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Business Model Innovation for a digital future

A two-sided single case study of the drivers, opportunities, and barriers of business model innovation in a digitalization context

Master's thesis in Management and Economics of Innovation

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CHALMERS UNIVERSITY OF TECHNOLOGY
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Cover: The two areas of digitalization and business models visualized as puzzle pieces. The picture depicts an attempt to fit them together.

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Abstract

Digital developments have significantly affected the market environment over the last decade. New firms have in a matter of few years risen from start-ups to international multi-billion dollar companies, with much of their success credited to their innovative business models and use of the digital environment. Societal changes that stem from this adoption of digital technology has started to threaten established firms. Customers have begun to expect services to perform at a level comparable to the front-runners of digital industries. This has lead to an increased focus on keeping the firm's business model up to date as a means to stay competitive. The sense of urgency has put concepts related to business transformation in high demand. Among these concepts, a popular term has been business model innovation; the strategic and innovative re-arrangement of business activities.

Compared to industries' previous investments in digital initiatives, which focused on turning manual tasks digital, turning the structure of a company digital impacts how the business itself is set up. Both digitalization and business model innovation are terms that has been used to describe these transformations as they in this matter become closely tied together. Digitalization can be the result of a business model innovation and vice versa, however, they are not the same thing. This thesis initially clarifies the two terms. It then continues by exploring where and how digitalization is affecting business model innovation as a concept. The theoretical framework is applied to a study of a large established firm that is looking to innovate its business model, with a focus on how to become more digital; Svenska Mässan. The data gathering features four in-depth interviews that together cover a two-sided perspective. Interviews with Svenska Mässan provide an inside perspective. Invativa, a consultancy specialized in digital business, provide an outside-in perspective. The objective of the thesis is captured through the following research questions:

- What are the opportunities and barriers to business model innovation in the context of digitalization?

- What are the key drivers of business model innovation in the context of digitalization?

Three key takeaways were found in the study. First, that opportunities are primarily identified through an increased reach, scalability, and decision-support based on data collection. Secondly, that barriers are related to the organizational inability to implement digital changes on a business level. Third and last, that the main drivers are trends, private impressions, and a fear of substitution.

Keywords: Business model, Value proposition, Business model innovation, Digitalization, Digital transformation.

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Anton Eksell & Alexander Härenstam
Gothenburg, June 2017

Contents

List of Figures

List of Tables

1

Introduction

This chapter introduces the reader to the thesis. First, a background to the area of research is provided. Next, the problem description is presented. Consequently, the aim is stated, followed by research question, and objectives. Finally, delimitations, and then disposition for this thesis is described.

1.1 Background

The pace of change in information technology over the past few years, and the speed with which technology has been adopted by younger generations, poses a great challenge for businesses (Collins, Geppert, & Van de Bunt, 2007). We are currently living in an Age of Information and Telecommunications (Perez, 2009) where digital technology has enabled firms like AirBnB and Uber to transition from being start-ups, to multi-billion dollar companies, within a matter of few years (Martin, 2016). As such, quickly becoming dominant forces in their respective fields (Martin, 2016). With new technology-enabled ways of doing business, many organizations have seen the potential to increase profits and decrease costs using digital solutions (Cross, 2014). But, despite the increasing pressure on companies' abilities to adapt as markets change, a lack of knowledge of how exists. As famously described by Roger's innovation adoption curve (Rogers, 1962), even though an early majority have begun to invest an increasing percentage of their resources into digital solutions, the diffusion of how businesses may positively benefit from utilizing digital technological advancements will take time before it is spread to all. Bughin, Laberge, and Mellbye (2017) states that the average industry is less than 40 percent digital (compared to analog) despite the relatively deep penetration of digital technology in media, retail, and high tech. Successful adoption of digital will not simply come from the implementation of new technology, but from the organizational capability to benefit from the waves of change (Jansson & Andervin, 2016, p. 73).

To sustainability face market changes such as the case of the increasingly digital business environment, established organizations must be able to learn and change (Strebel, 1996). Firms need to maintain a variety of innovation efforts to operate more efficiently as well as to continuously strive to deliver greater value to their customers (Tushman & O'Reilly, 1996, 2004). Independent of whether it is carried out with internal or external resources. Companies are aware of these facts and

make substantial efforts to maintain and improve their business. However, these efforts are often time-consuming and require a considerable up-front investment (Amit & Zott, 2010). Business model innovation has as a result risen as an alternative to process and product innovation; a way for managers and entrepreneurs to create new value, specifically in times of economic change (Amit & Zott, 2010; Amit, Zott, & Pearson, 2012). A famous example of such innovation is Apple's change of business model that was introduced together with the iPod, and consequently iTunes; bringing great success (Johnson, Christensen, & Kagermann, 2008; Amit & Zott, 2010).

Consultancies has in recent years been showing signs that they are seeing a demand for services that support established firms in their digital strategies as they have chosen to strengthen this area (Tieto, 2016; Fjord, 2017; BCG, 2017). In a survey made in 2014, only 7 % of the respondents said that their company's digital initiatives were helping to launch new businesses, and merely 15% stated that new business models were emerging thanks to digital technology (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013). In practice, those who offer digitalization as a service refer to multiple elements with a form of business model innovation as the common denominator. It is important to note the difference between looking at digitalization and its effect on an operational level, which increases efficiency, and looking at how digitalization can be used as a strategic tool in business model innovation (Amit & Zott, 2010).

1.1.1 Sustainability

This area of research connects to sustainability in all three dimensions; economic, environmental, and social. Economically, companies enhancing or innovating their business model have superior contact with their customers, which in turn enables them to continuously adjust their value proposition to the market demand (César Levy França, Broman, Robèrt, Basile, & Trygg, 2016). Consequently, gaining a competitive advantage which may lead to increased profits.

Environmentally, the introduction of digital technology poses a great challenge in terms of energy use and waste. But, also constitutes an opportunity for optimization and innovative solutions to the very same challenges. (Lago, 2017)

In a societal sense, companies not adjusting their internal value creation by adapting their processes to new opportunities made possible by digital solutions will in time lag behind. As written by Kramer and Porter (2011), firms have the ability to create shared value. Shared value which focuses on the connections between societal and economic progress and has the power to unleash the next wave of global growth.

To invest in new digital solutions is however a double-edged sword. If organizations chooses not to invest in digital, even though there are processes that are recognized as ineffective, with clear opportunities of improvement, morale decreases and mistrust in management grows (Lazar, Jones, Hackley, &

Shneiderman, 2006). But, committing resources to digital solutions does not guarantee improvements and could even hurt the organization's economy. Other risks associated with investing in digital solutions involve that the technology could become obsolete before it has created the anticipated impact, or that the organization lack the means to adopt it (Strebel, 1996).

1.2 Problem description

The popularity of the term digitalization is growing within the business world. But, its meaning is vague and introducing new digital solutions cannot be a purpose in itself. As earlier described, digital technology can substantially contribute with improvements to a company's business model, which in turn supports the organization's purpose; profit and growth. While business model innovation has been proven to provide great benefits (Amit & Zott, 2010), it remains to precisely be mapped out how digitalization and business model innovation correlate. Previous research on business model innovation has focused on how innovative changes in the activity system affect the business model (Amit & Zott, 2010). The lack of a distinct separation between digital and non-digital changes constitute a distinct gap in research. Namely, how digital solutions, in a positive and novel way, can be introduced to business models. Therefore, with respect to the information presented in the background, it can be stated that a significant interest in the area of digitalization exists, and we hence argue that its place in business would benefit from being researched.

1.3 Aim

As a first step, the aim of the report is to gather information on how digitalization fits into business model innovation. Emphasis is put on business model innovation, but in the context of digitalization. As depicted in Figure 1.1, a bigger picture is present in the background. Business model innovation can in the setting in Figure 1.1 be framed as a value proposition that is to be transacted between either a seller (supplier) and a buyer (customer), or as a self-service where it is provided internally. The reason for gathering information from these two opposite sides of the spectra of the focal point is that the perceptions, insights and abilities in the research area may be very different (Easterby-Smith, Thorpe, & Jackson, 2015, p. 54). The empirical information is in that context to support the process of finding guidelines towards a good fit between the two. But, that can only be done after it has been mapped out how business model innovation is affected by the context of digitalization. In other words, by first exploring the key drivers, opportunities, and barriers.

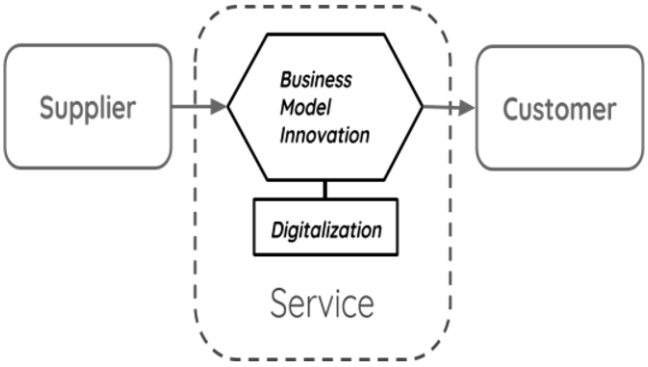

Figure 1.1: The service of business model innovation using digitalization as a tool.

1.4 Research question

With respect to the gap described above; how digital solutions, in a positive and novel way, can be introduced to business models, we arrive at our research question. To provide a neutral stance, the correlation is depicted as a service where the perspective of the customer as well as the supplier is captured. The overarching research question is to explore the characteristics of business model innovation through the perspective of digitalization. It is a question that is highly relevant for firms seeking to offer such a service. The key-drivers, opportunities, and barriers that established firms may gain from business model innovation in the context of digitalization is to be determined. That will assist firms in identifying the necessary resources and capabilities for the same agenda. It is applicable to firms no matter if they seek to offer business model innovation through digitalization as a viable value proposition to external parties, or simply perform it internally.

To begin to tackle these complex questions, it comes down to the following research questions:

- *What are the opportunities and barriers to business model innovation in the context of digitalization?*
- *What are the key drivers of business model innovation in the context of digitalization?*

1.5 Objectives

1. **Identify academic theory on digitalization and relating topics**
    - Digitalization as a term
    - Business model creation/innovation
2. **Process theory**

- Generalize traits and possible values that according to theory would be important to provide in the described setting

3. **Gather real-world examples**

   - Study an actor that is prominent to have experienced business model innovation in the context of digitalization

   - Through interviews, discover the actual drivers, opportunities, and barriers

4. **Identify findings**

   - Compare the theoretical information with the gathered data to reach conclusions on the key drivers, opportunities, and barriers of business model innovation in the context of digitalization

5. **Identify fit**

   - Compare the theoretical information with the gathered data to reach conclusions on how digitalization delivered as a service fit into the market

1.6 Delimitations

- **No implementation of change processes** - while the report aims to give guidelines and recommendations for in which cases, and how, established companies should relate to digitalization, the change process will not be of focus in the study.

- **Limited to Sweden** - the report will be based on a Swedish business environment with companies located in Sweden. As such, the report will not necessarily be valid in an international context.

- **Matching theory against the market** - the study will not test the ability of any service provider in particular but rather generalize traits and possible values that according to theory would be important to provide in the described setting.

- **Segmenting the consumer market** - while gathering information the companies whose main business model revolve around the creation and sales of generic digital solutions will not be part of the focus.

- **Incumbent organizations** - the report will primarily focus on organizations that are established in the market. Established in the sense that they are not considered startups or similar entrepreneurial endeavours.

1.7 Research Outline

Figure 1.2: Project outline.

2

Theoretical Framework

The theoretical framework's aim is to provide a solid knowledge base of what business model innovation is and how it relates to the subject of digitalization. First, the term business model innovation is briefly introduced and and a definition is presented. As the term business model innovation is a merger between the two terms business model and innovation, the theoretical framework continues by explaining what a business model is. Then, a short description and definition of the term innovation is presented, as well as how it can be applied to a business model. In the second part digitalization is introduced. When these subject areas have been defined, the report elaborates on the interrelationship between business model innovation and digitalization.

2.1 Business model innovation

In these times of economic change, executives, managers, as well as entrepreneurs search for new sources of competitive advantage that is different from the already thoroughly explored areas of product and process innovation (Amit & Zott, 2010; Sund, Bogers, Villarroel, & Foss, 2016). With these discoveries, *business model innovation* (BMI) has become a recognized way for mature companies to renew their competitive advantage (Amit & Zott, 2010; Sund et al., 2016). To innovate a business model involves finding a new option or opportunity that will renew the existing activity system in some way (Osterwalder & Pigneur, 2010). As cited in Osterwalder and Pigneur (2010, p.198), Tim O'Reilly formulated it well when he said:

> "There is not a single business model... There are really a lot of opportunities and a lot of options and we just have to discover all of them."

. The explorations that companies make when creating new value propositions, moving into new segments, changing the value chain and/or experiment with alternative revenue models, has lead to the concept of business model innovation (Sund et al., 2016). The term business model innovation is further divided into two types: business model reconfiguration, and business model design (García-gutiérrez & Martínez-borreguero, 2016). Business model reconfiguration involves the modification of an existing company business model, while the

business model design means to design a novel business model for newly formed organizations (García-gutiérrez & Martínez-borreguero, 2016). The rationale for pursuing BMI is its systemic and holistic thinking. Instead of concentrating on isolated changes or affecting individual choices, the strategic leadership is to get the overall design of the activity system right, before optimizing details, see Figure 2.1 (Amit & Zott, 2010, pp. 15). BMI begins with identifying and describing the goal, taking a direction from the current status quo, and at a strategic level mapping out what the new, prefered status quo would be so that the company can start building towards it (Amit & Zott, 2010).

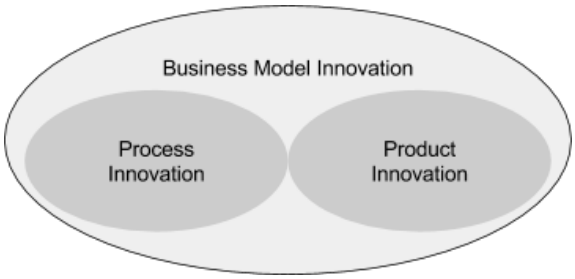

Figure 2.1: An illustration of Business Model Innovation and its holistic perspective eclipsing both Product Innovation and Process Innovation.

As much attention of the term business model innovation has come in recent years, this report has chosen to use a definition from a report synthesizing recent work within the field. The definition is deemed credible as its literature study covers several papers from well renowned authors and and cover both of the contrasting views of incremental and disruptive business model innovation:

Business model innovation

> "[...] a new-to-the-firm change in at least one out of three business model dimensions: (a) a firm's value offering, (b) a firm's value creation architecture, and (c) a firm's revenue model logic." (Spieth & Schneider, 2016)

2.2 Business model

A cornerstone to business model innovation is the term *business model* (BM). Research on business models has in recent times attracted much interest by both researchers and practitioners alike (Chesbrough, 2007; Johnson et al., 2008; Osterwalder & Pigneur, 2010; Teece, 2010; Amit & Zott, 2010; C. Zott, Amit, & Massa, 2011). The meaning of the term business model is deceptively simple as it covers a very diverse and complex area which makes it easy to mention but hard to frame in a single definition (Osterwalder & Pigneur, 2010). The number of definitions is as large as the number of interested parties (Osterwalder & Pigneur, 2010; Mustafa, 2015). To introduce a shared language, the common denominator of the definitions is that a business model constitutes a systemic perspective on

the series of activities that make up *how to do business* and *how to capture value* in the activities contained in doing business (Chesbrough, 2007; Teece, 2010; Amit & Zott, 2010; Christoph Zott, Amit, & Massa, 2010; Osterwalder & Pigneur, 2010). In other words, how an organization creates, delivers, and captures value, applicable to both for-profit as well as non-profit organizations (Osterwalder & Pigneur, 2010).

Strategic conversations around business models are difficult because it assumes that everybody has the same understanding of what it actually means (Osterwalder & Pigneur, 2010). Even though opinions on the definition of a business model has been converging, there is not yet a defined consensus on the various elements that it contains. Four building blocks that can be stated to be part of any business include *Customer value proposition, Profit formula, Key resources, and Key processes* (Johnson et al., 2008). Multiple frameworks have been created in order to capture the wide spectra of content that can be contained in a business model. A business model is commonly illustrated as a map that describes how the stage should be set and how it all should interact. In comparison, business model innovation is a process of exploring several possible stages and interactions. The intention behind a BMI is to get enough information to either create a new business model or understand where and what to change in the current business model. A definition of a business model has been chosen based on the perspective of an activity system, in line with the earlier provided description which referred to a series of activities.

Business model

> [...] a bundle of specific [business] activities — an activity system — conducted to satisfy the perceived needs of the market, along with the specification of which parties (a company or its partners) conduct which activities, and how these activities are linked to each other.

(Amit et al., 2012)

2.2.1 Business model frameworks

Due to the complexity of the term business model, several frameworks by different authors have been created in order to attempt to capture the essence of a business model. But, still tying them to common denominators. The frameworks are meant to help simplify, but truthfully depict, existing business models as well as to map out the interrelations between features in new, potential business models (Osterwalder & Pigneur, 2010). The differences between the elements that are used different frameworks commonly depend on the level of abstraction and the type of the case that it is applied to. It is also important to note that synergies and interdependencies between the different elements is often just as important as the elements themselves (Amit & Zott, 2010; Rayna & Striukova, 2016). In this report, the Business Model Canvas framework by Alexander Osterwalder and affiliates (Figure 2.2) (Osterwalder, 2005; Osterwalder & Pigneur, 2010) has been

chosen as the frame of reference. This is due to its generic nature which allows it to conveniently represent business models, in combination with its widespread recognition (Chesbrough, 2010; Sund et al., 2016; Rayna & Striukova, 2016).

2.2.1.1 The business model canvas

The greatest strength of the *business model canvas* comes from the graphical representation which creates clarity and structure in how the various parts relate to each other. The usability makes it valuable for designing and building business models as the required actions become intuitively clear for practitioners and academics alike (Rayna & Striukova, 2016). But like any implementation, it does have its caveats. Critique involves that it does not focus on value explicitly (Rayna & Striukova, 2016) and that organizational designs and associated organizational tensions that emerge during business model exploration are not well addressed (Sund et al., 2016).

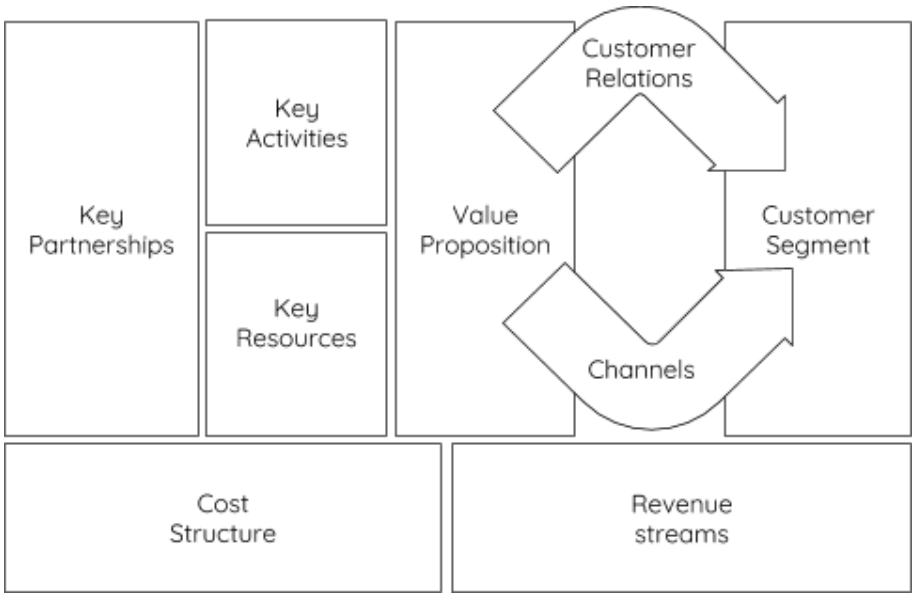

Figure 2.2: The Business Model Canvas (Osterwalder, 2005; Osterwalder & Pigneur, 2010; Strategyzer, 2017).

As seen in Figure 2.2, the Business Model Canvas consists of nine key elements. Below, each of them is explicitly defined based on work by the original authors (Osterwalder & Pigneur, 2010).

- **Customer Segments:** The different groups of people or organizations aimed to be reached and served by the firm. Without purchasing customers, no business can survive. Generally grouped by common needs, behaviors and other attributes.
- **Value Proposition:** The value that is offered to customers. The element comprises the bundle of products and services that seeks to solve the problems and satisfy the needs of a specific customer segment.

- **Distribution Channels:** Describes the interfaces used for the delivery of the value proposition. In other words, defines through which communication, distribution and sales channels the delivery is made.

- **Customer Relationships:** The relationship that is established and maintained with each customer segment. Driven by customer acquisition, customer retention, and boosting sales, each relationship ranges from being personal to automated.

- **Revenue Streams:** The return that comes from successfully offering the value proposition to customers. The element's goal is to define how the maximum value that the customer is truly willing to pay is to be obtained. Many different pricing mechanisms are available and a firm may choose to either infer them upon the customer through a transaction based cost or recurring costs.

- **Key Resources:** The assets required to offer and deliver the other elements. They can be either physical, financial, intellectual, or human. Further, they can both be owned by the company, leased by the company, or acquired from key partners.

- **Key Activities:** The activities that a firm must perform to operate successfully. These are generally divided into production, problem solving, and platform/network-related activities.

- **Key Partnerships:** The necessary external relationships that are required in order to perform certain activities or acquire certain resources outside of the enterprise. It includes strategic alliances with non-competitors, strategic partnerships with competitors, joint ventures to develop new business, and buyer-supplier relationships to assure reliable supplies. The goal is to achieve optimization and economies of scale, reduction of risk and uncertainty, as well as the acquisition of particular resources and activities.

- **Cost Structure:** The costs that are incurred as a result of the other elements. Firms can broadly be either cost-driven (minimizing the cost), or value-driven (maximizing the value). The different characteristics of cost structures involve: fixed costs, variable costs, economies of scale, and economies of scope.

2.2.2 Business model patterns

Many business models share mechanisms on how they function. Osterwalder and Pigneur (2010) has chosen to categorize these mechanisms into five general business model patterns. The patterns are non-exclusive and a business model can utilize one or several of them. The five patterns are: *the unbundled business model*, *the long tail*, *the multi-sided platform*, *free as a business model*, and *the open business model*.

Table 2.1: Describing how the three proposed focuses differ when it comes to the key areas of economics, competition and culture.

Core types of unbundled businesses	Product innovation	Customer relationship management	Infrastructure management
Economics	Early market entry enables charging premium prices and acquiring large market share; speed is key.	High cost of consumer acquisition makes it imperative to gain large wallet share; economies of scope are key-	High fixed costs make large volumes essential to achieve low unit costs, economies of scale are key.
Competition	Battle for talent; low barriers to entry, many small players thrive.	Battle for scope; rapid consolidation, a few big players dominate.	Battle for scale, rapid consolidation, a few big players dominate.
Culture	Employee centered; coddling the creative stars.	Highly service oriented; customer-comes-first mentality	Cost focused; stresses standardization, predictability and efficiency.

2.2.2.1 Unbundling business models

The business pattern is based upon the idea of having one specific focus that the organization excels at (Hagel III & Singer, 2000; Osterwalder & Pigneur, 2010). The chosen value will then be easy to communicate both internally so that the whole organization work towards a common goal, and externally so that customers understand what they can expect from your product or service. The different areas of core focus that a business model designer is suggested to choose between when using this pattern are: *customer relationship*, *product innovation*, and *infrastructure* (Osterwalder & Pigneur, 2010). These three fundamentals on how to compete in a market are then additionally differentiated by *economic*, *competitive*, and *cultural aspects*, see 2.1 (Osterwalder & Pigneur, 2010).

All of the parts highlighted above can exist in a single business model, but the best output is achieved when they are unbundled and a company distinctly focuses on only one of them, see Figure 2.3 (Hagel III & Singer, 2000).

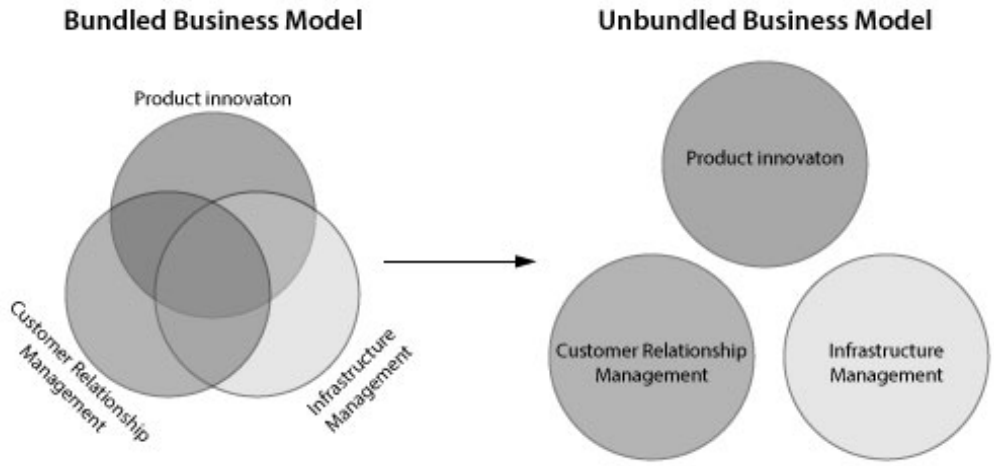

Figure 2.3: Illustration of a bundled business model where the model focuses on several areas simultaneously and how Hagel III and Singer (2000) suggest to separate the focus by selecting just one of them for the business model.

2.2.2.2 The long tail

The long tail business model is different from other business models as it does not aim to find a single market segment with sufficient returns to sustain the business. Behind this model is the assumption that there are large companies already allocating slices of the market where single product lines attract the customer segments that are large enough to warrant the effort. The long tail model instead focuses on the less reliable markets where the customer segments are either too small to attract large scale producers on its own or where the products are bought too infrequently; the niche markets. As the individual segments are insufficient, the business model aims to deliver a large number of niche products, catering to several niche markets where the aggregated revenues are sufficient enough to form a sustainable business, see Figure 2.4. (Osterwalder & Pigneur, 2010, pp.67-75)

Figure 2.4: The long Tail Graph. Describes the relation between market demand and different products. Products far to the right, niche products, have an insufficient market demand to sustain a business model. Instead, a company that uses the long tail business model chooses to simultaneously cater to several of them.

This concept of offering a large variety of niche products and selling low volumes

of each has been difficult through physical stores as the traditional way of informing the customer of the product's existence has historically been to put it on display inside the store. Early attempts of using the long tail model differently has been postal ordering. That way products were exhibited through inventory catalogues instead. A strength in offering the product through catalogues was that it did not really have to be in stock, or even exist for the customer to browse it. As long as the business was able to deliver the product on time, a lot of handling and storage costs could be saved.

2.2.2.3 Multi-sided platform

Instead of creating value on its own, the multi-sided platform generates value when interactions occur. The model focuses on being a facilitator to other companies doing their business. Instead of cutting the middleman, this is the business one or several parties pay to be in the middle, and by doing so increase their own value proposition. A good example is Visa, an organization that facilitates trust between financial institutions, merchants, and card holders.

The platform-based model has become a popular archetype as it can utilize the network effects that are driven by transformative technologies (cloud, social, and mobile)(Bonchek & Choudary, 2013; Constantiou, 2017). With the increase in popularity, Chesbrough (2007) discovered that any given business model can be assessed by its degree of adaptiveness and complexity. The great discovery was that all business models then range from being undifferentiated and based on the sales of a commodity (A), to the ultimate form; an adaptive platform that is integrated with the business model of its customers (F), see Figure 2.5.

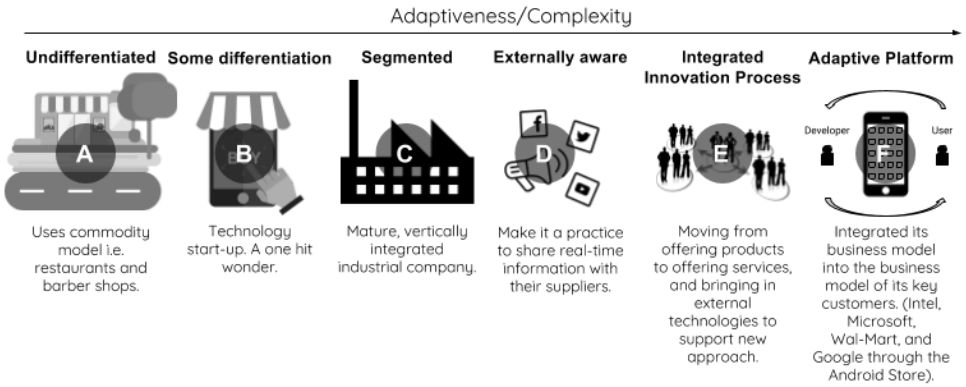

Figure 2.5: Business model archetypes based on their level of adaptiveness, the ability to respond to market changes through interaction with the external environment, and complexity, the difficulty of experimenting with multiple business model variants. (Chesbrough, 2007).

FREE as a business model - With the scalability of today's digital solutions, certain software services can achieve massive growth almost instantaneously. As a result, free delivery of the business model's value proposition has has become a

viable alternative. The pattern has primarily risen with the introduction of digital technology and three core sub-categories have emerged; Freemium, Free Multi-sided platforms, and Bait & Hook. The main differentiating factor between the models lies in how they make money, while still continuing to deliver a free product.

Freemium - The idea revolves around allowing anyone access to a basic or in some way restricted product, if the user is in need of the premium functionality he/she will have to pay for that addition. This model leverage the free effect to gain spread eventually gain market dominance, setting a standard and funneling the high end users into the premium version. In this case the revenues from the premium users pay for the whole product.

Free Multi-sided platform - Just as the name hints, the pattern constitutes a modified version of the multi sided platform. One or several of the parties using the platform subsidizes the product completely for other parties using the platform. One of the most common examples is where the money paid to advertise on the platform subsidize the cost of using it e.g. Google or Blogs where ad revenues pay the blogger to continue creating free material attracting readers who then are exposed to the advertisement.

Bait & Hook - The basis is that a subset of users makes smaller repeated purchases to enhance their usage. It is not the same as Freemium where there is a clear customer segment who will buy subscriptions to get added functionality. Instead, the model has elements that act as consumables, and the user is already from the start able to use the full functionality of the software for free. This model is commonly used in games where a subset of the segment will be willing to pay money in exchange for a more rapid progression in the game. The alternative would be to instead achieve the same result through a significant time-investment.

2.2.2.4 Open business models

Reflects a mindset that goes against the traditional view of companies necessarily competing against each other, displayed among others in Porter's five forces (Porter, 2008, p. 27). The open mindset is less about competing against other companies and instead tries to access the strengths of companies that could be viewed as competitors or get a piece of the profits by supporting them. The reasoning behind this approach is that using assets such as intellectual property not only internally but also allowing other firms to access it will have several positive effects. Access to the intellectual property can be be sold and the revenues can be used to propel the company even further within the area. Sharing intellectual property can also create a dependencies to your asset instead of competitors investing in working around it. A third scenario is leveraging the intellectual property to access technologies that your company need to advance further within a field. The model advocates that an open mindset regarding collaborating with others will help your organization to advance faster than it would be able to on its own, and that these advancements can be more valuable

than restricting a competitor's success in the market by not sharing your company's intellectual property.

