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Det Sundhedsvidenskabelige Fakultet

AALBORG UNIVERSITET

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Etableringen af en konceptuel model til forståelsen af Digitale Disruptorer - Et case studie bidrag til theorien om Disruptiv Innovation

Engelsk titel (Bachelorprojektet/specialeprojektets titel *(max 4 x 60 karakterer)*)
A Conceptual Model for Understanding Digital Disruptors - A case-study contribution to the theory of disruptive innovation

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7.			☐	☐
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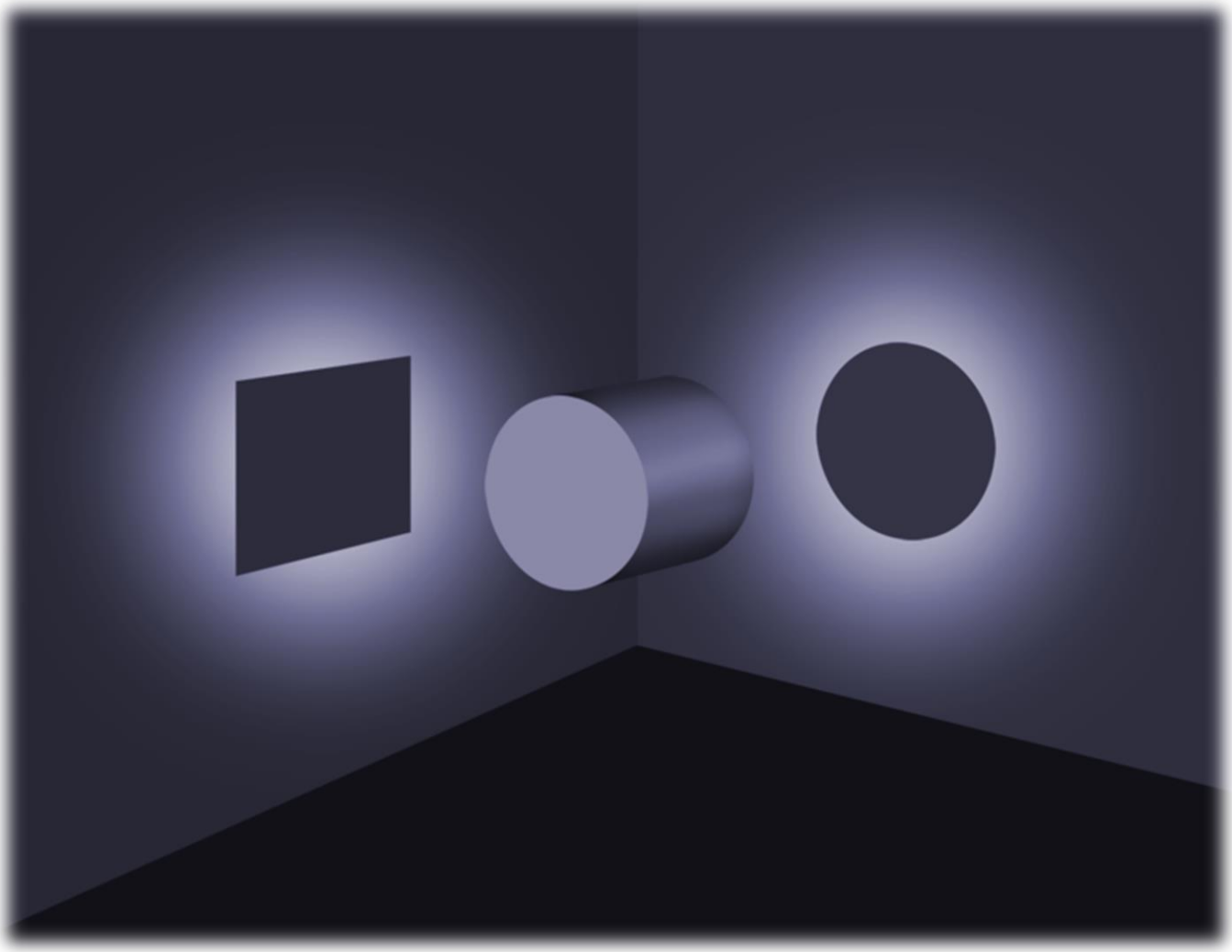
A Conceptual Model for Understanding Digital Disruptors

A case-study contribution to the theory of disruptive innovation



"There are no facts, only interpretations"

Friedrich Nietzsche

Summary – Resumé

Det overordnede tema for dette speciale er disruptive virksomheder i det digitale domæne. Der hersker tvivl om hvad disruptive virksomheder er både i medier og akademiske kredse, og fænomenet bliver yderligere mystificeret ved brug af uklare definitioner. Ydermere synes emnet 'digitalisering' at tiltrække opmærksomhed, da der med tiden bliver flere og flere digitale virksomheder, som evner at udfordre status quo i deres respektive markeder. Der ses en tendens til at disse digitale virksomheder vokser eksponentielt. Der er derfor øget fokus på digitale disruptorer, og dette øger relevansen af at undersøge hvad dette er for et fænomen.

I sin enkelthed er disruption en proces hvorved en virksomhed med færre ressourcer er i stand til at udfordre den markedsdominerende konkurrents forretning (Christensen, et al, 2015). Med denne definition som omdrejningspunkt og tilføjelsen af det digitale domæne, tager dette speciale sit afsæt. Specialet er et forsøg på at afmystificere begrebet og afdække hvad der karakteriserer den "glemte" aktør i dette sammenspil netop, disruptoren. Med afsæt i teorien om innovation og herunder disruption med tilføjelser fra litteratur vedrørende digitalisering og organisationsteori, udledes der i denne rapport en konceptuel model for at forstå den digitale disruptor.

Gennem en iterativ proces mellem teori fra de relevante domæner og adskillige case interview er der fundet generelle karakteristika, der passer på den digitale disruptor på tværs af de forskellige case virksomheder. Der er altså tale om en konceptuel model, som med videre udvikling og raffinering er i stand til at beskrive den digitale disruptor. En sådan model kan ikke alene komplementere innovationsteorien, men potentielt også afhjælpe dem som bliver påvirket af fænomenet, hvad enten det er virksomheder, industrier eller stater.

Den digitale disruptor viser sig at være åben for eksterne input. Ved at finde huller i de eksisterende markeder, kan disruptoren finde en niche, den kan vokse fra. Enten penetrerer den markedet nedefra, eller også udvikler den sin niche til et helt nyt marked. Dette er muliggjort ved at implementere ny teknologi, hvilket differentierer dem fra den øvrige konkurrence. Samtidig hersker der en agil og manøvredygtig tilgang til iterativt at genfinde nichen, således at der er en god overensstemmelse mellem produkt og marked, med værdiskabelse for kunden og brugeren som resultat.

Denne manøvredygtighed er muliggjort af nogle specifikke interne karakteristika. Disse er 1) en flad organisationsstruktur, 2) fokus på læring og på visionen på tværs af hele organisationen 3) ingen legacy der bremser udvikling, men derimod 4) evnen til at omsætte eksterne input hurtigt og effektivt, for så at præsentere det i markedet.

Motivationen bag specialet er min nysgerrighed, som er tilvejebragt først via en bachelor omhandlende organisationsteori og systemtænkning. Med dette udgangspunkt tog jeg en kandidat hvor kreativitet og forretningsudvikling har ført mig til ny viden. Denne viden er inkluderer erfaringer fra selv at forsøge at disrupte et marked med en forretningsidé, og erfaringer fra forretningsudvikling hos en etableret spiller, hvis marked er truet af netop disse digitale disruptorer. Det er mit håb at denne rapport prikker til læserens nysgerrig og igangsætter tanker, som kan føre til en øget forståelse af det fænomen vi alle hører om, men endnu ikke helt forstår.

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Synopsis:

Digital disruption is a popular subject in both the media and among academics, yet there are no apparent studies emphasizing the characteristics of the digital disruptor, since the majority focus on the incumbent's perspective. Thus, the thesis is a step in the direction of understanding the digital disruptors and what allows them to challenge incumbent's businesses, i.e. their characteristics. This master thesis provides a conceptual model for understanding these companies, comprised from an iterative approach of collecting data from case company interviews and understanding the findings using relevant theory. The findings reveal specific characteristics regarding external focus and internal structural elements that allow these companies to grow fast and continuously navigate towards a value-adding product-market fit.

Table of Content

Preface

The preface serves to present my acknowledgements to the key individuals who have helped me with data or guidance for this thesis. Furthermore, the purpose is to introduce the report design and the semester curriculum for the reader's convenience.

