digital client experience and marketing to build relationships, which still comes at an expense (Nicoletti, 2017; Giessman et al., 2016).

To categorise Company X's business model according to the generic types of Osterwalder et al. (2010), it is a combination of problem solving activities and platform management. The problem-solving focus occur within the activities of automated book keeping, invoice distribution and monitoring and not least the artificial intelligence based forecasts which will solve customer pains. Regarding the platform it here refers to the website and software. Without a functioning web-platform to distribute from or well-developed software the value proposition will fail. According to Bhimani et al. (2014), a web-based platform enables cross-sale opportunities and market experimentation. This is valuable to Company X since one of their ambitions is to expand and use the business model to scale up their operations in a quick manner. Similar to key resources, the key activities are seemingly digitally run and change internal structures. One should have in mind that the effects of flexibility and speed arise as a result of on-going digital development within the business model, meaning that Company X's initial intention needs to be continuously followed up on in order to realise these opportunities.

The digitalisation's impacts on key activities are thus the digital operations and monitoring which facilitates scalability and accessibility. Human supervision will on the other hand be applied and the model allows for manual adjustments to align the value proposition with the problem to be solved.

5.4. Identified Relationships

Company X's business concept arose as a result of a self-experienced need in the market in combination with previous experiences from the industry and a growing market. The identified gaps in the market have thus been non-beneficial solutions, hierarchical relationships toward clients, inferior systems, and a resistance to meet client demands. Furthermore, attractive margins, available investments and available technology spurred the development. Company X expressed the importance of having a scalable business model, built to quickly expand in the market. Some of the main underlying relationships between innovation, digitalisation and business model development are in this thesis found to be:

- An overarching implementation of technological innovation from data gathering, seen in the value proposition, key resources and key activities.
- Data gathering enables new types of client relationships, forecasting, and an efficient scaling of the business model, mapping out historical trends.

- Data gathering may be seen as a part of the digitalisation, which in turn enables low-cost structures, new organisation structures, accessibility and flexibility.
- New low-cost and organisational structure shape how the value proposition reaches clients and on what terms, prices, et cetera.
- The value proposition solves customer pains of time-consuming administration and access to capital, and provides customer gains in the form of future cost-savings.
- Key activities and resources are shifting from previously manual processes, towards automation and digital monitoring of such.
- The business model development is thus affected both by the implementation of innovations and enabled by digitalisation.

These findings will also be presented in a more abstract format in chapter *6. Discussion* as an attempt to generalise the thesis' findings.

The demand for tailored solutions increase and in order to match the demand with interactive solutions, a digital platform is needed to provide the full digital experience (PwC, 2016). Company X utilise innovations as AI, previously applied in other industries and innovative processes such as automation of the onboarding process and customer service. Furthermore, both companies' business models have been developed as a result of similar gaps in the market, where customer pains and gains have been identified. Another prominent finding for the new firms is the available technological advancements to implement within the business model. The market benefits from access to investments, beneficial regulatory transformation and low-cost structures indicating possible high margins. All these factors are mentioned in the business model development and supported by the empirical findings (Deloitte, 2017; PwC, 2016; Nicoletti, 2017). The primary data further supported the presented barriers of an increasingly saturated market, and obstacles to obtain client trust which is expressed to be tackled through personal relationships and marketing of previous client's success stories.

Studies (Loebbecke et al., 2015; BarNir et al., 2003) support the fact that start-ups often take advantage of low barriers to entry. Likewise, this thesis strengthens previous findings of start-up's initial agility (BarNir et al., 2003; Ojala, 2016). The complementary findings show the importance of short-term implementations for the overall business model, rather than long term plans. This may be a result of the FinTech characteristics of rapid innovation pace, new market entries and increased amounts of investments. In the primary data, findings of trust

generation and tracking of client behaviour are overarching themes. The analysis of real-time data predicts clients' needs, increase the likelihood of client retention and reduce operational costs both for the client and for Company X by replacing manual work (Nicoletti, 2017). Measurements, follow-ups, and analysis of data, as well as implementations of incremental changes are enabled by digitalisation. The opportunities for business model development, innovation implementation and digitalisation are thus seemingly the risk reduction in the value proposition. This supports the bundle of services with client data and builds the business model on low-cost structures through key activities and resources.