The model hinges on having assets that are of interest to others, thus companies using the business model have to possess assets on their own as well. Osterwalder and Pigneur (2010) frame it as:

> "External R&D can create significant value; internal R&D is needed to claim some proportion of that value"

This also means that the model become less applicable in businesses where intellectual property become less relevant. The more obvious cases of utilizing open business models is on conglomerate levels with large patent portfolios at their disposal such as GlaxoSmithKline or Procter & Gamble.

2.2.3 External forces

Outside of a business model there are four main forces that will impact the business and as a result need to be taken under consideration when creating or modifying a business model. The forces are: market trends, market forces, macroeconomic forces, and industry forces, see Table 2.2. The forces may have more or less impact depending on how the business model is structured, however, the model itself will not be able to change the surrounding forces. Consequently, as the external forces may have great impact upon the model, it has to be shaped in such a way that it may take advantage of the surrounding forces. But, first and foremost that it is not crippled by them (Osterwalder & Pigneur, 2010, pp. 200-209).

2.2.3.1 Key trends

Acknowledging the key trends of where the market is moving in technological, societal and economical aspects is important as it helps create an overview of what the business model can expect in the future, including both challenges as well as opportunities. The changes in the market can affect the business model creation both in a restricting way such as regulatory changes, and in enabling way, such as technological trends that can be exploited. When the key trends and their potential impact is recognized in time, predictions can be made which allow the business to get an advantageous position in the market. An advantage can be achieved either through exploiting an opportunity or rearranging the model to mitigate negative impact from a negative trend, indirectly creating an opportunity against competition. An example would be the trend towards a sustainable society, how Tesla saw and opportunity in electric vehicles while incumbent oil-companies put efforts into preserving their market despite their non-sustainable value proposition.

Table 2.2: The external forces that should to be considered when creating or analysing a business model (Osterwalder & Pigneur, 2010).

Key trends (Foresight)	Macroeconomic forces (Macroeconomics)
• Regulatory trends • Technological trends • Societal and cultural trends • Socioeconomic trends	• Economic infrastructure • Commodities and other resources • Capital market • Global market conditions
Market forces (Market analysis)	Industry forces (Competitive analysis)
• Market segments • Needs and demands • Market issues • Switching costs • Revenue attractiveness	• Suppliers and other value chain actors • Stakeholders • Competitors (Incumbents) • New entrants (Insurgents) • Substitute products and services

2.2.3.2 Macroeconomic forces

The macro economic forces is the framework all businesses need to adhere to as it lay the ground rules and give the business a context in which it is meant to perform. But, the preconditions for a business may be different depending on where it is located and what type of business it is. These areas are relevant as a business model relying on an economic infrastructure that does not exist will be crippled, just as a business that is not taking advantage of surrounding resources and commodities efficiently will have a hard time to compete.

2.2.3.3 Market forces

These forces are the forces related to the customers and overall climate in the classic five forces model described by Porter (2008), focusing on the areas that have direct impact on the continuous business, whether it is a global conglomerate or a local SME. As a company's goal is delivering a product or service, the more attractive their specific value proposition is the better the company will perform. These forces are the accumulated changes in the customers segment, their needs and their perceptions.

2.2.3.4 Industry forces

Industry forces are the remaining forces in the five forces model (Porter, 2008), concentrating on how the business model fit into the market in relation to other businesses, both competitively and the value creation chain. When a good

understanding of the customer has been established, a business model still have to provide a value proposition that is attractive enough to be chosen over direct competition and substitutes.

2.3 Innovation

There are multiple definitions of innovation as it can be applied to several areas such as processes, products or business models. A shared, multidisciplinary theme is the act of introducing something *'new'*.

> Innovation is the multi-stage process whereby organizations [or individuals] transform ideas into new/improved products, service[s] or processes, [as well as business models] in order to advance, compete and differentiate themselves successfully in their marketplace. (Baregheh, Rowley, & Sambrook, 2009, p. 1334)

An important highlight is the difference between incremental and disruptive innovation (Baregheh et al., 2009). Incremental innovation refers to the process of cumulatively making new, small, value-creating adjustments (Kurian, 2013). Disruptive innovation, as originally defined by (Bower & Christensen, 1995), is the type of game-changing movement that renders the previous way of doing things obsolete. More specifically, disruptive innovation originates in low-end or new-market footholds, and sooner or later expands into the high-end or mainstream segment (Clayton M Christensen, Raynor, & McDonald, 2015).

Just as the term innovation, business model innovation can be further divided into *incremental* and *disruptive innovation*, see Figure 2.6 (Amit & Zott, 2010). Debatably, incremental innovation offers subtle improvements such as economies of scale, improvements in efficiency and quality control parenciteJohnson2008, Amit2010. These may not be as new to the company or game-changing for the industry as disruptive innovation does imply, but could still benefit the innovator (Amit & Zott, 2010). On the other side of the spectra, disruptive business models originate in low-end or radically new-market footholds, and eventually changes the competition in the market as they expand into the high-end or mainstream segment (Clayton M Christensen et al., 2015).

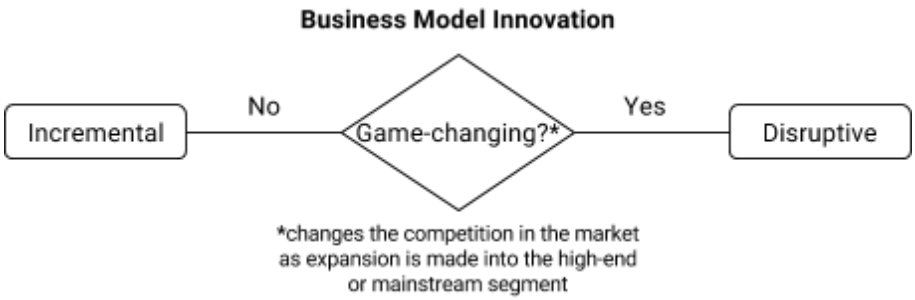

Figure 2.6: A simplified model illustrating the difference between incremental and disruptive innovation (Bower & Christensen, 1995; Johnson, Christensen, & Kagermann, 2008; Clayton M Christensen, Raynor, & McDonald, 2015)

2.3.1 The relevance of business model innovation for a company

A customer-centric business model is meant to serve its customer. To do so, the company needs to understand the customer and adapt the model in accordance with these understandings. As a result, business model management includes changes of the current model, adjusting it to changes in the market, as well as new insights about customers. The efforts to create, renew and rearrange business models are to be considered business model innovations when the market adaptations become new-to-the-firm.

In their strive to optimize their business, companies create models to help understand and map the true needs of customers. With this strive, empathy has become an increasingly important capability (Transformator Design, 2017; Xplane, 2017). To increase the empathy for the customer, firms use different tools that are often related to Design Thinking (Carlgren, Rauth, & Elmquist, 2016, 1). These tools include customer journey maps (Transformator Design, 2017), as well as empathy maps (Xplane, 2017). Empathy maps are meant to help capture the customer point of view, such as traditional pains and gains, but also how the customer acts and perceives their environment, see Fig 2 (Xplane, 2017). The gained knowledge can then be used to verify that the decision-making is customer-centric. Even though the model only depicts a single person, it can just as well be used to represent a company. The company would then in a business-to-business (B2B) setting be represented by the person acting as the point of access. Benefits can also be gained from applying it to several individuals in an organization. The larger sample size provides a more comprehensive grasp that is helpful in finding relevant discrepancies that occur when making business.

2.3.2 When a company should innovate its business model

To evaluate a new business model, startup methodology comes in handy. Startup methodology starts with a clean slate and embodies the search for an optimal way to approach a market, based on certain preconditions; effectuational thinking. Three general key success factors are: 1) to do things differently from the status quo, 2) to bolster the competencies required for the new business model, and 3) to continuously and endlessly strive for the change to happen (Johnson et al., 2008). Research has resulted in four interlinked value drivers that have been identified as contributing to the success of a generated model. These are: novelty, lock-in, protection from competition, and efficiency (Amit et al., 2012; Osterwalder, Pigneur, Bernarda, & Smith, 2014). A distinct way to induce business model innovation is trying to find/create a blue ocean - a place free from direct competition (Kim & Mauborgne, 2005). The focus is on the key activities and key resources that define a business area, evaluating the output in market attractiveness as well as competitiveness. The evaluation gives the incumbent direction for how assets could be rearranged, efforts be made to break free from the general value propositions, and a unique product or service be provided. Subsequently, creating their own blue ocean.

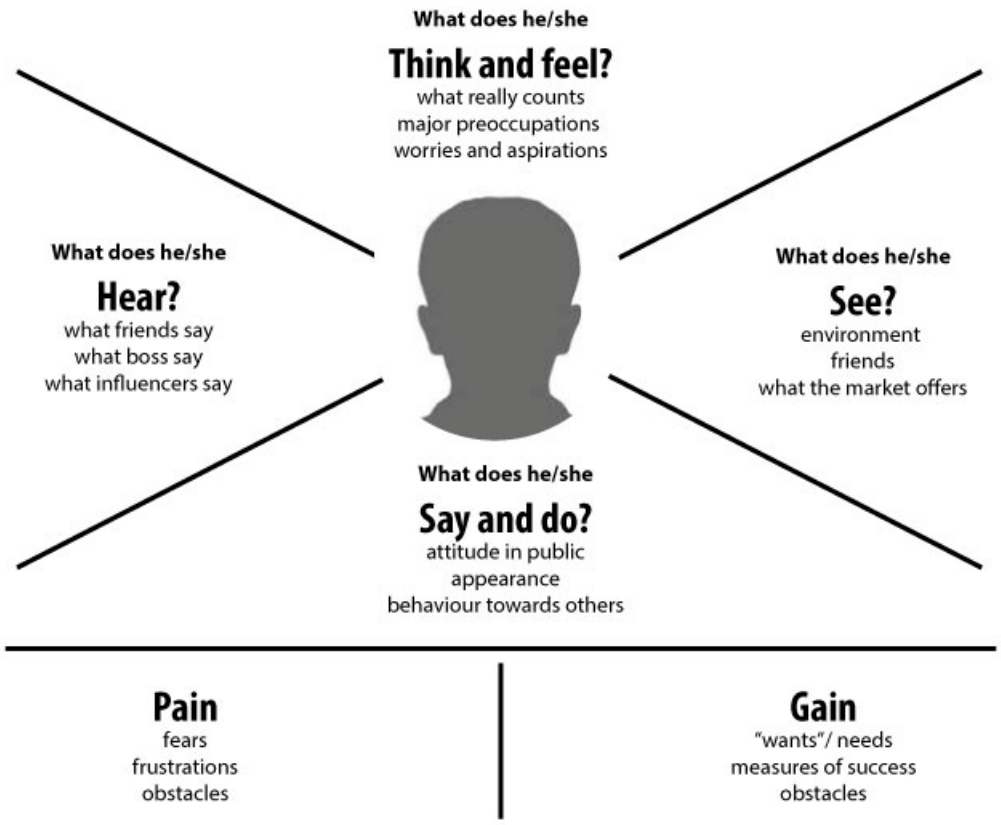

Figure 2.7: Illustration of what empathy involves in practice (Xplane, 2017).

2.3.2.1 Blue ocean thinking

Kim and Mauborgne (2005) present an interesting approach on how to innovate a business model called Creating Blue Oceans. The framework's focus is to minimize the creation of values that the market takes for granted as these values are considered to not create an edge in the market. The model also bring up that incumbents has a tendency to lose focus of the customer and start competing against each other. Kim and Mauborgne (2005) model takes the industry standard and uses it as a baseline when creating a customer-centric business model. To create an edge against the market's standard value proposition, it chooses a very limited set of factors where the model should perform better than anyone else in the business, then it looks for factors that would enhance or go well with the chosen high performers. Naturally, there are consequences, the effort of raising the performance in some areas will impact others. To balance this the remaining non-prioritized areas should according to the model be reduced as much as possible, preferably cut, even though it in some cases will be areas considered as a core part to the business in the traditional market.

The effect of applying the Blue oceans methodology is also that it help focus the business, what it needs, does and delivers. This in many ways resemble the idea of business model innovation through "unbundling" a business presented by Hagel III and Singer (2000).

The Blue Oceans model fit well with the business model canvas as a concept, applicable to the whole canvas. The value in combining the two is that the BMC helps visualize and quantify the effects of applying the blue oceans in the Revenue Streams and the Cost Structure.

2.3.2.2 Supporting the innovation process with the business model canvas

The business model canvas structure is a useful tool for organizing the business model and defining its key activities. The definitions help establish a segment of the core values that an organization is adding to the product or service sold to the customer. A key to the process could be to separate the key activities from the total value proposition and to reason around why some are to be considered key, while others are not.

In the business model canvas you also find a box called key partnerships. This box is both the result, and in some cases, an enabler of the key resources and key activities. Partnerships might open doors when it comes to innovating a business model, but the aspects it affect would in that case be how the company relate to activities and resources needed to produce a certain value proposition.

An example is when a partnership enables the firm's products to reach a larger customer base by additionally being fronted in partner stores. If the partner is more effective than the producer retailing the product, a revised business model may lead to cutting the key resource of deploying and managing retail stores. Such a change would cause a chain effect that not only affects the customer segment through that the producer is no longer selling products business-to-customer (B2C), but also how the revenue stream is set up.

A revised business model also affects the cost structure. The cost structure is quite easy to define when mapping out an existing business model, but in business model innovation becomes a result of the other business model decisions. As a result, it might be harder to discern early on. Due to the fact that the element together with revenue streams have a big strategical impact, it can be of help to state an idea of how the business model is supposed to relate to costs as the other elements of the business model canvas. For example: is the business model meant to be cost-driven; aiming to deliver a service or product that competes on price in contrast to a value-driven model that aim to satisfy the customer to perfection, no matter the cost. These decisions become important when pursuing a new business model, as decisioning in other elements will affect the cost structure and revenue stream. When creating a business model canvas it is also a verifying step to check how the revenue stream cover the costs. To thoroughly explore the revenue stream and cost structure also become an important part of convincing others regarding the new model as it becomes a focal point for gatekeepers such as investors and high-ranking managerial posts.

2.3.2.3 Drivers

There is an inherent resistance to change (Beer, Eisenstat, & Spector, 1990; Kotter, 1995; Beer & Nohria, 2000), and in combination with attempting innovation, it may seem like a costly endeavour without any certainty of success. When companies ask for sustainability and predictability from an innovation process they take away the basic element of creativity. Amit and Zott (2010, p. 1) states that:

> "managers need to understand the opportunities offered by (relatively cheap) business model innovation to complement, if not substitute (relatively costly) innovation in products or processes."

. Models are put in place to help structure the process and enable responsible parties to report back on their progress, while sustaining creativity. The models should be set up in a way that the model structure is soft and allows for ignorance of certain boundaries.

The business model canvas can be used to describe a business model as well as provide a framework for a BMI process to reason around. When using the BMC as a tool to reason about BMI you find that there become epicenters, drivers, in the canvas affecting how the remaining parts interact, see Table 2.3. (Osterwalder & Pigneur, 2010).

Even though these models have different starting points in the business model canvas, it is important to remember the customer-centricity. During the process of casting the business model innovations into an applicable business model, no matter where the innovation originated decisions should still be made with the customer in mind.

When thinking of changing the current business model it is important to be clear about what it is meant to achieve, as this knowledge will help guide the creation and also could provide insights to what challenges the chosen model will be faced with. In general business model design there are four traditional targets that the model can strive for:

- **Satisfying a market:** trying to fulfill the needs no other company does
- **Bringing to market:** introducing new technology to the market
- **Improve the market:** presenting a better value proposition to the market
- **Create a market:** form a whole new business

All of the above are faced with the challenge of managing uncertainties, such as finding the best bet and making certain that it really is the right business model by market testing it before a full-scale launch. Even though the model is right, getting the market to adopt it is not a certain thing. Once launched, a model has to be tended to just as the rest of the company; adjusting and adapting the model to the external forces described earlier. For incumbents the reason for business model innovation can be classified one step further, whether investment is:

Table 2.3: The epicenters of business model innovation.

Resource-driven The organization's assets and resources become the origin to how the remaining model is set up. The innovation revolves around new ways to utilize the current resources. An example is to introducing ideas from the open business model pattern to start utilizing a patent portfolio in new ways.
Offer-driven An innovation on the value proposition, the channels or the customer relationship. A new way to serve the existing customer or reach new customer segments. Often induced by technological advancements.
Customer-driven As technology and society changes, so does the customers. These changes create new areas to service and customer needs to satisfy, this type of innovation follow market trends and and when recognized focused on satisfying the identified need/want in the market.
Multiple-epicenter driven When there are several changes in the business model that together rework the structure of the business model. Applied on an old model the changes appear radical as the changes may result in a model where the old version is unrecognizable.
Finance-driven New ways to create revenues or reduce costs, or completely new revenue streams. An example could be how a company reduce storage costs by sending products directly from the producer, applying parts of a platform pattern, and only act as an intermediary in some areas.

Table 2.4: The five tells that a new business model is needed (Johnson, Christensen, & Kagermann, 2008).

Opportunities	
1	The opportunity to address through disruptive innovation the needs of large groups of potential customers who are shut out of a market entirely because existing solutions are too expensive or complicated for them.
2	The opportunity to capitalize on a brand new technology by wrapping a new business model around it
3	The opportunity to bring a job-to-be-done focus where one does not yet exist.
Urgent need	
4	The need to fend off low-end disrupters.
5	The need to respond to a shifting basis of competition

- **Reactive:** made as a response to inside or outside changes
- **Adaptive:** an adjustment to keep the position in the market
- **Expansive:** adding to the current business to grow
- **Explorative:** looking for new possibilities either to expand or adjust into

Being an incumbent also comes with certain challenges of its own as there is baggage. For an organization the status quo is the most pleasant state (Johnson et al., 2008, p.67). Hence, to create a culture and induce the appetite for change can be hard. What partly makes it hard is aligning old and new business models as businesses have finite resources will have to prioritize between the two. To make a business model transition is meant to improve the business in a long term perspective but short term it will put a strain on the organization and its employees which put a responsibility on management to educate the remaining organization about the long term benefits.

Adding a new business model does not necessarily mean that the current model is threatened or should be changed. A new model can often reinforce and complement the core business. However, companies should not seek to pursue a different business model unless they are confident that the opportunity is large enough to warrant the effort. Five tells that a new business model is needed can be seen in Table 2.4. (Johnson et al., 2008)

2.3.2.4 Barriers

As stated by Chesbrough (2010) and Osterwalder and Pigneur (2010), business model mappings are useful when defining what the company is doing and how

value is captured from it, but it does not promote experimentation or assist with innovation. A business model must typically be revised four times on the road to profitability (Chesbrough, 2010). Managers need organizational processes and authority to undertake the experiments, as well as the ability to take actions based on the results (Chesbrough, 2010). The root of tension is the conflict between the established business model, based on existing technology, and the new business model, exploiting emerging and potentially disruptive technology. Therefore, incumbents must focus as much on trial-and-error learning and adjusting, as executing (Sosna, Trevinyo-Rodríguez, & Velamuri, 2010; Johnson et al., 2008; Chesbrough, 2010; Teece, 2010).

Rules, norms, and metrics often stand in the way of a new business model taking root. These barriers are related to company structures and often involve difficulties stemming from financial as well as operational justification, see Table 2.5 (Johnson et al., 2008). One of the most noteworthy barriers involve the lack of ownership of the business model (Chesbrough, 2010). The search for a new business model often requires an extended period of coexistence of multiple business models, closely resembling the idea of ambidexterity (Chesbrough, 2010). To overcome these barriers of change, and enable the organization to embrace a new business model, it is necessary to have reached a high level of organizational maturity (Sund et al., 2016). The tension between the old and the new business model requires a mature organization with a top management team that is well prepared for the organizational dimension of pressure that business model exploration involves (Chesbrough, 2010; Sund et al., 2016). The timeframe for both experimentation and company-wide transformation is commonly long, and functional heads, and those below them, typically lack the necessary authority (Chesbrough, 2010). Common problems involve: settling too quickly on structure, not balancing top management support and experimentation, as well as not expecting a power struggle for resources (Sund et al., 2016). In an ideal world, the CEO, who also happens to have ownership of the company, however unlikely outside the setting of a small company, should lead the charge (Chesbrough, 2010). The best practice occurs when individuals in the organization take responsibility, dedicate time and effort, and adopt an experimental stance towards business model development (Sund et al., 2016). A major aspect is that leaders must be empowered to take actions that overcome the barriers that shield the existing business model (Chesbrough, 2010).

2.3.2.5 Storytelling

Even though management when assessing the current business realize that they should try to change it, simply creating a revised model on how to do business will not be enough. The changes have to be successfully implemented. The business model relies upon its employees, including management to accept and adapt it. A business model may initially be difficult to grasp and the tool of storytelling is suggested to address this (Osterwalder & Pigneur, 2010). It helps the messenger introduce the new model by making it more tangible. As the

Table 2.5: Rules, norms, and metrics that are standing in the way of business model innovation (Johnson, Christensen, & Kagermann, 2008; Chesbrough, 2010)

Financial	Operational	Other
• Gross margins • Opportunity size • Unit pricing • Unit margin • Time to break even • Net present value calculations • Fixed cost investment • Credit items	• End-product quality • Supplier quality • Owned versus outsourced manufacturing • Customer service • Channels • Lead times • Throughput	• Pricing • Performance demands • Product-development life cycles • Basis for individuals' rewards and incentives • Brand parameters • Lack of ownership of business model

understanding of the model increases, investors become more prone to invest and employee engagement rises.

Storytelling is also a great tool for exploring a company's business model when they are not completely sure how to structure it themselves. Through storytelling, a facilitator can help the company in question to map the business model into a BMC, while giving it context and applying it to real-world situations. This is also a good process to provoke and/or justify how the model is setup. A great opportunity to innovate presents itself when areas that are hard to justify, or that are easily criticized, is identified.

When trying to innovate a business model companies have a reason behind it whether it is to cut costs or reach a larger market the hope is to improve the current state. Evaluating the changes a business model innovation is meant to create can be hard as there usually are both pros and cons with the changes creating uncertainty if the total impact would be positive. To evaluate how a business model relates to the reason behind the business model innovation creating future scenarios can help. This means creating forecasts of possible market changes, then creating business models made to address the trends see Figure 2.8. To keep the complexity at a reasonable level the forecasts should be based on the two main market trends that is making the company pursue a business model innovation at the moment. The process of identifying the trends behind the business model innovation and forecasting their development will help illuminate the core features that the new business model need/ should have to age well and also show in what areas managerial decisions has to be made, setting a direction where the business is heading with the new business model.

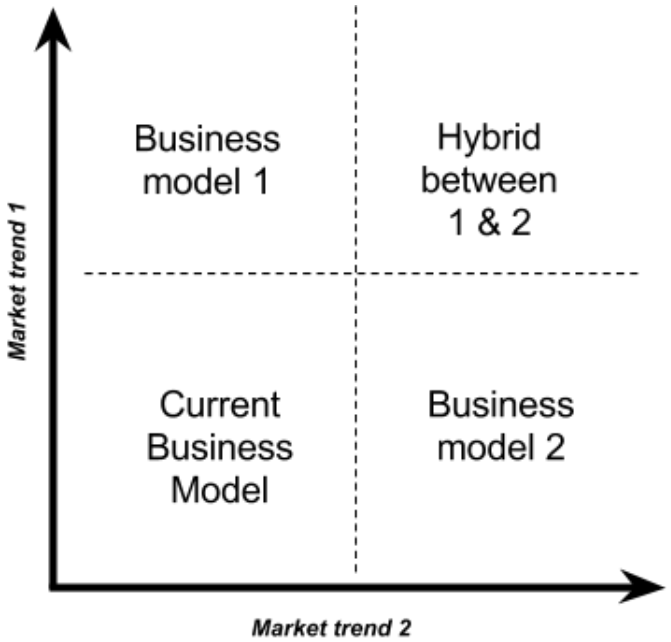

Figure 2.8: The logic for business model experimentation as a result of multiple market trends.

The market trends chosen should be shifts in the market and plotted by how they affect the business in question. Market trends impacting the business model for example be how consumption patterns are perceived to be changing eg. the private ownership of cars where a majority of the households today own a car but a change has been moving towards a shared economy (Isaksson, 2017; Felländer, 2017).The chart help clarify whether the business models address the reason behind making the business model innovation in the first place and also give perspective on the differences between the current state and the different options when it comes to future models.

2.3.3 The process of business model innovation

To generate a business model, multiple approaches are available. The creation process is initiated by a change in a specific part i.e. epicenter of the business model. The decisions made will then impact the continued process of creation of the business model. The difference between a business model change and a business model innovation can be small, differentiating between them comes down to how novel the elements and relations in business model are.

When creating a business model there are several ideas to take inspiration from, however, one thing emphasized by Osterwalder and Pigneur (2010) is that the creation should be customer-centric. This means that choices made regarding your value proposition, distribution channel, customer relationship and revenue stream all should tie back to your intended customers. These four segments are directly linked to the customer segment and together they form the core of the business

Table 2.6: The starting points for business model innovation (Amit & Zott, 2010; Amit, Zott, & Pearson, 2012)

Objective	Identify the objective of the business model (identify satisfied customers needs)
Content Structure	Identify the activities that are needed to satisfy the needs Identify the relationships between activities
Governance	Identify the actors that will perform the activities and how it will be governed
Value	Identify how value is created for each stakeholder
Revenue Model	Identify the appropriate revenue model

itself, remaining segments form a foundation for them to work but without a solid core structure the model won't work. A starting point can be to identify any of the aspects seen in Table 2.6.

Business model innovation can occur in a number of ways. Examples include: adding novel activities, linking activities in novel ways, and changing one or more parties that perform any of the activities (Amit et al., 2012). According to Amit et al. (2012) the managerial strategy should be to use business model frameworks in order to identify the correct business model innovation for the specific situation, and how to apply it, before proceeding with the implementation. Success lies in both getting the model right and making sure that the incumbent business does not counteract the new model (Johnson et al., 2008). The endeavour can be structured by the five steps of *mobilizing*, *understanding*, *designing*, *implementing*, and *managing*, see Figure 2.9 (Osterwalder & Pigneur, 2010).

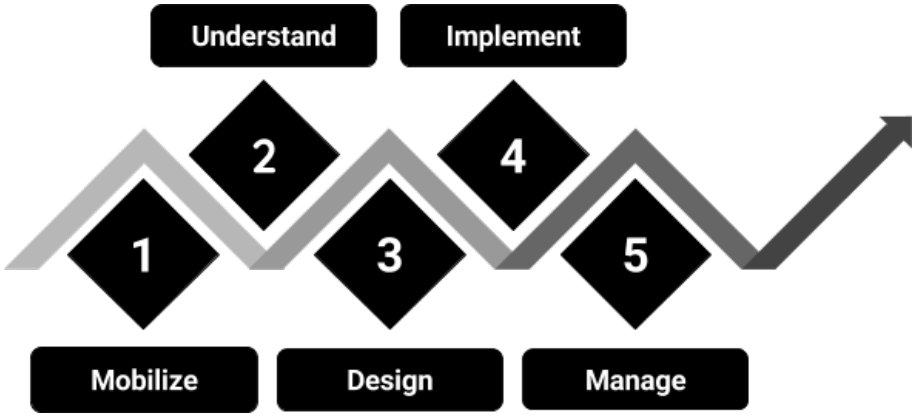

Figure 2.9: The five steps of the business model innovation process.

- **Mobilize:** inform of the need, gather the right people, adapt to a common language about business model innovation.
- **Understand:** gather data about current situation both inside and outside the business and analyze it by using models to clarify how the business is set up.

- **Design:** use the gathered data and analyzes made to generate new models, find new options and opportunities on how to perform business. Design with the organization in mind, how it is meant to adapt, where is it meant to change, and who it is that is responsible for what.
- **Implement:** Follow your design, step by step implementing the new business model and for an incumbent aligning/merging it with the old business model.
- **Manage:** just because the model is there doesn't make it sustainable, the organization has to keep monitoring, evaluating and adjusting as time goes.

2.4 Digitalization

A central transformative force that largely influences our society is digitalization; the societal effects that stem from the adoption of digital technological advancements (Collin et al., 2015; Jansson & Andervin, 2016; of Technology, 2016; Crnkovic, 2017). As a force of change, digitalization, similarly to the industrialization, is not only yielding new applications that improve life quality, but is bringing fundamental changes to how we function as a society (Vogelsang, 2010; Brynjolfsson & McAfee, 2012; Collin et al., 2015; of Technology, 2016; Jansson & Andervin, 2016; Broy, 2017; Bosch, 2017; Felländer, 2017). These waves of change not only bring new technology, products, and services, but fundamentally changes our human behavior (Vogelsang, 2010; Bosch, 2017). Historically, they have taken numerous forms in academic literature; long economic waves (Kondratiev waves) (Vogelsang, 2010, p. 3), hypercompetition (D'aveni, 2010), product life cycles (Levitt, 1965), and creative destruction (Schumpeter, 1942). Digitalization affects virtually everything and the opportunities are extensive, but at the same time not yet fully imaginable (Crnkovic, 2017). The opportunities that rise from digitalization are driven by multiple factors. Most notably, the evolution of the Internet, improvements in infrastructure for information communication technology, globalization, and Moore's law (see Table 2.7). The result is new radical business models, optimizations in production and resource use, automation, and more (of Technology, 2016, 2016). But, as great as these opportunities may seem, with the world changing at an increasing pace, they require a sustainable approach. Multiple global societal challenges and opportunities have surfaced and digitalization constitutes both a cause as well as a potential solution. The challenges and opportunities are connected to climate, energy, urbanisation, health, welfare, democracy, security, and the attainment of job creation (Brynjolfsson & McAfee, 2012; Crnkovic, 2017; Felländer, 2017). Many of them too complex to be solved by one single actor in an isolated field of study (of Technology, 2016).

2.4.1 The concept of digitalization and related terminology

Digitalization is present in many different industries; Mobile Apps, Big Data, Machine-to-Machine, Internet of Things, Industrial Internet, and Industry 4.0

Table 2.7: A selection of drivers related to digitalization.

Computers moving into new sorts of devices that increase productivity (Brynjolfsson & McAfee, 2012)
Moore's law; overall processing power of computers historically doubling every 18th month (Stenstrom, 2017; Broy, 2017).
Even **sectors traditionally considered low-tech each year spending billions of dollars on digital solutions** in order to improve themselves (Brynjolfsson & McAfee, 2012).
Improvements in connectivity infrastructure e.g. fiber-to-the-home and cellular technology (5G) (Mazur, 2017) that through the internet globalizes the world by erasing physical distance as a barrier (Broy, 2017).

Table 2.8: Definitions of terms related to digitalization.

Definitions of terms related to digital
Digitization - The simple, but ongoing form of converting, or changing, a process from an analog to a digital form (Brynjolfsson & McAfee, 2012; Gartner, n.d.-b; Transformator Design, 2017).
Digitalization* - The waves of change that empower society through an increased utilization of digital technology (Terminologicentrum, 2013; SOU 2014:13, 2014; Jansson & Andervin, 2016; Gartner, n.d.-a; Transformator Design, 2017). *Spelled as 'digitalisation' in British English (Dictionaries, n.d.)
Digital Transformation - The adaptations that firms make in order to thrive in an increasingly digital world (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013; Jansson & Andervin, 2016; Gartner, n.d.-a). It captures the effect that digitalization has upon businesses (Transformator Design, 2017). Digital transformation consists of innovation, as well as change management, which in extension relate to and require a high level of organizational maturity (Jansson & Andervin, 2016).