A - Acknowledgements

I would like to express my gratitude to the case company executives that allowed me to use their time and knowledge in the effort of investigating the phenomenon of the digital disruptors. All have added valuable knowledge to the study, even though some are used more in the thesis than others. Therefore, thanks to:

- Allen Mørch, CEO and founder of AskCody ApS
- Christoffer Baadsgaard, CEO and founder of Debito ApS
- Esben Søndergaard Petersen, CTO and co-founder, Traede ApS
- Jens Christian Lindof, Vice President, RTX A/S

Furthermore, I would like to express a special thanks to my supervisor Claus Andreas Foss Rosenstand, who has helped me navigate through the conceptual frames of the theory, supplementing me with his knowledge and being an active sparring partner. I have enjoyed all our talks and discussions, and as an outcome of this I have expanded my knowledge in a highly relevant field – that of the digital disruptors.

B - Report design

This subchapter will describe the report design to provide the reader with a brief introduction to the logic of how the report is built up. The logic is as follows:

#	**Content**
1	Chapter
1.1	Subchapter
1.1.1	Subsection to subchapter

Table 0.1 – Table-overview of the numbering of the report content

Illustrations include figures and tables, which will be numbered according to the context. For example, the first illustration in chapter two will be named 'Figure 2.1' or 'Table 2.1'. The following illustrations will add to that until the beginning of the subsequent chapter.

Quotes and citations use the following reference format, and the list of references are found in the Bibliography (Chapter 12).

Format: (Author, year of publishing: page in that published text/or minute and second referrals to audio files)

Examples*:* (Christensen, 1997:4) – Christensen's *Innovator's Dilemma* published in 1997, page 4.

C - Semester curriculum

The purpose of this subchapter is to highlight the semester curriculum and thus the objectives for knowledge, skills and competencies (Curriculum, 2014).

Knowledge:

The student must be able to:

- Demonstrate overview and deep knowledge regarding the chosen subject of relevancy to innovation and/or entrepreneurship.

Skills:

- The student must be able to analyze a need or problem using various advanced theoretical perspectives related to the choice of specialization.
- The student must be able to critically identify possible conceptual solutions or development directions using theory and to contribute to the implementation of such solutions.
- Demonstrate good communication skills.

Competences:

The student must be able to:

- Contribute to the development of a conceptual solution by synthesizing innovation and/or entrepreneurship theories with empirical insight.
- Critically evaluate her/his own analysis and solutions.
- Contribute to the continuous development or enrichment of theories of entrepreneurship and/or innovation.

Teaching method:

- In this module, the Master's Thesis is carried out. The module constitutes independent project work and concludes the programme. Within the approved topic, the Master's Thesis must document that the level of the programme has been attained.

1 Disruptors in the digital domain

1.1 From an incumbent to an entrant's perspective

Curiosity is the primary driver for this research and the journey leading up to its beginning explains why I have chosen to write about the present-day popular, yet almost infamous phenomenon, digital disruption. Having studied a bachelor in Global Business Engineering, the basis for understanding the inter- and intra-organizational elements of the value chain in different industries provides me with a corporate mindset. While being creative and curious of nature, I shifted towards a more entrepreneurial master, focusing on not only entrepreneurships but also intrapreneurships. These studies have provided a basis for understanding companies theoretically, while actual entrepreneurship projects have made me understand another perspective. This is the perspective of the small ventures wanting to challenge an established business. Knowing how difficult it was to penetrate a dense market with Alle Carte IVS, a company with the vision of enabling people with allergies or intolerances to find appropriate restaurant-meals, and failing to do so, I wanted to build up experience from an incumbent. I got an internship in the business development department at Ennova A/S, the Nordic market leader in employee engagement surveys and consulting, giving me insights from an incumbent's business perspective. During this internship, I found out how fragile a market is to external threats, such as disruptive challenges from smaller and less resourceful players in the market, who are rethinking the business for employee engagement surveys. Thus, the internship gave extensive insights into the phenomenon of digital disruption seen from the incumbent's perspective. This ignited my curiosity for the subject, and I found that there are not many studies explaining digital disruption from the disruptor's perspective. This provided the basis for this master thesis, regarding the word we all know, but a phenomenon which is not fully enlightened – *digital disruption*.

1.2 Researching the Area of Concern (A)

This subchapter will regard the area of concern and is presented early in the report to help set the scope and limit the research to an interesting area able to contribute to the current literature regarding digital disruption. To close in on the area of concern, this subchapter will present a list of challenges, which act as arguments for the choice of research question and its relevance.

1.2.1 Research relevance

The interest in disruption has increased over time emphasizing the relevance of the subject. The most commonly appearing synonym in this regard, is 'disruptive innovation', which over the past ten years has appeared more frequently. For example, in a Google Trend analysis comparing the number of term searches in 2004 to 2017, the index-value has increased significantly, illustrating the increasing interest in the subject (Google Trends, 2017). Supporting this, the media mentions disruption quite often, yet manage to increase the ambiguity of the term by not clearly defining it and thereby mystifying it. The media also emphasize a widening relevance of the subject, to not only to companies but also at a political level. Disruption as a process often cause a change in the conditions of a market by introducing new technology (Christensen, 1997), and as such

it becomes a relevant subject for other actors in the environment, such as the government. To exemplify the increasing relevance on a political level, the Danish prime minister, Lars Løkke, has established a disruption committee to investigate the threats and possibilities of disruption (Altinget.dk, 2016a), which thereby illustrates the acknowledgement of disruption as a force of change. Another example is the Siri-commission, established between IDA[1] and the Danish politician Ida Auken, to determine how Denmark can utilize the digital disruption to create growth and more jobs (IDA, 2017). Disruption is seen as both a threat and an opportunity, and media portray it with headlines such as "*The Robots are coming!*" (Information, 2016). The term is as emphasized quite common yet the implications of the phenomenon has not come to any conclusion. Therefore, given the relevance of the subject the aim for this thesis is to contribute to the knowledge on disruption. To do this the current challenges with the phenomenon should be charted.

1.2.2 Challenge 1: Ambiguity

As the word 'disruption' has an increasing appearance in academic studies as well as the mass media, the challenges of defining it is more crucial than ever to avoid misunderstandings and ambiguity of the subject. "*Many researchers, writers, and consultants use "disruptive innovation" to describe any situation in which an industry is shaken up and previously successful incumbents stumble. But that's much too broad a usage.*" (Christensen et al, 2015). This is even more problematic when many people discussing the subject have not read a book or article on the subject (Christensen et al, 2015). The concept of disruption as a phenomenon is therefore quite mystified, and the frequent yet diversified usage of the term by the media and academics increases the ambiguity of the phenomenon. The following headlines from popular Danish media exemplifies this issue. "*What does this weird word disruption mean?*" (DR, 2016); "*Buzzword: This is what disruption means*" (Avisen.dk, 2016); "*Everybody talks about disruption – but the term is deeper than vi think*" (Computerworld, 2015). Two of the articles use Christensen's definition (DR, 2016; Computerworld, 2015), but the other does not clearly define the subject, emphasizing the ambiguity of the word.

Therefore, the starting point for the thesis is to define disruption to avoid the ambiguity of its usage in this thesis. In this thesis disruption is *"… a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent business*" (Christensen et al, 2015). The term and more about the theory of disruption will follow in the theory chapter (Chapter 4).

1.2.3 Challenge 2: Portraying the incumbents only

"*One of the most consistent patterns in business is the failure of leading companies to stay at the top of their industries when technologies or markets change*" (Bower & Christensen, 1995).

Confer its definition, disruption consists of an interplay between two actors, one being the disruptor, and the other being the incumbent (Christensen et al, 2015). With an increase of interest in the concept of disruption, many studies have been conducted to investigate the phenomenon. Most of these studies regard the incumbents, due to their ability to fund extensive research projects, while little focus is on the disruptor, conversely due to the low amount of capital for research. An example is Clayton Christensen's "*Innovator's Dilemma – when new technologies cause great firms to fail*" (Christensen, 1997), which is probably the most cited and famous work regarding disruption, which takes the perspective of the well-established corporate giants (Christensen, 1997). The view of the incumbents is interesting, and makes sense since these have a clear traction and history known to the public, and the data is often accessible. For instance, a study shows that the lifespan of top

[1] Ingeniør foreningen Danmark, i.e. Union of Engineers in Denmark. Website: www.ida.dk

companies (S&P 500[2]) are shrinking, with a 61-year tenure in 1958 decreased to 25 years in 1980 and 18 years in 2012 (Innosight, 2012). To further emphasize the issue, it is forecasted that the current churn rate will result in 75 % of the S&P 500 companies to be replaced by 2027 (Innosight, 2012). Based on data from the stock market there are patterns worth investigating, and research questions such as "*why great companies fail?*" (Christensen, 1997:4) are relevant to enlighten the subject. Literature suggests different predispositions causing difficulties with sustaining success, including "*bureaucracy, arrogance, tired executive blood, poor planning, short-term investment horizons, inadequate skills and resources, and just plain bad luck*" (Christensen, 1997:7). Other reasons regard external threats, those of changes in either technologies or in the market (Christensen, 1997:7).