6. DISCUSSION

In this chapter, the results of the analysis will be discussed and viewed from a more holistic perspective. It further aims to critically view our findings and the underlying factors. The discussion will begin with identifying the interconnections of the relationships between innovation and digitalisation, innovation and business models, and digitalisation and business models. This will lead to the gap previously found within the academic contribution of how the interconnectedness of the relationships between business model development, digitalisation and innovation looks like, and depict the Business Model Canvas blocks' role.

6.1. Interconnections of Identified Relationships

After the financial crisis of 2007, banks that are stuck with a legacy of rigid business models have struggled with adapting to the changing client demands of transparency and digital experience. Since there is scarce knowledge about it, constructing a new business model is hard. FinTech companies are changing the rules of the industry, offering new types of relationships, lower costs, flexibility and precise financial analyses. Business models are seemingly undergoing a transformation due to the utilisation of new technology and digitalised processes. The purpose of this thesis has been to fill the knowledge gap between the areas of digitalisation, innovation and business model development. From the analysis three main interconnected relationships were identified; innovation and digitalisation, innovation and business models, and digitalisation and business models, see Figure 9:

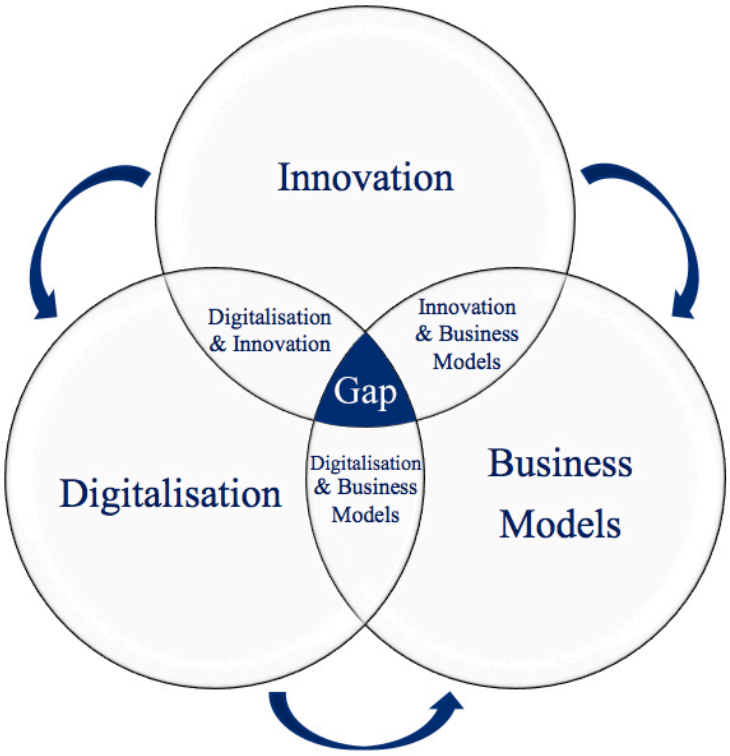

Figure 9. Identified relationships from the theoretical framework (Illustrated by the authors)

Innovation corresponds to the level of digitalisation since technological innovations, e.g. Big Data and AI, are implemented as means to automate and digitalise processes or products. The level of digitalisation will affect the organisational-, and cost structures within the generated business model. At the same time, the general innovation pace within the market and industry will affect the business model in terms of the need for on-going implementation of new innovations within the business model, which can be new products or new processes. The organisational structure would then be affected by the trade-off between human interaction and utilisation of digital processes that maintain a low-cost business model. An example of the cost structure would be the alternation of costs, traditionally associated with costly processes and operations, where the new digitalised ones perform at much lower costs.

Previous studies argue for utilising digitalisation in order to strengthen decisions with real-time evidence (Weill et al., 2015). At the same time, business model studies argue that new business models demand risk taking and allocation of resources based on intuition (Zott et al., 2011). The uncertainty in business model development stems from a lack of insights in the market and of the client demand. Hence, by bringing in new innovations into a process that already is characterised by uncertainty adds further complexity (Ojala, 2016). The digitalisation indicates that data can be used to analyse and mitigate business model

development uncertainties. The uncertainty linked to business model development would therefore be favoured from utilising evidence-based decision-making when employing real-time client data. This is supported by Giessman et al. (2016), who state that client involvement is key when creating and capturing value. The client data derived from digital platforms could thus optimise the business processes from the initial launch, and generate further real-time analysis of where to go next. On the other hand, radical innovations often create new markets and needs. As a result, the data that is required to mitigate potential uncertainties in business model development do not exist.