(Collin et al., 2015; Broy, 2017). Multiple terms, at times used interchangeably, are available to describe the process of utilizing digital technology to improve business (Collin et al., 2015; Jansson & Andervin, 2016). To provide clarity, definitions have been set. It is recommended that the reader is mindful about these when reading further. The associated terms that are defined include: digitization, digitalization, and digital transformation, see Table 2.8.

To illustrate the association between the defined terms, Table 2.9 highlights the case of Google Books.

2.4.2 Digitalization in the business world

Businesses need to adapt their organizations as computers continuously have been, and still are, making inroads into tasks previously only done by humans (Brynjolfsson & McAfee, 2012; Bosch, 2017). Digitalization has spread to such an

Table 2.9: Example of how digitalization impacts a library. The case of Google Books.

The case of Google Books - the impact of digitalization imposed upon a library.
The digital transformation of a library involves the transition from a physical location, where people go to rent physical books, to offering these same books online through a website (digitalizing). The tactic for achieving this would be by scanning (digitizing) the books. Just like Google have done through its Google Books service. (Coyle, 2006)

extent that it today almost touches every part of a business (Bosch, 2017; BCG, 2017). To respond to the changing consumer expectations, even non-tech companies will have to adopt quicker product cycles that allow them to continuously add new features, similarly to consumer technology companies (Fitzgerald et al., 2013). The two key capabilities that have been identified in companies that succeed in digital is that they are both data-driven, and innovation-driven (Bosch, 2017). With this, the increase in digital has lead to that digital competence centers has moved from merely being a supporting unit, to a core competence (Collin et al., 2015; Bosch, 2017).

2.4.2.1 Data-driven businesses

The computer has become an intermediary of interaction. Data has become an increasingly valuable asset and visual insights through data discovery is becoming an important part of daily operations (Ryan, 2016; Bosch, 2017; Felländer, 2017). This has lead to reduced transaction costs (Teece, 2010; Vogelsang, 2010; Felländer, 2017), changed price models, and a need for new measures of value creation (Teece, 2010; Felländer, 2017). With the increasing focus on data, the world is becoming increasingly data-oriented through the increase of connected, data-collecting sensors (Ryan, 2016; Bosch, 2017). Ericsson (2016) estimates that the Internet of Things (devices connected to the Internet) will make up close to 60% of the total forecast of 28 billion connected devices in 2021.

The properties that stands out in companies that have been successful in utilizing data is that they harvest data, establishes an analytic culture, thinks long-term, takes action, and stays connected (Ryan, 2016). The businesses are all characterized by that they with the help of visual analysts, leverage vast amounts (and new forms) of data into all of their processes, and recognize the convergence of new tools and technologies (Ryan, 2016). Real-world examples of data-driven businesses include Netflix, Facebook, Starbucks and Amazon (Ryan, 2016).

2.4.2.2 Innovation-driven businesses

To respond to the increased rate of change, innovation has become an increasingly important capability (Bosch, 2017). The world is moving towards a cyber-physical future where technology is deeply embedded into our lives (Ynnerman, 2017). The

primary obstacle is no longer limitations in technological performance, but the imagination of how we best can utilize technology to empower ourselves (Osterwalder & Pigneur, 2010; Jansson & Andervin, 2016; Transformator Design, 2017; IDEO, 2017). The optimal result has been identified to come from the speed of technology, combined with human insight and creativity (Brynjolfsson & McAfee, 2012; Dubhashi, 2017; Ynnerman, 2017).

2.4.3 Digital transformation as a tool

To tackle the waves of change caused by digitalization (Vogelsang, 2010, p.4), the process of digital transformation has been created (Berman, 2014; Khan, 2016; Jansson & Andervin, 2016). The process' key success factor is the sustainable objective of forming a dynamic organization that can continuously reposition itself (Teece, 2010; Jansson & Andervin, 2016; Bosch, 2017). Adaptations involve using digital technology to improve processes, and make changes to the business model so that it provides new revenue and value-producing opportunities (Brynjolfsson & McAfee, 2012; Fitzgerald et al., 2013; Gartner, n.d.-a). Figure 2.10 illustrates how digital transformation relates to digitalization. Firms can leverage the full potential of disruptive technologies without necessarily having to be the first by quickly adapting to changes in their business environment (Teece, 1986; Bughin et al., 2017). Difficulty lies in successfully running the existing business, while simultaneously innovating for tomorrow (Jansson & Andervin, 2016). This is also why managers even though they believe in the ability of technology to bring transformative change, feel frustrated with how hard it is to get great results (Brynjolfsson & McAfee, 2012; Fitzgerald et al., 2013).

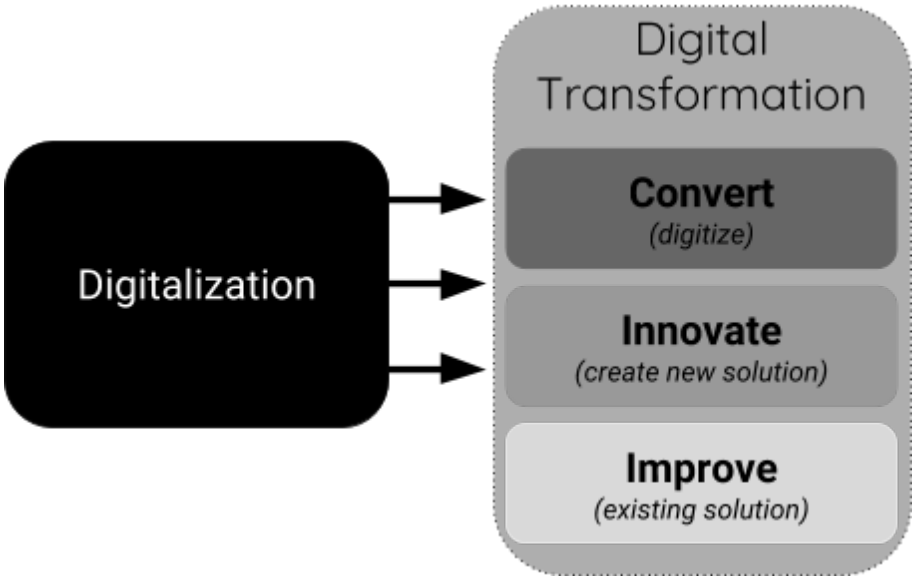

Figure 2.10: Visualization of the relationship between digitization, digitalization, and digital transformation. Adapted from Transformator Design (2017).

The three steps of digital transformation The process of digital transformation can be broken down into the three separate phases of: mobilization, coordination and

acceleration. The first phase focuses on choosing a position based on strengths and weaknesses. The second phase involves choosing the most appropriate wave of change based on the current position. The third and last means making the most of the wave of change by entering and exiting at the right moment in time. See Figure 2.11 for an illustration of the process. (Jansson & Andervin, 2016)

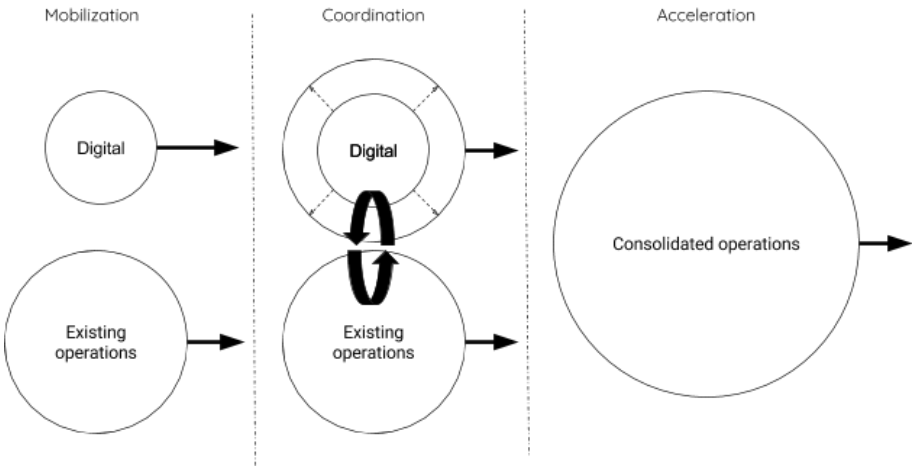

Figure 2.11: The three phases of digital transformation. Digital operations is introduced to the firm during the mobilization, and grows through the coordination phase to eventually be consolidated with the existing operations. (Jansson & Andervin, 2016)

Step 1: Mobilization The goal of this phase is to lay the foundation for the work that is about to begin and to create a sense of urgency (Jansson & Andervin, 2016).

Step 2: Coordination The digital transformation is under way and the digital and analog business models are co-existing. Coordination is required to steer the organization in a way that allow them both operations to develop, and simultaneously provide synergies to one another. (Jansson & Andervin, 2016)

Step 3: Acceleration The company should have achieved an organizational state of long-term competitive advantage with the help of the digital technology. The overall goal is now to continuously adjust the fit with the external environment. (Jansson & Andervin, 2016)

2.4.3.1 Barriers of digital transformation

Digital transformation is complicated. It needs to be spearheaded from the top through pilots and skunkworks, investing in the ones that work. During the phase of mobilization, to avoid institutional challenges, it is important to create a sense of urgency, establish a digital vision, and to lay out a road map for the transformation. Once the phase of coordination has been reached, it consequently becomes all about change management. Examples of related impediments can be seen in Table 2.10. (Fitzgerald et al., 2013)

Table 2.10: Barriers to executing the change-process of digital transformation (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013).

• Attitudes of older workers • Legacy technology • Innovation fatigue • Politics • Lack of business cases for Digital Transformation • Incentives

2.5 Digitalization's part in Business Model Innovation

As has been stated previously, firms are beginning to sense the urgency to adopt digital solutions. Businesses such as Uber and AirBnB has set the expectations for a modern, digital business (Jansson & Andervin, 2016; Transformator Design, 2017). But, technology holds no objective value by itself (Mustafa, 2015; Transformator Design, 2017). The yield from a commercialization of a technology is dependent on how value is captured through the business model (Teece, 1986, 2010; Chesbrough, 2010). Chesbrough (2010, p. 354) captures this through the statement:

> "A mediocre technology pursued within a great business model may be more valuable than a great technology exploited via a mediocre business model"

To create value, businesses need to think about how to successfully develop new business models and processes that combine workers with the evermore powerful technology (Fitzgerald et al., 2013).

Both digital transformation and business model innovation are ways for mature companies to renew their competitive advantage (Amit & Zott, 2010; Brynjolfsson & McAfee, 2012; Fitzgerald et al., 2013; Sund et al., 2016; Jansson & Andervin, 2016; Gartner, n.d.-a). Both actions seek to help firms thrive in an increasingly dynamic world. A big difference, however, lies in that digital transformation has a focus upon the introduction of new technology into the business model, independent of whether it is made on a strategical or operation level. The intersection between Business Model Innovation, and Digital Transformation, the tool for managing digitalization, can be stated to cover: *the strategical re-arrangement of business activities to form a new business model, with greater value than previously, made possible by the introduction of new digital technology*, see Figure 2.12.

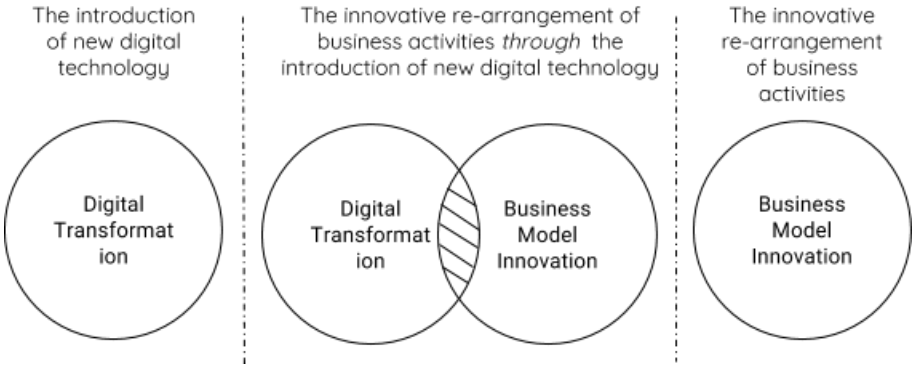

Figure 2.12: The intersection between Digital Transformation and Business Model Innovation.

2.5.1 The digitalized version of the Long Tail-pattern

As digitalization begun, the cost of the long tail business model was drastically cut; the need for catalogues and administrative costs of handling the orders could be effectivised. A fault in the catalogue that had been printed and sent out was that it was very costly to rectify errors and that short-term offerings had to be printed separately. The obvious advantages of digitalization in this area got multiple companies that utilize the long tail business model, to quickly adapt. IKEA AB, the international retailer of self-assembled home interior, published their product catalogue on their homepage as early as 1999 (IKEA, 2009). Another example is Jula AB, a company known for its postal order business. Since 2015, as part of their digital business transformation, the printing of paper catalogues has completely ceased to exist (Jula, 2015, 2017).

According to Anderson (2006) this shift in doing business is not just affecting a few businesses but is altering the whole market as it changes the fundamental business logic. Digitalization brought a lot of opportunities and as the market adapts, the customers start to expect an equal level of service. As a result, companies are facing a need to digitalize their business to a degree that matches the expectations of their customer.

The combination of the long tail business model and the wave of digitalization has also impacted some businesses quite disruptively. A model trying to satisfy the niche segments may not seem disruptive at first glance but when the market is divided enough times, a majority of the segments become niche. For example, incumbents in the entertainment industry has been disrupted as digital solutions has enabled newer entrants to create very specific, at times custom-made, but still scalable, value propositions. Osterwalder & Pigneur (2010) name major companies such as Netflix, Amazon, and Youtube as modern examples that utilize the long tail business model.

Table 2.11: Examples of digital key resources within large organizations.

Key Resources relation to Digitalization	Example area	Example company
Physical	Server park	Amazon
Intellectual	Software	Microsoft
Human	Know-how	Accenture
Financial	-	-

2.5.2 The business model canvas elements and their relation to digitalization

Digitalization can be considered to fit in several of the elements of the Business Model Canvas as it is generic and meant to structure as well as visualize how the business model is set up. The different parts of the canvas differ significantly in their relation to digitalization. The value proposition is in most cases only affected if the value delivered, or part of it, consists of a digital service or product. Whereas the channels and customer relationships segments are strongly influenced by digitalization, directly or indirectly. An example would be how the distribution channels are affected by digitalization. Physical stores require high maintenance fronting their wares and personnel manning the checkouts, compared to webshops that can stay open as long as the servers are up and running.

2.5.2.1 Key Resources

The business model canvas divide key resources into four areas: *physical*, *intellectual*, *human*, and *financial*. Looking at digitalization as a key resource it can be mapped into three of these with financial key resources as an enabler of the others.

The physical key resources affected by digitalization are pure hardware assets within the digital area such as Amazon's server parks cruciality to their value proposition. An intellectual key resource could be a database or software enabling the business value delivery, such as Microsoft who depend on software tools from other firms to develop their software products. In the cases where humans are considered a key resource to a business model it is usually a knowledge and experience intensive area. As the digital environment is very knowledge intensive by nature companies with a related value proposition tend to find humans as a key resource. Accenture, the large IT consultancy, is a good example where their value delivery is totally dependent on the knowledge of the company's human resources. Both Amazon and Microsoft could also be considered to have human key resources such as employees within server maintenance and software development. Financial key resources is the odd one out, not directly connecting to digitalization as it usually is working as an enabler to the business model. A financial key resource could be assets that are leverageable in negotiations such as companies dealing in real estate, see Table 2.11.

2.5.2.2 Key Activities

In the business model canvas Osterwalder and Pigneur (2010) divide Key Activities into three main categories: *Production*, *Problem solving*, *Platform/Network*. A typical key activity related to IT would be software development. Developing software is certainly a step towards digitalization but it is not the essence of digitalization. The software would instead be supplying the customer segment with a tool to digitalize their business.

Key activities have a in many cases a strong relation to digitalization. But, few of them has digitalization as a key activity itself as digitalization implies some kind of change. A focus on digitalization in a company could for example be the effect of a business model with key activities such as knowledge management or process optimization, where digitalization come as a way to maintain and update the performance of the key activities.

Value proposition - Only affected if the value delivered, or part of it, consists of a digital service or product. Software and/or hardware that holds value for the customer.

Customer channel - Strongly influenced by digitalization, directly or indirectly. Physical stores require high maintenance fronting their wares and personnel. Manning the checkouts compared to webshops that can stay open as long as the servers are up and running.

Customer relationship - The communication with customers can to a large extent be completely digital through chat and email.

Revenue Model - The revenue can be indirect and come from another part of the business model. The goal is in this case to provide increased value to a complementary service revenue-providing value propositions. An example is Google's web browser Google Chrome that provide increased traffic to Google Search, AdWords, YouTube etc.

Cost Structure - The sharing economy has created opportunities for outsourcing and co-owning. A Swedish is example is Sunfleet's carpool service.

Customer Segments - Digital technology has enabled a global, as opposed to local, reach.

Key Partners - Digital technology enhances the possibilities of outsourcing as the quality of communication is significantly improved. Collaboration can be made across the globe, as opposed to keeping it local.

Key resources - Digitalization's impact upon the key resources can be mapped into physical, intellectual, human and financial.

2.5.3 Decision-support for investments in innovation within the context of digital

It is important for organizations to be mindful about their focus, and the difference between efficiency, doing things right, and effectiveness, doing the right things. Organizations have to be both effective, and efficient in order to be successful. While efficiency focuses on the present state and processes, or means, effectiveness involves thinking long term and concentrating on the end. In line with this sort of mindful thinking, Moore (2015) created a practical framework for organizing a firm's activity by four categories. These categories depend on whether the initiative is disruptive, or sustaining, and revenue driving, or investment enabling, see Figure 2.13. Both Business Model Innovation and Digital Transformation can be applied within any of the four quadrants of the matrix. The important thing to note is the increased need that has risen for solutions on the left-hand side, namely concerning the disruptive impact on business (Bosch, 2017). It is important for companies to be selective in applying business model innovation in the context of digitalization and to have consideration for which zone the company is operating in (Moore, 2015). Otherwise, with focus on improving a model that soon is to be phased out, resources risk to be poorly spent (Moore, 2015).

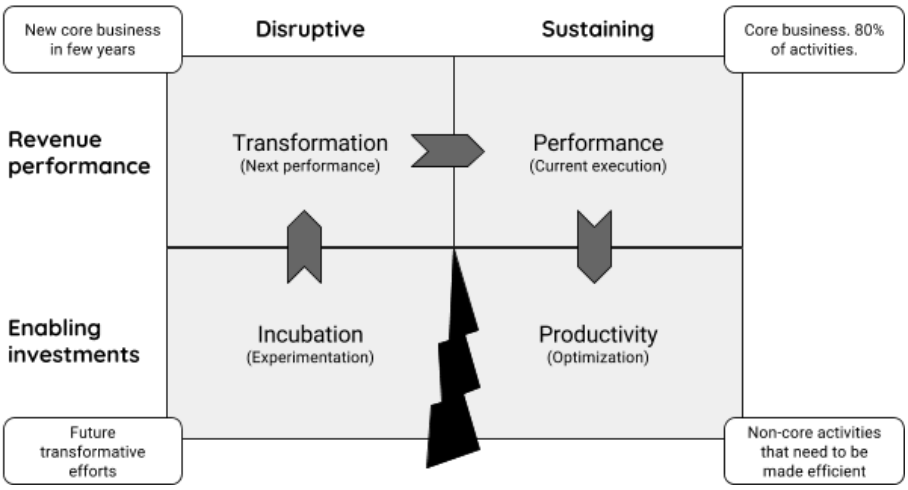

Figure 2.13: Adapted from two-by-two matrix for organizing to compete in an Age of Disruption by Moore (2015).

3

Methodology

This chapter describes the execution of this master thesis. It begins by portraying the research strategy and design. The chapter then goes on to describe the data collection method used in the study; the research method. Finally, research ethics are discussed.

3.1 Research strategy and design

This study has employed a qualitative approach to the research based on language and text. Interaction and observation were little to none due to the fact that the focal point was not the change process of business model innovation. This will be motivated further on in relation to Figure 3.2.

A partner company constituted inspiration for the work and provided support during the project work. A continuous dialog was held with different stakeholders of the firm in order to provide support and context to the research at hand. Additionally, a dialog was held with a supervisor at Chalmers University of Technology that assisted in providing academic credibility to the work.

3.1.1 The partner company

Invativa is a small-to-medium sized firm located in Gothenburg, with a specialization in digital business, see Appendix A for more information. The company acted as a partner for the study by helping to simplify the process of identifying and gaining access to firms that had in some way had experience of business model innovation featuring digital solutions. Additionally, the partner provided an external perspective on the chosen case.

3.2 Research method

In this chapter, the structure of the research method is described through three subchapters. The subchapters are organized by their chronological order; literature review, empirical data collection, as well as analysis and conclusion (see Figure 3.1).

Figure 3.1: The overall method for the thesis.

3.2.1 Literature review

To lay a solid foundation, the first step was to map out theoretical concepts used in research and to gather literature around business model innovation in relation to digitalization, as well as relevant, adjacent areas. The gathered literature was then read and applied to how the problem formulation was constructed.

Subjects addressing the core problems identified in the literature review was to be explored. Identified key areas involve; business model, business model innovation, digitalization, digital transformation, and value proposition. These areas acted as a starting point for the creation of an analytic framework that could be relied on in the continued research. Additional areas were discovered and added later on as a result of the literature review. Additionally, as complementary information to theoretical support presented itself in the empirical study. The keywords were discovered through reading, as well as conferences, and interaction with supervisors and experts. Literature was gathered with the help of keywords-based database searches through Chalmer's Library and Google Scholar. Chalmer's library used the Summon system, while Google Scholar provided scholarly material from well-established sources such as Wiley and Emerald. A majority of the project time was spent on the literature review in order to provide clarity in what the different terms meant and how they related.

3.2.2 Empirical data collection

With the focus put on the perspective of business model innovation in the context of digitalization, and secondarily its relationships, as previously depicted in Figure 3.2, a case was selected. The case was chosen from a set provided by the partner company and interviews were carried out with employees of the focal firm as well as with externally involved stakeholders. The focus was put on business model innovation ex ante and post ante, rather than during the transition (see Figure 3.2). The choice was motivated by that it is better to focus on business model innovation in its broad strokes, than to in-depth zoom in on the change process (which is another topic). The empirical data was qualitatively obtained through in-depth, semi-structured interviews (Easterby-Smith et al., 2015, pp.129-139) from both a client, and a supplier perspective. A good illustration of the actors was depicted earlier in Figure 1.1.

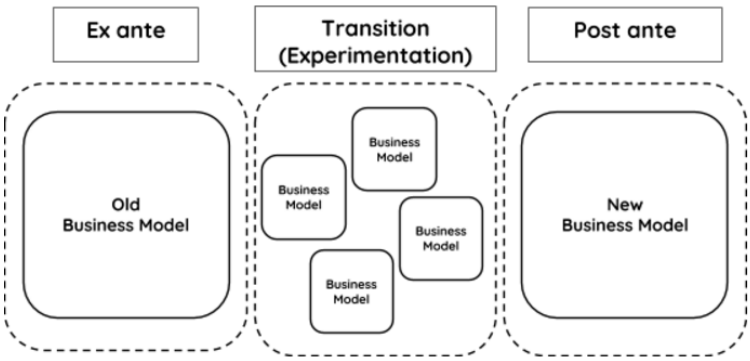

Figure 3.2: The journey from one business model to another (Sosna, Trevinyo-Rodríguez & Velamuri 2010; Chesbrough, 2010).

3.2.2.1 Sampling

The sampling was primarily purposive; a case was chosen based on certain eligibility criteria (Easterby-Smith, Thorpe & Jackson, 2015, p.82). The criteria was set according to findings from the literature study. Snowball sampling was also employed as a follow-up to interviews in order to provide additional references and in extension, access. The eligibility criteria slightly changed during the study as new information was gathered. However, this is deemed normal (Easterby-Smith, Thorpe & Jackson, 2015, p.82). An involved risk was that sampling would be out of convenience due to limits in access to the focal firm. Hence, much care went into the selection. Persons of interest was identified within the focal firm with respect to similar criteria. A priority was made upon rather having few in-depth interviews with key stakeholders, than many. This provided a risk that a specific interviewees personal bias may have had greater impact on the result. But, with the purpose of the study in mind, few key stakeholders possessed the necessary knowledge, and role, to have a sufficient impact on the business model of the case company. Therefore, it was deemed necessary to focus on interviewing these key stakeholders, such as top management. Despite the fact that it evidently were more difficult to reach a higher quantity of interviews in this case.

Eligibility criteria

The criteria used for evaluating the cases first and foremost revolved around access and that the focal company had had experience of business model innovation in the context of digitalization. Focus was put on a general overview of the firm's initiatives but could just as well have been portrayed in the form of a project if the option would have presented itself.

Choice of case company

Based on the theoretical framework, properties were identified for companies that would be fitting for the study. Selection was then accordingly purposive, see Table 3.1. The choice then landed on Svenska Mässan, with support from interviews made at the partner firm, Invativa.

Table 3.1: The properties of the purposive sampling.

Properties	Motivation
Established firm (i.e. not a start-up).	New firms do not have the same difficulty as established firms of changing their business model.
No requirement of previous business model innovation or digital transformation.	The opportunities, barriers, and drivers are the same no matter if it has been done previously.

Choice of interviewees
Interviewees were prioritized based on the level of impact that they had on the company's business model. The primary focus was on stakeholders within the firm, but secondarily on external stakeholders. Interviews were carried out with stakeholders of all sorts of roles, ranging from entry-level employees, to the top management and the CEO. The reasoning was that the higher the better as it would mean more strategical impact and awareness. Participation of the IT-department also constituted a priority due to their knowledge-base being important for digitalization. Key influencers of the business model was early on identified. Inspiration for the priority by level of rank was derived from a study by Chesbrough (2010).

3.2.2.2 Interview technique

A clear overall objective of the research was set before adopting any method of data collection. This was made upon recommendations from (Easterby-Smith et al., 2015, p. 133-143). The choice of interview form was semi-structured; the interviews had a preset structure but the interview did not strictly stick to the format (Easterby-Smith et al., 2015, p. 133-143). The logic behind the choice was that it allows for a high degree of standardized questions, while simultaneously providing a degree of freedom for open questions. This is said to give a higher degree of confidentiality (Easterby-Smith et al., 2015, p. 133-143). Preparations consisted of putting together a topic guide; a selection of topics to be covered. The reason for preparing ahead of the interview was to provide clarity about the areas of interest, and to avoid bias. Each interview took place between the two researchers and the interviewee. This format allowed one researcher to take notes, while the other interviewed the subject. During each interview a recording device was present and transcription took place afterwards. Further, a technique called laddering was employed. The technique is recommended by (Easterby-Smith et al., 2015, p. 133-143) and laddering up constituted the motion of moving the interviewee's focus from statements of fact to a deeper meaning. This was possible by asking 'why'. Consequently, laddering down was made to obtain examples and facts. This was made possible by literally asking for it. Additionally, probing was used to avoid interview bias and subtle corrections were made if and when the interviewee went too far off subject, also on recommendations from

(Easterby-Smith et al., 2015, p. 133-143).

Important facts about the interviews:

- Each interview was held in the native language of the participants; Swedish. The reasoning was that the interviewees would then be able to speak more freely and be more comfortable.

- The empirical data is a result of translations of the transcriptions, from Swedish to English. This included an evident risk of bias but was unavoidable due to the fact that the report was destined to be written in English.

The topic guide
The topic guide was created based on recommendations by Easterby-Smith et al. (2015, p.140). Before the preparation could begin, the research question, research design and sampling strategy was first revisited in order to clarify the purpose of the interviews. The topic guide was then formed as an informal list of topics and questions that could be addressed in any chosen order. In the beginning, a reminder was included to ask for consent, as well as an introductory question which's purpose was to help break the ice. In contrast to the research question, the aim of the interview questions was that they were to be crisp and easy to understand. Further, they were designed to be non-leading and open-ended. The guide's structure consisted of opening questions, key topics and closing questions. Finally, at the end of each interview, appreciation was shown for participation and an inquiry was made for follow-up contacts and recommendations. The full topic guide is available in Appendix C.

The business model canvas
To get off to a good start, the interview guide was designed with the business model canvas in mind. The different elements of the business model canvas formed the basis for questions which's purpose was to explore the changes that the company had made in each area of their business model, with respect to digitalization. A SWOT-based framework retrieved from Osterwalder and Pigneur (2010, pp. 217-223) acted as inspiration for questions that addressed each element of the business model. The SWOT model was used to categorize different areas of the business by the nine elements of the business model canvas. The underlying key objective was to identify changes that the focal firm had made in order to transition from one state to another. In other words, to identify and explore potential business model innovations, see Figure 3.3. Current, future, and potential business models could then, if necessary, be composed retrospectively, primarily based on the interview. The nature of the questions was to focus on each of the elements in the business model canvas without necessarily leading the participant towards a digital context.

Figure 3.3: The changes of elements in the business model canvas that were to be identified in the interviews. Changes that potentially constitute business model innovation in a digitalization context.

3.2.2.3 Supportive data

Textual data i.e. written sources of information that was produced for a different purpose than the research, was used to support the purposive sampling (Easterby-Smith et al., 2015, p.130). This secondary data was retrieved in correspondence with research participants. The reason for using secondary data was to add high quality information despite the limited timeframe (Easterby-Smith et al., 2015, p.130). The credibility of the secondary data was critically evaluated before being accepted as part of the study, as recommended by Easterby-Smith et al. (2015, p.130). For example, documentation from the collaboration and information about the case firm's vision, mission, and goal was utilized.

3.2.2.4 Case study

The choice of case landed on Svenska Mässan, or as they are called in English; The Swedish Exhibition & Congress Centre Group (ECCG). ECCG is financially owned by an independent foundation and the vision is to be the most attractive venue in Europe by offering the best overall experience (see Table 3.2 for more information). ECCG is located in Gothenburg and has a turnover of 1,8 billion SEK. Each year they get approximately 1,8 million visitors that come to eat, stay and develop business, products or ideas. The portfolio involves Gothia Towers, one of Europe's ten largest hotels, exhibition halls and various types of meeting arenas, an art gallery, a pop-up theatre, a three-storey spa & relax, as well as eight restaurants. Everything under one roof. (Svenska Mässan, 2017)

The case study features the collaboration between the Exhibition & Congress Center and Invativa, a Swedish consultancy firm specialized in digital business. The collaboration did span over almost two decades and the full list of featured interviewees can be seen in Table 3.3.

Multiple projects related to digitalization had been performed at the Exhibition & Congress Center Group (ECCG) over the last two decades, and more projects were underway. In the interviews it was discovered that at least three joint efforts had been made over the course of the collaboration, see Table 3.4. For more information about the projects, see Appendix F. Each interview has been retold by the researchers based on transcriptions of the interviews.

Table 3.2: The characteristics of The Swedish Exhibition & Congress Centre Group (Svenska Mässan, 2017).

Vision	To be Europe's most attractive venue by offering the best overall experience.
Mission	To promote trade and industry in Sweden.
Business concept	With competence, partnership and financial strength, own and develop companies that together create added value by means of successful meetings.
Overall objective	Profitable growth that provides the conditions for development towards the vision and the fulfilment of the mission.
Business model	Based on a total offering where visitors can participate in many different experiences under the same roof.

Table 3.3: A list of all the interviewees and their respective roles.