Incumbents are typically characterized as being resourceful due to their past success, and in the case of the S&P 500 companies, these have high equities and are therefore able to fund extensive research projects about why the disruption has occurred, and explore how they should react. As indicated in the definition of disruption, disruption is a process where one party, the disruptor (the smaller company, relative to the incumbent), is able to challenge the business of the incumbent (Christensen el al, 2015). Therefore, the disruptors must do something different or have different characteristics allowing them to challenge the incumbents, yet little effort has been made to understand the second actor, the disruptor. Thus, the focus of this thesis is to uncover and investigate the properties or predispositions allowing smaller companies to challenge such incumbents by not only reviewing existing theory related to the subject but also inductively from case-company studies. The purpose is to contribute to the understanding of the phenomenon by creating and presenting a conceptual model for understanding disruptors.

1.2.4 Challenge 3: The need for a digital focus

The final challenge is related to digital disruption. Disruptive innovation is in itself not new; amongst academics the element of disruptive changes has existed at least since Schumpeter introduced the notion of 'Creative Destruction' in 1942 (Yu & Hang, 2010:436). A timeline of the evolution of the disruptive innovation theory is provided below:

[2] "The Standard & Poor's 500 Index (S&P 500) is an index of 500 stocks seen as a leading indicator of U.S. equities and a reflection of the performance of the large cap universe, made up of companies selected by economists" http://www.investopedia.com/terms/s/sp500.asp

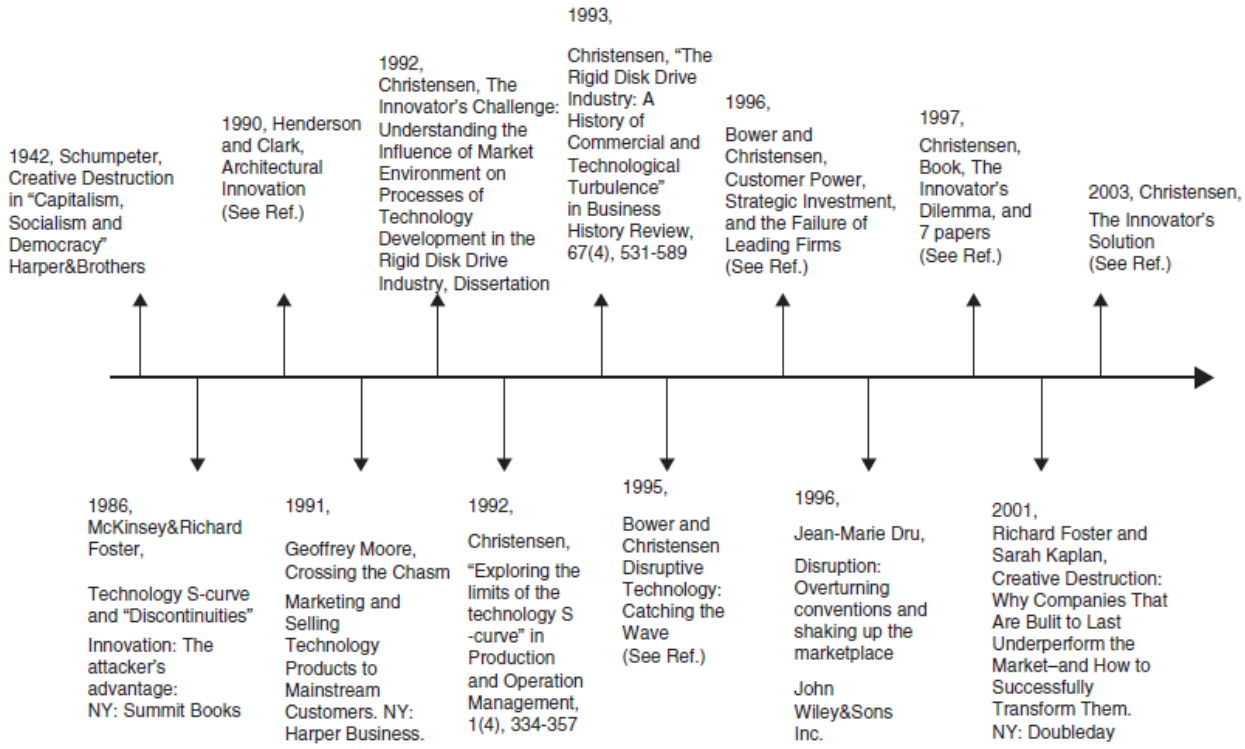

Figure 1.1 – Timeline of evolution of Disruptive Innovation Theory (Yu & Hang, 2010:436).

Figure 1.1 illustrates a timeline of the evolution of the theory of disruptive innovation. The timeline shows that the phenomenon is not new and that it has been revised many times before arriving at Christensen's contribution in 2003. Since then the theory has also evolved especially in one specific domain – digital disruption. Digitalization proves that the aspect of disruption is now more relevant than ever because of the increase in the acceleration of the disruptive process, from where less resourceful company is able to challenge the business of an incumbent (Christensen et al, 2015). The acceleration introduced by digitalization is exponential.

Exponentiality

"*Companies that have implemented digital technologies across their business have been successful in enhancing revenue sources, competing against digital natives and outperforming peers*" (World Economic Forum, 2016). In other words, companies implementing digital technologies accelerate their growth must faster than the typical Fortune 500 company.

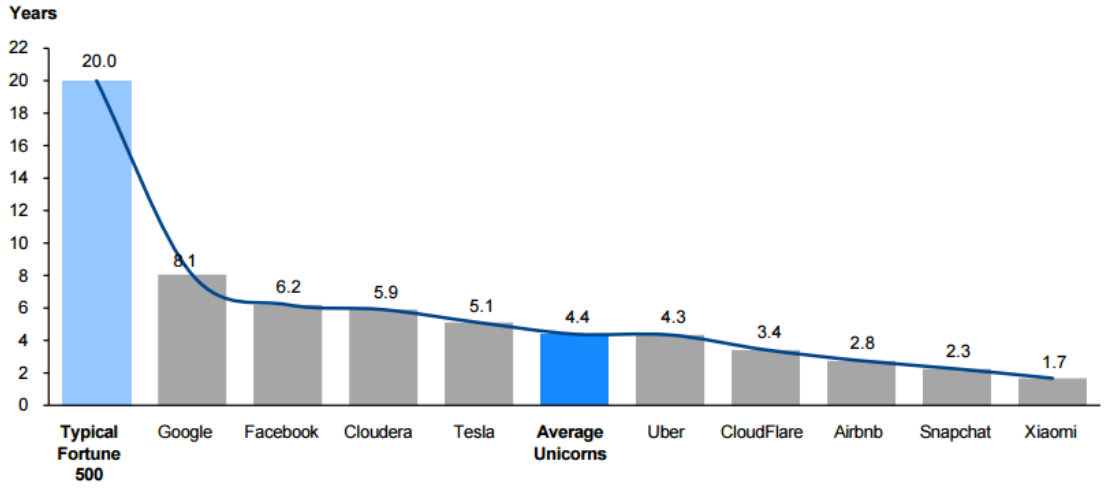

Figure 1.2 – Time to reach a valuation of $1 billion or more (World Economic Forum, 2016).

Figure 1.2 proves that the time to grow towards a valuation of USD 1 billion is accelerating. Take the currently debated Uber, which only took 4.3 years to achieve unicorn status. A unicorn is a company, "*usually at the startup phase that does not have an established performance record, with a stock market valuation or estimated valuation of more than USD 1bn*" (Investopedia, 2017;a). Furthermore, if looking at the development in number of unicorns since 2009, it is a clear manifestation of how digitalization has boosted this development, where at least 66 % (129) of the total number (195[3]) of unicorns are directly related to digital products, and most likely more, if changing counting criteria from industry to product level. See appendix (13.1) for more information.