The link between business model development, innovation and digitalisation would thus be that they enable each other's performance where client data limits the uncertainty, and the business model can be more optimised and deliver a higher client value. Although, the limitation lies in the radical innovation, which may require insights to non-existent markets or markets where there are no data to be found. These kinds of innovations will thus bring uncertainty to an already complex process of business model development. The markets, fuelled by the innovation's pace, and shorter product life cycles bring additional complexity.

6.2. Digitalisation's Impact on Business Models

There are some factors that seemingly affect the business model development within the industry. Clients' demand change, regulators open up for FinTech companies (Deloitte, 2017), institutions open up for co-opetition and collaboration (Sironi, 2016), and investors are more interested in investing in FinTechs (Interview Company X; Company Y; Deloitte, 2017). Loosening of regulations enables further insights in the area, co-opetition spur cross-border value propositions where networks of companies can deliver services in efficient ways (Chishti et al., 2016), and investors enable growth as well as new innovations. The business model development within the FinTech sector will thus be affected from how the industry will favour niche, or more 'all-included' value propositions.

Previous studies have all pointed out customer experience and customer ownership as key in capturing value, which are enabled through the digital platforms (Bonnemeier et al., 2010; Giessman et al., 2016). Another factor is the client's perceived pains and gains, which transforms in line with the digital development across industries and services. Digitalisation has enabled firms to satisfy needs in new ways, but it also affects which needs that clients want to satisfy since many industries undergo a digital transformation of business models. As a result, new innovations and digitalisation will transform the value propositions and how

they are created in line with market development and consolidation. The client experience will, as a result, be linked to the perceived value, which in turn will be affected by the level of digital customisation. Another contributing factor to value proposition creation will be the FinTech trend of niche firms and networks of financial service providers (International Trade Administration, 2016). Indicating that clients may identify the possibility to fulfil their needs with a variety of niche companies and tailored solutions instead of having one supplier.

The business model is pressured by externalities as new technology, replacement of human labour, competitors and clients' reactions to changes in the market. The Internet has brought the opportunity to reach many clients and create cross-border relationships, which means opportunities in terms of growth. On the contrary, it imposes obstacles in form of unlimited amount of competitors who also provide their value proposition online. The digitalisation and innovation are thus creating the need for an established brand and obtained client trust (Weill et al., 2015), in order to overcome the market saturation and become the first choice in a market full of alternatives. This is also connected to key resources and key activities, which support the creation and delivery of the value proposition. The underlying processes and resources are seemingly all managed and monitored through digital channels and software, indicating that the technological innovation permeates the whole business model generation in order to align inputs with the wanted outputs. The business model's value proposition would hence be affected by innovation and digitalisation in a way that alters the existing needs. The value proposition is furthermore shaped by innovation and digitalisation where incremental and radical new ventures arise as a result. The key resources are more dependent upon data and client relationships, while key activities are digitally managed and humanly supervised in order to maintain a low-cost structure but still ensure tailored value propositions.

As a summary, findings from business model development, innovation and digitalisation are illustrated in Table 1:

Business Model	***Value Proposition***	***Key Resources***	***Key Activities***
Offering	Shaped by needs in the market, which in turn is affected by the level of implemented innovation and digitalisation	Digital platforms and client experience to create and capture value from the business model	From human labour and manual processes toward automated processes and digital monitoring, based on platform management
Innovation	Innovation may evoke a new customer pain or gain. Usage of AI and data analysis generates innovative solutions and processes to leverage proposition	Resources consisting of data, new types of client and/or company relationships	Forecasting of future client needs. Automated processes creates, reaches and delivers the value proposition
Digitalisation	Defining client need and customisation, deliver value from evidence-based data – limiting the uncertainty	All managed on a digital platform for scalability, accessibility and evidence-based decision-making	Digitalisation enables low costs and less human labour needed. Continuous development of the digital platform, reach larger segments independently of geographical position