Interviewee alias	**Role at firm**	**Role in collaboration**
Consultancy		
A	Developer	Took over the development of a project known as Extranet. Begun working on it in 2007. Full-time for about two years. Then sporadically.
B	Developer	Part of the group that technically designed, planned and implemented a project known as Extranet. Original developer. Note that this was not a strategical level.
C	Chief executive officer	An important driver of the collaboration between the two firms. One of the initiators and continuous advisor, as well as presenter of results. Part of the strategical group which took decisions for the project referred to as Extranet.
Exhibition & Congress Center Group (ECCG)		
D	Chief Digital Officer / Chief Technical Officer	Former Chief Digital Officer (CDO) of the biggest subsidiary of ECCG business group. As the IT-department had become centralized he became responsible for both strategical and operational work for the whole business group. Responsible for everything related to technology, including but not limited to server-drifting, service-desk, infrastructure, and more.

Table 3.4: A list that exemplifies some of the projects that were made in collaboration between the consultancy and ECCG. Each entry contains the years of collaboration, as well as description of what the project involved.

Projects	Years of collaboration	Description
Economy system	1999-2005	System for digitally managing economic transactions. A customer relationship management was identified as necessary. The consultancy was then to provide implementation and support for such a system.
Extranet	2001-2009	A project that revolved around turning exhibition-related services digital. The project was introduced as a cost reduction initiative that would reduce the workload of manual, monotone labor and increase the level of self-service available to customers. As explained during the interviews, the service was built as a translation of the manual work that the company had previously done. One had taken the paper form that existed and more or less made a digital version of it. But, with a few smart tweaks here and there. The end result was a platform where ECCG's employees (or the fairs) could supply exhibitioners (their customers) with different types of self-services.
CRM support system	2002-2010	A support system that was developed to support the customer relationship management system in sending out mail to the correct addresses. An opportunity for cost-reduction was discovered in the current way of address-stamping post based on a mailing list. ECCG would receive up to a container full of returned mail per year. The chosen solution was to instead retrieve them automatically through a continuously updated database.

3.2.2.5 Analysis & conclusions

The result is the product of the theoretical foundation, and how it produces new insights and theories in the research area when applied to the empirical data set. The conclusions drawn from the result adds to existing frameworks and in extension provides suggestions for how business model innovation in the context of digitalization can be used. For example, as a package of innovation as a service. Argumentative analysis constituted the primary approach of analysis (Easterby-Smith et al., 2015, pp. 204-205). Additionally, conversational as well as visual analysis took place (Easterby-Smith et al., 2015, pp. 197-203). The analysis served to derive opportunities, barriers, and drivers from the empirical dataset.

3.2.3 Research ethics

Our research was conducted with respect to good academic ethics such as credibility, transparency, academic honesty, and self-critique, see Appendix B. Approaches to achieving this was for example through triangulation; meaning that multiple perspectives of the issue was captured (Easterby-Smith et al., 2015, p. 54).

4

Empirical Findings

The findings are been arranged by five identified main themes; Organizational structure (4.1), Knowledge (4.2), Managerial Focus (4.3), Technology (4.4), and Market (4.5).

4.1 Organizational structure

ECCG was said to as an organization lack the necessary level of organizational maturity. ECCG was believed to want digitalization initiatives that were presented by The Consultancy but according to interviewee C fought a lot internally. The interviewee explained that unique units had their own profit and loss functions which constituted their own measurements of success; different for hotel, restaurant, and conferencing. All were believed to be driven by their own self-serving purpose of maximizing their profit and loss. The key performance index of ECCG's business was stated by interviewee C to be profitable growth. This was also stated to be the case for their digitalization initiatives. According to interviewee C, this was the first thing that simply had to go. Interviewee C said that:

> "In order to digitalize, you must change the entire organization's common focus. It has to be shaped by the board of directors, and the shaping is very difficult to succeed with. You often lose yourself when someone disagrees: 'okay if I focus on this then it will help this unit much more than what it helps me - how will I be compensated for it internally?'".

The biggest restriction was explained by interviewee C to be that there was a lack of synergies. There was little to no collaboration between business units. The interviewee exemplified it by saying that if the conference unit were to call the hotel unit and ask for a discount on booking in the whole conference at the hotel, they would be given the same price as regular customers. Interviewee C meant that the organization at ECCG had to come to the realization that the benefits of bringing them together outweighed the existing structure. The interviewee explained that the core activity of a business like this is to maximize the flow of customers within the facilities. That you have great opportunities in increasing earnings from customers if they stay within the boundaries of the firm longer,

instead of going outside. That you gain synergies from for example conference guests also having lunch at one of the restaurants. Therefore, to enable collaboration between units, a shared vision was deemed by the interviewee as a necessary element. It was stated that there has to be a fundament for shifting cost between units. The discussions that had been going on between The Consultancy and ECCG had always eventually ended up back at this difficulty of separated business units. It was stated to be one of the core reasons why ECCG never dared to launch any of the suggested initiatives.

Organization and culture as the first step - working towards the same goal

Today, to make the subsidiaries work together, the board of ECCG had according to interviewee D made it pretty clear that they were now one single unit. However, the subsidiaries still legally existed. The interviewee stated that:

> "Organizationally, the companies do not exist anymore. Everyone is working in the business group - organizationally speaking. Now it's business areas, so the companies still exist, but they have no organizational influence. To simply remove [the barriers], because it's an evident obstacle.".

It was stated that there used to be a difference in whether you worked within the company of hotel, fair, or meetings and conferences. The interviewee went on to state that organization and culture is the first step towards digitalization. He said that:

> "[...] the first step in actually being able to, if you are looking at digitization - if we can call it that - it's the first step: organization and culture. It's not so much about technology - it is there - it works - it goes really fast - we are not catching on. Everyone knows that. But we can make sure to change the organization, the legal structure, to make it easier. Then change the culture of how to make decisions - how a board should act - how to push development.".

In some cases it was also believed to be how they act when it comes to innovation. The interviewee believed that there were multiple variants of creating change in the organizational culture. Interviewee D stated that:

> "One has to decide that it is not a question of buying new gadgets. That's not the point. We must change how we are making decisions and how we move forward. Otherwise, it will come a halt because of an investment claim or budget. Then you've missed what it's all about. Then it will be very difficult to 'run fast'.".

When asked how ECCG have identified synergies between the different parts of the business, interviewee D stated that there have always been synergies. But, that there had been problems, primarily related to internal transactions between subsidiaries. That was the big benefit of uniting the subsidiaries. Interviewee D stated that:

> "The big advantage, in general, is that one can, if one manages to get this legal structure, and maybe a business plan that looks to the big picture, that it is easier to offer something [at one department], and create a deal [that benefits the whole business group]. Perhaps it will at the same time be a bad deal over [at another department] - but overall it will be a better (profitable) deal. That becomes very difficult when you have different subsidiaries. So to promote a united business, it's a must to be able to collectively work for the benefit of the whole business group.".

This was then according to the interviewee done by putting together the business group and changing how the business is perceived. This way it was believed that ECCG would avoid each subsidiary being protective of its own turnover and result, which was was believed to be a critical aspect.

Interviewee D expressed that a great concern is that you might fail and not succeed all the way. That no matter what you do, you change the legal structure, and do everything in your power, but still not succeed. A big part of this worry was stated by interviewee D that you cannot make everyone unite behind a shared goal. The interviewee said that:

> "[...] you [despite your efforts] can still not make everyone envision the same goal. Hold the same line. If you do not succeed, drill into the very soul of every one in the culture - that this is how we do - it will probably backfire in the sense that you will still be sitting with, instead of one single company, business areas that look to their own goals, and that we are still stuck in this silo-minded thinking. But, instead within the same company.".

Many people were believed to still be in this silo thinking, and it according to interviewee D was more evident when you had actual boundaries that were upheld by different subsidiaries. The interviewee explained that even if you merge them together, it does by no means automatically work. That you need to work hard with how you push for an innovation, priorities in a business plan, and how you perceive it. The interviewee expressed that once you get started it is a pretty strategic job to make sure that it actually works.

The justification of digital initiatives

Interviewee D did not believe that digital initiatives could be motivated financially. The belief was that a company must foster a culture that encourages failing fast and learning. The interviewee expressed that:

> "Should you before you even start be required to motivate [initiatives] financially, then the maturity rate [of the organization] is quite low. If you on the other hand can get a company to realize that we will never be able to buy the technology that we need, we have to start doing something else... Then I think that... Then you can see that it's not the question of having a business case before doing

> something, because it's impossible to have a business case on innovation. You do not really know what to do. To get an acceptance of it, the culture of the company must be different. [...] It must be for the company, that: 'it is okay that you get started with this, we do not really know what it is going to be and maybe it is going wrong, but you will learn something.'. It is to dare to make mistakes: 'fail fast and learn'. If you do not succeed, it should not be of any great concern.".

4.1.1 The benefit of uniting subsidiaries

Interviewee D stated that ECCG group are right in the middle of a change, where his previous role had been more focused on the specific subsidiary where he had worked. The subsidiary had stood for roughly 80% of the turnover and the business group had been more of a holding company. It was stated that the change revolved around a merge between the different businesses of the group. Interviewee D said that:

> "[...] we want to make a complete offer that represents the whole business group and it's very difficult to do so when you have subsidiaries that have their own business plans and their own driving forces that are centered on their own business. Then you want to put them together. [...] Our biggest competitive advantage is that everything is under the same roof and that we can offer the whole package.".

The trends that caused this change to happen came from different insights from the many industries within the company. They both had what they referred to as 'leisure' and 'MAJS'. Leisure included the families that during summertime came to visit the nearby amusement park. The MAJS segment represented meetings, industry fairs, and congresses. The MAJS segment wanted to be able to have the same place for sleeping, conferencing, eating, and more. The competitive advantage of ECCG was believed to be that they are close to the city center, which most of their competitors are not. The advantage of the merger between their subsidiaries were believed to be that you can get a comprehensive experience without having to contact different companies within the same building. That there no longer would be different invoices, different contacts. Simply that:

> "You should have a single point of entry - the whole meeting place as a single unit. Before there was a hotel, a restaurant, and a meeting facility. It becomes very divided. In order for it to be a better experience for the guest, we want to make them feel that when you get here you will be taken care of. No matter what.".

Digitalization were believed to simplify things for ECCG in different ways in different areas; the restaurant would benefit in some ways, while the fair would do so in other ways. The interviewee explained that:

> "[...] especially in the digital it is that we more easily can guide the guests to the right place from the start, you could say. At first contact, instead of when they come here, I mean then they are already here. This is in order to offer them the right things, at the right time.".

In this, ECCG had on the web for example begun to offer visitors what ECCG believed that they would be interested in, depending on who they are. But, it was said by interviewee D that it is a long journey to get all the way. Interviewee D stated that ECCG wanted to adjust the offers depending on the needs of the customer. This was according to the interviewee much easier for the 'leisure' group that was mentioned earlier because there you have an actual person. It was believed to be much more difficult for the congresses for example. It was explained that you may have a congress arranger from a completely different company than the ones which is visiting. Some industries were stated to not have come very long in what one may refer to as digitalization. The bottom line was that you were believed to have a better reach when you could communicate with an individual. For example if the case were to book individual meetings, or smaller conferences, in addition to the 'leisure' segment. The interviewee stressed that there in this context is high quality in the data. This high quality would allow you to actually do something useful with it. When it came to large congresses you would not reach the person that is visiting as the person who is booking is complete other person. Therefore, it was believed to be tricky.

Interviewee D explained how you should receive loyalty points for everything from buying a beer in the restaurant, to large spendings on catering for your showcase booth. Therefore, you needed to widen your perspective to see the opportunities that integration enables. Interviewee D expressed that:

> "[...] it does not really require that we know that much about you. It may be that we know what you have done here. We see your footprints, or fingerprints in the different sections. You are an important customer for us even if you have not previously stayed a single hotel night. It is somehow about building loyalty on other things than just hotel nights.".

Digitalization and the business model

At the end of the interview D, the interviewee expressed that digitalization is incredibly hurtful to the business model. The reasoning was that it is hurtful as a result of that it is so terribly difficult. Interviewee D said that:

> "...it's easy to explain [the organization's obstacles to digitalization] and you usually get quite a few nodding heads, but when it's going to be turned into action, then the realization has not happened yet. They say: okay, so that's what it means - I can not do it in that way.'. To a big disappointment, the business plan would then remain based on the same principles as before. So that [part] is really difficult and I do not know if anyone... you can bring in as many management consultants as

> you want; usually it will only be a beautifully packaged PowerPoint. It does not result in changed behavior.".

The interviewee meant that digitalization is just as much about changed behavior within the organization and an example was how you approach the loyalty of the customers. Interviewee D expressed that:

> "It is also about changing behavior within the organization. Maybe more there. Because I mean, in the case of our guests, they depend on age category. Their behavior changes after all. [...] then there is a lot of talk about that [customers] are becoming more disloyal. I do not really know if I agree. But, I do think that loyalty shows in a different way.".

The interviewee explained that ECCG's business was not far behind in digitalization. But, that the long and difficult journey had just begun. At the subsidiary that previously had made up 80% of the business group, they had come pretty far. Now that ECCG had merged the subsidiaries, it was according to the interviewee sort of like starting over. But, this time from a business group perspective.

4.1.2 Sourcing the digitalization initiatives

ECCG was believed by interviewee D to historically have prioritized to develop new functionality internally, over outsourcing. With experience from operating for 100 years, they do many things internally (excluding the digital). ECCG was stated to have a whole department for carpentry, manufacturing, welding, painting, electricity. A department that was a necessity for creating booths.

From a historical perspective, it was believed by interviewee D that ECCG had handled digitalization well. At least until now. The reason was explained to be that IT had previously solely been about IT, and was then manageable. ECCG could simply acquire expertise when it was deemed necessary. As integration and internal development became increasingly important, it was believed that you no longer could count as much on buying finished products. Products that you could test, and then scale. ECCG was stated to only purchase consultancy hours before they knew where projects are heading. Interviewee D explained that:

> "We do not outsource. Instead, we buy or rent developers/analysts. This is because we do not really know how many we will need. Therefore we hire a lot of generalists and architects; we have database administrators and business intelligence guys. But, we do not really have competence of the leading edge [...]".

The business intelligence area was also seen as very important. It was also seen as convenient to purchase competence in those areas when necessary. In summary, it was expressed by interviewee D that:

> "[...] we try to outsource as little as possible, to not strip away the brain of the company. To actually keep the strategy here and then take in extra expertise when we really need it.".

The strategy was explained by interviewee D to be that:

> "[...] we (ECCG) pick up excellence in the areas that we see that: 'we need to place a bet here'. We have the strategy, we have the management, we have the vision in place, but we need these [skilled areas] to get the edge. To arrive there sooner instead of developing it ourselves... We have much with the daily operations to take care of, and then we buy extra competence when we need to run a sprint on something.".

4.1.3 The role of the IT department and top management when driving digitalization

Interviewee C also expressed that management often are discontent with the IT department. It was stated that since you see changes in your personal life, and compare those to the limited changes in your company, you are discontent with the work of the IT department. The big flaw was believed to be that since the IT-department is assigned operational tasks, it makes it difficult to see the bigger picture and really take charge of digitalizing the business. This was deemed to be a big reason why firms are stuck in place.

Interviewee C had worked with the Chief Financial Officer and the Chief Executive Officer (CEO) of ECCG. The role of The Consultancy was explained to in the case of ECCG not be about coming in to push the top management to drive the digitalization. Instead, the role of The Consultancy was expressed to be to convince ECCG that this digitalization was something that they could drive themselves. The interviewee said that:

> "If you do not get [top management] to feel: 'I will do everything in my power, every day, to make [the digitalization] happen - I've made my decision'. Then you can forget succeeding. Totally forget it.".

Further, it was stated that top management cannot expect that the delivery of a tiny little project will make everything feel better. He meant that it is continuous work over a longer period of time, once you have decided. Usually a longer period than originally decided. The state of ECCG was explained as that no one had the task of driving the digitalization and that it seemed as if they had not found their willingness to invest, yet. The thinking was that it had not been enough of a pain yet, even though ECCG had begun their investigations in time.

Another part was believed to be the organizational maturity and the role that the IT department has. Interviewee C said that:

> "The discussion around organization maturity [...] does not exist in companies and you feel a mistrust for the IT department - that they do not usually deliver what I want. We can not communicate. It's not just that 'IT is bad', or 'it's because it takes time and is hard [...]'".

In both the case of ECCG, and others, it was by interviewee C stated that the IT-department was no longer seen as the solution. The belief was that the lack of attachment between the development at the IT department and the business goals creates mistrust. Interviewee C stated that:

> "[The IT department] are seen as those who did not even manage to do what they should have done in the last 10 years i.e. that they are an obstacle - that's how you see them. That's because they're not business-minded enough, they say: 'we're on top of it and are improving databases', or 'we're working as hard as we can on the next version' [...] [The IT-department] generally does not give a damn about the business and if that is the case then there is no real CIO in the company. Then it is someone from the IT department [in that role] who is all about technology. Everyone must work with the business, but it is always operational improvements instead [...]".

The result of this was stated to be that the board does not see the IT department as a resource and that leads to a lack of trust; the IT department is not seen as capable of handling things. The interviewee believed that this is when you have to rebuild things. Interviewee C believed that most of the IT organizations that The Consultancy encounter, they need a reboot. That it is what those who have understood digitalization are doing. In addition, it was seen as common that the encountered IT systems were of lacking quality. The consequence were stated to be that firms outsource the operational to get rid of everything old. Then they let consultants in once everything bad is gone.

Role of IT in testing and prototyping

When looking back in the mirror, much of the work at ECCG had been about changing how the IT-department is perceived. Interviewee D explained that:

> "[...] the IT organization should not just be a recipient / ordering organization where you only deliver what is ordered. But take a step forward. [The IT-department] is where the knowledge of what you can do resides. Unfortunately, this [type of knowledge] does usually does not exist in other parts of the business. [The rest of the organization] they have a lot of wishes, but they do not know how to execute it, and usually it will be quite a lot of work. [It becomes] very messy and commonly grows a lot. You want to take in aspects of everything! You do not want to miss a single thing.".

It was further explained that if you should push any kind of innovation you need to dare to test and prototype. Otherwise, it will be very slow. It was said by interviewee D that it is easier for the IT-department to innovate in relation to

digitalization because they know what the necessary components are and how things are connected. The interviewee explained that:

> "IT and maybe controlling functions too, few departments, they are the only ones who really know the whole business and all the elements by heart - because they are everywhere in the business. So, there it's much easier to make these short sprints, or tests, which aim to find out things that you do not yet know. In the other part of the business you want to stick with what you know; the safety of knowing that this is how we do things today. It's very hard to innovate on the highway, you almost have to be next to it, and try to connect it a bit later.".

Further, that when you innovate in the business, you will face resistance as it affects much of the work that you do on a daily basis. People were stated to get confused when faced with the offer to change what they do. Therefore you had to be careful when affecting internal resources. The interviewee then emphasized that you should not involve the people who operate the business too much from the beginning. That what you should do is to test hypotheses and try out things from the business. But, not involve them too deep, yet, or the complexity would grow significantly.

Interviewee D said that you will never be able to move forward with a prototype and reach the next level unless you can show a validation of the hypothesis. It was believed that you will add more components until it has grown into a giant project, which was considered to be when it all comes crashing down. It was expressed that successful attempts had usually started as a simple thing that would be testable. That you had found a solution for. In some cases it had worked out really well, and in others, really poorly. Failures had come from when too much input had been accepted and it had grown too complex. It was explained that it was similar to the the 80/20 principle; a rule of thumb that states that 80% of results will come from just 20% of the action. The interviewee exemplified by that you ask questions such as:

> "Who is [the initiative] for? Who are you going to test it on? Should it address all types of check-ins or is it enough to solve it for this type of person checking in?".

Establishing a party that drives digitalization initiatives
Interviewee C believed that it with digitalization is a must that organizations do not only know their core business, but the digital part of their core business. He believed that an external firm could not be employed to handle that task by themselves. It was believed that the job of a consultancy is to support and work alongside the client. Otherwise it will not work. The interviewee meant that big decisions were to be taken over a long period of time and that if the client was not part of the decision-making they would always find a reason for not seeing it through. It was stated that the organizations receiving help with digitalization needed to be provided with both the tools, the steering, and the assistance in

execution. Otherwise they would not pull through. It was the belief that you need to have someone within the client's organization that has received the responsibility of the digitalization and is intending to see it through. Further, that the client must have a shifted mindset and that it is not enough to have someone from the old IT-department saying that the organization needs to do a little more. The ideal person to take on the responsibility of digitalization is according to the interviewee someone who has been assigned its responsibilities and that has a mandate from the CEO to go all the way. Once the CEO has made up his or her mind. In terms of authority, it was stated that it was very dependent on the size of investment.

Vision and strong leadership
The reason why firms get stuck was believed by interviewee C to be that you need a strong vision and the decision to invest in new people. The interviewee explained that:

> "[...] there are not many traditional companies that can handle [digitalization] with the same people. [...] You must put a vision in place. You can not just stand there and say: 'we're going to digitalize ourselves'".

The interviewee thought that as you have goals, you need to beforehand have developmental work done. He believed that very few has the stamina to see it all the way through and that it would create an obstacle for Swedish industrial companies in their digitalization. Either they were to believe that they cannot, or they need people. The interviewee believed that the key might not necessarily be authority, but mandate. The interviewee exemplified the importance the CEO by saying that: "[i]f the CEO is ready to risk his job to do it / has decided. Then you have a very strong opportunity [for digitalization].". He believed that the mandate were to come from a reasoning that you do not want to be in a position where you are unable to take the necessary action to keep you ahead of competition. The interviewee enacted the position of a CEO's thinking through saying that:

> "I'm not going to [statically] sit here as CEO of taxi Gothenburg [when autonomous vehicles swoops in] and think we'll still have a few runs in five years. If the owner thinks so, I'd rather change job."

4.1.4 Organizational resistance

Interviewee C stated that to make proper digitalization you have to steer away from people within the organization that tries to find reasons for not pushing the go-button. At least when you had the possibility to do so. This was also said to be the case for ECCG. Interviewee C explained that The Consultancy in sprints tried to push on, and got pretty far. It was said that they got to present for the board of directors on multiple occasions and that the board was very pleased. But, the general problem was that business cycles could halt the passing of

projects for months. It was the case that ECCG could have other priorities that were already set and that had to be finished first. Alternatively, a board meeting that had to be held, and so on. Interviewee C said that you eventually learn how to approach it, but that it requires some pushing and convincing. He however warned that the pushing also puts you in a position where you cannot afford to burn all bridges completely. The interviewee said that:

> "If you then feel that there is no recipient left - then you have had your last chance, that will be it. Therefore we have chosen to not be a company that pushes through and then backs out. If we have worked with that specific customer for a long time, then it must be that we believe in it ourselves.".

The last time that The Consultancy collaborated with ECCG, a call was made by interviewee C that they were not to launch the project. He did not believe that ECCG had found the organizational maturity that was required, yet, even if they thought that the suggestions seemed great. The interviewee had attempted to explain to the board more times than he could recollect that what they are buying is not a complete solution. He told them that:

> "[The digitalization journey] is not done just because you purchase this project. You have to work hard and the business has to become digital in the very soul; think customer first. It's a three-year journey of strict focus to merely change the mindset.".

Interviewee C expressed sadness over that you on many occasions know that despite your efforts, the organizations that you have not been able to come through, they still have not come any closer to their goal of digitalization. He said that it is an insanely slow process of roughly five or six years if you are to give digitalization a decent shot. That you have to find a receptive person and set it up in such a way that it shapes the entire organization. It was stated that:

> "You can not walk around playing digitalization consultant and believe that you will solve [digitalization] for the customer. The [consultancy] companies that do... it is not possible. Then there are [also] examples of really big organizations saying: 'we've done this all along'. But, nothing is really happening in those organizations.".

Tackling the resistance to change

It was stated by interviewee D that the employees have a resistance to digitalization because they feel afraid of losing the duties that give them value and purpose in the eyes of the firm. Therefore, it was seen as crucial to have tested things beforehand, so that you know which types of questions to answer and convince the employees about that it is not about putting them out of a job, but re-prioritizing and reducing the workload. To clearly communicate with the affected parties. The interviewee expressed that:

> "[...] we want to remove 80% of the questions. These questions that we answer over and over again... In order for [our people] to answer business-related issues and be more selling, instead of having to say 'you can park here' / 'go there' - 17 times a day.".

In summary, it was believed to be key that if you can present and sell the initiative properly, it will be much better received and be easier to connect it to the main business, once you get to that point. Further, interviewee D explained that it is just as important, if not more important, to successfully pitch initiatives inside of the organization (compared to outside). It was explained that:

> "On the outside it is quite simple because it's about: 'what's in it for me?'... yes, you get this if you do this... it's really simple. But inside the organization, it's not as easy because there are so many other aspects of the organization. Usually you do not spend as much time explaining how it affects the internal organization, or why - 'what's the goal?'.The long-term goal. Generally [...] we do not aim high enough. Often you say aim high, start small, though you should... aim even higher to get [the people within the organization] to understand where we are heading. Not tomorrow, and the day after that, but in three to five years, and show them each time you do something that it is actually in the right direction of where you said that you are heading.".

Interviewee D highlighted how you gain a lot by avoiding the resistance. Interviewee D highlighted that people will always have doubts because of previous experiences, and that you if not careful will eventually have created a monstrous resistance. He stated that:

> "It's about technology, it's IT and it's fast, not everyone is comfortable with it, that you feel insecure. Therefore, again, do not involve the regular business too much in the beginning. Be sure to keep it pretty tight before you start mixing in the regular business. Otherwise, all the previous experiences come into play... [...] the 'shit of yesterday'".

4.1.5 Outer vs inner boundaries of the firm

Interviewee D expressed that the thing that works the best in terms of digital is when you operate in the outer boundaries of the firm. The interviewee said that:

> "[...] when you do things - where you talk to - where you work, in the outer boundaries. On the web for example, where you interact with visitors, guests, and customers directly. Because that does not affect the internal processes. The internal processes are those which are the most difficult. The biggest obstacles. This is because it affects so many.".

For example, in a change of the process for booking hotel rooms, the interviewee said that everything from revenue, to hotel cleaning, and other parties could be affected. It was stated that:

> "If you do things and test on customers in outer boundaries, such as booking procedures or sign ups for a fair, where you are still one-to-one with the guest. That does not affect the internal process as much.".

It was believed by interviewee D that as soon as you start messing around in the internal processes and flows, the complexity increases much much more. The key was said to be to really isolate your hypotheses, tests, and innovations into small parts and not affect too many at the same time. The consequence could otherwise be that it becomes chaotic. Interviewee D believed that changes would be made somewhere at the borderline between the outer boundaries that interface with the customers and the inner operations. ECCG was stated to have a whole department responsible for answering phone calls from customers. Both for general contact and booking hotel rooms. From a digitalization-perspective, it was seen as an obvious alternative to replace it with a chat. But, that would result in that this department all of a sudden has two tasks to attend to, instead of one. The best practice was explained by interviewee D to be that:

> "If on the other hand you test chat as a function with an isolated department that has nothing to do with the booking department; how guests behave and what questions they ask... collecting that data and getting that experience, it is much easier to inform the booking department. That if we implement a chat, it means this and this is the kind of guests who will contact us and it will be these kinds of questions that they will have - 'how would it fit your organization?' Then you have done your homework.".

Interviewee D explained it was about either remaining at full speed on the highway, or keeping to the side. Interviewee D he said that:

> "[...] when you implement it, you have already tested it towards the guest, in the outer boundaries, and know that it works. Then when you implement it into the business, it is already complete in terms of the interface towards the guest, and so on.".

It was expressed that this was a way to rapidly move forward, but that there is an almost infinite number of options to explore. Another important decision was believed to be to find in which ways you should allow customers to contact the ECCG. It was expressed that an important decision revolved around where you should interact with your customers. Either where it is ideal for the firm, or where the customers enjoy being, such as online messaging services. Interviewee D explained that:

> "If you try to 'drive on the highway', there is only resistance. It's no wonder that you first and foremost care about yourself: 'how does it affect me?' / 'will my work disappear?'... You cannot do it like that in this innovation, digitalization, everything is going so fast, AI, whatever it is. It all comes down to: 'am I losing my work tasks?' / 'Will I be out of a job?'. One should not forget that aspect, even if it would be the case.".

4.2 Knowledge

The board of ECCG, and boards in general, does according to interviewee C consist of people who generally have more insight, slightly more knowledge, and follow current trends. Among the board members of ECCG, it was stated that there also were a few of these, but one person in particular that stood out. The interviewee believed that these people of the board fairly easily realize that digitalization is not limited to an app, and that for example to get registration of visitors working, little change is necessary. He went on to say that things like this has already been done for many years over web and email, which is also digital. Further, that the ones who see the bigger picture know that they need to put in proper work, study the surrounding world, and talk to the customers. That much of digitalization is relying upon customer development. That otherwise you would just think that you are on the right track, while you are actually not. That many companies are limiting themselves to technification; going from paper to digital reports, sending reports through datalayers, or some basic business intelligence. Meanwhile technology is taking big leaps forward and just when you become close to catching up, the result of initiatives that are under way have suddenly become obsolete. The technology has become old. It was believed that this is the reason why firms does not really have a handle on digitalization, or successfully manage complete transformations.

Interviewee C stated that people does not just simply wake up with an idea of how they should digitalize - that is just not the case. People within the organization were believed to diverge as everyone have different takes on what it means to digitalize. This was also stated to be the case for ECCG. The board did put in a good effort in creating a vision for the company, but it did not provide any directions for how to get there. This was also seen a very common error and it was also seen as the reason for why firms such as The Consultancy is brought in - to figure out the big how.

4.2.1 The meaning of digitalization

With regards to the synergies, interviewee C stated that the digitalization was non-existent. ECCG could not get out of their starting position. They needed to shape things up. Digitalization had to be included in the strategy and other things. Interviewee C said that:

> "[...] nobody dares to touch [digitalization] because it's not that easy. You sooner or later find out that it was not just to make an app... and then we are digital.".

Interviewee C explained that this brings you to having to define what digitalization actually means. Digitalization may be to turn customer's reports digital. The interviewee meant that no matter how trivial it may seem, it is a big transition for a large established, international organization with hundreds of thousands of employees. But, that digitalization for another may involve completely reshaping the entire organization. To reshape it in order to prepare for soon-to-come technological advancements such as drones, and artificial intelligence. Interviewee C indicated that some industries might even be eradicated. Interviewee C stated that from a historical perspective we are long past the transition from administrative data processing, to IT. He meant that we entered a period of IT around the year 2000. Over the last couple of years, we are then seeing a post-IT era. Interviewee C framed the current state as that:

> "No one questions whether we should use computers, or databases; it's a no-brainer. That is why the question of application areas becomes relevant. It's not just about getting a computer and then you are modern. Nor can you just make an app and become modern, because it's the very baseline. But, you can move a part of your business by making it digital or making it mobile [...]".

With regards to these companies that have not yet started their digital journey, it was said by interviewee C that:

> "[...] for many of these companies, the digitalization is actually an IT-fication. The intensification of that it can not continue like this. It is clear that for these companies the effect is that they have succeeded in that [they have taken a step in the right direction]. Then suddenly you have much, much more data, [in] digital form, which is quite big - then you can proceed with the data, and actually continue with your digitalization.".

Interviewee C expressed that it is possible to see that we eventually will have technology that completely wipes out humans. The interviewee meant that the evidence could be found in technologically oriented companies that are far ahead in digitalization. The logic behind the interviewee's reasoning was that we all live in exciting times where the developments are rapid. Interviewee C believed that we are currently, without a doubt, part of the next industrial wave. That you may soon literally be controlling the arms of a robot that is doing the dishes in your home, while you are at the same time having a conversation with your friends at the pub. That we will have technology that expands beyond our own bodies. Here the interviewee expressed that we basically have to see how long mankind will endure. Further, he added that manpower-driven industries will at this point of time have an incredible difficult time because we will face 'true digitalization'. This was illustrated by a statement that:

> "Suddenly, people are replaced by robots who can take instructions; do things for us. They collect data, we can act on it, and we can provide feedback to our customers - we can develop new services - that is digitalization.".