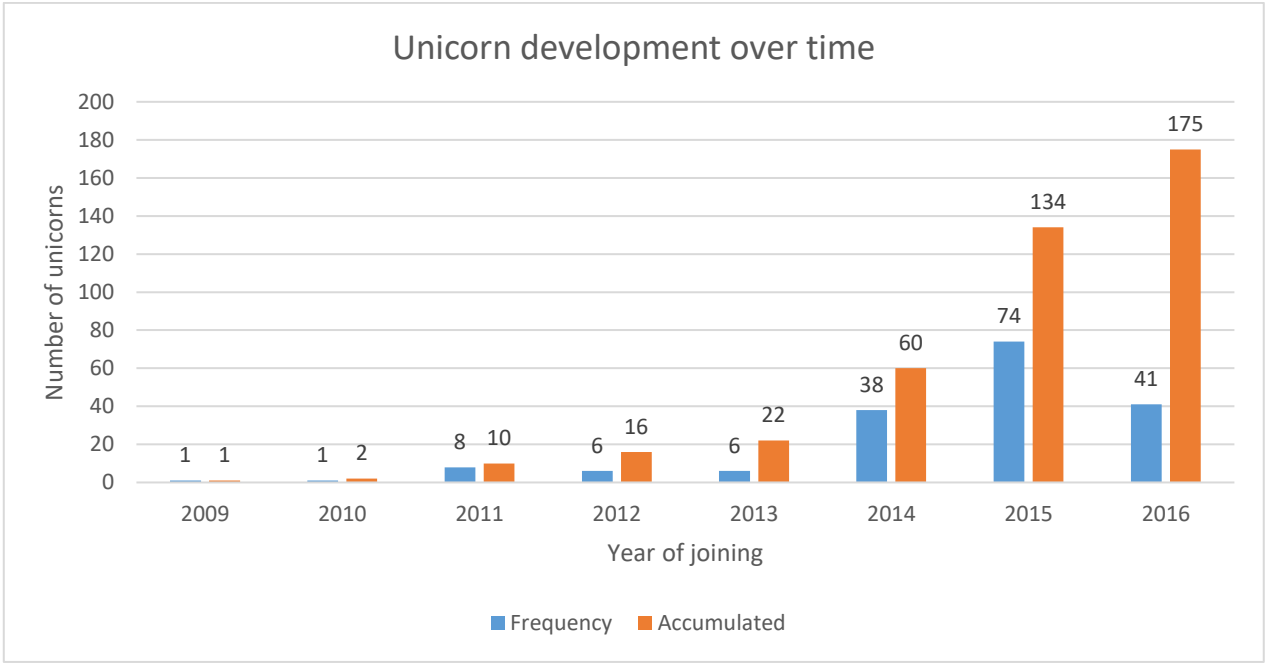

Figure 1.3 – Unicorn development over time (Own creation from data source: CB Insights, 2017).

[3] The list is updated January 31, 2017. 2017 accounts until this date for 20 unicorns, and with a naïve forecast this sum up to 120 unicorns entering in 2017, thus the exponentiality continues. Source: CB Insights, https://www.cbinsights.com/research-unicorn-companies

The accumulated data above serve as evidence of the exponential development of digitalization, which accelerates the growth of the companies. These developments support Moore's law, stating that price/performance will double every eighteen months, thus an exponential development (Ismail et al, 2014:20). Furthermore, futurist Ray Kurzweil states that Moore's pattern applies to any information technology and denoted the development the 'Law of Accelerating Returns (LOAR) (Ismail et al, 2014:21). Another interesting finding from Kurzweil is that the LOAR never stops (Ismail et al, 2014:21). Unlike the technology s-curves that show development, this is not the case with information-based disruptors i.e. digital disruptors. "*Exponential Organizations are built upon information technologies that take what was once physical in nature and dematerialize it into the digital on-demand world*" (Ismail et al, 2014:20). Based on the evidence above, there is a need for a digital focus is in regard to disruption. To fully understand the phenomenon this new dimension must be investigated further.

1.2.5 Summary

In summary, the area of concern has described three interconnected challenges when dealing with the phenomenon of disruption and constitutes the arguments for the relevance and limitation of this study.

- Challenge 1: Ambiguity
- Challenge 2: Portraying the incumbents only
- Challenge 3: A need for a digital focus

The term disruption is surrounded by much ambiguity, and a clear definition of disruption is provided to reduce this and set the initial frames of the study. The definition includes a process between two actors, where the first is the incumbents being affected by the disruptor. This leads to the second challenge, being that most studies portray the incumbents only, thus the ambiguity is sought to be reduced by contributing to understand the second and more mystified actor, the disruptor. The third challenge regards the change in development pattern as more and more organizations digitalize their businesses. Therefore, this research will seek to provide a deeper understanding of the phenomenon, which can help in the further development of a theory regarding disruption in the digital domain.

This thesis is an explorative case-study of disruptors, either smaller companies or business units within well-established companies, with the purpose of investigating and establishing a baseline of characteristics of how these are able to disrupt incumbents. The basis for conducting an explorative study is justified by the lack of literature on the subject, since the clear majority covers the incumbents' perspectives and the current theory does not explain the digital disruptors explicitly. Therefore, the objective is to provide a basis for an initial understanding of the characteristics of the digital disruptors and see how adjacent theory can help explain these characteristics, hence creating a conceptual model for understanding digital disruption.

2 Research question

The lack of literature on the ambiguous subject combined with the opportunity and access to digital case-companies with disruptive patterns has resulted in the following research question.

Research question: *What enables digital disruptors to challenge incumbents?*

This will be answered using the following work question, which will help to answer the research question.

Work question: *What characterizes a digital disruptor?*

3 Methodology

The purpose of this chapter is to describe the methodology, including the research design, the data collection and analysis methods. The aim of the report is to arrive at qualified guesses to what characterizes the digital disruptors, thus being a research in progress for a special contribution to the general theory of disruptive innovation. This chapter consists of the following subchapters:

1. Research design
2. Data collection
3. Data analysis

3.1 Research design

This subchapter will describe the research design, which is defined as the "*the function … to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible*" (De Vaus, 2001, p. 9). The initial question [red. research question] needs to be answered in a convincing way (De Vaus, 2001, p. 9), thus the necessity of describing the research design. The section will include a brief description of the research design, which is comprised of the following components:

Component	Definition
P	"*The problem setting represents people's concerns in a real-world problematic situation*" (Mathiassen, 2015).
A	"*The area of concern represents some body of knowledge in the literature that relates to P*" (Mathiassen, 2015).
F	"*The conceptual framing helps structure collection and analyses of data from P to answer RQ; F_A draws on concepts from A, whereas F_I draws on concepts independent of A*" (Mathiassen, 2015).
M	"*The method details the approach to empirical inquiry, specifically to data collection and analysis*" (Mathiassen, 2015).
RQ	"*The research question relates to P, opens for research into A, and helps ensure the research design is coherent and consistent*" (Mathiassen, 2015).
C	"*Contributions influence P and A, and possibly also F and M*" (Mathiassen, 2015).

Table 3.1 – Research design components (Mathiassen, 2015, pp. 4-5).

Table 3.1 illustrates the research design components. Each of the components will be elaborated in the remainder of this subchapter, followed by a table summarizing the specific components of this study (See figure 3.4). Some of the components have already been described in other chapters, why the problem (P) and area of concern (A) can be seen as a combined chapter in (Chapter 1) and the research question (RQ) can be seen in (Chapter 2). To avoid redundancies please visit these respective sections to find out more about these components.

3.1.1 Conceptual Framing (F)

The conceptual framing (F) regards the choice of how to frame the argument, which will help guide the collection of data, and will be a foundation of how to analyze the data (Mathiassen, 2015:5). These frames may be related to the concepts of A (F_A) and/or rely on concepts independent of A (F_I) (Mathiassen, 2015:5). F_A is regarding literature that relates to the real-world problem, and may not only relate to one, but multiple subjects (Mathiassen, 2015). "*Hence, positioning new research vis-à-vis the extant literature is a complex task that involves considering multiple areas of research in the literature; making judgements about which ones are better suited for the new study; and possibly combining multiple areas as backdrop for the new research (Huff, 1999, chapter 2)*" (Mathiassen, 2015:5). In this context, this literature is regarding multiple subjects, which are also covered in the theory chapter (Chapter 4). The broadness of the frame is justified by there being no exact theories regarding the digital disruptors, why multiple conceptual frames have been chosen based on the preliminary knowledge from courses at AAU, the internship during the mater program, and the knowledge from the bachelor of science in Global Business Engineering at AAU.