Table 1. Findings from the three main areas (Illustrated by the authors)

6.2.1. Business Model Canvas Limitations

This thesis is limited to three areas of the Business Model Canvas; the value proposition, key resources and key activities. Findings beyond the framework by Osterwalder et al. (2010) have occurred, one of them being an internal factor such as culture. Something that was pointed out in one of the interviews was the importance of personal chemistry in order to grow the venture successfully. The cultural aspect is also critically viewed in online-centric solutions (PwC, 2016) and the question then arises of how an implementation of digitalised solutions, in the long run, will affect the willingness to innovate the established business model. Previous studies speak about new organisational structures (Bhimani et al., 2015), which will be affected by the cultural difficulties. The digital business may outgrow the human labour ratio with the help of digital processes, which in turn could impose changes to the opportunity-catching culture and willingness to innovate. This discussion is based upon findings that show how agile start-ups tend to grasp new opportunities to a larger extent

(BarNir et al., 2003). The digitalisation would hence have a great importance in the link between business models and innovation, as well as continuing competitive position within a fierce industry. Management and culture would be of importance for business model generation but is not accounted for in the Business Model Canvas. Client relationships are seemingly another important aspect within the digital business models even though it was not the main unit of analysis for this thesis. Something that is overlooked here is the actual trust towards the supplier of the value proposition, which to a degree will be affected by the perceived distance. Studies (PwC, 2016; Giessman, 2016) speak about the importance of trusted reputation and ways of interacting with clients. Trust is an aspect that would be of importance in such a sensitive matter as financing solutions, in addition to the perceived supplier-to-client distance. Another factor found in the interviews was the formulation of a mission for the company meaning not only what it delivers to the clients, but an overarching goal to strive for. The mission affect the structuring of the business model, but this is lacking in the Business Model Canvas. Company X expressed their mission as to deliver value to shareholders and to make life easier for entrepreneurs. It indicates a long-term willingness to improve efficiency within the business model, which would interrelate with the cost structure. Furthermore, it shows a willingness to adapt to future client needs and change the value proposition. In accordance with Hong et al. (2013), this thesis further agrees on the Business Model Canvas' weakness regarding performance measures. The last main finding is the importance of networks within the FinTech sector where competition, co-opetition or collaboration creates new structures (International Trade Administration, 2016; Deloitte, 2017). The Business Model Canvas does not incorporate such external influences or networks beyond the supplier and close partnerships. As a result, the framework has limited usability in assessing business models within FinTech networks.

7. CONCLUSION

The aim of this thesis has been to analyse the relationships between innovation, digitalisation and business model development, as well as the interconnectedness of their relationships. Further, the thesis has addressed aspects of business model development, specifically the value proposition, key resources and key activities. This chapter aims to provide summarised results, along with the thesis' implication for strategic decision-making in business models. It will round off with recommendations for future research.

7.1. Innovation Enable Digitalisation and New Business Models

The initial business model development is often the result of the market determinants, meaning that the demand and willingness to invest in new ventures will affect. Furthermore, a market in a development phase generates opportunities for new ventures to grasp through innovations or complacent competitors. The new opportunities will further be realised through the implementation of new innovations, and processes will to a larger degree be digitised. This will thus bring out new structures within the business model, where the most prominent findings for this thesis lie in organisational- and cost structures.

This thesis contributes to qualitative knowledge within a relatively unexplored area, namely the interconnectedness of three overarching themes. The theoretical findings are further relevant for start-ups, and to a certain extent already established companies, in terms of how innovation and digitalisation affect business model development and continuous strategy. The link between business model development, innovation and digitalisation is within this thesis found to be that they enable each other's performance where data analytics and technological innovations are implemented to limit uncertainty in business model development. With more data, decisions will be more informed. The findings are seemingly pointing out that it is important to have information about the market growth and whether there is an experienced need before starting a new venture. Thus, the available data needs to be applied to new innovations in order to be useful for business model development, meaning that the uncertainty will not be mitigated unless there is an adjacent market for the new venture.