It was stated by interviewee C that a few years ago, a critical deciding factor of the business with ECCG was the choice of direction for the digitalization. The direction was believed to depend on multiple factors. These factors were related to whether the belief was that physical meetings would disappear or increase and whether they would be be more important, but fewer, or a high-end, or low-end service. The interviewee explained how most changes are not as rapid as commonly believed and that multiple scenarios could be envisioned. He stated that:

> "One way of considering a digitalization of meetings could be to say: 'okay everyone in the whole world can attend this congress, you just go to a certain station, sit down, or take on a [pair of] glasses - then you are part of it. That is definitely a digitalization, but then it's a new type of offer and delivery".

Interviewee C did not believe that ECCG was close to this type of change. The initiatives had mostly been app-based, such as a 3D-mapping of the indoor environment that could be accessed through Google Maps. He meant that no one had thought of the use of it. But, there were according to interviewee C evident areas that could be improved with digitalization. Areas related to the 1.2 million people a year who arrive to the facilities of ECCG through one of the three main entrances. But, the problem was believed to be that it was unclear where they should head next. Hence, interviewee C argued that they should have designed a customer journey that begins right there, explaining where you should be heading, how to connect to WIFI, where to get advice, and so on. Instead, the interviewee meant that customers had to search for it and orientate themselves. In line with this argument, the interviewee believed that the case of ECCG revolved much around a hybrid digitalization model. A hybrid digitalization where the physical and digital blend together nicely. The reason being that the facilities constitute a very physical part of the business and that new potential areas could be introduced alongside the physical offer.

The purpose of digitalization

The purpose behind ECCG's digitalization initiatives was explained by interviewee D to be to free up time for other things. Primarily for face time i.e. the time employees spend on meeting with the guests. Simply, because the belief was that no artifical intelligence could ever replace that. That was also believed to be what makes ECCG a good facility. The interviewee explained that:

> "When sitting there doing your job, and more and more things come, it can be easy to forget, and realize that soon [this thing, artificial intelligence] will be able to answer questions directly without

> the need for me to write any answers. It is obvious that there will be a resistance.".

4.2.2 Dependencies on external parties

It is believed that ECCG had come the farthest in terms of digitalization at the hotel, or at the fair. Interviewee D stated that they at the fair had come far in attracting exhibitioners, as well as in the way they connect exhibitioners and visitors. It was also noted that meetings came in after these. The interviewee said that:

> "If you look online - we measure a lot - we are looking at behavior and patterns. We experiment quite a bit with what you could do there.".

But, it was nothing that had turned into any sort of production. It was stated to be a result of that they were too dependent on external parties allowing usage. External parties such as different groups of industry representatives that they collaborate with. In this collaboration, the interviewee believed that everyone had to work together. Otherwise, it simply would not work.

The biggest obstacle was believed to be ownership of data that visitors generate. Since different national associations owns the community of visitors, while ECCG owns the facilities and builds the meeting place, a conflict of interest surges. It was seen as questionable who it is that has the mandate to dictate how it may be used. Many of these organizations were also seen as having a negative stance towards sharing data. Then it was seen as difficult to innovate and find ways to move forward in the development. It was also said that people are very attached to what they already have. It was believed to be a great risk that it will lead up to you becoming a commodity (undifferentiated from competitors). Interviewee D stated that:

> "The [greatest] risk for us is that we become a commodity - we stand here with a lot of square meters and nothing more. It is the same with hotel rooms. We stand there with hotel rooms, and no external need for them.".

The interviewee believed that it was necessary to identify the value that ECCG creates for the guest, or visitor. Otherwise they would be nothing more than square meters available for rent. This was not believed to be unique for ECCG, but yet a difficult thing to crack. Both for the banking industry, the shipping industry, and any other industry. The interviewee explained that people do not like sharing and that those who do are very few. In particular, only the young companies; API:s and other things. There were however believed to be few examples such as Astra Zeneca, where innovation hubs are run. Hubs that let other companies come in and co-create. ECCG was looking at how you could achieve similar things but that it was a lot about risk taking. It was believed that not every company, or every one, is prepared to take the necessary risks that innovation may involve.

4.2.3 Inferring positive influence

Interviewee D believed that he had found a good strategy for bringing in a sense of urgency and to inspire. The interviewee believed that the key was to involve top management in the process and show them how the firms that are leaders within their industry in terms of digital operates. Interviewee D said that:

> "The best thing [...] is to include a group management / board or whatever it may be [in the process] - go with them to Silicon Valley and show them how it works there; how terribly fast it goes and what is going on. Then they get a little sense of urgency. But, [unfortunately] the most common is that you in all industries go and look at similar facilities. That is because it is safe. It looks the same. They may have a bit newer technology, maybe they have built a bigger video wall. But it does not say anything about what they to do to take the next step! So that [part] is also quite important to bring with you. [...] One has to dare to look at society in general, and not just lock in on one's own industry. When you do, it is mostly because you do not want to see what is outside. It is a bit like this: 'it does not affect us'.".

4.3 Managerial Focus

ECCG was believed to have a very broad range of firms within the organizational structure. Interviewee A expressed that it was confusing at first to understand who at the fair it was that you actually worked for. Part of the confusion adhered to that ECCG had business relationships with multiple fairs, where some of them were also owned or partly owned by ECCG. An insight that took some time to get was that the fairs were not always held by ECCG, but could be businesses all on their own. At times, this confusion made the work slightly complicated. On the topic of how new features were determined, interviewee A expressed that:

> "I also got the feeling that [ECCG] did not themselves really know what they wanted. [ECCG did not know] whether it was worth building a feature just for a specific fair. How it would fit with the other fairs and so on. Such things were very involved in their strategies (and similar) for how to develop this.".

4.3.1 Limitations of cost reduction initiatives

Interviewee A believed that one of the main problems of the Extranet system was that it already from the start was designed as a cost reduction. A few suggestions of improvements were provided by the consulting firm, but ECCG had not according to interviewee A been very interested in putting in the time nor resources. Development-wise it meant that the focus was put on bug fixes, and quick fixes. When building new functions it was often requested that it should be done in as few hours as possible. Interviewee A stated that:

> "It was not deemed important whether [the software] worked well or not. A lot of stuff went out live and then turned out to be faulty. Then we had to change it in the middle of an ongoing period. So that was pretty bothersome. It might not have been badly treated considering what the premises were. But, in my perception, that's not the way you want to run a good development project."

Interviewee A believed that a change in needs could be noticed. The personnel of different fairs got in touch about their needs of different functionality, comments, and discussions about things that did not work too well. It was stated that there were quite many other forces that wanted to improve the system for the better too. But, at the same time there were barely any money for it. It was stated that:

> "We (the consultancy) also identified areas where we could have built something better. We came up with some new features on our own, which we also pitched. But, the suggestions did not seem to catch [ECCG's] interest...".

Interviewee C stated that the collaboration with ECCG had begun around the start of the millenia. But, that no one spoke about digitalization back then. That word was stated to have come much later; around five years ago. The Consultancy had helped ECCG to completely change, as seen earlier in interview B, the way that ECCG worked with fair exhibitioners. The exhibitioners were empowered with a digital self-service that could handle administrative tasks. But, the interviewee meant that it sadly was not providing complementary, value adding services to the already existing service. The interviewee meant that functionality to add extra chairs to the booth, special design, or branding would have created a higher order of automation.

Interviewee C highlighted that there is a major difference between if the service is intended as a new business, or as a cost reduction initiative. The interviewee said that:

> "The saving money part, I think it's more, it can be digitalization - but it's more of traditional IT. You're using technology, computers, and so on. But, that has been the case for a long time already. You rarely connect it to the business. [Digitalization] is delegated and it is IT that has to fix it. Instead of thinking that it's the business that's going to have it - and then we'll see what the IT-department is going to do. [The IT-department] will be busy either way. But, it often breaks down as a result of that the organization does not have the knowledge, which in extension allows IT to do what ever they want. This is the way that it has been for quite many years.".

There was however, according to interviewee C, an exception; the rare skillful CEO:s that really understands IT and cares about the business. The interviewee described how they worked with such a CEO in another context. That he differentiated in the sense that: "[h]e is willing to go the extra mile. For as long as

he is allowed to do so - he will do everything to succeed. It's not like this half-assed effort or something, it's all-in and he knows it. He will also stand there grounded when shit hits the fan - when it's not working out".

Digitization
The Extranet service was explained to have been built as a pure translation of the work that previously had been performed manually. A lot was based on different types of checklists that were gone through in order to make sure that everything had been done before a certain date. The digital system also added a feature which notified the user if these things had not been done in time. It was expressed by interviewee A that:

> "It was a very straight-forward digitalization. I think you had taken the paper that was available and more or less made a digital version of it. ... With some smart tweaks here and there.".

When asked about flaws in the chosen approach for the project, interviewee A stated that his belief was that the system had been built to first and foremost to please the needs of ECCG, rather than the end customer (the exhibitioners). The reasoning of the interviewee was that:

> "Had you really wanted, I think you could have had a better approach. Viewed from a whole new point of view - the exhibitor's side. [You could then explore] what needs they actually have."

The Extranet was believed by interviewee A to have been driven by a need to catch up to digital developments, rather than to lead the way as ECCG did not appear to be very proactive. It was stated that it would not be of any surprise if the system was mimicked from competitors (other fair hosting facilities). When asked about the changes he would have liked to have seen to the system, interviewee A said that a great majority of functionality would still have to be kept intact. But, would have benefited from a more holistic approach. It was stated by the same interviewee that the introduction of the system had resulted in very little changes in the activities performed. Changes that the interviewee could see as beneficial lied both in how the information was presented to provide a smoother user experience, as well as in how the backend functioned. Interviewee A said that:

> "[...] I think they still work in a quite similar fashion, just that they receive information through this portal, instead of having it received by email or by mail. So, in this, quite many things could have been trimmed down, and a lot of stuff could have been dropped. Activities and such that might not really be needed, because the backend eventually got different lists and such that looked just the same as the printed lists that they had had previously. If you had taken a holistic view you might have found another process that would have been easier for both them [ECCG] and exhibitors."

The value of digitization
It was unclear to interviewee B how the Extranet had evolved since the end of the collaboration, and if it even existed at the day of the interview. The final product that the interviewee knew of was stated to have contained functionality that for instance enabled fair exhibitors to design their own booth. This was something that had previously been done on paper. On these papers you had stated where you as an exhibitor would want your electricity outlet and similar. Things that you would want to be part of the blueprint when you rent a booth. These were the things that ECCG had according to the interviewee been wanting to make digital. Digital in the sense that you with a digital interface could place electricity outlets, chairs and other things that you would want for the booth. Additionally, it according to the interviewee created a lot of value by eradicating the need for paperwork. It was believed to have reduced the need of sending paper forms back and forth. Moreover, it was stated by the interviewee that it could reduce much of the need for human communication. Instead, the system could handle these manual routines, and supposedly make send-outs through for example mail and email.

Sporadic changes and price bumps
Interviewee A expressed that it was difficult to successfully convince ECCG to commit to any new changes as the budget was extremely limited for the project. The collaboration had become the most tense by the end of the collaboration (while still working on the Extranet project). Interviewee A had then together with the CEO of the consultancy company, the IT-manager of ECCG, and the ECCG's internal consultant had a conversation about how they were to continue. At that point in time, it was believed to not have been working well for either company. The working hours were stated to have become extremely sporadic. Interviewee A expressed that he had been tasked to once or twice a year spend roughly a work week to implement extra functionality that new fairs required. This irregularity of additions to the system was believed by the interviewee to be a consequence of that ECCG felt that the system was complete. Interviewee A however expressed that The Consultancy on the contrary could have spent an endless amount of time on improvements, especially on the backend. A backend that according to the interviewee was seen as quite difficult to work with for the employees of ECCG.

To enable this sort of flexibility, the price per hour was increased by The Consultancy. Either ECCG were to be charged for the flexibility as it was costly to re-prioritize resources on such short notice that ECCG gave, or they would have to settle for another alternative. ECCG was unhappy with the consequence and as a result eventually settled for an internal consultant.

4.3.2 Project specifications set with little feedback
The specifications of the project had according to the interviewee been identified through internal discussions between the members of the development group. The interviewee recalled that the discussions had revolved around how they could

reduce the workload on the staff of ECCG, how high they could set the bar, which functions they could build in relation to the technology that existed, and similar things. The topic of technical limitations was according to the interviewee a consequence of that it was in the early days of the Internet, in comparison to today. When asked about its impact on the way of working, the interviewee explained that the work was carried out according to methodology that existed at that time. Methodology that had been derived from the interviewee's most recent courses at Chalmers University of Technology. The flow consisted of what the interviewee referred to as typical phases; analysis, design, and implementation. Each phase with different goals and milestones.

The project was overseen by a steering group consisting of high-ranking managers of ECCG, together with the CEO of The Consultancy. The purpose of the steering group was according to the interviewee to set the goals, and take the final decisions. Additionally, a project leader from The Consultancy was stated to have acted as an interface between the steering group and the development group i.e. the communication was handled through the project leader. The communicated information did according to the interviewee primarily consist of design and analysis documentation. This was also believed to constitute the great majority of documentation and it was stated to not have been kept up to date during development.

The driver of the Extranet was stated to be to free up manpower by minimizing the monotone and boring tasks. Obstacles were according to the interviewee few. This was believed to be due to the popularity of the project. As interviewee B was not that close to ECCG's organization, he stated that it was difficult to observe whether it was received well by each and every one. But, it was recognized by the interviewee that limitations in current technology, as well as the time and budget set for the development created limitations. The project was also stated to have been seen as a priority due to the fact that both internal and external resources were continuously employed. Its development was believed to have kept going for at least ten years and large investments were made to keep it running.

A lack of customer interaction

The contact with the end user (the exhibitors) was extremely limited. The primary stakeholder was, except for ECCG, a book and library fair, which was the biggest recurring fair held at ECCG. The tricky part of this was however that it was not possible for interviewee A to tell whether the book and library fair also was part of ECCG. It was known that the Books and Library Fair was a business on its own, but it was unclear whether it still in some way was part of ECCG.

The communication that interviewee A had with ECCG was primarily handled through two people at the IT-department. They provided the consulting firm with requests and wishes of new implementations. Much based on a list of tiny fixes. Therefore a lot of the development done by interviewee A was spent on continuous maintenance. When the interviewee conducted the task of giving the system a face-lift, it was the perception that the changes primarily were of technical

character rather than functional. Interviewee A explained how the end-user could merely see changes in how information was presented. It was believed to have been slightly fresher, more homogenous experience, compared to earlier versions. But, still with the same functionality.

A lack of project influence from the developer side
Interviewee A stated that he upon entering the project, was new to both the industry and the consulting business. Hence, he had done as he was told and had not pushed that much for change. Interview A also stated that:

> "I'm more of an implementer than this visionary that comes with all the brilliant ideas. Give me a brilliant idea and I can turn it into an even better idea, but I will not get the original idea. That's [not] my strength.".

Despite this, the interviewee stated that he after a couple of years (as the project was coming to come to an end) had taken a bigger part in trying to push for change. But, with little actual involvement due to the lack of insight into the whole business of ECCG. This lack of involvement was also the reason why it according to the interviewee took almost a year before some realizations sprung to mind. For example these moments of sudden realization involved that it was not ECCG itself that was running the fairs. Realizations that was believed to have been useful to know from the start.

Interviewee A said that it potentially would have been better to initially have had more of an introduction to the nuts and bolts of ECCG. In particular to get to know about ECCG's customers that would use the system. However, it was also stated that it might not have had any significant impact on the work in the form that it was carried out in. The interviewee expressed that the truth was that the work, as mentioned earlier, consisted primarily of adjusting details in the code, in comparison to coming up with new features. Hence, the work was believed to require very little insight.

4.3.3 The role of a consultancy in the development

The collaboration between ECCG and The Consultancy was believed to have worked well. Initially, interviewee B was on site at ECCG a majority of each work week. By doing so he explained that he became a natural part of the development group. The internal communication in the group was handled through instant-messaging services if distance required it. Once Interviewee B had left the project, it was not due to that project the project had come to a halt, but due to time re-prioritization. The handover was believed to have been simple thanks to the close collaboration between the two firms. The fact that ECCG had its own internal developers were believed to have made sure that no handover was necessary. The work simply continued, at least according to the interviewee. It was however also noted that the project leader from The Consultancy had had some sort of handover with the steering group. But, how the handover was made

was unknown to the interviewee and unfortunately the project leader was no longer working at The Consultancy at the time of the interview. Eventually, after interviewee B had left the project, interviewee A had then entered it.

During development, the first phase of the project was according to the interviewee only limited by the functionality that could be implemented in time before a set deadline. Once phase one was completed, the interviewee had then been assigned to work on separate functions over shorter, condensed, periods of time. The time frames were stated to not have necessarily been set based on certain budgets, but on functions that ECCG wanted for the coming business year. The interviewee stated that as the development went on, one of the primary internal developers eventually had grown into the role of an IT-manager. In this role, this person then provided The Consultancy with new tasks. As a person that was very central to the development of system, the level of responsibility of the IT-manager had according to the interviewee grown with the size and importance of the system. Interviewee B stated that sooner or later, the project appeared to have a fixed budget and the IT-department had the mandate to run it without having to seek funds for ordinary updates.

4.3.4 The digitalization journey

Interviewee C stated that what they often do is that once settled on an end-goal i.e. a state of digitalization, they explicitly break the journey down into steps. The steps would then serve as a continuous basis for validating assumptions and convincing key stakeholders of investing. The interviewee believed in that the potentially large investments that transformations like digitalization require could then be made as progress comes along; reducing the risk. Further, it was said that since all ideas do not work out as perfect in practice as they do in theory, breaking it down into steps would ensure a fail safe. That it is not a make it or break it moment in case one specific step does not turn out that great. The interviewee stated that:

> "Once a step has been tested, everyone says: 'that is not working out at all.'. But, wait a minute now. We agreed upon that this would be done in three to four steps and that all ideas will not fly. That we agreed upon.".

The interviewee goes on to explain how the human memory is incredibly short. He stated that:

> "[...] the capability of the memory, it's like a reptile's; so incredibly short. If you have someone who has decided that our methodology is: trial and error. I can say that with regards to big big companies, I have not encountered one that [functions] in this way. It is because all the stuff you [as researchers] read about and that we try to adapt to - there is no maturity out there for them."

The interviewee explains that if you make an effort, you buy, implement, and then it flies, then you must have prepared the organization. You must have prepared the organization at least six months in advance for how it works; educate, and prepare new sales processes. He meant that everything must be working the day it is ready, otherwise it will still be what you sold earlier. That there are a lot of things that has to work at the the same.

Digital businesses
Interviewee C believed that very few businesses would when digitalized be digital versions of the original business. But, that turning into a completely digital business has obvious reasons because it like e-commerce would scale well with very small increases in computing power. It was believed that e-commerce for example, despite its requirement of warehousing, is an example of a very digitalized business model. Further, the interviewee brought forward a belief that digitalization primarily revolves around identifying areas where you can digitalize your business. Not just about introducing additional tablets. It was expressed that:

> "Everything that has been called IT is now digitalization, and that's a bit of a pity. Had it remained IT, and the other digitalization, then maybe we could have differentiated it. But, now it's difficult.".

When asked about whether you could ever reach a point where you had had enough digitalization, interviewee C said that:

> "I think that if you start thinking about [if you're done digitalizing a specific function], then you have given up, in some way; there are so many services that have popped up where you had not even thought about the idea. That you did not have the ability.".

The interviewee also expressed that similar thoughts have put firms to a halt. An example was said to be Uber, which today was believed to be a natural part of our lives. To address this, the interviewee said that we need to remember that disruption will disrupt itself. It was explained that when a customer recently had asked them what value The Consultancy could offer, he had thought that:

> "[...] I know they have the structure, they have good processes, they can do their stuff, they have the knowledge in the financial system and so on. They have all this. Then I say: 'we try to think that we have an innovation model that we work with, and this may sound overconfident because we are a small company, but I think that you have been around for many years. If someone settles down with enough capital and decides to take the industry. Then I would not have done things in the way you do them now.'. That is when it becomes so obvious that they continue to build larger databases, they build and they build... 'I had never done so, I had done something about this.'".

The comfort of the former business model
Interviewee C explained how firms may feel safety and comfort because of close relationships with their clients. In the case of ECCG;

> "Then there is a problem for the company that I know that you have 500.000 small businesses as customers. Everyone understands that they are mentally attached to you. They will not move in one day.".

But, the interviewee believed that they at a certain point in time will in fact move much faster. That you eventually will end up with less customers unless you do something, over time.

Interviewee C highlighted the recent success by Volvo and how far they have come with their new models and attached app, in comparison to their competitors. He explained how Audi with more expensive cars feel confusion over how Volvo have managed to move that quickly. He said that:

> "This is because Audi built a platform architecture that had to hold five to seven years. Volvo was already three years ahead, so Volvo is [in total] ten years ahead of Audi... and Audi, BMW and Merc[edes] are the biggest.".

The platform that Volvo built was hence believed by the interviewee to have been the key to success. The thinking was that you have to handle your existing business and customers to secure an in-flow of capital, while simultaneously making cost savings that can enable innovation. An expectation was said to be that you are able to handle your current business while at the same time actively shifting customers towards the new business. Further, it was expressed that you need to be delicate. You needed to be delicate because, as expressed by the interviewee, you could not afford to lose a big deal due to competitors swooping in. The interviewee expressed that you need to start working on opportunities to avoid a situation where you will eventually be given an increasingly smaller piece of the pie. The interviewee summarized it by saying that:

> "It's something I think that the existing [business is about], because I think it's real, [it] is not about making changes all over, but placing a big stake in something and driving that. To run the existing [business] as long as possible, not trying to develop everything at all ends, but being selective. Focused.".

The difficulty here was stated to be that people generally have a fear of losing the old business, which after all is what the very existence of the company is relying upon. But, that was seen to be where the intellect had to step in and realize that there are two threats; one threat to current operations and one threat to future operations. The interviewee said that:

> "If we do nothing, we might lose the business. But if we do something, then we at least have a chance. But the real threat is that we spend too much money on the wrong things, that we will not succeed.".

4.3.5 Impatience and difficulties in inspiring the client

New platforms were believed by interviewee C to constitute a potential threat to industries, with association to the key resources that is in it, or similar use cases. The interviewee went on to explain how use cases serve as a great basis for sparking client's imagination. But, that the drawback is that use cases are still not validated and that the client might already have tried similar things. He meant that once the clients state that they have tried something before, it is difficult to convince them to try again. Interviewee C meant that there are multiple reasons for failure. That it could be anything from bad timing and the market not being ready, to that they needed to do a pivoted version of the original idea. The interviewee explained that:

> "We (The Consultancy) approach [the introduction of a future concept] by making [the customer] see / be able to take in something difficult, and being able to structure it into something that gives inspiration, or clarity. That is the first step. Otherwise they will not dare to touch the subject.".

The alternative is according to interviewee C that you have enough insight to instantly present a solution, but that is rather a problem-solving approach. The belief was that you cannot solve the problems of an entire business group by simply introducing a standard solution. The Consultancy had similarly to other cases worked with ECCG in multiple rounds and interviewee C had worked with the board. During these rounds, possible approaches were explored for how to think, and do. The conclusion for ECCG was to establish an ecosystem, and to better observe and utilize the 1,2 million visitors a year. The interviewee believed that visitors should be better utilized by getting recommendations, and ECCG digitally communicating with them; doing a number of things. Different approaches and use cases were according to the interviewee then created to together make up the big picture. Once seen by the board, they had felt convinced that it is what they want and consequently started asking what it is that it actually means for the business. But, this was also seen as the situation where impatience shows. The interviewee explained that just like with consulting, people are used to dealing with problem, and not opportunities. Interviewee C stated that:

> "At that time the impatience slightly starts to happen. You are so used to working with the premise that there is a problem that we tomorrow will meet and find a solution for. [...] This is not the case here. Here it is an opportunity that should find. You are not looking for a problem. The problem is something that you are afraid will rise -

> that your competitors will knock you out. That's the problem. A problem that you always have. But, suddenly you start to see that in this digital part there is a clear risk that we actually can be eliminated. Someone else might have a better handle on it.".

During these years interviewee C believed that ECCG had shown impatience. Other consultancies were brought in to solve what was then described as the problem. According to the interviewee, ECCG simply wanted to know what to do. It was expressed that The Consultancy, and many others, sought to put in explorative work first in order to a good job. That way insights into the business could be gathered. The interviewee believed that successful performance has a lot to do with working closely with the customer, and doing customer development, in line with the modern theories on customer development. The interviewee said that:

> "We cannot provide an answer before we have carried out the work. It is not like we are sitting on insights that people who have worked in the business, or industry, have. If that was the case, I would have started my own business and not shared my intel. That's with respect to that you have to put in the work. This is a problem that even comes with design-driven development. The customer must mentally be ready to really see it through.".

Interviewee C stated that customers commonly expects a magic fix for how to digitalize their specific business. But, that it simply does not work that way. Interviewee C exemplified it by saying that:

> "We have customers who have ideas every single day. It's ideas, ideas, ideas. [...] We all have ideas. It has nothing to do with whether it may be relevant. At least not until you've tried if anyone actually wants it.".

The interviewee believed that success stories are based on people who with much industry experience or technological expertise, has an insight, based on knowledge, about something that they can change. Consequently they believe so much in it that they realize the idea.

Customers were described by interviewee C as feeling a sense of urgency which results in that they bring all sorts of ideas to the table. That they feel a need to do something, but cannot say what exactly. Consultants were stated to by no means be better at coming up with magical solutions. The interviewee meant that the chance must be given to systematically address the question of digitalization. This was said to be where customer's impatience usually grows. An impatience that grows as a result of that customers realize that the solution was not as painless as expected.

4.3.6 Customer focus

Interviewee C went on to explain that discussions around business ecosystems is hard because people have difficulty understanding what you mean by establishing one. That you have to explain that the organization has to learn to prioritize between different cohorts of customers. The interviewee believed that the key question to address is how the client might learn which customers they are not to spend a single second on. No matter if it is computational processing time or manual labor. The interviewee exemplified it by saying that:

> "[...] senior citizens at an annual general meeting - what are you going to do with them? They go there to have a nice time, you can not be thinking that: 'oh, these people give me a great opportunity to make money'. It's not likely happen!".

Interviewee C said that while you might be able to find an offer that can appeal to the segment of seniors visiting a general meeting as well, it is not a simple problem to solve. That it requires a new way of working where you start walking the walk and talking the talk. The interviewee believed that you need to practice for two to three years, which may sound like a long time, but that such decisions take time. The reasoning was that it is better to start too early, than too late. To earn insights on the way. In that way it was believed that you could help the organization ease into the discomfort that change brings. Otherwise, it was believed that you would in a few years ask yourself the question of why it has to happen right now when you have managed it well thus far. The key skills was stated to be to learn to think and act a little quicker, be aware, and observe. The interviewee believed that firms otherwise would not manage to parry when attacked by competitors that benefit from changes in the industry. Interviewee said that The Consultancy to address this looks at how to make the organization reflect and think by itself. The interviewee explained that as a consultant you not only think of your client, but the customer of the client

It was stated by interviewee C that you commonly work with some sort of operational excellence. The operational excellence was explained to often be about how to perform more efficiently i.e. how you can serve the food of a restaurant more quickly. But, the interviewee believed that it is not always about efficiency - performing the activities as quickly as possible. Sometimes it was better to focus on effectiveness i.e. spending time on the daily activities that contributes with most value.

Identifying the customer needs and differentiating

According to interviewee C you in general have to find your own personality. That you do not necessarily have to best, or the most digital. That what you need to do is to deliver a unique customer experience that is superb as a whole. To do so it was believed that you needed to get your priorities straight. Instead of worrying about others, it was believed that you should focus on where you as an organization want to be. The interviewee believed a lot in customer development. He meant that it is difficult in the sense that you cannot simply ask the customer; you have to find insights. It was stated that:

> "An example is where you get insights from not what they have told you, but from what you have understood, and then tested if it works. That would then be equivalent to being proactive.".

It was the belief of interviewee C that if you could solve the question of how to be proactive, rather than reactive, you would gain much success. The interviewee stated, in line with the classical saying about customer development that you cannot simply ask the customer what they want. He said that:

> "If we would have asked the customers what they wanted, we never would have had a current product. [...] Somewhere [Steve Jobs] understood that people walk around with cellphones and then saw indications that there were failed attempts. That there were shortcomings, and you might see that there was some technology. You put together the puzzle, and then you have to be brave."."

The divergence between the customer of the IT department and the customer of the firm

ECCG had according to interviewee D learned that a classic mistake is to assume that the IT department can distinguish between an internal and external customer. The interviewee said that:

> "There is a classic IT mistake, when talking to an IT department, such as the IT department I have now taken over. For an IT department, the customer could be anybody. It may be Anna who is at the reception or Joakim that does check in. For IT, the customer is both of these two. This is the first mistake - that you can not distinguish between what a customer is and what a customer isn't. If you do, it will make it much easier to innovate because then you know who you are doing it for. It is actually where the benefit lies.".

Interviewee D strongly believed that you should try things on the actual customer. Not on the person in the reception. That type of person was believed to carry with them an array of similar experiences that commonly counteract innovation. Neither was the belief that they would be willing to do something that may embarrass them. That they make a mistake or lose face.

Scope creeping

It was said by interviewee D that if you can get the smaller projects to work, you can scale it later. Problems rose from when you include too many aspects at once. The interviewee said that that:

> "If you chose to include too many aspects - from too many stakeholders, and you would like to have 100% fun from the start - you will never be able to do that. Aim high, it is like a cliche. Aim high, start small, scale fast. [...] We (ECCG) have done many projects. App-based platforms with iBeacons (technology that enables smartphones and other devices to perform actions when in close

> proximity), indoor positioning, and everything possible. We have tested over time - with guys from Chalmers University of Technology. Those times that it has gone well are when we really have kept it fairly small and tested things. Prototype-based tests. But, not accepting too much input from the business. The input you should take is that of the end consumer.".

4.3.7 Innovation

To create a change in behavior, interviewee C believed that methods for innovation could be a way to go. The problem was however stated to be that innovation risks becoming nothing more than a fancy buzzword. An example with regards to the organization of The Consultancy was stated to be that:

> "[...] you can for example look at [our organization]. Many are technically oriented and have a fairly realistic view of what can be done and so. But it remains a fact that none of them were among the people who cracked the idea of Skype, but still sat and thought that they knew everything. . . ".

Sprints

Interviewee C went on to explain that it is much about the insights and application. Customers may for instance ask what the point is of doing innovation projects in shorter sprints, that:

> "The difference is that you make things shorter, faster and are prepared to fail, and then do not consider it a failure. You keep looking for what you think is going to succeed. Then they say: 'is it so different to what we do today?' So you look ... 'you're doing nothing today, you're just waiting for a customer to complain in order for you to duck.'".

Motivating innovation

Interviewee C expressed a disliking for the need of having to find convincing arguments for digitalization. Simply because it was believed to be really hard to describe its practical meaning;

> "[...] then you have to go into the technical mumbo jumbo and say that: 'this is cost-reducing'... 'ah, that's IT you mean then?' ...No, it's new business, it's about creating, and opening up for digital business. When the business itself becomes digital it will be so obvious that you have digitalized."