F_A: Literature related to the area of concern (A)

- Innovation theory

The overall subject is innovation theory, which is studied to understand the broader context of the theory of disruptive innovation. Some literature within the frame of innovation theory relating to disruption is named differently, and may fit the purpose of describing the digital disruptors, why it is relevant to look further into.

- Disruptive innovation

Disruptive innovation is a subject within the frame of innovation. To understand the disruptors, a thorough study of the existing literature on disruption as a phenomenon is necessary to enable a contribution to this frame.

F_I: Literature related to independent areas of A (I)

- Organizational theory

Organizational theory is relevant as an independent frame to understand organizations, and since the working hypothesis behind this project has been that disruptors can be categorized into a specific type of organization, organizational theory will help explain the constellation of elements within these disruptors. Also, having a background in business studies, organizational theory is a natural part of the preliminary understanding.

- Digitalization, technological development and exponential organizations (ExOs)

"Disruption might have a long history, but digital disruption is relatively new; only a handful of industries have felt it to date" (McQuivey, 2011:2). Digitalization is becoming more widespread and a subject many companies are talking about. Digital companies work under different conditions than analogue companies, why it is important to consider this frame. Also, when talking about digital disruption, technological development is inevitable, since it regards the change of either technologies or markets (Christensen & Bower, 1995: 43). Therefore, this is an independent area, yet related closely to the theories regarding disruption. In addition to this, ExOs are relevant because of the apparent exponential development of information based companies, i.e. digital companies.

These subjects are described further in the theory chapter (Chapter 4). A figure has been made to illustrate the frames connectivity as well as relation to the area of concern.

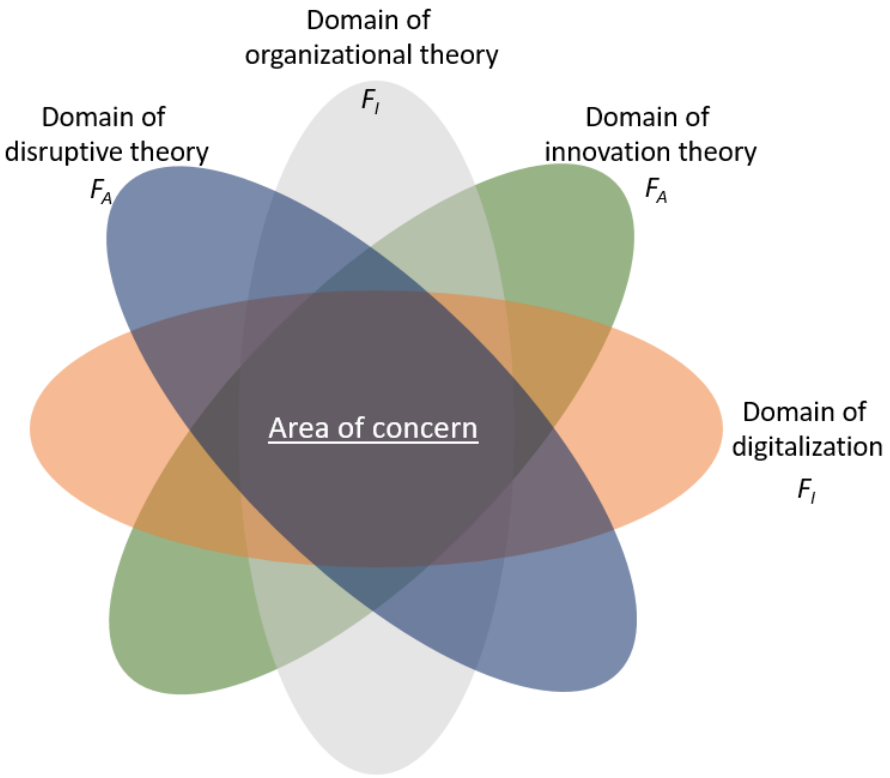

Figure 3.2 – Conceptual framing – Area of concern (Own creation)

Figure 3.2 illustrates the conceptual frames and how the subjects overlap, in which the area of concern exists. This area of concern is where the frames complement each other to enable a thorough understanding to adjacent literature with the purpose of creating a conceptual model of understanding the disruptors.

3.1.2 Method (M)

The objective of the method (M) is to enable a relevant foundation of data to answer the research question (RQ), and the overarching challenge is to arrive at a consistent and useful design (Mathiassen, 2015:6). In the context of this study, the chosen method is a case study of digital disruptive companies to arrive at a generic set of characteristics of the disruptor. The objective is to create a conceptual model of understanding the digital disruptor, and thereby enable a better understanding of digital disruption as a phenomenon from the entrant perspective. The methodological approach in this report is characterized by being iterative. The objective from Christensen (2006) when building theory, corresponds well to that of this thesis, and is about being descriptive and thorough with the methodological approach, so that other may be able to complement and build upon the findings (Christensen, 2006:40).

In this thesis, both the inductive and deductive approaches are used. The inductive approach is an analytical principle where you based on observations find a certain characteristic in all the observed objects, leading to a general conclusion for these objects (Sociological Cyclopedia, 2011). This iterates when arriving at the case company findings, to the deductive approach. The deductive approach is where you based on common

formulated hypotheses divert logically conclusive hypotheses (Sociological Cyclopedia, 2011). Given the iterativeness both approaches interact.

"*The three steps researchers use to build descriptive theory are observation, categorization, and association*" (Christensen, 2006:39). These are the three steps in which the theory-building process iterates through again and again (Christensen, 2006:39). This statement emphasizes the iterativeness, which is also described later in this section. The process of building theory can be seen in the figure below:

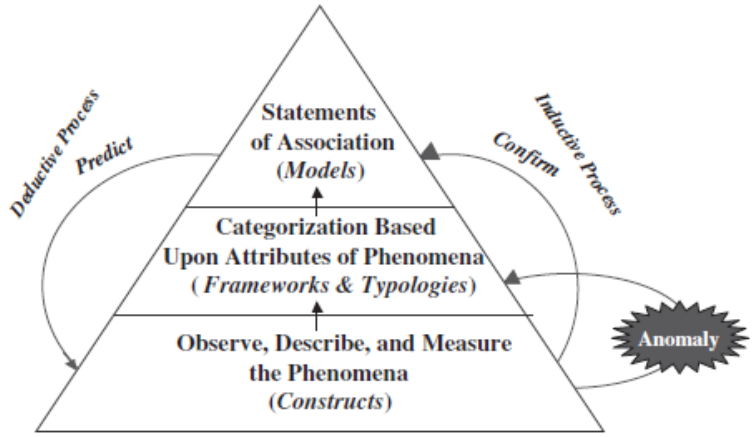

Figure 3.3 – The process of building theory (Christensen, 2006).

Figure 3.3 illustrates the process of building theory. In this case, of initializing the building of a theory regarding the disruptors, to contribute to the overall theory of disruption. Each part of the figure, will be explained respectively.

The first step is at the base of the pyramid and is where "*researchers observe phenomena and carefully describe and measure what they see*" (Christensen, 2006:40). The output of this stage is typically a set of constructs, that may help rise above the detail to a more abstract level, allowing a better understanding of the phenomenon (Christensen, 2006:40). The main objective of the thesis is to arrive at these constructs and from those move to the second step.

In the second step, the purpose is to classify the phenomena into categories (Christensen, 2006:40). This can be done by taking the constructs and labelling them according to the characterization. This is what is sought when creating the conceptual model and later describing the categorization related to and input-transformation-output model, as well as in the discussion chapter, where possible categorizations are discussed (Chapter 8).

The third step is where the "*researchers explore the association between the category-defining attributes of the phenomena and the outcomes observed*" (Christensen, 2006:40). This is where the correlations between and the magnitude the attributes are assessed. Such could for instance be through regression analysis (Christensen, 2006:40-41), which require a certain amount of quantitative data. This step is not archivable, and not the purpose, since the purpose is to work exploratively.

After these three stages "*Researchers then begin to improve the theory by cycling from the top down to the bottom of this pyramid in the deductive portion of the cycle: testing the hypotheses that were inductively formulated*" (Christensen, 2006:41). This is done by testing whether the correlations appear in different sets of data (Christensen, 2006:41). Such could be the aim of future studies where the contributions of this explorative mater thesis could be applicable or serve as basis for further development. When enough datasets prove the model to be consistent, this is when it is called a theory, and when it is applicable to predict most data-sets

within the frame of the model's applicability. Since this study cannot complete the third step this is research-in-progress and averts from calling the output a model or a theory, but calls it a conceptual model, to indicate the incompleteness of the model. It can also be termed a framework, since it fulfills the second step of the process of building theory.