This affect the business models structures as manual processes are replaced, creating low-cost operations. At the same time, this replacement affects the organisational structure since the need for human resources is not as large. The value proposition's identified customer pains and gains in the market are also affected by the overall digital- and innovation development. Digitalisation and innovation have affected industries and will affect them even more. The key resources are more and more contingent upon data and client relationships, while key activities are digitally managed and humanly supervised in order to maintain a low-cost structure and ensure a tailored value proposition.

It is found that the new firms are more prone to implement new technology to grasp new business model opportunities. This thesis supports this as the business model development to a large extent relies on providing the same value in new ways and with different outcomes, exceeding clients' expectations. The new cost and organisational structure is transformed for the new ventures which enable them to operate, while the old established companies demand extensive efforts to alter even one of these structures. Digitalisation and data collection will play its part by tracking, forecasting and analysing, but the art of managing a business will be to determine the right time to implement changes before it is too late.

We would like to reiterate some of the limitations of this thesis since it is based on a single case study and thus limited generalisability. It has contributed with knowledge of what we believe is a typical case for the FinTech sector. Although, the industry context and specificity of the studied case should be taken into account before directly transferring it to other companies or industries.

7.2. Implications for Strategic Decision-Making

With the short life cycles within the industries, advantages derived from an initial business model will erode and a balance between profitable operations and new implementations must be found. This gives rise to a strategic decision-making dilemma where a trade-off between the old, profitable business model and the implementation of new innovations. The established business model may hinder the implementation of new processes, and the new processes may not be as profitable as the old ones.

The thesis briefly touched upon the area of competitive advantages through the business model, but it has not been the main area of focus. Findings showed that none of the companies expect sustained advantages in the market and that continuous investments have to

be made. ”Why on earth did I use a bank?” (Company X, Chairman of the Board), describes the difficulty within the industry quite well. The industry has changed rapidly and well-established traditional banks started off with an optimised business model and solid position in the market. Entrepreneurs within FinTech also start with an optimised business model for the specific value proposition, but it is impossible to tell who will succeed or where the industry will turn in the future. The discussed trade-offs are thus also means of new uncertain technology, and old profitable processes. This is linked to idea generation and barriers from old and established business models. This indicates that future changes may be harder to introduce for companies as they grow and scale up their operations. The difficulty in constructing an optimised business model built according to theoretical underpinnings, which we have presented in this thesis, will be to change it for future needs. The future needs will further be determined by new innovations and level of digitalisation among industries, which means that agility is key in order to create long-term advantages.

7.3. Future Research

This thesis focused on the financial technology sector and how innovation, digitalisation and business model development interconnects within this context. For continuous research, it would be interesting to see how other disrupting industries are affected by digitalisation and how this affects the business models. The thesis further focused on the relationship between innovation, business model development and digitalisation. We, therefore, see the need to do a follow-up on how the results from new cost-, revenue- and organisational structures will turn out for firms similar to the ones studied here. The structures could either be analysed separately, or with a broader overview of the business model and how it performs.

We have used the Business Model Canvas in order to analyse the business model development due to its applicability on new ventures. This framework does not cover externalities such as competitors or co-operators, and therefore it would be interesting to analyse how these kinds of factors affect the value proposition, key resources and key activities. One difficulty that was discovered during the literature overview for this thesis was business model transformation and how firms should implement new innovations. It would, therefore, be of interest to examine a FinTech company that is established on the market and see how they handle the external pressures and short innovation life cycles within their business model.

REFERENCES

Afuah, A., & Tucci, C. 2002. ***Internet business models and strategies*** (2nd ed). New York: McGraw Hill.

Amit, R., & Zott, C. 2001. Value creation in e-business. ***Strategic Management Journal,*** 22: 493-520.

Arner, D. W., Barberis, J. N., & Buckley, R. P. 2015. The evolution of fintech: A new post-crisis paradigm? ***University of Hong Kong Faculty of Law Research,*** 47.

BarNir, A., Gallaugher, J., & Auger, P. 2003. Business process digitization, strategy, and the impact of firm age and size: The Case of the Magazine Publishing Industry. ***Journal of Business Venturing,*** 18: 789-814.

Bhimani, A., & Willcocks, L. 2014. Digitisation, ´Big Data´ and the transformation of accounting information. ***Accounting and Business Research,*** 44(4): 469-490.