This was exemplified by that if a lunch at a restaurant, which is very physical, could have been offered on a pop-up table for ten people, anywhere in the world, within 15 minutes. Then that was believed to be considered very innovative. The interviewee believed that people need to start using a service design thinking. This was further explained by that the interviewee stated that the digitalization word is difficult:

> "[...] if you knew exactly what it meant for our business, people would be able to do something. But they do not know, so the thing that catches on the best I think so far is to, which is very difficult, talk about the customer... to start thinking about the customer's needs and the customer development.".

4.3.8 Decision-making based on analysis and facts instead of feelings and experience

When it came to customizing and adapting the offers to the customer's need, interviewee D stated that you need to have laid the groundwork first. He explained that businesses should be built on analysis and facts. Not on feeling and experience. The interviewee believed that feeling and experience may work in certain cases, but that it is hard to measure its success rate. Hence, ECCG had according to the interviewee come to the conclusion that everything they do, including all their decisions, should be based on facts and data. In some areas, ECCG was believed to have come pretty far. Areas where they pursue this decision-making style with determination. On the other hand, some areas was stated to just have begun to explore it. The interviewee gave an example that:

> "We (ECCG) have changed a whole market department, from being a fairly classical marketing department, to becoming more - we've removed the market - e-commerce is the new - everything's analysis-based.".

It was explained that this is what retail has come far with, illustrated by firms like Zalando and Ellos. The interviewee believed that they needed to think more like them as ECCG is also selling products, just like any other business; no matter if it is toothbrushes or hotel nights. This was stated to have been the biggest decision. He explained that they would no longer run email campaigns a certain week because there was a belief that the shrimp toast would be a hit. Instead, based on data and facts, you would see what visitors do, and how they react to the interventions that ECCG would make.

There was more details, but in general that was seen to be the sum of it. If ECCG were not to pursue it, interviewee D believed that they would be stuck following technological trends and creating cooler stuff. He believed that they needed to start analysing why things are well, not just when things have gone bad, but also when everything is operating smoothly. It was believed that by creating this thinking within the organization, they would be able to know why things have gone bad, if poor results were to happen. The fact that ECCG was currently running really well, the interviewee believed to be a risk. That it is to your disadvantage when things appear to be too well and you stay busy and keep pushing on instead of analysing. To spread this thinking was according to the interviewee seen as a very important priority for the board. The interviewee said that:

> "Before you set up a business plan, use data. Do not put the business plan and then bring in technology to prove it. That's the wrong order. It is to a large extent the responsibility of the board and business group management to bring this from top to bottom. It's a lot of work, but it's very very important.".

ECCG was stated to currently be sitting with their new business plans so it was difficult to provide any insight into how they would turn out. Instead, the interviewee spoke about what they had looked like before. It was stated to be important that the new business models would be different. That the board had a tendency to think them through more and accept more input than what had previously been done. Previously the approach had been that you would sit down and from a business perspective, establish a business plan based on an incremental target. It was never based on any real facts, analysis of why and how, or the potential impact. The result would be derived from an instinct of great precision, monitoring of the external environment, experience, as well as a drive, and willpower to see it through. Hence, there was never any proof of that it is trending in that direction, or similar. The interviewee said that:

> "If you are going to be a bit harsh, you usually set up a business plan, and then you apply some technology as the cherry on top. It should look cool! I'm of the opinion that you should be cocky; it's the technology that will set the business plan. It is the IT department that will be in the front seat. My wish is that [the IT-department] will be at the front, leading the way. But if you have not understood this, then it will be nothing more than a fun, flashy thing at the end. To show that we can. But, it does not contribute with anything to the business. It will just be an order-recipient-delivery product.".

Interviewee D expressed that this was the great difference when you historically look at the years that the interviewee had been part of the organization. The interviewee stated that ECCG for future business plans were now trying to consider other factors than the purely financial. No matter if it is about the construction a new building. There was a belief that there must be data that you could look at.

4.4 Technology

It was stated by interviewee D that there most likely had not been any intentional initiatives to differentiate from the competition or surrounding environment. From a facility perspective, it was believed that ECCG had extremely good and extensive infrastructure. It was stated by the interviewee that ECCG a week from the interview were to receive an award for being one of the best facilities in Europe of their sort. In comparison to other fairs, it was said that if you go to a fair in Germany, you would not even have proper WIFI. The ambition of ECCG was stated to be to always have functional, modern, technology. The interviewee expressed that:

> "Later... and that's what the thing is; Modern technology is not digitalization, it's just that we have modern technology. Digitalization is about making decisions based on that the outside world is changing so quickly that we have to change the way in which we make decision and organize ourselves.".

Technically speaking, ECCG was seen by interviewee D as a very modern facility (in comparison to others). It was said that it had everything from the most modern projectors, to WIFI. Everything that you may need. But, from a digitalization perspective, they according to the interviewee could despite this not be seen as organizationally mature. However, slightly dependent on the different industries in the business group. But, no one in the same industry as ECCG was believed by the interviewee to be. The interviewee said that:

> "[...] I do not think that the industry has really understood where to go... you have focused more on technology, and if should you want to stand out you acquire a flashy ticket system or something. But it does not say anything about digitalization, it just says that you bought a new system. It does not tell you anything about what the company is like or how they act... How they adapt to not be overtaken that day someone else decides to do something.".

The interviewee highlighted the cases of Expedia and Hotels.com within the hotel industry. How they have digitalized and that everything they do is from a digital perspective. It was believed that it is all about adapting and for ECCG to be more like them. But, simply buying a new booking algorithm was not believed to make them any better. It was believed that they needed to start acting in a different way.

When looking at the big picture, ECCG were believed to technically be leading the way. It was said by interviewee D that they enjoy having the latest gear and the most modern equipment possible. But, in terms of digital maturity, it was stated that ECCG have quite a way to go. Currently they were working really hard with it. Interviewee D said that they needed to get it into the culture:

> "[...] What does the digital journey or transformation mean' - What does innovation mean for a company?'. It is from the board and group management, down. How does it affect how a board should act? How a group management should make a decisions? How does it affect how to do a business plan at all? How does it affect what we are going to take a bet on? How does it affect how we look at our industries? Today, we see [our customer segments] as, like I said before: 'leisure', 'MAJS', etc. Is that how you should see them? Is that the way in which you should see them from a digital perspective?".

Another perspective was believed to be to perhaps look at them by age categories, or maybe by millennials and others. It was stated by interviewee D that:

"These questions are those that allow us to get a digital maturity. To realize that it's going so fast that we'll never be able to keep up. We will never be at the forefront of technology, because it's too expensive. But how can we do in such a way that we can be good enough to take smart, balanced, and analyzed decisions in [how we act and] what we do... If we can achieve that, then we are digitalized. That's what it's mostly about.".

4.4.1 Technical challenges of multiple developing parties

While working on the Extranet project a big difficulty lied in that the IT-manager was often hacking around in the system. This was according to interviewee A believed to have caused all sorts of complicated problems. However, it was expressed to potentially be attributed to personal levels of disagreement. The interviewee explained that a result of this hostility was that most solutions made by The Consulting company were quick fixes. Fixes that sometimes turned out really dirty. An example was that:

"There are not that many programs where you will find a method called 'Do Magic Stuff', but it does in this project and it is a method that is running. It clearly displays the level code-quality; not the best. It is not due to lack of effort on our part, but is entirely according to instructions from the client; that's the way it was supposed to be carried out". The interviewee expressed that the project barely had any testing at all and that the few tests made was carried out in the live environment. A live environment which according to Interviewee A was based on old machines. Under the circumstances, it was believed to have been a great problem as there was no source control.

It was according to interviewee A clearly communicated from the consulting company how quick fixes would be troublesome further down the line. But, whether it was taken seriously depended according to the interviewee from time to time. Interviewee A however still believed that the relationship between the two companies was well and with a feeling of mutual respect. It was expressed that there was never any bad will.

4.4.2 Aging technology

In retrospect, interviewee B believed that the Extranet project had been carried out well. A dissatisfaction was however that the project had been initiated during a technological shift and that the development group instead of waiting six months for new uncertain technology to arrive, developed the system with the safe, old technology. Otherwise, the deadline was not believed to have been met. Interviewee B was happy with the decision but also stated that the general use of that specific technology had faded quickly. Hence, the technology became troublesome down the line as new technology became much more preferred. Interviewee B stated that:

> "[...] this project started in the middle of a technological change. We did choose to [use an existing technology], instead of going after what they said should be released before launch, but still half a year after we start implementing things. The uncertainty meant that we did not dare to take such a bet. Instead, we took the old dying technology and built everything with it.".

The Extranet project was according to interviewee B built with a technology known as ASP. ASP had then later been replaced by the newer ASP.net. The former technology had had a native structure that combined different parts of the code. Thus, the code for logic, graphics, and control had all been combined into one. The consequence was according to the interviewee that it became difficult to maintain and restructure. In comparison to how programming works today; separation between different code areas that require different expertise. Something that was non-existent for the Extranet. Today it according to interviewee B is significantly less cluttered because the design can be built all on its own. The result of using the old technology was stated to show primarily through poor performance. Even if performance was stated to generally not be an issue, it was seen as an evident limitation in the older technology, ASP. Further, the old technology according to Interviewee B lacked the extensive functionality that the newer technology offered. This was believed to both have been noticeable for the programmer as well as the end user. In terms of the programmer, it made it more difficult to perform multiple operations and talk to other services. In terms of the end user, the design was believed to have been lacking.

Interviewee B explained that more modern technology had been introduced in combination with the old when interviewee A had taken over the development. But, much of the groundwork were believed to still have remained. In other words, the original database and the data model. Even if the foundational part of the system was believed to have grown significantly since the start of the project.

4.4.3 Synergies between systems

Digitalization was said by interviewee C to revolve around more than a new system such as a customer relationship management system. It was nevertheless believed that the system could be part of the digitalization. Simply, because you could connect it to more things. The key was stated to be how all parts are attached to each other. The interviewee stated that people may not say that an intelligently connected system is a digitalization, but he believed that it in fact is, at least if it has been connected in a smarter way than others. The interviewee expressed that some may say that The Consultancy is digitalized because they have a website. But, that it is incorrect because the value proposition itself is still carried out by people. As such, it was stated that the value proposition could not be considered digitalized unless it was the case that the programming was instead carried out by robots, or similar.

Digitalization was by interviewee C seen as very multi-faceted. The question for ECCG was explained to be to discover what they could digitalize and sell, as well

as how they can make the business itself digital. Not merely the support systems. Interviewee C said that the taxi app Uber could be considered digitalized because they for example have artificial intelligence that performs a lot of calculations behind the scenes. Because it is digital. But, that it is important to note that it is quite debatable as it still is a man-driven car that comes to pick you up. Even though Uber have plans to eventually use autonomous cars instead. He meant that Uber has a clear vision for where they want to go, no matter if it takes two, or twenty years. The interviewee also highlighted the difficulty of predicting where the market is heading. The interviewee explained how it is really obvious that the laggards of digitalization will eventually be left out of the market and that it is an evident technologization that we are seeing. That it is not just about inserting a computer or certain software, but that it is about core business models. The interviewee exemplified with Uber and said that:

> "[Uber] may be too early, or they might not be. But we'll see what happens when we actually have a vehicle that does not require a driver. That is something that a regular taxi company is not even close to come by. [...] if I was a taxi company now... then I would feel: 'what do we do when the autonomous cars come? And we have no system to control our cars?'".

4.4.4 Integration debt

Interviewee D expressed that there are things to be discovered in the data that is less attached to the business plan. But, that ECCG had not come far enough yet. As part of a network known as the Innovation Pioneers that consists of large corporations, the interviewee had realized that they all have the same issue. No matter if it is Stena Line, or Volvo. That it is much about the culture and that they all have a fairly big 'integration debt'. Historically, the interviewee explained that the integration debt refers to that you have had a lot of silos. Each silo with their own systems. In addition to the overarching economy systems. That it all together has created a lot of complexity - a debt. The interviewee explained that:

> "Historically, integration has been seen as a way to shove data or numbers from a source system into an accounting system - that is it. You have not seen integrations as data storage capabilities, to be able to view data, to be able to cross-analyse and [find data-based insights]. How can you then see the impact of business plans and what is not included in business plans?".

The common scenario, as well as the case for ECCG, was portrayed to be that you are limited to file based integrations and nightly runs that shift data to blackboxed electronic resource management systems. Interviewee D explained the importance of integrations by saying that:

> "We (ECCG) have changed that now by saying that integration is the most important thing we have. That's what will be the

> opportunity for all innovation - because we have no way of proving anything or seeing outcomes of anything unless we use the integration as the basis of what we do, or proof of what we do. It is not certain that we can measure it in numbers and cents, but we can look at data flows and data quality - how it is affected.".

The journey of enabling integration was seen as long and had already begun. ECCG had over 100 systems and the approach was to practically start in one end. This had according to interviewee D quickly showcased its effect by that they had gained high quality data. The interviewee explained that he the day before the interview had had a presentation on how the hotel previously had had no knowledge of whether a certain customer was the most important fair-customer, and vice versa. It was stated as obvious that the most important fair-customer should receive different treatment from the hotel.

4.4.5 Openness and testing to get insights

As part of this and to make ECCG more open, interviewee D had promoted collaborations with start-ups:

> "So far, I have here at the fair done some projects, both with students from Chalmers University of Technology and others. Many startups need other things than money. Often they have an investor and want a case where they can prove their product. What I can offer is a facility, a test bed, which actually resides quite many industries to test on. You get access to everything we have, the full register, completely open; do what you want.".

So, instead of offering money, ECCG were stated to offer access to data and guests. Then during the trials the start ups could according to interviewee D potentially identify seeds of a business cases that they can pursue. But, that the key was to enable them to do so by testing the hypothesis over and over again. It was said that it would be impossible to know from the beginning. Interviewee D exemplified that the start-ups were allowed to:

> "Put up as many iBeacons as you can, run how many trials you want, you get an office, get seated here... which makes the expense very small. It works if you manage to trim it, which you sometimes manages to do. So that is the way we have done it really. We are looking to instead of money offer what we can... you get access to our customer data, you can ask our guests questions, you can run tests on all hotel room prices we have had over the last three years and test your algorithm, or AI. Everything you have to do to determine if it works as you thought [it would]"

These tests were stated to be carried out in order to get realizations. Realizations that in some cases would indicate that things may not turn out as it was believed that they would. An example that they had had at ECCG was an attempt to

install indoor navigation assistance for the guests, together with students from Chalmers University of Technology. The interviewee stated that an assumption that had turned out to be incorrect was ECCG's assumption that it was really important to be able to navigate in-doors in the exact same way as you would when driving a car. Interviewee D said that:

> "[...] when we tested it on the customers we noticed that the customers have no interest in knowing where they are at all times. On the other hand, we (ECCG) learned a lot of things in saying: 'this is what they are doing.'. We could see flows, we could see heat maps depicting how visitors moved which [gave us other realizations]; then we can use this technology for this instead!'".

The insights had then according to the interviewee lead to that ECCG after a long journey ended up with a different variation of the original product. A product that the start-up had then taken to market. In retrospect, interviewee D believed that:

> "[...] there was some kind of symbiosis where we helped each other. With a relatively small economical effort from both [parties]. Instead of from the start trying to raise money despite not even knowing where it is [that you are heading]. Then it is very difficult.".

The belief of the interviewee was that the core of digitalization revolves around that you should be able to do things without people startings to ask a lot of questions. Interviewee D expressed that:

> "It's the core of the whole digitalization - or the degree of [organizational] maturity - if you have to [ask for permission], then you're not digitally mature, then you have failed. That day a board or whatever it may be, when you can do such a thing [as performing trials] without a single question mark. That this is how we do. Then you have reached a high degree of [organizational] maturity, which means that you can succeed in digitalizing, or what ever you may want to call it.".

It was believed that this level of organizational maturity was difficult to obtain, no matter the company. The reasoning being that the big question always revolved around how to reach such a state. It was expressed by interviewee D that the part that is far from easy is that:

> "You're always stuck in old processes, old routines: this is how it has always been done, this is how we do it, this is the accounting process, this is what you're measuring...'. If you still have these it will be very difficult. Many companies create innovation labs and whatever they call it to 'run alongside the highway'. In a broader perspective, to be able to do things. There are great examples of those who have succeeded, but eventually you also have to lift it back in, if it is going

> to be part of the business. Then all the strategic and cultural must be in place too. That this is how we operate when we move forward, if we are to succeed.".

It was stated that there are no secrets within ECCG. That was something that the interviewee was working on both here at ECCG and in his networking with other companies. Especially with Stena Line. Interviewee D he explained that:

> "If you have the knowledge, then it easily becomes frustrating when you are in an environment where you see that there is no technical [involvement]. Then you can not see the relationships. If you do not, then it's very easy to make the wrong decisions based on risk [minimization] / experience. . . ".

It was highlighted that there is a reason why people would vote for Donald Trump to be the president of the United States; you do not want to change. The reasoning was that it was similar to the digitalization. Interviewee D said that:

> "[...] there is a little bit of the same effect on digitalizing; you try to stay away from it because you are afraid of what is coming. This is why this type of education / knowledge / services about digitalization must exist in all companies. It is not enough with one person. [...] Usually you need external help to say the same thing. [...] There must be many who repeat the same thing. It has to be like a mantra in order to gain effect. It is in other words nothing that you will achieve in a jiffy. In some cases it may take several years before an acceptance has been reached.".

4.5 Market

Interviewee C believed that the best way to support a CEO is through envisioning different scenarios based on opportunities and threats. The opportunities would then involve assumptions about the possibilities that exist and why it would be beneficial to attach the business to certain industry trends, or trends of similar industries. Especially if you could identify another firm that has succeeded in some aspect. Then it was believed that you could connect it to your own opportunities.

Next, when looking at threats, interviewee C believed that a good way of mapping threats was by looking at 'what if'-scenarios. To actually map the consequences of different changes in the market. The interviewee provides examples of unforeseeable changes in society; Uber's way of providing transportation, Foodora's cheap food delivery service, and how the beer culture had changed as a result of that it became easy to brew beer at home.

Interviewee C stated that an opportunity may seem much more pleasant than a threat. Interviewee C explained that Gartner back in 2016 had written about

platform-thinking in one of their report. He meant that this was a real game changer because a thought-through platform did according to research always come out on top in comparison to a stand-alone product or service. That a car on its own would most likely not provide the same value as a car in interplay with other products or services. He meant that it would then be about maximizing the value and providing the best possible experience for the customer.

In the scenario of platforms, interviewee C described that if you as a company see that historically stable industries are changing, then you must be extremely scared that it may happen to you as well:

> "[...] that you actually deliver something that feels like a brand new product. In that situation, if you can see that someone else has succeeded in changing an equally sluggish industry, you may be very scared of the thought that: 'what if somebody would do the same thing to us?'".

Why firms seek help with digitalization
According to interviewee C, ECCG is still in about the same state as when the collaboration between The Consultancy and ECCG ended. It was the belief of the interviewee that the organizational structure causes change to take extra long time. The primary cause of customers of The Consultancy wanting to change (including both ECCG and others) was believed to be the impact of trends, together with a lack of tangible ideas. The interviewee expressed that this shows through that impressions from a firm's customers, as well as the market, points towards that there is a need for something new. Something different. But that the customers of The Consultancy generally lack a key insight; how. It was stated that:

> "It is not just to say that it should be possible to turn [the business] into something new, you must actually crack the case too. You have to find the insights.".

Interviewee C believed that the reason why most customers seek help is that they feel a need to keep up as a consequence of that they feel that society is changing. The interviewee explained that you see changes in both your private life, as well as in the market, and you get stressed because you know that you need to do something. He went on to explain how companies live in stressful times and that these difficulties usually can be managed through time, in one way or another. But, that there of course are some that take a frontrunner position and push for change. The big challenge with digitalization was stated to be that people rarely have a concrete idea of how, and that it simply put is really difficult. In this, organizations are stated to have to mentally map the current position and then to begin aiming for a new one. Further, interviewee C said that the typical way that firms approach becoming digital is by creating an app, which to a large extent also was the case of ECCG.

4.5.1 Choosing the right future scenario

In the case of ECCG, it was stated by interviewee C that a competition analysis would most likely include everything from online seminars, TED-talks, to someone putting up a modern summer tent for congresses. Therefore with such a big facility as ECCG operates, it was believed necessary for them to continuously look for opportunities of renewal. Further, the case of ECCG's digitalization was said to by no means be an easy case to crack. The wrong bet could severely hurt the business and if for example online seminars would be the next step, an insight could be that the thousands of square meters of facility would be nothing but a cost. Hence, the interviewee meant that if that indeed is the future, it would be a difficult truth to face. But, that then you would have no choice but to digitalize by adapting to it.

Interviewee C expressed that it is a complex question to decide in which way to digitalize. Even more so when the business model as in the case of ECCG is built on meetings and relations between people. Something that the interviewee meant is very detached from digital.

Interviewee C said that with a process- or service design thinking, many opportunities can be found. It was claimed that digitalization to a large extent revolves around automation and digitalizing flows that people want. Especially in the case of ECCG it was believed that technology could assist in keeping track of specific needs, and by doing so provide individualized offers that would result in greater sales figures. That customer needs and behavior could be predicted with the help of a modern information base. An information base that would be built over time, and be combined with powerful tools of analysis. The interviewee expressed that this would then be similar to how customer profiling is made. In the case of ECCG, it was also believed that profiling would be fitting. The interviewee meant that it would be fitting due to the fact that every action that a customer makes within the boundaries of ECCG's facilities could be mapped; everything from purchasing patterns to who you meet in the restaurant, and consequently split the tab with. However, that were then stated to depend on the level of abstraction, as the nature of digitalization of firms is multifaceted. Interviewee C said that:

> "[...] if you look at the entire business, then you would have to use a much broader perspective and look at it like this: Will we be wanting to meet in the future? How long time does it take until a customer wants to have an event? [...] [G]lobal customers may want to have it recorded and streamed - at the same time.".

Deciding on the future and competitive advantage When asked about how ECCG would reach new customers in current markets, interviewee D responded that it is much about internationalizing. ECCG had expanded from being a facility with 750 rooms, and 45.000 square meters, to 1200 rooms, and even more space than the original 45.000. With this, ECCG was believed to have become roughly one out of five in Europe, with facilities of this size and capacity. That

had according to the interviewee granted them access to a new market and different customers. The interviewee stated that the competitive advantage was that:

> "[...] [ECCG is located] in Sweden's second largest city, not Stockholm, but in Gothenburg. Our close proximity to the city center makes us quite unique [...]".

To keep up growth, it was believed by interviewee D that:

> "Should you go any further - a big part is that we (at ECCG) may need more hotel rooms; to reach and take even bigger congresses. Then back to that - yes, maybe we could do but have we really analyzed why and how? / in what way? That's what I would like to say is the key. [...] On one hand you could say that it's just about expanding more; more square meters, more hotel rooms... in the end you will have milked that cow until there is no milk left. You cannot just keep on building. If you think from digital perspective then maybe that's not it.".

Interviewee D speculated that:

> "It might be about completely different things, but now it becomes quite visionary, it's hard to say. You can not say that much. But, one can think of completely different ways than expanding the square meters - what should we fill them with? What would you like to do in 15 years when you go to Gothenburg, or what is it that would make you want to be here at the [the fair] and do what? Could [the assets of the fair] be a breeding ground for start-up companies; we have almost infinite space, let them be here and innovate instead then... those who can. . . ".

4.5.2 The supporting role of consultancies and customer development

The role that The Consultancy had had in the case of ECCG was described by interviewee C to be to inspire and set the standard for how they should work. But, with focus on improving ECCG's business, instead of merely looking at how ECCG could digitalize. The interviewee meant that what they should have done was to explore whether the customers of ECCG actually wanted digitalization, and if the customers knew what they wanted. Instead, it ended up being much guesswork as ECCG rather wanted to make predictions about the future of the industry. The interviewee meant that this guesswork had no relevance at all. He stated that:

> "We saw in the whole customer development work that you had to start there - and they had begun to prepare a bit - because we had a

> number of sessions with them over several years. You have to work with the customer. That's a part of their customer relationship strategy.".

The interviewee meant that it for ECCG involved a change towards being more customer-driven. But, the interviewee had found the self-image of ECCG to be a major obstacle. Disagreements had occurred over that the board at ECCG saw the company as customer-driven. But, the interviewee explained how they as the consulting firm in fact saw the complete opposite. Interviewee C had told them that: "You (only) have a couple of people who knows how to do it..". He meant that those who were customer-driven had it as a natural talent and that it did was not the result of any directive from top management. The interviewee said that:

> "There was one [...] that was a star - a natural [customer development] talent - just like that. It was nothing she thought about, she just did it.".

Interviewee C believed that if you in the customer development work carry with you the thought of digitalization and effectivisations, that is where you will find the new business opportunities. He said that when you are out talking to multiple key customers and ask them what they are missing and where they are heading; this is where you can identify new value propositions. Further, that if it is digital - it is also repetitive. A repetitiveness which is great from a business perspective.

ECCG however according to interviewee C never got as far as customer insights. It was stated during the interview that they were not interested in such cases. Not even when they have cracked cases. Not even when it came to internal opportunities. The Consultancy had learned of a case where the technical department had been in contact with a supplier and gained new insights. Many bad investments were said to have been made due to impulsive decision-making. That the organization had jumped at cool, rather than validated ideas. Interviewee C said that:

> "If you have not thought the whole thing through... You just look at one specific part and then end up with even more technology silos... [...] but that is much of the work that we do now that it's... everything is a damn ecosystem of contributors and rewards. You have to switch, and think hard about it. You may not be able to buy a certain beacon or a wireless network without thinking: 'how is this associated with everything else?'".

It was highlighted that the goal is to identify the gain from new initiatives, as well as to put things into a bigger perspective before engaging. To illustrate an example, the case of IKEA was mentioned. The interviewee meant that it in the case of IKEA is evident that they would not be as successful without the cheap food sold in the restaurant. The point being that the business as a total benefits, while the restaurant business may not be profitable itself. Most of the undertaken

initiatives at ECCG were stated to be precision investments and that they first then made business cases out of them. But, usually it resulted in acute engagements such as enabling WIFI in the facilities. Because without it, people would not even want to be within the facilities.

In terms of dealing with complex problems like these, it from a standpoint of sustainability was stated by interviewee C that the approach depends from case to case. The baseline of the interviewee was that the bigger the question, the more interesting it is. If the customer of The Consultancy could not provide an answer by themselves, and not even The Consultancy, or any supplier for that matter, has a complete answer, then he thought that there was an obvious reason to work with the question.

4.5.3 Customer profiling

When The Consultancy had been having discussions about these changes, especially with ECCG, it was stated by interviewee C that they needed to be nuanced. Interviewee C exemplified that nobody would find it feasible to be able to beam people in a nearby future. But, if that would be the case, then you would have to take precautionary action to prepare yourself for that scenario. In the case of ECCG it was stated that their best bet would be to find out as much as possible about their visitors. Simply, because it was seen as an excellent opportunity for ECCG to be able to provide the right offer, at the right time; an opportunity to in a simple manner adjust the facility to the specific needs of their customer. In line with this reasoning, the interviewee stated that the role of digitalization is much about profiling and that there is a reason why ECCG is still glass, concrete, and hotel nights. He said that:

> "For many, digitization is profiling; knowing and having knowledge of what people can do and what they need / what we want to offer them (that they would like)".

4.5.4 Proactivity versus reactivity towards digitalization

Interviewee C thought that it in practice was almost impossible to be proactive (as opposed to reactive). The reasoning was that people naturally look around them and then get affected by the impressions that they get from their surroundings. That you need some sort of monitoring of the external environment to at least discover the possibilities that you have. Then you could as a business make validations of your assumptions. The evident thing was stated to be to quickly find out what the position of the customer is. Interviewee C said that in the case of ECCG, and others, that know that they are a small facility in comparison to others, they look around. The interviewee believed that ECCG has to differentiate itself to compete. The interviewee explained it as that:

> "The [fair] is really attractive in Europe and Gothenburg is an attractive city. It's easy to get there, it's not a lot of a congestion...

> lots of good stuff that they can use as part of their sales pitch. As a Gothenburg resident it sounds pretty lame, but as an offer, it's good, [...],you can walk to town, and so on. But if you compare [ECCG] to the big ones eg. similar facilities in Dubai or so, it's a completely different thing. [The big facilities] they get so much... they are light years ahead and have a whole different level of funds at their disposal.".

4.5.5 Competition analysis in the context of digitalization

When comparing ECCG's digitalization to its competition, it according to interviewee D varies across different industries. It was stated that the hotel for example is pretty far behind if compared to the flight or travelling industry; SAS and Ving. But, in comparison to other hotels, it was believed to generally speaking be in a pretty decent position. ECCG had according to the interviewee come fairly far with a lot of things. But, it was still considered that more things needed to be done. In the statement, it was also taken into consideration that the hotel is on its own and does not belong to a hotel chain.

It was believed that the fair industry in itself had not come far enough to know how it is affected by digitalization. Interviewee D said that:

> "There is a lot of talk about digitization in the fair industry. But most of the time, it really only revolves around technological development. You are talking about new types of technology. People speak about VR (virtual reality). They speak about everything that is possible... But nobody knows. They ask: 'what does it mean that we should do?'".

The interviewee expressed a personal belief that it might actually not be the case that the fairs should have technology such as VR. This belief in extension meant that the facilitators needed to make sure that they kept attracting customers. That you enable exhibitioners to adopt new technology, transform, and become more digitalized. As a provider of a fair facility the interviewee however found it difficult to envision how you would assume such a role.

The restaurant business was seen as the one the farthest behind, in comparison to the other industries that ECCG operates in. The reason was believed to be that it is a very classic industry and that it is fairly conservatory. Interviewee D stated that you practically sell food, drinks, and then does not see the benefit of digital technology in terms of providing a higher level of service. The interviewee however also pointed out Pinchos as one of the exceptions and that it had had some impact. But, it was not seen as especially innovative to make a digital menu. It was believed that you needed to do something similar to Pinchos, where you would be at the leading edge in terms of digital. Hence, the interviewee stated that there is much opportunity for the restaurant to adopt the digital.

5

Analysis & Discussion

This chapter contains the analysis and discussion of the empirical findings in relation to the theoretical framework organized into five main areas: Organizational structure, Knowledge, Managerial focus, Technology and Market. Each section is a result from the empirical findings, aiming to discuss how theory and the different interviews indicate barriers, opportunities and drivers of business model innovation within a digitalization context.

Throughout the text A, B, C, and D will be used as references to the individuals interviewed in the corresponding interviews. Further the acronym ECCG will be used as a reference to the Exhibition & Congress Center Group.

5.1 Organizational structure

This section discuss and analyze how the organizational structures setup within the company seem to impact digitalization and business model innovation, in the specific case of ECCG during it's different initiatives and also how they could be extrapolated into a more generic patterns.

5.1.1 Unfocused business impact

During interview A and D it was expressed that there was a confusion regarding who the work was done for. The interviewees referred to the complex relations between the Exhibition & Congress Center Group (ECCG), ECCG's subsidiaries, companies arranging the fairs (where some own parts of ECCG), the companies buying exhibition areas, and individuals visiting the fairs who could represent companies or their personal interests. This confusion lead to sub-optimizations where the development and consultancy hours at times had to be spent on figuring out which customer/-s in the value chain to prioritize and how to optimize the value created for them through digital interactions.