An iterative process

The iterative process begins with the assumptions established before the beginning of the research and which also served as trigger for the thesis (See 1.1). The assumptions are based on previous experiences, findings from other projects and knowledge from the time at as a student at AAU, including both the bachelor and the master. In this respect, the hermeneutic circle is of relevance. "*Theory of interpretation and understanding that no observation or description is free from the effects of the observer's experiences, pre-suppositions, and projections of his or her personal values and expectations*" (Business Dictionary, 2017a). As such, the understanding acquired before this research is relevant, and results in the assumptions, and the hermeneutic circle also supports the iterative nature of the process of creating theory (Christensen, 2006). The initial assumptions are presented in the appendix (13.3). These regard preliminary guesses of the digital disruptors' characteristics. It is important to note that the nature of the first interviews were not subject to any specific academic research, which could bias the study even more than the previous experiences and knowledge. From the assumptions, the data collection took its starting point. Then the data was held up against existing theories to help understand the collected data. This process was made multiple times and are therefore categorized as an iterative approach.

Now having explained all the necessary components of the research design, the figure below will conclude and summarize the findings from this subchapter.

Component	Definition	Specification
P	"*The problem setting represents people's concerns in a real-world problematic situation*" (Mathiassen, 2015).	1) Ambiguity of the phenomenon, 2) a majority of focus on only one of the actors and 3) the exponentiality introduced by digitalization is what constitutes the relevance of understanding what enables digital disruptors to challenge the incumbents' businesses.
A	"*The area of concern represents some body of knowledge in the literature that relates to P*" (Mathiassen, 2015).	A, will be constituted based on the theory of: innovation, organizations and digitalization.
F	"*The conceptual framing helps structure collection and analyses of data from P to answer RQ; F_A draws on concepts from A, whereas F_I draws on concepts independent of A*" (Mathiassen, 2015).	F_A includes the overall frame of innovation theory and literature, along with the existing literature about disruptive innovation. F_I includes organizational theory and theory regarding digitalization
M	"*The method details the approach to empirical inquiry, specifically to*	Iterative process of developing a conceptual model of disruptors, made from qualitative case studies of 4 digital companies who by the definition of

	data collection and analysis" (Mathiassen, 2015).	disruption, challenges an incumbent's business with fewer resources available (Christensen et al, 2015).
RQ	"*The research question relates to P, opens for research into A, and helps ensure the research design is coherent and consistent*" (Mathiassen, 2015).	RQ: *What enables digital disruptors to challenge incumbents?*
C	"*Contributions influence P and A, and possibly also F and M*" (Mathiassen, 2015).	Contributions are made to better understand the phenomenon of digital disruption through a conceptual model based on qualitative case studies.

Figure 3.4 – Research design inspired from (Mathiassen, 2015, pp. 4-5).

Having described the research design, the following subchapter will regard the data collection and go more in depth with the case study as a method.

3.2 Data collection

The purpose of this subchapter is to describe the process by which the data is collected and describe the data sources. A brief description of the chronological order of the data collection can be seen in figure 3.5. The table below illustrates the data sources.

Primary data			
When	*Who*	*Purpose*	*Length*
20-02-2017	Allan Mørch, CEO & Co-founder, AskCody ApS	Screening, understanding the business and inputs on assumptions	53m:03s
22-02-2017	Christoffer Baadsgaard, CEO & Co-founder, Debito ApS	Screening, understanding the business and inputs on assumptions	38m:40s
23-02-2017	Jens Christian Lindof, Vice President, RTX A/S	Screening, understanding the business and inputs on assumptions	57m:15s
12-04-2017	Esben S. Petersen, CTO & Co-founder, Traede ApS	Understanding the business and inputs on theoretical model	45m
19-04-2017	Allan Mørch, CEO & Co-founder, AskCody ApS	Inputs on theoretical model	42m:33s
21-04-2017	Christoffer Baadsgaard, Co-founder, Debito ApS	Inputs on theoretical model	25m:38s

Table 3.5 – Primary data sources

There are different types of data, also illustrated in figure 3.5, which will be described respectively.

3.2.1 Primary data

Primary data is "*data observed or collected directly, from first-hand experience*" (Business Dictionary, 2017b). The primary data in this project is mostly from the case studies, where interviews have been the primary collection method.

Case studies

Case studies serve as the primary data collection methodology of this thesis. A case study is not linked to any specific type of data collection, and can therefore be both qualitative or quantitative (De Vaus, 2001, p. 11). Since the focus is to research the behavior and characteristics of the disruptors that are hard to measure quantitatively, the research method will be qualitative. Furthermore, since the research is explorative in nature the author does not want to exclude specific characteristic before collecting data. A quantitative study would have to select certain characteristics beforehand, which is not a possibility given the lack of existing literature on the digital disruptors. Case studies have proven useful when analyzing organizations. "*Educational research, evaluation research and organizational research have all made extensive used of case studies to foster their development*" (De Vaus, 2001, p. 219). The case is the unit of analysis and the object for which we try to understand as a whole, including the context in which this appear (De Vaus, 2001, p. 220). The unit of analysis is therefore the disruptors as an organization and their respective context, e.g. life-cycle, size etc. to understand and arrive at general descriptive characteristics or constructs.

Being a relatively new phenomenon, theories do not provide any 'one-truth' propositions for digital disruption, and certainly not for the disruptor, which is why this is the area of concern. Drawn from experiences from the case of the potential digital disruption of Ennova A/S, an incumbent in the field of employee engagement surveys, assumptions are an inevitable starting-point for understanding the unit of analysis, and has resulted in the initial explorative interview themes (See appendix 13.3). Although this might be a bias, it was through this experience that the drive to explore the subject of digital disruption arose. This regards the hermeneutic spiral. The hermeneutic spiral means that all our experiences and actions takes place in based on our understanding, comprised of our background, values and prejudice (Sociologiskforum.dk, 2016).

When using a case study, it must have a certain theoretical dimension in order to arrive at a wider generalization (De Vaus, 2001, 221). In this case, this theoretical dimension is the conceptual framing (see figure 3.2). There are multiple types of case studies, and the one in question here, is regarding the 'theory building approach', which fits well with the lacking investigation of the digital disruptors. Again, it is worth noting that building an entire theory is not assessed able due to resource constraints in the form of limited time, limited access to data, and that the research is conducted by a single person. That being stated, the case study methodology is the theory building approach, corresponding to that of Christensen's model (see figure 3.3). "*Using a theory building approach to case studies we select cases to help develop and refine the propositions and develop a theory that fits the cases we study"* (De Vaus, 2001, 223). The point of such studies is to develop a setting or context by which the propositions can be generalized and thus describing the unit of analysis. Therefore, no constructs pre-exist in contrast to the theory testing approach, which test the viability of existing propositions (De Vaus, 2001, 223).

Interviews - The data source for the case-studies

The main source of primary data is attained through exploratory interviews. An explorative interview is usually open and its structure is only vaguely planned beforehand (Kvale & Brinkmann, 2009:126). The first three interviews were explorative by nature, yet were based on preliminary assumptions about the disruptors. The assumptions on which the themes were based can be seen in the appendix (13.3). Furthermore, the interviews also had built in questions about the companies in general, to ensure that these in fact can be categorized as digital disruptors, and thereby used for the purpose of the research. A second interview guide was made, when sufficient data was collected, which was after the three first interviews. Interview guides were made to give the interviewer a sense of purpose and remember to ask the open-ended questions. The interview guides can be found in the appendix (13.4.1;13.4.2).

The second round of interviews were with a hypothesizing purpose of validating or neglecting the hypothesis made based on the first interviews, yet still to some extent explorative to try to uncover new characteristics of the digital disruptors. *"Interviews that test hypotheses about group differences [red. and similarities] are typically more structured; the formulations and the sequence of the questions can be more standardized with the purpose of comparing the interviews from multiple groups [red. in this case multiple different disruptors]"* (Kvale & Brinkmann, 2009:126). Here the findings from the first interviews combined with theory to explain those findings, were put into an early conceptual model, which were then subject to discussion and served as input to the interview guide for the second round of interviews.