Bhutani, S., & Paliwal, Y. 2015. Digitalization: A step towards sustainable development. ***OIDA International Journal of Sustainable Development,*** 08(12): 11-24.

Bonnemeier, S., Burianek, F., & Reichwald, R. 2010. Revenue models for integrated customer solutions: Concept and organisational implementation. ***Journal of Revenue and Pricing Management,*** 9: 228-238.

Burgelman, R. A., Maidique, M. A. & Wheelwright, S. C. 2004. ***Strategic management of technology and innovation*** (4th ed.). New York: McGraw-Hill/Irwin.

Chesbrough, H. 2007. Business model innovation: It's not just about technology anymore. ***Strategy and Leadership,*** 35(6): 12-17.

Chesbrough, H. 2010. Business model innovation: Opportunities and barriers. ***Long Range Planning,*** 43(2-3):354-363.

Chesbrough, H., & Rosenbloom, R. 2002. The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies. ***Industrial and Corporate Change,*** 11(3): 529-555.

Chishti, S., & Barberis, J. 2016. ***The fintech book: The financial technology handbook for investors, entrepreneurs and visionaries.*** Chichester: John Wiley & Sons.

Christensen, C. 2013. ***The innovator's dilemma: when new technologies cause great firms to fail.*** Boston, MA: Harvard Business Review Press. (Original work published 2000).

D'Aveni, R., & Gunther, R. 1994. ***Hypercompetition - Managing the dynamics of strategic maneuvering.*** New York: The Free Press.

Dapp, T. 2014. FinTech - The digital (r)evolution in the financial sector - Algorithm-based banking with the human touch***. Deutsche Bank Research.***

Deloitte. 2017. FinTech in the Nordics - A Deloitte review. Available online: https://www2.deloitte.com/content/dam/Deloitte/se/Documents/financial-services/FinTech_Publikation_A4_WEB_FINAL.PDF [Accessed: 2017-04-10]

Easterby-Smith, M., Thorpe, R., & Jackson, P. 2015. ***Management & Business Research*** (5th ed.). London: Sage Publications Ltd.

Financial Times. 2016. Fintech: Search for a super-algo. Available online: https://www.ft.com/content/5eb91614-bee5-11e5-846f-79b0e3d20eaf [Accessed: 2017-04-10]

Giessman, A., & Legner, C. 2016. Designing business models for cloud platforms. ***Information Systems Journal,*** 26: 551-579.

Hedman, J., & Kalling, T. 2003. ***IT and business models: Concepts and theories.*** Malmö: Liber Ekonomi.

Hong, Y. C., & Fauvel, C. 2013. Criticisms, variations and experiences with Business Model Canvas. ***European Journal of Agriculture and Forestry Research,*** 1(2): 26-37.

IGI Global. n.d. What is digitalization. Available online: http://www.igi-global.com/dictionary/digitalization/7748 [Accessed: 2017-04-10]

International Trade Administration. 2016. 2016 top markets report financial technology - A market assessment tool for U.S. exporters. Available online: http://www.trade.gov/topmarkets/pdf/Financial_Technology_Top_Markets_Report.pdf [Accessed: 2017-04-10]

Iris Group. 2015. ***Digitalisation and automation in the Nordic manufacturing sector: Status, potentials and barriers.*** Copenhagen: Nordic Council of Ministers

Johnson, M., Christensen, C., & Kagermann, H. 2008. Reinventing Your Business Model. ***Harvard Business Review,*** 86(12): 51-59.

Kane, G., Palmer, D., & Phillips, A. 2015. Strategy, not technology, drives digital transformation. ***MIT Sloan Management Review and Deloitte University Press.***

Kim, K. J., & Han, I. 2000. Genetic algorithms approach to feature discretization in artificial neural networks for the prediction of stock price index. ***Expert systems with Applications,*** 19(2): 125-132.

King, N., & Horrocks, C. 2010. ***Interviews in Qualitative Research.*** London: SAGE Publications

Kotsiantis, S., Koumanakos, E., Tzelepis, D., & Tampakas, V. 2006. Forecasting fraudulent financial statements using data mining. ***International Journal of Computational Intelligence,*** 3(2): 104-110.