In the case of interview A, the previous process of finding the strategical purpose and goal of the digitalization effort had not been communicated clear enough. As a result the conclusions drawn by an external party such as A could end up being different to what initially had been intended by ECCG. Even ECCG's own IT department could be sub-optimizing as they carried out tasks assigned to them

not knowing how the task was meant to affect the end consumer. Hence, there was a barrier in communicating the overall goal and who the intended benefactor of the work was, making it hard to determine what functions to prioritize. This would also limit the creator, of the digital solution, in the ability to empathize with the customer and determine whether the solution really solves the problem as described in chapter 2.3.1.

The described barrier seems to occur in digitalization projects partly due to another barrier, an outdated view of IT making it a node in the organizational structure. The old view put the IT department in a position where it is being treated as an add-on to the business rather than an actual part of the business model. This view of the IT department's contribution and the rise of digitalization as a buzzword has resulted in expectations that IT should create or acquire software and hardware that would digitalize the business. However, the organizational structure has put the traditional IT department in a constant race to maintain the current digital assets, neither giving time, budget or the administrative power to drive a business impacting project like digitalization. These conclusions were supported in the case of ECCG by C describing that ECCG have an organizational structure that is slow to adapt to digital changes.

5.1.2 Assigning driving responsibilities

When talking about drivers behind the project, an employee at ECCG's IT department was mentioned. To the developing consultants he acted as a point of contact and a driver of the project's progress. The employee had a long background in the IT department and was considered to possess the information needed. The IT background would suggest less insight into ECCG's business decisions but very good insight into the IT structure. The problem found with this structure was that even though the responsible employee did a good job driving the project, the way the project was driven it got confined to the set business structures that were already in place, exemplifying how internal positions may have a hard time taking a holistic perspective when searching for solutions.

5.1.3 Capturing ideas

It is difficult to force employees to come up with good ideas on how to develop a business, no matter what position the employee has within the organization. But during interview A and B it was concluded that there had been ideas on how ECCG could solve certain problem areas or improve the solutions. The ideas had been coming from both the consultancy, the employees and the customers. The most common reason why ideas had been killed seemed to be financial restrictions, not allowing pursuit of the ideas referring to economic reasons. As digitalization is an ongoing process where changes to the current way of doing things will be a recurring theme, it seems that the structure could be better optimized not to waste natural born ideas.

ECCG instead entrusted short intervals of idea creation trying to find all solutions needed. An example of this could be found in interview B where a strict deadline

was set for when the first creation interval should be finished. The deadline appeared to have no regard for the developers estimated need for time, instead forcing them to prioritize and adjust. From a developer perspective it would seem more effective to allow for evaluation of the idea long enough to understand if the initiative is developing in the direction the business wish to take. However, there is the risk of sub-optimizing as changes in some cases would have been more effective on a larger scale. Cases where the small ideas that are closely connected to the current business would become obsolete by larger changes. This is a systemic barrier that should be solved by a changed mindset regarding continuous development. That mindset relates to an area described as organizational maturity that has repeatedly been mentioned throughout the interviews about digitalization and business model innovation.

Another reason behind the strict deadlines and the ignorance for the developers time estimations was also time limitations created by financial regulations as projects had to be finalized and billed due to tax reasons. This effect would not necessarily have occurred if the project was kept internally.

5.1.4 Communication distortion

Another problem expressed during interview A was that ECCG has not been initiated enough in digital solutions, on a managerial level, to be able to specify what they ordered. This allows for a creative freedom but on the other also makes it hard to determine what functions and type of products that serve their intended goals the best. This lack of knowledge in ECCG's management created a barrier. A barrier where either management with a lack of knowledge in the areas to manage or employees non-initiated in the large picture will have to convey what wants and needs they perceive in the business. Both scenarios created a distortion of the information resembling the game Chinese whispers according to A. As these information distortions appear due to a lack of knowledge the problem is a two-way street where both top-down and bottom up communication get distorted. A side-effect is also that horizontal communication can get impacted as the distorted message can be interpreted differently, creating confusion on what the work is meant to achieve. A's statements regarding the different sources of input for what work to be done also showed that these distortions created also problems related to information's travel distance in general. The further away from the source information had to travel before reaching someone able to act on the information, the less accurate the action was able to be.

A paradox found during interview A what that it was perceived easier to determine what a 'good solution' would be when presented to the customers issues, but easier to take action when told what functions to create.

5.1.5 Legitimate resistance

As mentioned earlier, one of the drivers found for company management to invest into digitalization is to save money. Saving money through digitalization is based

on effectively reducing costs, which can be done in several ways. The cost reductions related to digitalization that was mentioned in both interview A, B, and C primarily revolved around reducing the work spent by personnel performing different tasks. Even though D expressed that the goal was not to reduce personnel in their digitalization effort, a reduced time spent on delivering the same values would result in a lowered need for the personnel performing it. This is a reasoning that becomes quite clear to the people involved as they get less and less to do in a successful digitalization effort. As a response a resistance to changes that are making certain tasks redundant jobs is formed by the affected employees. Even though there were drivers pro digitalization for the affected groups as well, reducing monotone work e.t.c., it is hard to motivate employees to engage in digitalization that potentially endanger their employment. This impacts the digitalization negatively as those closest to the change are disincentivized to share their insight and may actively work against its introduction.

D argued that there was no intent to let people go, instead the digitalization initiatives intended to redirect the personnel's time to tasks that would strengthen the value proposition. Even though the expressed intent is true, there are two areas contradicting this statement. The first is that the drive for increased value does not seem to overcome the drive for cost reduction in previous argumentations behind how decisioning has been made. The other is that the reduced personnel needs that are created during the digitalization have a high probability to be in a different competence area. To expand the business by creating new positions to strengthen the value proposition is certainly possible. But, with the value proposition in mind it does not seem likely that the best cost/benefit ratio would be found creating new positions utilizing the same competences that the organization just made redundant through digitalization.

5.2 Knowledge

The knowledge section analyze how an organization's possession or lack of knowledge in different areas has been indicated to impact business model innovation and digitalization efforts. Whether it is knowledge on an individual level or knowledge throughout the organization.

5.2.1 Lack of competencies

The way IT has been treated as an area of technical expertise, not involved in the business model, has also framed what type of people that has been recruited and the way they perceive their task. The separation from the business model seems to have created a department that possess the knowledge of what is technically possible and how to create it but not involving it in the process creating the business model. For example, A expressed not having the complete skill set for digitalization, leaving the explorative and visionary ideas to someone else where A stepped in when it was time to implement it. The described structure would create a high dependency on intermediates or employees able to work both angles of digitalization as they have to shoulder the burden of translating between idea

creation and implementation. According to the interviews there has not been any positions focusing solely on this work but instead the task has been placed as an additional task for the current IT-management.

5.2.2 Unfocused need

Several drivers to digitalization were mentioned during interview A. The ease of access for customers by supplying an online platform, allowing self-services like customizing and booking booths and similar activities. This would relate to the Business model canvas presented by Osterwalder and Pigneur (2010) at several points, adding a channel (CH) to customers, enhancing the value proposition (VP) and lowering costs (C$) as the work performed by ECCG became more effective as the input became standardized, decreased the amount of paperwork and provided forms formatted in a way requested by ECCG. A positive side effect also was that it decreased the monotone work for ECCG's employees, something that also was mentioned as a driver in interview B. This change should however not be considered a key activity (KA) as it does not constitute a vital part of the value delivered (VP). The online platform also allowed for a new way to promote additional offerings to inform the select customer groups, allowing for tailored marketing. All these values were easily recognizable improvements but the way the project's goals were described during the interviews still gave the impression of an expressed need where the reasoning behind why it was needed and which of these areas was the target, had not been explored.

5.2.3 Digitization instead of digitalization

The way the digitalization effort was performed as a complementary effort, relieving burdens by digitizing some work tasks, it seemed like it was used to patch cracks in the business model coming from an unfocused, bundled, business model as described in the theory. The reason that most of the work became digitization instead of digitalization seemed to connect to two things. First, the communication distortion described earlier in combination with the IT departments legacy of performing maintenance related tasks rather than envisioning best case scenarios. Secondly, the goals were set in a way that did not communicate the larger vision of the investment, a problem confirmed by D. The reason seemed to be a fear of relaying ideals that would require more time, money and work than management was prepared to spend. This also resulted in less effective work as expressed by A since some functionalities could have been taken a step further, being remodeled all together and carried out inside the digital systems, never surfacing to require time from the employees. The reason behind this inefficiency seemed to relate to the work order's focus on what the software was going to do rather than allowing space for what it had the potential to do. A different approach would be presenting the goal of the work process and allowing the technical expertise to choose what and how to integrate the software in accordance with it, at times reshaping the work process. This reasoning was also supported by D, expressing that many tasks assigned to IT had been to

implement new systems in an attempt to effectivize, rather than applying their knowledge to effectivize what was already there.

5.2.4 Software's popularity

During interview B an unexpected driver was brought to surface; popularity. B was referring to a certain way of solving business issues via the software type denoted as Extranet and that the solution was chosen because it was a popular addition to the current businesses. Note the difference where a trend from a business perspective would refer to a direction of change rather than what tool should be used to digitalize, e.g. digitalization would be the trend and the popular solution would be the Extranet. Hence, the popularity mentioned would be something a person that is involved or interested in the technical aspects of digital progress would suggest and not necessarily connected to how business was performed or a person that had heard about how other companies managed their digitalization by using a certain solution. However, a solution introduced as an add-on to improve the value proposition, especially a standardized software, would not be able to eclipse the subject of digitalization, but maybe act as a piece in the puzzle towards becoming more digitalized by digitizing a few work tasks. The conclusion from the interview is that even though the Extranet solution itself would not have a strong digitalizing effect it would still give insights, create acceptance and be easier to relate to a digitalization effort at a later stage.

5.2.5 Digitalization driven by employees private life

During interview B it was described how Microsoft's MSN Messenger was used to communicate in the organization. B mentioned it as being the primary form of instant messaging. An interesting factor regarding digitalization is that MSN was one of the few alternatives available at the time for private use and a part of Microsoft's standard software suite included in Windows, at the time. The reason why this is interesting is that it is argued in interview C that there is a hidden driver in people's private life. The driver surface when people experience a discrepancy between the efficiency of their private life and a less digitalized working environment. This could be the reason behind the a natural adoption of MSN that occurred in the workplace, the translation from using it in a private setting to a professional setting had very low barriers as it was already adopted by most individuals affected.

5.2.6 Individuals value

One effect found during interview B was that digitalization with personnel reducing impact changed the balance in the business model. As manual labour became automatized, less work was needed for the same output. The reduced workforce and their competence became more pivotal in the value creation. In contrast, the industrial revolution had key resources tied to technology, large machines e.t.c., with a workforce that to a large extent contributed to the value creation in shear numbers. A workforce with low levels of technological

understanding that was easy to replace. The digitalization seem to have the opposite impact as there is an abundance of technological tools, computers, phones e.t.c., and they are in most cases easy to replace whereas the people and their competence act as the catalyst for the value creation. Digitalization thus seems to push a select set of employees into becoming key assets to companies and digital assets towards becoming a commodity.

This effect of commoditizing hardware puts a larger burden on a limited set of employees within a business as they become key to the value creation. The result is an increased vulnerability to losing specific individuals as their abilities can be unique. A weakness created by the digitalization is thus that it will take longer to attain and be harder to define competencies making individual's hard to replace. This shift is happening at the same time as the market is becoming increasingly volatile, with the digital development pace being one of the factors. Hence, for companies to sustain a stable position in their market there is an increased need for competence redundancy in case of key employees leaving, maternity leave, sickness e.t.c.

5.3 Managerial focus

In the empirical findings the way management set their focus was described several times, primarily the negative impacts felt by employees or impact observed by consultants outside the organizations. These views are organized into different headings and discussed below.

5.3.1 Cost reductions

A driver behind the Extranet project was to save money, this is a concrete goal and easy to measure. But, even though saving possess these good properties it seem to have acted as a barrier in the case of digitalization as the goal of saving money had an impact on the project's finances as well. The limiting effects of keeping costs down suffocated creative attempts by only budgeting for work with clear purposes and clear goals such as work towards replicating current procedures in an online environment. The project did as a result not allow for any creativity or trial and error approaches. Thus, the project became more of a digitizing process than a digitalization project. Just as every other business, consultants aim to please their clients, which becomes a hindrance when the client can not be convinced of the gains a larger project could bring. On the other hand, not getting through to those in charge become an even larger internal barrier as a company management that has hired external help already have noticed, or been informed, that something could/need to be done and have decided to take action.

Another reason why the digitalization effort that ECCG bought became a digitization in many aspects was that ECCG already had quite distinct functionality in mind when hiring the consultants. The work to be done was goal oriented, a set of tasks restricted to rather small areas in the total business model. The restrictions made it easier to project what outcome could be expected, how

much money that would be saved e.t.c., but at the same time the restrictions took away the possibility of digitalizing the business model overall and benefiting from the digital possibilities created in a larger perspective. Both A and C described that the Extranet could have been tied into the rest of the business structure more effectively but got restricted because of how ECCG specified what outputs they expected and was putting a tight budget on those as it was.

5.3.2 Budgeting

As explained there are several areas that involved parties need insight into. But, there was also one barrier found that related to what managerial roles did not need to know. Just as the IT maintenance, some parts has to be left to the digital expertise to solve, which ECCG did. The problem occur when management is supposed to estimate what time and money should be spent on the digitalization effort without knowing the task they are handing out. This become problematic for digitalization in particular as the work often is intended to hide the complexity from the user and just ask for the most crucial input. Management then is in a position only ordering a function, where the knowledge they have is was what they want to give as input and the desired effect, without insight to how hard or easy it is creating the process behind it, as a result it can be extremely hard to make estimations on how much work will be required. In the case of ECCG, the trust seemed to fall short in how much money the desired output would require, slowing the process down, and at times making development cut corners, sacrificing quality and building code suited for a long term development. The barrier thus relate to how the structure around what gatekeepers there are to achieve a sufficient budget to achieve the goals set by management.

5.3.3 Constraints of a pain focus

When digitalizing, using a driver connected to reducing pains seem to become tunnel visioned on solving the pain, pushing for the most direct fix instead of exploring the reason behind it. Another reason is that an unintentional sub-optimization occurs when the company digitalizing chooses the fastest route to save time and money. As a result, they go for quick fixes. In this area there is however a balance to find between, a state that is as cheap as possible but still good enough. This is one of the reasons that the developer needs a good understanding of the core problem as it becomes his/hers responsibility to technically specifying at what stage a solution is good enough and at that point stop working. As new digital technologies has totally remodeled old ones there is otherwise a risk to over invest in what currently is considered the best. However, this does not mean that systems should be crippled by short term solutions as they will negatively impact how digitalization is built into the company over time.

As pains are easy to identify they are also easier to adjust for. However, adjustments to pains are reactive. As a result, to purely approach digitalization based on pains becomes a process of fixing problems rather that creating new values. A management trying to digitalize by focusing on removing pains will thus

have a hard time keeping up with the front runners of the market. A reasoning that was supported by interviewee A. This does not necessarily mean that a company cannot digitalize by removing pains, but the findings implies that it would be a strategy that you are more likely to see in a market laggard that is decreasing the risks of bad investments. What is dangerous is that the strategy also is increasing the risk of falling so far behind that the offer is not perceived as competitive. Even though much of the project became translations of old ways of working, small areas of digitalization did in some places shine through. Examples involve individual automatic reminders for both ECCG and the client regarding deadlines or restrictions on how a form has to be filled in to get accepted e.t.c. This becomes a digitalization as it is actually changes the work that is performed, not only taking manual labour and making it digital. However, these smaller digitalization efforts seem to enforce how the business currently works as they decrease the interest of taking a larger perspective by relieving current pains. As the solutions were presented it seem that the ideas were clear enough for everyone involved for them to make it all the way from the affected party to the developers, a clear logic of pain, what could be done, and that the change would save money. If any of the parties relaying the idea is unclear about any of the three areas, the probability of misinterpretation increases. As humans relate information they get to information they already have; incremental changes are the most probable to get through as it allows for the employees to tie them to the current ways of working.

The software implementations focus on relieving pains from ECCG was also running the risk of being sub-optimizations as ECCG requested solutions that were focused on improving current procedures rather that focusing on what the end-consumer needed. This logic also enforces the focus on how the digitalization efforts reduce costs as it does not present any opportunity of changing the model to a new and better way of satisfying the customer, just optimizing it. Another reason that this focus could lead to sub-optimizations is that the changes primarily affect ECCG's interactions with its closest customers; the fairs, whereas those consuming ECCG's services are the customers of the companies representing at the fairs.

5.3.4 Lack of follow up

Another conclusion that was drawn was that neither A, nor B got any information about how the project was going to be followed up upon after their involvement ended. As a result, they were not able to make any preparations, or a hand-off. The interest for documentation from ECCG's side seem to have been low over all, as most of the documentation from those technically involved was created and relayed at the beginning of the project whereas the Extranet collaboration for example kept up for almost 10 years. This should be of concern to ECCG as digitalization is an ongoing process and would lose efficiency by not being revisited. But, instead it was treated as a project at the beginning with clear start and end. Then left to run its course. This ties back to ECCG's understanding of what digitalization is. As A's and B's tasks in many cases was of a pure technical

character, fixing bugs e.t.c., the interesting areas to relay would be regarding what had not been done and insights about how the system could be reworked to better match the needs of ECCG.

The lack of a test environment during the Extranet development was also expressed as really bad as it exposed the functionality of the software by putting changes online immediately. However, this is something that also could be seen as a deliberate risk taken to push the pace of development as the consultancy would get very quick feedback which would be in line with D's comments about

> "failing fast and learn from your mistakes".

But, judging by A's skeptical statements it is both a very uncomfortable situation for the developers and there is also ECCG's reputation to think about as a faulty software service probably would impact ECCG's value proposition negatively.

During interview A it was also brought up that there is a barrier in not being able to get fast and good feedback on the overall functionality of software that is working but could be better. The complexity is usually too high to expect that the developers themselves would be able to check for and some problems first show when used in a live environment. Dysfunctionalities can as a result take a very long time to hear back about if they are not big enough for the user to put time into reporting. There are also other factors why it takes time optimizing software where one of the most prominent is the adoption rate being slow due to the technical difficulty inherent to digital solutions, before being able to provide feedback the users need to learn how to use it properly to see how the software mismatch the needs of their work needs. The time it takes to adopt new software can also be hindered by the users not seeing the benefits compared to the old way of working. If they do not perceive the new tool as better than the old one, they will resist the change and might not use it at all if not forced to, where both scenarios would result in slow and bad feedback to the developer.

5.3.5 Customer requests that create scope creeping

As the theory presented emphasizes, it is important to think about how a change is supposed to positively impact the offer presented to customer. However, in the case of ECCG there seemed to be a lot of input on what the digitalization's process should consist of, partly due to the fact that ECCG owned some of the fairs. Taking specific requests on how to do a digitalization from customers would be customer driven but there are backsides. The customer giving input represents one party, even though that specific customer may have several shared properties with other customers the input need to be matched to the holistic view of the digitalization and its fit into the business model. Another problem is the typical innovation problem, a customer asked what he wants will typically propose an improvement of what already exists, in contrast to something completely new. Changes made to the business model also has the potential to modify the value proposition so that it attracts new customer segments, requests from current

customer segments who only are self-interested could limit this type of market expansion.

5.3.6 Cost reductions as a goal

In the case of Extranet, there seem to be a connection where the digitalization driver of increasing the customer satisfaction got counteracted by the driver of saving money and resulted in enforcing the barrier of an unconvinced management team regarding the benefits of digitalization. In this scenario, the part that seemed to enforce the barrier was when A took input from ECCG's clients on what to improve. In many cases the digitalization was not the type to save money. The digitalization would then go against ECCG's goal for the project, saving money, which in the management's eyes would make the project seem inefficient, even though the changes would improve the value proposition. These problems reflected the importance of a management that is convinced of a digitalization's benefits. The barrier was supported by statements in interview C where it was described how one person in ECCG's board could push a digitalization initiative but how the process was crippled by the management not seeing in the benefits.

As the collaboration creating, implementing and maintaining the Extranet continued for almost 10 years and there was a constant starvation of money it seems to have been a strategy from ECCG's side. As the contradictory message: 'everything needs to keep on running but there is no money' was sent. Over the ten years the Extranet seem to have suffered quite a few times, due to the lack of a test environment e.t.c. however it also seem like the project got the money needed when it could be proven crucial so in the sense of keeping it as lean as possible while preventing the business from falling helplessly behind it was a success.

5.3.7 The barrier of uncertainty

In both interview C and D a recurring barrier was that companies felt unable to start because they could not see clearly where the digitalization would lead them. This also connect to the point made about digitizations occurring instead of digitalization as the process and goal is more concrete. Both C and D emphasized the need of making the goals easy to see and understand for the organization, explaining both the 'what' and the 'how' to everyone involved. A somewhat contradictory factor is digitalization's need to be kept on a very high abstraction level to be able to encompass the subject. This has, according to C, led to that a big part of their work revolved around creating theoretical cases and applying them to the business model in an attempt to show how the digitalized business would appear in contrast to the current one. A weakness expressed is that these are still just theories on the new dynamics and that the real results has the risk of turning out to be very different.

In D's case, another method has been applied; testing changes at a small scale outside the organization. This method seems more accurate but is also more

resource intensive. Further, it can not be utilized by a digitalization consultant in the same way as they are supposed to structure and implement on the hiring company, not testing out the solutions themselves. There is also the factor of ECCG's size, allowing them to test ideas without hurting the main business. ECCG's learnings has been showing that this also is a way to lessen the barriers of communication and personal resistance as they see the positive aspects without being affected at the initial stage. This way of test different digitalization approaches also made it easier for management grasping the initiatives which in turn helped them relay the information that would be interpreted as improvements by the rest of the organization as motivation.

5.3.8 Customer focus

As described in the theories, focusing on the customer is a very important part when creating a business model. This translates to digitalization also as digitalization is a tool to change the business model with the goal of improving it. However, there seem to be quite a large spread in the opinion how to provide a better offer to the customer. The reason seem to be that both in the case of the consultancy and ECCG there are several customers in the value chain before reaching all the way to the consumer of the service. One reason that different parties are focusing on different customers trace back to the different dependencies e.g. the consultancy developed the Extranet for ECCG's customers as well as for ECCG but the primary focus for the consultancy was ECCG because that was the party who placed the order and paid the bill. Digitalization's increased reach and possibility to collect data on customer behaviour to support decisions provide an new dimension that could be reason to shift this focus but it would still have to be with the consent of the paying customer.

5.4 Technology

This section bring up technology's progress and it's relation to digitalization as well as what effects hardware seemed to have on digitalization.

5.4.1 Measuring digitalization

Part of the described confusion was also related to digitalization's relation to the company's business model. As it is very hard to describe digitalization in concrete actions unless you possess extensive knowledge about both the business model and digitalization, it in extension becomes difficult to determine good key performance indicators (KPI). Both areas are highly abstract and will be measured differently depending on how the business model may be affected. The inability to measure a digitalization effort in an objective way makes the success subjective. A problem that was expressed during all interviews was the size of a good digitalization. This resulted in goals and the intended impact of a digitalization had to be divided into smaller pieces for the organization to be able to handle it, but then it also got harder to see the end result of the effort and harder to show how it would benefit the organization.

Another variable making the output of digitalization efforts hard to measure for ECCG is the previously described long value creation chain which has has the possibility to alter the delivered values making their impact on an end customer's satisfaction close to inseparable to other values added along the way. C and D also described that one of ECCG's problems was that the organization's size and type of value proposition impacted the speed of digitalization the efforts, after projects meant to drive ECCG's digitalization had been performed it still took quite some time for the business to completely adjust which at times made management question the benefits of the projects as they could not be seen immediately after the project's completion.

From a managerial standpoint, what appears to be a sub-optimization has been made to avoid the abstract nature of digitalization, the focus has been put on tangible outputs from projects such as upgrading hardware or implementing new software. These projects has been more comfortable as they are easier to measure and also keep the tasks of the IT department separated from the business model.

5.4.2 Digitalization as a first step

The project done 2005, reconfiguring the model for sending commercial material, clearly showed a resistance within ECCG to completely embrace digital tools which could be considered a digital immaturity. Instead of looking at how the organization could reach the customer digitally through email e.t.c. they chose to optimize the manual method, sending mail, through digital means. A method which in their business model had large effects on cost savings and increased the efficiency of their current channels but their value proposition remained unchanged. This digitalization was virtually invisible to the end customer.

The effort of updating internal home address records certainly contributed to their digitalization and had the intended outcome; correct and up-to-date addresses which consequently got less mail in return. But digitalization barriers could also be seen during interview B, they related to ECCG's reluctance for completely using digital tools in their marketing. Even though the change would technically be possible for ECCG, their channels had a history of not being created in a way that supported this transition. In other words, the contact information did not always contain how the company or individual preferred to be contacted digitally. There was also the perception that digital material was easier to discard and less serious in comparison to tangible marketing, seemingly related to the receiver knowing that less money and effort was spent on that type of commercial. The barrier towards digitalization was thus related to how the current channels structure could be negatively affected if ECCG were to go completely digital, even though there were large savings to be made. However, even though the effort primarily was a digitization ECCG's digital maturity seemed to increase, preparing the organization for future digitalization initiatives.

5.4.3 The need of technical assets

A problem that was mentioned during interview A was that the computers used were old. As the impact of digitalization in society has been reliant on the the increased computational power stemming from technological developments, this could be argued to have been a barrier. But, it is then important to note that investing in technical assets is no way to create digitalization but rather lay the foundation to build upon. This would suggest that the actual need for digital hardware can differ a lot between cases.

5.4.4 A fading hardware barrier

A driver behind the digitalization also seems to be the fading technological barrier. In interview B it was brought up that there was the fear of new large investment in hardware, and how long the current digitalization efforts would last. The digital environment is still keeping a high development pace. But, the hardware required to realize these ideas seem to have faded, according to B who had a long experience from the IT industry. The change seems to have affected the focus in the digital environment, creating a driver for digitalization. A drive for digitalization instead of companies trying to keep up with new hardware to be at the forefront. Thus, the mission to find the optimal fusions between the business and how it best contributes to the value created has gained more focus.

As hardware has grown more capable, the software has had a history of constantly trying to utilize the full computational power at hand. The software development has also made the virtual systems more complex. The increased complexity has grown very intricate even for coders. Coders had historically been able to keep a general overview; being generalists. Today, what type of knowledge the coder need has become very specific. The impact that this has had on business models is that it has become much harder to grasp the dynamics of the digital environment for any single individual. This suggests that several people competent in different areas of IT need to be part of the business development that relate to digitalization just as they currently are regarding the digital development. The change put an even greater burden on the communication between those involved in developing the business.

5.4.5 Digitalization's development pace

There also seem to be a barrier in the rapid pace of development in the market. The barrier comes into existence when management start to fear that the benefits of digitalization efforts will not provide what is needed. Even if they succeed reaching the goals put up when the project is started they fear it will not be enough once they get there. The way this could happen to a digitalization effort is if the predictions on how the market is changing turn out to be wrong, either because the market evolve at a faster pace than expected or that it changes direction, typically caused by some kind of disruptive technology. Even though keeping up with current technologies is a real problem the logic is partly faulty because of the way digitalization is viewed, with a start and an end. Then there is

also the fact that doing nothing will leave the company falling even further behind, the choice is between draining its financial resources for the potential of covering the investment by keeping up or that the business is drained at a slower rate not digitalizing until you realize that the first option is the only option apart from bankruptcy.

5.4.6 Adapting to technology shifts

A barrier connected to the technological changes occurring is also that long term development processes will come across technology shifts, as described by B. These shifts forces the development to choose one technology over the other, the problem B described related to the decision of going with an old but proven technology compared to the risk and opportunity that presents itself when applying a new technology to gain an edge. As both alternatives can act digitalizing for the company it is hard to deem one better than the other, however, a company that is not prepared to pursuit opportunity is also holding back its potential success. Being risk averse is a natural human trait, in the case of digitalization the market has at times rewarded those who dared to take risks but primarily punished those who resisted change. There is also the problem of taking on an old technology with a new prospect on the horizon, the lifespan of the investment could be considerably shortened if the new technology become successful which could motivate the high cost of investing in something that is new as the cost can be lower when calculated over time.

5.4.7 Digitalization as a service

Also noteworthy is that depending on how the deal is set up there is also a natural incentive for consultants to consider a solution to be insufficient as that would provide them with more work and billable hours. However, there is a strong incentive for consultants to do a good job in the eyes of the employer to sustain a good reputation and be able to get more work. The problem with both of these incentives are that they could be strong enough to impose a bias on how external parties they perceive situations. These biases could as a result create a barriers for digitalization. In interview D it is mentioned that they try to work around this problem by co-creating with other companies instead of just buying their services. A result has then been that the products has not always been a perfect fit to ECCG but the financial cost has been kept very low, ECCG has instead been opening up access to their assets and supplied workspace, data e.t.c. to students and start-ups in exchange for access to their results. This has allowed the projects to get further in their process and at that point been easier for ECCG to evaluate whether to invest in or not.

5.4.8 Internal digitalization pace

Digitalization on a company level is a continuous long term process. Much of the work described by A were timed efforts to create or update tools used during the digitalization. The attention required by digitalization seem to be very uneven, at

least on a developer level. The level where the software creation is very intense at times, while the information gathering on what to build and maintenance seem low paced and continuous. This creates a problem where employees, or consultants at times have more work than they can handle. While they at other times have very little to do. In the case of ECCG this was handled by aggregating the low paced tasks and creating a full-time position for just those tasks. A problem with this approach was that it seemed to have the effect that no room was left for working on improvements or new ways to implement digital solutions and digitalizing the business. In other words, after a digitalization effort turning back to treating it like a part of the traditional IT department. This affected the business in a way that was not allowing space for digitalization initiatives to appear internally from employees that have first hand experience of the current state and the technological understanding needed to see realistic ways to improve it.

5.4.9 Standardized digital solutions

The project of introducing a new economy system at ECCG, done by the consultancy, provided experiences why "off the shelf software" in some cases is an ineffective way of digitalizing. Generalized software is developed to be "one size fits all" which also remove the company specific functionality to a minimum. The software then fit most companies, but the fit is bad and may just reposition work into other areas rather than reducing the work needs. Both a customized and a standardized digital product could be tools for a company to digitalize. The difference become that a customized product would ideally create a fusion between the product and the company's business model, where both adapt to create the best output. A standardized product instead act like a mold that parts of the business model is poured into, not allowing for the same flexibility from the software side.

You could argue that many companies do not have very specific needs and a standard software would suffice. However, that type of digitalization strategy is, just as argued regarding ECCG's previous digitalization, not an approach that could be used to stay ahead. A strategy of only adopting standardized digitalizations lead to a pattern of waiting for others to explore the best way to digitalize efficiently through customized software. And once the digitalization is deemed successful and implemented in standardized softwares adapt to it. Seem like a strategy that in most cases is not viable due to the increased volatility and competitiveness threatening to the business of slow adapting companies. But as the area of digitalization is large companies still need to use standardized products in the parts of the business model that are not prioritized.

Another problem with off the shelf software is that it does not allow the company to differentiate their value proposition, it actually counteracts differentiation as it makes the company's product or service easier to compare.

5.5 Market

This section discuss how the market is perceived an what effects that seem to have on digitalizing the business model.

5.5.1 Competition as a driver

An interesting find during the interviews was that ECCG's drive behind the digitalization initiatives did not seem to be very connected to their competition. During interview A it was expressed that the procedures or ways to utilize digital assets were never related to contenders for the customer segments, instead the focus was turned inwards. This would also mean that some arguments to motivate or help companies understand their need for digitalization brought up during interview C could be less potent in the case of ECCG. In interview D this reasoning was confirmed as D said they were aware of competition but did not give it to much attention, instead ECCG was very focused on evaluating their own business.