All of the interviews can be characterized as 'elite interviews', which are "*interviews with persons, who are managers or experts, typically in powerful positions*" (Kvale & Brinkmann, 2009:167). These persons were assessed necessary to be the interviewees, since the interview questions and the area of investigation demand a high level of insight of the company which was investigated. Therefore, it had to be people of a certain seniority of the respective companies. One of the issues with such interviews is to gain access to these people (Kvale & Brinkmann, 2009:167). This issue combined with the necessity of screening to find companies able to be characterized as both digital and disruptive, have caused a quite limited number of relevant interviews (see 5.2.5. Another issue is the necessity of the interviewer's preparation. In this case interviewer researched the company in depth prior to the interview, to allow more open-ended and unprepared questions. Besides the issues with such interview, the benefit is that the interviewees are able to provide the necessary insights in subjects such as company and development strategies, otherwise unattainable for non-elite interviewees.

There are seven phases of an interview (Kvale & Brinkmann, 2009:122), which will be described respectively.

1. Clarification of themes, which states the purpose of the interview and the assumptions of the theme under investigation (Kvale & Brinkmann, 2009:122). The questions of interest here are the *why*, *what* and *how* (Kvale & Brinkmann, 2009:125). In relation to this each interview had these questions to understand the case companies and what they do.
2. Design is regarding the design of interview, such as how structured it will be, to ensure that the requested knowledge is attained (Kvale & Brinkmann, 2009:122). In this case, the design regarded the interview guides, which can be seen in the appendix (13.4.1;13.4.2).
3. Interview is the phase of conducting the actual interview using the design (Kvale & Brinkmann, 2009:122).
4. Transcription is the phase where the interview material is made ready for analysis, which usually means a transcription (Kvale & Brinkmann, 2009:122). In this case, all the interviews in the first data collection round were transcribed and can be found in the appendix (13.5). The second round was not deemed necessary to transcribe, but was recorded to enable the researcher to revisit the interview during the analysis. The recordings can be found in the appendix (13.2).
5. Analysis is the phase where the different analysis methods are used to arrive at the conclusions (Kvale & Brinkmann, 2009:122). This is in other words part of working with data acquired through the interviews and can be found from chapter 5 and forward.
6. Verification is the phase where the validity, reliability and generalizability is ensured (Kvale & Brinkmann, 2009:122). This will be reviewed in the following subchapter regarding the data analysis.
7. Reporting is the phase where the results of the research and the applied methods results in a product worth reading (Kvale & Brinkmann, 2009:123). Thus, the master thesis report.

These seven phase represent how the primary data is used in this thesis, and will be complemented by a description of the use of secondary data.

3.2.2 Secondary data

Secondary data is "*primary data that was collected by someone else or for a purpose other than the current one"* (Business Dictionary, 2017c), and will include many different sources described in this section. This thesis includes much secondary data due to its nature of theory building. It is necessary to understand the conceptual frame (F) and the area of concern (A), which represents some body of knowledge that relates to the problem (P) (Mathiassen, 2015). Therefore, many secondary data sources have been included which will be explained respectively in the following. A comprehensive list of all the secondary data directly used in the thesis can be seen in the Bibliography (Chapter 12).

Academic articles

Academic articles constitute the base of understanding innovation and disruption, confer F_A and F_I. Therefore, articles and publications about innovation, disruptive innovation, digital disruption, organizational theory, amongst others, have been data input.

Articles and industry report

The relevance of disruption as a topic is also seen in the media. Therefore, newspaper articles have in some cases been used to highlight the relevance of subject and even also the ambiguity of the phenomenon. Furthermore, consultancies have made industry reports regarding the subject worth investigating.

Textbooks

Textbooks about innovation have been used to enforce the academic articles. For example, "Managing Innovation – Integrating technological, market and organizational change" (Tidd & Bessat, 2009), which is a collective work of different relevant academic articles, and has served as inspiration to much of this research.

Lectures

As mentioned in subchapter 1.1, this thesis is a research combining the competencies and knowledge from both the bachelor and master, to conclude the author's academic studies. Lectures from both the bachelor and master are relevant to the thesis since these regards many of the conceptual frames, both F_A and F_I.

Websites

The newspaper articles all stem from online sources, given the digitalization of the news industry. Therefore, many website articles have been input to the study of the disruptors, yet being an academic report, most the data is from academic sources, such as academic articles and textbooks.

3.3 Data analysis

The data analysis has been an ongoing and iterative process. First the assumptions from previous experiences led to a set of preliminary assumptions of the digital disruptors, which then was subject to data analysis from the case studies as well as theory. The iterative process resulted in the conceptual model for understanding digital disruptors. It is important to demonstrate a clear and transparent analysis, so that it can be applicable in other contexts and replicated for further research. Therefore, it is important to ensure the trustworthiness of the findings, which is done be demonstrating how the analysis of both qualitative and quantitative data have been conducted. Triangulation of data has been used throughout the research to ensure a high degree of trustworthiness.

3.3.1 Qualitative data

Qualitative data has been the main inputs to this study. Primary data sources regard the case companies and secondary data sources regard the literature on F_A and F_I. Qualitative data is about word and meaning and pose the researcher to collect and analyze data in an iterative process, where theories are modified and adjusted according to the observations in the process (Metodeguiden.au.dk, 2017). A high degree of information in a natural context is among the benefits of such approaches, yet this is at the cost of a lower level of reliability due to researcher's inevitable interpretation of the data (Metodeguiden.au.dk, 2017). Trustworthiness of qualitative data is ensured by viewing the following (Shenton, 2004):

- Credibility,
- Transferability
- Dependability
- Confirmability

How these have helped ensure the trustworthiness, will be explained respectively.

Credibility

Credibility regards the internal validity and how to ensure that the study tests or measure that what is intended (Shenton, 2004:64). The following provisions is to be made to ensure the confidence that the phenomenon has been accurately recorded under scrutiny (Shenton: 2004: 64):

- Adoption of well-established research methods (Shenton. 2004:64), which has been ensured by applying Christensen's process of building theory (2006) (See figure 3.3) and using the guidance of the supervisor on this matter.
- The development of an early familiarity with the culture of participating organization (Shenton, 2004:65). There are two elements to this matter. One is the familiarity with the organizations, which has been ensured through multiple interviews with more or less each participant. The interviews have asked questions regarding the organizations to understand what they do and how they work, to understand them prior to asking question directly related to the area of investigation. The second element to this matter is the familiarity to the subject of disruptive innovation, which throughout the master program has been a theme, as well as the previous report regarding the disruption of an incumbent, Ennova A/S, where the author had a 5-month internship. Therefore, the familiarity with both the organizations and the subject has been of great focus to ensure the credibility.
- Random sampling of individuals as informants (Shenton, 2004:65). This aspect has been hard to accomplish. Given that many of the interviews required either seniority or top level informants, made it difficult to do random sampling on different levels of the organizations. The interview needed to be 'elite interviews' as previously argued. The aspect of random sampling is there in the form of the participating organizations. They have been more or less randomly chosen based on the access to such.
- Triangulation, meaning the use of different methods for the data collection (Shenton, 2004:65), has tried to be ensured by interviewing multiple case companies instead of one, and by adding the theories related to the subject from the conceptual frame F_A.
- Tactics to ensure honesty among informants (Shenton, 2004:66-67). Each informant has voluntarily agreed to participate in the investigation, and has at no times require an NDA or similar to be created. Therefore, the informants are assumed to have spoken honestly. This is supported by some of the informant's providing non-public information during the interviews, which was kindly asked not to be further distributed. The author has seen this as a sign of trust, and therefore honesty from the

informants. The author has with respect to these matters, not quoted these subjects in the paper. Although honesty has been an area of concern, full honesty cannot be ensured, since the author is an external person to the organizations in question.

- Iterative questioning, which is able to uncover deliberate lies (Shenton, 2004:67). Having conducted explorative interviews, these have included iterative questions to elaborate on matters, which was not initially understood. This ensures to some extent more valid data, since it is harder for the informants to deliberately lie consistently throughout the interviews.
- Negative case analysis to refine the hypothesis until it addresses all cases within the data (Shenton, 2004:67). The author has tried to revisit the data multiple times post prior and post the data analysis. This has already been explained in the iterative approach.
- Peer scrutiny of the research project to provide feedback and challenge assumptions (Shenton, 2004:67). Such has been ensured by involving the supervisor many times through sparing and debate.
- Thick description of the phenomenon under scrutiny and examinations of previous research findings (Shenton, 2004: 69). Both of these has been present in this research. The theory section will provide an extensive explanation of literature regarding the subject from both conceptual frames F_A and F_I. This also accounts for previous research findings, which has been included in the development of the conceptual model.