Loebbecke, C., & Picot, A. 2015. Reflections on societal and business model transformation arising from digitisation and Big Data analytics. ***The Journal of Strategic Information Systems,*** 24(3): 149-157.

Margretta, J. 2002. Why Business Models Matters. ***Harvard Business Review,*** 80(5): 86-92.

Marshland, S. 2015. ***Machine learning: An algorithmic perspective.*** Boca Raton, FL: CRC Press.

Meola, A. 2016. The fintech report 2016: Financial industry trends and investment. Available online: http://www.businessinsider.com/the-fintech-report-2016-financial-industry-trends-and-investment-2016-12?r=US&IR=T&IR=T [Accessed: 2017-04-10]

Mitchell, D., & Coles, C. 2003. The ultimate competitive advantage of continuing business model innovation. ***Journal of Business Strategy,*** 24(5): 15-21.

Muegge, S. 2012. Business model discovery by technology entrepreneurs. ***Technology Innovation Management Review,*** 2(4): 5-16.

Nicoletti, B. 2017. ***The future of FinTech: Integrating finance and technology in financial services.*** Rome: Springer International Publishing AG.

Nylén, D. 2015. ***Digital innovation and changing identities: investigating organizational implications of digitalization.*** Unpublished doctoral dissertation, Umeå Universitet, Umeå.

OECD/Eurostat. 2005. ***Oslo Manual: Guidelines for collecting and interpreting innovation data*** (3rd ed.). Paris: OECD Publishing.

Ojala, A. 2016. Business models and opportunity creation: How IT entrepreneurs create and develop business models under uncertainty. ***Information Systems Journal,*** 26: 451-476.

Oracle. 2015. Banking is changing… with or without the banks; Response to the millennials digital expectations. Available online: http://oracledigitalbank.com/resources/pdf/DBOF_Industry_Research_Report.pdf [Accessed: 2017-04-10]

Osterwalder, A., & Pigneur, Y. 2010. ***Business model generation: a handbook for visionaries, game changers, and challengers.*** Hoboken, NJ: John Wiley & Sons.

Osterwalder, A., Pigneur, Y., & Tucci, C. 2005. Clarifying business models: Origins, present, and future of the concept. ***Communications of the Associations for Information Systems,*** 16(1): 1-25.

Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. 2014. ***Value proposition design.*** New Jersey: John Wiley & Sons Inc.

Perez, C. 2013. Unleashing a golden age after the financial collapse: drawing lessons from history. ***Environmental Innovations and Societal Transitions,*** 6: 9-23

Perez. C. 2015. From long waves to great surges. ***European Journal of Economic and Social Systems,*** 27(1-2): 69-80.

Porter, M. 1980. ***Competitive Strategy.*** New York: Free Press

PwC. 2016. Blurred lines: How FinTech is shaping financial services. Available online: https://www.pwc.se/sv/pdf-reports/blurred-lines-how-fintech-is-shaping-financial-services.pdf [Accessed: 2017-04-10]

Rogers, E. M. 1998. ***The definition and measurement of innovation.*** Working paper 10(98): 2-27, Melbourne Institute of Applied Economic and Social Research, Victoria.

Rogers, E. M. 2003. ***Diffusion of innovations.*** New York: Free Press.

Schafer, S., Smith, J., & Linder, J. 2005. The power of business models. ***Business Horizons,*** 48(3): 199-207.

Schilling, M. A. 2013. ***Strategic management of technological innovation.*** (4th ed.). New York: Tata McGraw-Hill Education.

Schueffel, P. 2017. Taming the beast: A scientific definition of FinTech. ***Journal of Innovation Management,*** 4(4): 32-54.

Schumpeter, J. A. 1939. ***Business cycles.*** New York: McGraw-Hill.

Schumpeter, J. A. 1969. ***The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle.*** New York: Oxford University Press. Original work published 1934.

Schumpeter, J. A. 2003. ***Capitalism, socialism and democracy.*** New York: Harper. Original work published 1942.

Shi, Z. 2011. ***Advanced artificial intelligence.*** Hackensack, NJ: World Scientific.

Sironi, P. 2016. ***FinTech innovation: From robo-advisors to goal-based investing and gamification.*** Chichester: John Wiley & Sons Limited.