5.5.2 Fear of substitution

A fear that was indicated to be acting as a driver for digitalization in both interview C and D was the fear of substitution. The threat posed by competition was considered well known by companies and in most cases the competing actors had an understanding of their business output in relation to competing offers. As a result, the fear of competition seemed to be comparably low to the fear of substitution. The reason why substitution was a strong driver behind digitalization seems to relate to a combination of factors; the disruptive effects a digitalized substitution can have as the scalability, and spread has very low barriers favouring the first mover a lot compared to those left behind. Then there is the fact that there has been several cases showing how real the threat is and how fast it can spread which seem to have created a sense of urgency, most notably Uber conquering the taxi business and in the case of ECCG; Airbnb showing up out of nowhere as a contender for ECCG's hotel clientele.

5.5.3 Digitalization consultants

There is a natural barrier for consultants, which is part of their work to overcome, it is the company specific knowledge they lack. Needing to first gather that information in order to perform their service. What is interesting is that due to the previously mentioned communication barriers within firms, between IT and management, it may actually be easier for an outsider to gather the information than for those inside the organization, at least in the case of companies that are in danger of falling into the sub-optimization trap. The trap of allocating their IT departments with maintenance tasks e.t.c.. As a result, taking away the possibility to a holistic view.

An interesting aspect is also how consultants, beyond their expert knowledge, have different work dynamic in the sense that they work in projects which allow

time and focus without the baggage people inside the organization have. In the case of ECCG, there also seemed to be less distance between the different roles involved in the digitalization effort on the consultancy side. Thus, making it easier to collaborate towards a common goal. Even though a consultant will have to work with gaining insight and still only get a broad stroke picture, there seems to be two areas valuable to digitalization related to this dynamic; if retrieved correctly the information is objective and up to date, untainted by legacy, and that the broad stroke picture's lack of details lower the threshold of mapping out how digitalization is applicable giving an abstract picture and communicating a vision that allow the developers the freedom needed to avoid sub-optimizations.

Whether a consultancy is used or not for digitalization it is clear that there is an important balance to find between the abstract and concrete view. The abstract view needed enables management to explore the entirety of digitalization's optimal effect on a business model. Simultaneously, it is important to be concrete enough to communicate a vision that is easy to translate into actions that can create the desired change.

5.5.4 Market trends and a misconception of digitalization

When talking to interviewee C it was emphasized that there is a strong driver to digitalizing according to market trends. During the interview it was expressed that these trends were not necessarily good as drivers as they would often be hypes perceived by the management team. In other words, these trends would not always relate to established concepts. Another problem with trends as a driver was when trends suggested something they called digitalization without clarifying what it meant and how to do it. As a consultancy the positive side was that large corporations like ECCG turned to them for help with the digitalization. The negative side was that they seldom came prepared to hear what it was, or how to start the process. Instead, the digitalization was perceived as another software investment where the actual business did not have to contribute to the process more than financially. The misconception also lead to companies wanting to emulate digitalization patterns seen in famous examples of companies that had built their whole business model around a digital business model. These companies were then destined to be disappointed as the radical difference between their business model and their goal had an impact that would not be possible with their current setup. This ties to digitalization's short term impact being related to what there is to work with regarding business model, assets e.t.c. A small businesses can decide and implement quickly enjoying freedom and creativity whereas remodeling how large businesses work takes time. Hence, there is also a digitalization barrier in terms of size.

A good example that supports this reasoning is the 'app problem' mentioned in interview C. Companies invest in creating mobile applications for their customers which could be considered an addition to their value proposition. But, as C described it for many of the companies comes to them with one sentence: "we want to digitalize by building an app!". The problem in this case is neither that

they want to digitalize nor that they want to build application. But, that both of these things are related to current trends and buzzwords that address areas that are way too big and complex to just hand it over believing that an external party would be able to come back with a result. The company requesting the service obviously have something in mind but, according to C, it in most cases is not really clear what that thing is. This makes it impossible to identify the road map that will take the firm there. The previously mentioned communication barrier then comes to fruition as these problem area has to be shown and the work required to get there understood. During the work with creating an understanding for digitalization and how to best combine it with the business model another self inflicted barrier occur; the preset goal creating an app, is not synonymous to digitalizing. Hence, it may prove another hurdle to overcome, reevaluating the goals of the original idea.

5.5.5 The stress of digitalization

The market has always been affected by what competition is doing. There is however a variable that has been boosted by digitalization in particular; information spread. One of the key aspects of digitalization is the transference and processing of information. This transference has lead to less and less restrictions on how fast and how far information can travel. This has affected the competition in a way which makes it more global. However, depending on how digitalized the business is and what type of value it delivers. It has to consider not only local competitors but global. Previously this primarily affected large international corporations but does now also include small companies and start-ups that have to adjust to a market with global reach. These market effects caused by the digital progress does also seem to be part of what make trends so impactful.

In interview C the stress for digitalizing was suggested to make company management make bad decisions, feeling pressured to act. The result was strategies and projects that was insufficiently tied to the business model and how digital solutions best could be used. This could also be a factor in what has previously has been referred to as management not understanding and not being initiated enough. One danger is also that companies play into their fear of not benefiting enough motivate the digitalization.

6

Conclusion

The purpose of the thesis has been to answer two research questions:

- *What are the opportunities and barriers to business model innovation in the context of digitalization?*
- *What are the key drivers of business model innovation in the context of digitalization?*

Below, the main findings of the three areas; opportunities, barriers and drivers are presented in consecutive order.

6.1 Opportunities

The findings indicate that many opportunities attractive enough to be pursued were related to cost-savings. The opportunities did in the case of ECCG appear through a firm-centric perspective, rather than through competition analysis. Further, the optimal approach appeared to be achieved through a grand vision that involved the entire organization, yet that progressed through small initiatives. For example, the project mentioned in interview D about iBeacons constituted an example of such a small but successful initiative. Another finding indicated that ECCG needed to have a better customer focus and to identify opportunities in terms of how they might provide a better offer, or experience towards the customer. Projects that were part of the case showed clear signs of how a customer-centric focus would be a good starting point for identifying opportunities. Lastly, the general belief was that if the whole organization supports the digital vision, the employees would unite to collectively achieve it. Each employee would be motivated to assist in small initiatives that collectively make up the big picture. Thus, opportunities can be stated to either be found through cost savings in the firm's activity system, or in starting small and relaying progress to the whole organization's grander vision.

6.2 Barriers

On a general note, one of the most notable findings was that there are a lot of organizational complexities that has to be managed before attempting business model innovation. Especially, when it is in the context of digitalization.

Digitalization was seen by the interviewees as an abstract term and it was used to describe different things during the interviews. The abstract nature of the term was also seen as a big reason why it was difficult to work with. In extension, it also made the result of digitalization initiatives difficult to measure. The IT-department was believed to sit on a lot of competence that was required for digitalization. But, the department was also described as lacking a business perspective in how they applied their competence. The business perspective may come from multiple sources, but the influence of the business model had to primarily come from the top management. Thus, it was seen as important that IT could not only function in harmony with the rest of the organization, but also in close collaboration with top management. This was exemplified in interview D where the competence of the IT department had been brought closer to management. Otherwise, the risk was seen as that the IT department would prioritize the digitalization budget towards technical efficiency, rather than business effectiveness. The reason being that the IT department has a lack of knowledge in how different initiatives would contribute to the business. Another thing were depicted to happen when top management were to choose. As a result of the pace of technological development, the management team was described to often choose more convenient solutions; often less costly or with strict time limitations.

Summed up, the digitalization initiatives would add up to a scenario where multiple complex and maintenance-heavy systems coexisted. Without any synergies to gain. This was also depicted to be the case for ECCG. Hence, a conclusion from the analysis is that firms need to have a larger perspective regarding the impact of digitalization on their business model. A digitalization perspective that is sustainable in the sense that it allows for an addition of new digital initiatives that contributes to the business model. Initiatives that are in line with the purpose of the organization (mission, vision, goal).

Another problem that was related to the IT department's previous role in the business, being responsible for keeping the remaining organization running, was that they had never made any distinction between internal and external customers. In the interviews it became clear that it was easy for management to blame the IT department for the lack of digital initiatives.

Another dimension of findings related to the IT department was that digitalization requires an approach that combines different technical expertise. The complexity of IT systems showed a significant growth and required more collaboration between different expert competences. Hence, the growing complexity of the systems also constituted a barrier.

As digital solutions were introduced, a barrier had revealed itself it in terms of making sure that employees did adopt them. New digital solution were believed to have the power to solve tasks that previously had been done by the personnel, which in extension would make employees feel threatened.

The perceivable high pace of development, combined with the difficulty of managing digital solutions through technology shifts, caused a fear of never catching up. These factors made digitalization appear as a burden that was too heavy to bear. A burden that if not carried would result in a top-down leadership that completely neglects the digital, which makes the firm lag behind.

Another barrier was found in financial restrictions. For example, certain projects had to be finished before the end of a specific business year. The consequence of these strict time limitations was that the development was limited to the functionality that could be finished before the end of that business year. That hindered new ideas from emerging after the initial requirements had been set.

In terms of enabling digital innovation, it was evident that there was a need within ECCG for more ways to capture insights that could be turned into business opportunities. This presented a barrier in terms of that there was an awareness of that the business was gaining potential insights related to digitalization through employees' interactions with internal and external stakeholders, but that there was no knowledge of how to take it further.

Once new business opportunities were translated into new digital initiatives, the organization also suffered from scope creeping; too many stakeholders became involved early on. Stakeholders that all wanted their specific ideas to be part of the new venture. The result was that new digital initiatives quickly became too complex, too fast. They went went from being simple prototypes, that were easy to test, to huge systems that were swamped with functionality. This was also the case of ECCG.

The IT department was traditionally perceived as a function where the rest of the organization acted as the ordering customer. In this transmission, the phenomenon of the game of Chinese whispers occurs. The message that is to be communicated becomes distorted as it is transformed from an external need, to an internal business case, that is then turned into a list of specification of functionality. A specification that at last is handed over to the IT department. Thus, the IT department would hold the role of a supplier, with little insight into the original need of the customer.

Further, these specifications were often made with little consideration for the technical implications. Despite that the business perspective does together with the technical perspective form the full potential of digitalization. Thus, a challenge lied in fostering a collaboration that enables both perspectives to contribute with input that may benefit the process.

When launching digitalization initiatives, it became very difficult to measure the success rate. Not only because the term digitalization was considered abstract in how it related to the business model, but because of the inability to measure digitalization efforts in an objective way, which made the success subjective. This, in combination with that it could take time before the results would show, lead to

that more tangible initiatives were prioritized. Initiatives that were more likely to be new hardware, than extensive digitalization efforts.

A vision was seen as necessary for successful digital initiatives. The thinking was that it would help increase participation and willingness to adapt. Three signs were found in the analysis of how the lack a long-term vision can be seen in a digital initiative. These signs included a lack of: documentation, testing, and feedback loops. This lack of long-term vision created a difficulty in terms of continued development. The vision of ECCG was often constrained to areas where you could solve a problem, rather than find an opportunity. This was showcased through multiple examples. For example, how the focus was put on pains, rather than gains.

A limitation in scope that occurred at ECCG was the translation of an already existing analog service; digitization instead of digitalization. The vision was way too narrow. This initiative served as a cost reduction initiative that originated in that the vision was limited to the current business model; a suboptimization. The barrier thus exists in that the firmsis not able to envision how digital initiatives may lead to new business opportunities, and in extension, new business models.

Another difficulty was related to the delegation of digitalization efforts. The delegation in itself was not the problem, but that the party which drove digitalization had little to no insight into the business. Successful delegation of digitalization seemed to require close collaboration. Blindly following market trends, or misinterpretation of the term digitalization did appear to lead to quick, temporary fixes. That trends such as the mobile app trend had resulted in a simplification of what digitalization involves. The sense of urgency that digital front-runners created translated into rushed decisions. Decisions that made firms believe that an app was the quickest and easiest solution to becoming digital, or that it was possible to fully rely upon standardized digital solutions.

A fundamental requirement for digital initiatives was identified to be hardware resources. The end result of digital initiatives suffers from bad performance. However, this barrier seemed to be fading as computing power has become easier to gain access to. But, it evidently differs between projects.

6.3 Drivers

The findings indicated that business model innovation in the context of digitalization was primarily driven by a fear of being replaced. A fear that originates in the worry of substitutions; new technology enabling new firms to more easily disrupt. The fear seemed to come from a combination of impressions and experiences in both the personal and professional life. Employees use modern technology in their private life and questions why it is superior to what the own organization possesses.

Further, this stress that came from digitalization did not seem to be that much different from a fear that had previously existed. Namely, the fear of being

replaced by a competitor. It was rather that the fear had grown as a result of that competition has become more global and that information flows has enabled us to both change more rapidly, but also more visibly see the changes that are happening.

6.4 Final remarks

As has been showcased earlier in the report, the world is changing as a result of technological adoption. The business impact of these changes can be devastating. But, it may be just as devastating to unsuccessfully pursue opportunities related to digitalization. Before embarking on a journey of business model innovation, a firm must first be ready to embrace it. That means having an organization that can manage the many barriers of business model innovation in the context of digitalization. As seen in the opportunities, organizations will find opportunities in either cost savings in their activity system, or through small initiatives that contribute to a grander vision. To manage barriers, a firm must continuously strive to become its best possible self where the barriers mentioned above can be overcome. The firm has to become an organization that adapts, and embraces the changes that business model innovation in the context of digitalization brings. Otherwise, the fear of substitution will remain.

Future studies

For a future study, the service proposition of business model innovation in the context of digitalization, and its interface could be examined. Both from a supplier and a customer point of view. With the service proposition as a core focus, the study could aim to compare literature on service design with gathered data from both supplier and buyer against literature on the specific area. It would be of significant interest to explore whether business model innovation in the context of digitalization is best provided by an external firm, or internally. With a growing consultancy industry, there will be significant interest in this topic.

Another interesting topic is the dilemma of that the IT-department is in a position of both running existing operations while innovating for the future. The future role of IT-competency and how it fits into organizational structures is a worthy topic to explore.

Furthermore, there is a lack of a practical method for how a firm should pursue business model innovation in the context of digitalization. It may be relevant to look at methods for future prediction i.e. scenario planning and backcasting methodology. Firms appeared to lack the knowledge of how to perform business model innovation in the context of digitalization. It was related to not knowing what the future holds. Even though it is impossible to predict the future, these methods may be beneficial in providing a better way to envision the future state of companies. Especially, in this changing, increasingly digital, world.

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A

The partner company

In this digital age, the Gothenburg-based company Invativa, a small-to-medium sized enterprise (SME), seeks to reduce the risk and gain an additional source of profit by specializing in the digitalization of businesses. Invativa has a history of developing custom-made software for a customer segment specialized in handling large sets of data from which they create content for the end users. Invativa now wish to expand their market, potentially by assisting in the process of establishing ambidextrous catalysts that boost innovative efforts for their client, this service is thought believed to expand Invativa's current customer segment. Analyzing whether it constitutes a viable business model is one of the reasons creating this report.

Invativa
Invativa is located in Gothenburg and has 19 employees as of 2016 (Sellhed, 2016). Since their start in 1996, Invativa has been working with IT, delivering a service that support companies in realizing, creating and sustaining custom made software requested by their clients. As Invativa has been working closely, for longer periods of time, with their larger clients, some software has also been developed on suggestions from Invativa. Software that intends to improve their client's current business.

Up until now, Invativa's main business has been relying on a few larger long-term clients that has been buying Invativa's services on a recurring basis. In many cases these clients also subscribed to Invativa's service of maintaining and further developing bought software. This business model has as a result created a steady income and also a co-dependency between Invativa and their clients. As creators, Invativa has been in an excellent position to offer services of continued upkeep of the software but in doing this Invativa has also allocated their own time and resources in a way that do not expand their customer base.

The main part of Invativa's current clientele is rooted in a sector of companies managing and trading large sets of data. Due to rapid change, Invativa fears that their dependency to a limited set of large clients within a certain sector makes the company vulnerable. For Invativa to decrease their exposure to potential disruptions in their customer base's markets, they are working to expand their customer segments by establishing additional value propositions and setting up a

Table A.1: The core competences of Invativa.

Business	**Design**	**Technology**
Business development and sales.	Driver of user experience design and front-end development.	Internal and external software development.

new business model. Thus, Invativa as a company, is facing a change in how they do business.

Invativa has chosen to structure their organization around three core competences; business, design, and technology, see Table A.1. The purpose of this structure is that management can create teams with a balanced set of competences to make sure that Invativa deliver a product that is validated in the three areas viewed as crucial for them to be able to digitalize the business of their customers in a high quality manner (Sellhed, 2016).

When Invativa's management recognized the need of a new value proposition they created a model which consists of a three-step gateway process; innovation, validation and digital transaction, see Figure A.1 (Sellhed, 2016). Invativa's intended customer of this product is a manager within a large organization, that has the power and budget to afford such a service.

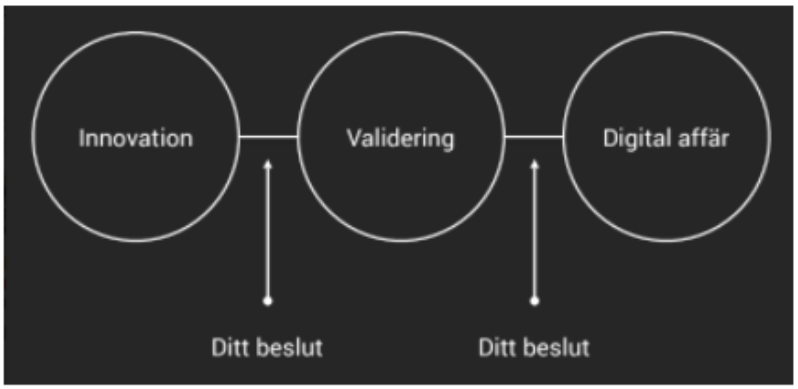

Figure A.1: The suggested value proposition described as Invativa's corporate entrepreneurship initiative; three-step stage-gate process of innovation, validation, and digital business. (Sellhed, 2016).

B

Research Ethics

Table B.1: Key research ethics that form the basis for the research (Easterby-Smith, Thorpe, & Jackson, 2015; Sandström, Tryde, & Lindlöf, 2017, pp. 122)

Credibility

• No plagiarism
  – Protect research participants
  * Voluntary participation (Seek fully informed consent of research participants)
  * Respect the dignity of participants
  * No harm to participants
  * Protect the privacy of research participants
  · Ensure confidentiality of research data (trade secrets etc.)
  · Protect the anonymity of research respondents

Transparency (replicability)
• Mindful about process and choice of research method • Sampling with respect to being able to accept/reject hypothesis • Honesty and transparency in communicating about the research • Avoidance of any misleading or false reporting of research findings
Academic honesty (protection of integrity of research community)

• Avoid deception about the nature or aims of the research
• Declaration of affiliations, funding sources and conflicts of interest
• Independent and impartial (avoidance of bias)
  – Inferred upon us by the company that the study is conducted for
  – Inferred by us in our strive for a result
• Ensurance of quality and integrity of research

Self-critique
• Establishment of neutral boundaries allowing us to tackle the research question with an open mind.

C

Topic guide

The topic guide consists of opening statements, opening questions, key topics, and closing questions.

Things to be conscious about:

- Avoid steering the interview towards the form of business model innovation which has nothing to do with digitalization.

Opening statement

- Researchers introduce themselves
- Research is briefly introduced and how the answers will be used in it
- An icebreaker is made

Opening questions

- Ask interviewee to introduce themselves
- Ask for consent to use answers in study
- Ask for consent to record the interview

Informal key topics that may be addressed in any chosen order
See Appendix D.

Closing questions

- Thank interviewee for their participation and show appreciation
- Inquire for follow-up contacts and recommendations

Table C.1: Requirements for topic-questions. (Easterby-Smith, Thorpe, & Jackson, 2015, pp.140-141)

* Non-leading
* Open-ended
* Clear
* Easy to understand (in comparison to the research question)

D

Informal key topics

D.1 Intro

- **Allowance of recording and citations**
- **Present us, our work, and how it benefits the company**
  - Chalmers
  - How business model innovation and digitalization relate to each other
    - Barriers
    - Drivers
  - Investigation will help you understand the area and how to work with it better as well
    - Can share report or have a presentation
- **What context this interviewees view is coming from**
  - What is/has been your role at Svenska Mässan? (management, consultant e.t.c.)
- **The company in general for context**
  - What is Svenska Mässan about from your point of view? (their offering e.t.c.)

D.2 General

"Why? Could you give an example?"

- **What digital developments/trends have you seen in society lately,**

what are your thoughts on them?

  - How would you say that these affect companies, Svenska mässan in particular?
    * Obstacles?
    * What would make companies more or less interested?

- **How up to date would you consider Svenska Mässan to be from a digital point of view?**
  - How is Svenska mässan working with digital solutions today?
    * What's their greatest problem?
      · What makes them endure?
  - What strategy do you/they have for managing digital development?
    * What type of digital changes are/has been performed...?
      · internally?
      · with external help?
  - What on-going projects do Svenska Mässan have in relation to the adoption of digital development?
    * How did it begin, what were the reasons behind it?
    * What arguments could you find not to do it/end it immediately?
    * What results do you want?
      · How do you measure them?

- **What opportunities can you see Svenska Mässan having regarding digital solutions?**
  - How would you select which opportunities to follow up on and how?
  - Do you create/structure projects to pursuit these?

- **What threatens Svenska Mässan in terms of digital developments?**

  - What counter measures do you/they have to protect yourselves against them?

D.3 In depth

CUSTOMERS

- **What customer segments does your value proposition target today?**
  - What information would you need to specify these segments even further?
  - What relation do you presume these segments have to the digital environment?
  - What digital enhancements could these groups be motivated to pay for?
- **What customer segments are especially interested/served by your digital initiatives as it is today?**
  - Are there any features that could be added to increase their satisfaction?
  - Where/How do you profit from them?
- **How do you reach new customers today?**
  - If you had the money what should be done to reach even more?
  - How do you currently get to know your customers further? Why?
- **Which customers/customer behaviour do you deliberately not to focus on, why?**
- **If you were to reach more customers by utilizing your partnerships, how could digital aid help you?**
  - Do you complement any of your partner's offers with your value proposition today?
- **How do you track customer recurrency today?**
  - In what ways could this be improved through digital means?

  - Why would a potential customer choose you competitor over you?

- **Has there been any feedback from customers that is related to your digital investments e.g. faster ways to check in or out, buy tickets e.t.c.?**

VALUE CREATION

- **What parts/elements in your value chain would you consider the most value adding?**
  - How could digital changes enhance your value creation even more?
    * How could your value proposition be more customized/personalized?
  - What is most effective, right thing done?
  - VS. What is most efficient, thing done right?
- **In what ways have you standardized procedures in your value creation chain?**
  - How could these be improved further?
- **Are there any bottlenecks?**
  - What have you done about them?
- **What part/-s of your value chain would you consider the least connected to your value proposition?**
  - Why?

BUSINESS RELATION DIGITALIZATION

- **Which are the areas of your business do you consider most developed digitally?**
  - What common denominators does these areas have compared to other areas?
- **In what areas could you envision digital transformation impacting your value propositions the most?**
  - Is any part of your value creation outsourced due to (digital)

complexity?

  - Are there any areas that has experienced substitution due to the digital evolution?

    * What parts of the values you deliver can't be substituted, why?

- **Considering your technical/digital state today, what changes could be made to increase your revenues?** ***(e.g. where could processes be automated, are there any processes requiring manual labour that could be completely or partly replaced by digital solutions?)***

  - Can you see any potential for economies from scale and/or scope?

  - Have you or anyone in the business tried these changes and to what success?

DIGITAL ENVIRONMENT

- **How do you think society's adoption of digital solutions will impact your margins the coming years?**

  - Could you give a best/worst case scenario?

  - Have you seen any changes in your costs this far?

  - How does your current business scale with a growing market?

- **In what ways does your digital services distinguish against your competition?**

  - In what ways have you connected your offerings using digital tools, e.g. restaurant offers in an hotel app?

  - In which of these areas would you say the competition is the most intense?

- **In what ways has digital solutions helped you to present an offer that's better than your competitors? Vice versa?**

  - Anything specifically related to the integration of digital solutions?

- **How saturated would you say your market is today?**

  - Could you relate your reasoning to any of your offers?

  - How could digital solutions aid you in saturating your markets further?

- **Are there partnerships you would be able to cut if you improved a digital area?**

- **Could you convert any of your one-time transactions to recurring transactions through using digital aids?**

  - Which of your current revenue streams are most likely to disappear? In what timeframe and why?

D.4 Outro

- **Any questions for us?**

- **Would it be ok to contact you further regarding this matter for follow up questions? In that case how?**

- **As you now know more about the information we seek, could you give us 3 names that you think could provide additional or confirming data on the subject?**

Thank you!

Feel free to contact us for any reason, you can find our contact information on the page we handed you!

E

The history behind the term ‘digitalization’

‘Digitalization’ has become a central concept in many fields, including within IT policy (SOU 2014:13). In the European Union’s Digital Agenda, the term is frequently used, but with no further clarification or definition of the term. There are additionally multiple terms available to describe actions related to digital. Recently, terms such as digitization and digitalization have become common ways to describe phenomenons related to digital (Upsala Nya Tidning, 2013). ‘To digitalize’ could be interpreted as either the transformation of analog information into ones and zeros, or the general increase in computer use (TERMINOLOGICENTRUM, 2013; Upsala Nya Tidning, 2013). The term ‘digital’ originates from latin. ‘Digit’ refers to the action of: ‘counting with the help of the fingers’ (Vogelsang, 2010, p. 7). In time, it consequently formed the English term ‘digit’ (Svenska Akademiens Ordbok, n.d.; Svenska Akademiens Ordlista, n.d.a; Upsala Nya Tidning, 2013). Consequently, as technological advancements resulted in a transition from analog computational tools, to computers, the word ‘digitize’ was introduced to describe this transition from analog to digital. Up until a couple of years ago, both digitization and digitalization referred to this ’conversion to digital form’ e.g. scanning books, photographs, maps and movies to preserve them for posterity (and often make them accessible via the Internet) (TERMINOLOGICENTRUM, 2013; (Svenska Akademiens Ordlista, n.d.b). However ‘digitalization’ is sometimes also referred to as: ‘...the introduction of digital technology in . . . ’, such as the digitization of the distribution of television channels. The word ‘digitalization’ has thus, just like ‘digitization’ been tied to technology (TERMINOLOGICENTRUM, 2013).

The Digital Agenda was adopted by the European Union in 2010. The Swedish interpretation states that the overall aim of the agenda is to deliver sustainable economic and social benefits from a united digital market based on fast and ultra fast internet as well as interoperable applications. Since then, the talks related to ‘digitalization’ are often in relation to this Digital Agenda. Not about specific technology, but more in general about the ’increased use of computers and the Internet’, and about people’s and organizations’ actions. The original meaning lives on, in parallel (Svenska Akademiens Ordlista, n.d.b). The result is that we

today use ‘digitalization’ with two different meanings. Usually, it is something that we can cope with, but it becomes problematic when both meanings are used in the same context - as in the case of digitalization.
(TERMINOLOGICENTRUM, 2013)

As highlighted, it can never be taken for granted that the person, whom you are speaking with, will interpret digitalization in the same way. Therefore, to be univocal, it should be decided on a shared definition: 1) technical digitalization equivalent of ‘converting to digital’.(Vogelsang, 2010; SOU 2014:13; Svenska Akademiens Ordlista, n.d.b; Jansson & Andervin, 2016). 2) An increased societal digitalization for the increased use of computers and the Internet in society.
(TERMINOLOGICENTRUM, 2013; SOU 2014:13)

F

The featured projects

It was distinguished that the collaboration featured at least three projects; an economy system, an extranet, and a customer relationship management support system. Interviewee B had first entered the collaboration between ECCG and The Consultancy when receiving responsibility for the backend of ECCG's economy system. The responsibility was a result of his competence in databases. The Consultancy was believed to have entered the collaboration for this economy system in 1999, and it according to the interviewee came to an end in 2005. To have an economy system was according to the interviewee seen as a standard product at the time and The Consultancy assisted in both providing the software, and support.

Simultaneously as the economy system was developed, applications termed as 'extranets' was according to interviewee B becoming popular. This was in the beginning of the 21st century and Interviewee B said that he became part of drafting the first version of ECCG's extranet. Both as part of the discussions around its functionality, and its implementation. It was believed that three to four people from ECCG, in addition to interviewee B, were involved when setting the specifications for the project. This group of people will henceforth be referred to as the development group. The interviewee said that the development group had together set the specifications over the course of three to four months. This was believed to have begun in 2001. Consequently the development group had then started implementing functionality according to the very same specifications. Interviewee B believed that the primary goal of all the projects that were done during the collaboration was to reduce costs by minimizing the workload of the staff. In the case of the Extranet project, it was according to the interviewee made possible by that the exhibitioners and fair arrangers were enabled with a self-service option.

The responsibility of interviewee A, hence known as A, was to continue to build on an already existing service that the consultancy previously had built for ECCG. The service, referred to as Extranet, had the purpose of providing exhibition-related services online. The core functionality of the system was explained as already defined when A started. It had been up and running for a few years already. The primary task of A was primarily to provide the Extranet

with a face-lift and fine-tunings while still providing ECCG with the same functionality; all the basic functionality was in place and the work was mostly fine-tunings, polishing, and fixes, in additional to little development. This meant that interviewee A never took part of designing/shaping the project, or launching it for that matter. Three people from the consulting firm had taken part in the system's origin. First of all, the CEO of the consulting firm had had the role of assisting in conceptualizing the project. Secondly, a project leader from the consulting firm was present. Third and last, yet another developer from the consulting firm (interviewee B) had contributed with a majority of the original backend programming. During the years that A worked on the project, a few distinct functions were added. For example, a purchasing system and a shopping system. A explained that he initially had had very limited insight into the project. The only input was stated to have come in the form of instructions from the client and were limited. The interviewee stated that:

> "When I got into the project, my part was already very clearly defined. The information I got was that we worked with ECCG, and that you have these tasks; rebuild the site according to this pattern. Then I sat down and tended to it.".

The whole point of the Extranet was to allow each exhibitioner to get an account where they can log in and make different types of bookings. To begin with, simply registering to be a participant of a specific fair. Thus, they continuously added fairs to the system. You would for example as an exhibitioner log in, book a spot for showcasing, scenes, or conference rooms. All of which become very connected to logistics. A minor purchasing system was also built where the exhibitioners could buy equipment, light bulbs, chairs, tables, mattresses and cleaning. The intention behind the system was to remove the burden of having to send in papers, send emails, or call. These tasks that previously had to be handled manually had created a lot of work for the personnel.

The customer relationship management support system
Between approximately 2002 and 2010, a support system for ECCG's customer relationship management (CRM) system was also developed. The goal of this system was according to the interviewee to update the records of a person's last known address by querying a system called PAR. The driving force of this project was according to interviewee B that an opportunity had been seen in reducing the number of returned send-outs per year. These send-outs were according to the interviewee done by mail and consisted of a lot of promotional material for different fairs and similar.

The returned mail was a consequence of that the mail had been stamped with incorrect home addresses. Once the support system had been implemented, the result was believed to have been a success. The interviewee highlighted that a measure of success was the fact that ECCG had gone from two containers of returned post, to two handfuls, a year.