Timmers, P. 1998. Business Models for Electronic Markets. ***Journal on Electronic Markets,*** 8(2): 3-8.

Trimi, S., & Berbegal-Mirabent, J. 2012. Business model innovation in entrepreneurship. ***International Entrepreneurship and Management Journal,*** 8(4): 449-465.

Valenduc, G., & Vendramin, P. 2017. Digitalisation, between disruption and evolution. ***Transfer: European Review of Labour and Research***

Veit, D., Clemons., E., Benlian, A., Buxmann, P., Hess, T., Kundisch, D., Leimeister, J. M., Loos, P,. & Spann, M. 2014. Business models. ***Business & Information Systems Engineering,*** 6(1): 45-53.

Waupsh, J. 2016. ***Bankruption: How community banking can survive fintech.*** Hoboken, NJ: John Wiley & Sons.

Weill, P., & Woerner, S. 2013. Optimizing your digital business model. ***MIT Sloan Management Review,*** 54(3): 71-78.

Weill, P., & Woerner, S. 2015. Thriving in an Increasingly Digital Ecosystem. ***MIT Sloan Management Review,*** 56(4): 27-34.

Witten, I. H., Frank, E., Hall, M. A., & Pal, C. J. 2017. ***Data Mining: Practical machine learning tools and techniques.*** (4th ed.). Amsterdam: Morgan Kaufmann.

Yin, R. 2014. ***Case Study Research: Design and Methods.*** London: SAGE Publications

Yoo, Y., Lyytinen, K., Thummadi, V., & Weiss, A. 2010. ***Unbounded innovation with digitalization: A case of digital camera.*** Paper presented at the Annual Meeting of the Academy of Management, Montreal.

Zott, C., Amit, R., & Massa, L. 2011. The business model: Recent developments and future research. ***Journal of Management,*** 37(4): 1019-1042.

APPENDIX A – TOPIC GUIDE

Opening Questions

- Gender:
- Age:
- Position:
- Educational Background:
- Professional background:
- Can you briefly tell us about Company X/Y's purpose?
- How does the organisational structure look like?
- How do you see Company X/Y's future development in the FinTech sector?
- Extra to spur conversation: What has your part been in the development of the business concept?

Key Questions

General

- What do you think of the general digitalisation trend in the financial technology sector?
- In what way would you say that digitalisation have affected Company X/Y's business model?
- How did Company X/Y's business concept evolve?
- How has the development process of products/services looked like, from idea to today?
  - Have there been any failures during the development process?
- Who will be your main targeted clients?
- Are there any current competitors in this segment?
  - Is it a completely new market or current market but with a new approach?
- Can you describe Company X/Y's value chain?
  - Through which activities are your product/service created?

- Which type of resource would you say is the most valuable to Company X/Y's offer?
- In what way would you consider Company X/Y to innovate?
  - Please give an example.
- How do you make sure that the client is the centre and that their risk tolerance, preferences, and ambitions are met?

In-depth

- In what way will digitalisation show in the products/services you offer?
- How do you see Big Data involvement within Company X/Y's business concept?
- How do you analyse data in order to evaluate the risk profile?
- How do you use AI?
- What value is delivered to the client?
- Which problem is Company X/Y helping to solve?
- What bundle of products and services are offered?
- Would you consider your product/service to be customised or of a low-cost character?
- What resources does your distribution channel require?
- What resources do the client relationships require?
- What resources do the revenue streams require?
- How is your product/service distributed?
- Through which activities are your client relationships managed?
- How is the revenue streams generated?

Closing Questions

- Do you feel that there is something that we have not talked about?
- Is there anything else, related to Company X/Y or the FinTech sector, which you would like to add?
- Is it OK if we contact you for follow-up questions if something appears to be missing for our future analysis?

Additional questions for Company Y from the initial analysis of Company X's results:

- Did you experience any uncertainty about client demand when you developed your business model?
- Is client data limiting the uncertainty?
- Have you experienced that client trust, online security and customisation to be barriers in the business model development?
- Are you using digitalisation in order to map the clients' behaviour?
  - In that case, how?
- Is digitalisation something you work with continuously?
  - How?
- Does digitalisation affect your offer towards the client?