Transferability

Transferability regards the external validity that is concerned with the extent of which the findings of the study can be applied to other situations (Shenton, 2004: 69). It is the responsibility of the author to ensure that sufficient contextual information about the fieldwork exists to enable the transfer (Shenton, 2004:69-70). This has been an area of focus, since the author acknowledged that the development of a theory takes time and regards different stages (Christensen, 2006). The aim of the study is to contribute to the theory of disruptive innovation and this will require a certain transparency of the methods, data collection and data analysis, so that others may either continue the work or use the findings in other respects. The information should be given to ensure this is the following (Shenton, 2004:70):

- The number of participating organizations (Shenton, 2004:70), which in this case is 4, all based in Denmark.
- The restrictions in the type of people who contributed (Shenton, 2004:70), which in this case is limited to founders or co-finders as well as senior level managers who have contributed directly, as well as the supervisor.
- The number of participants involved in the field work (Shenton, 2004:70), which is limited to the author only.
- The data collection methods (Shenton, 2004:70), which are accounted for in a previous section.
- The number and length of the data collection sessions and the time period over which the data was collected (Shenton, 2004:70), which is also provided in an earlier subchapter.

Having ensured the information available on these parameter, the study is assessed to be transferable, so that others may investigate the matter further or contribute to it.

Dependability

Dependability is concerned with the reliability of the study (Shenton, 2004:71). This regards whether the same results would appear if the conditions where the same, such as context, methods and participants (Shenton, 2004:71). The conditions are sought out to be described so that the study can be replicated. Whether the exact

same would appear is difficult to determine, yet having interviewed some of the participant twice, they have re-confirmed some of their statements more than once, leading to believe that under similar conditions they would do so again. One element to consider here is the time of which the participants are interviewed. Being in growth companies, the conditions change over time, thus this could be reflected if the same study would appear again in for instance two years. In that point in time, things may have changed, and therefore also their focus, which may affect their answers and explanations.

Confirmability

Confirmability relates to the investigator's ability to be objective (Shenton, 2004: 72). As previously addressed full-objectivity is difficult to address due to the hermeneutic spiral and sympatric nature of most people, making rationality bounded and not acting fully rational. There is a "*difficulty of ensuring real objectivity, since, as even tests and questionnaires are designed by humans, the intrusion of the researcher's biases is inevitable*" (Shenton, 2004:72). This is where the role of triangulation with other data sources and already established theories have helped to ensure a significant level of objectivity. In relation to this the author has not been emotionally attached to the organizations, thus the bias is assessed to be small.

3.3.2 Quantitative data

Since this study is a qualitative study and does not include much quantitative data, this section will only briefly describe the matter. Quantitative data regards statistics and measurability (Metodeguiden.au.dk, 2017). The advantages of such data are the ability to generalize about a population based on a large sample size (Metodeguiden.au.dk, 2017). In this context is has not been possible to gain access to enough data to make a quantitative study. The current qualitative study can serve as an explorative study setting the frame for further studies, which may be quantitative to reap the benefits of generalizability. Such is proposed for further investigation, yet would not be appropriate as initial research due to the ambiguity of the subject in question.

4 Theory

The purpose of this chapter is to introduce and describe the majority of the theory used in the thesis, to align the understanding between the master thesis student and the reader, and to present the theory relevant to the development and discussion of the conceptual model created in the thesis. Since the thesis is a contribution to theory regarding disruption, a clear and well-supported theoretical overview is a necessity to enable future application of the contributions to the theory. The chapter will introduce the theories that relates to the area of concern (A) and therefore represent the different conceptual frames (F_A and F_I) of the research (See figure 3.2). Only theory regarding organizational theory has not been directly included in the theory section, due to its sporadic implementation throughout the report, and with no immediate reoccurring themes within this frame. This conceptual frame will be described when applied. The theory chapter will include innovation theory as the overarching theme, where disruptive innovation lies within and will be described subsequently. The disruptive innovation subchapter also includes the aspect of digital disruption, thus digitalization and the exponential growth of digital disruptors.

4.1 Innovation theory

The first subchapter of this section is regarding innovation theory, which is the overarching frame of the thesis. The purpose of this subchapter is to explore realm of innovation theory relevant to the research of the disruptors. Due to the previously described ambiguity of disruption, it is relevant to explore the wider concept of innovation theory.

4.1.1 Exploring definitions

There are many different definitions of 'innovation'. Therefore, this section will briefly review some of them, to identify the elements that constitutes innovation, with the objective to arrive at the definition used in this research, and elements for further discussions in the analysis chapter.

A) "*Innovation is the successful exploitation of new ideas*" (Innovation Unit, 2004).

This definition illustrates that it is not the idea or the invention that is the challenge, it is the commercialization of such (Tidd & Bessant, 2009). This also highlights the issue regarding the ambiguity surrounding the term 'innovation'. Many believe that innovation has a connection to invention, which is not necessarily true. An inventor is someone who creates a product or introduces a process for the first time, while innovation is when someone "*improves or makes a significant contribution to an invention*" (Business Insider, 2012). For example, the iPhone was not an invention, but an innovation, while the phone itself as a concept was an invention, introduced by Graham Bell in 1876 (History.com, 2017), hence the first-time presentation of such. The iPhone improved the existing while adding extra functionality and by being well-designed in its usability (in contrast to the existing products at that time). While some link inventions and innovations directly as with the above stated quote (Business Insider, 2012), this is not necessarily the case, since there can be different types of innovation, as later explained. The definition also mentions 'exploitation', which reappear in definition B), and will be described further in the following.

B) "*Innovation is the specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced*" (Drucker, 1985).

This quote describes innovation as a tool used by entrepreneurs to exploit changes in an environment as an opportunity. Exploitation is also mentioned in definition A), which gives rise to address two perspectives of how opportunities arise. Schumpeter claims that the market is in an equilibrium and opportunities needs to be created through 'exploration' in order to destroy the existing system from within (Heideman Lassen, 2015). This relates to the concept of creative destruction described by Schumpeter (1942):

"*The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation the new markets, … [This process] incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism.*"
(Schumpeter, 1942 reproduced by Aghion & Howitt, 1992)

In this definition, the creative destruction refers to the exploration of new opportunities by the destruction of the existing systems. In a contrast to Schumpeter, Kirzner explains that the market is in a disequilibrium and opportunities arise through discovery and 'exploitation' in order to bring the market into stability (Heidemann Lassen, 2015). Kirzner's view aligns with definition A) as well as B). Whatever the truth is, it is interesting as a notion for further research to see how the disruptors assess the rise of opportunities.

C) "*Companies achieve competitive advantage through acts of innovation. They approach innovation in its broadest sense, including both new technologies and new ways of doing things*" (Porter, 1990).

In this definition, the objective for practicing innovation is to achieve a competitive advantage. Porter (1990) emphasize new technology as a driver of innovation. New technologies are also what Christensen (1997) claimed to be the trigger of not only innovation but also disruption (Christensen, 1997:9). Furthermore, technologies will in this thesis be defined as "*the process by which an organization transforms labor, capital, materials, and information into products and services of greater value*" (Christensen, 1997: 9). Porter (1990) also emphasize the quite vague trigger of 'new ways of doing things', which can relate to the ten types of innovation (Doblin, 2015) or the four dimensions of the innovation space (Bessant et al., 2005). The different types of innovation will be explained in a later section.

D) "*An innovative business is one that lives and breathes 'outside the box'. It is not just good ideas, it is a combination of good ideas, motivated staff and an instinctive understanding of what your customer wants*" (Branson, 1998).

In this definition, the scope is again related to the ability of recognizing opportunities, as previously discussed, but also of other elements, such as the organizational element of the employees as a resource and customer wants. This opens for other perspectives of what constitutes the innovative organization itself. This is a subject of which this research will seek to explore, by amongst other things analyzing the case companies' organizational elements to find patterns and similarities.

From the definitions presented above innovations is a quite ambiguous subject. The elements presented are regarding the ability to turn creative inputs, which can be new ideas or exploring/exploiting opportunities into a competitive advantage. The ways of doing so is to involve organizational processes or resources, such as the employees, and the customer. Reviewing several definitions on the subject, the overall definition can be

described as "*a process of turning opportunity into new ideas and of putting these into widely used practice*" (Tidd & Bessant, 2009), which will serve as the working definition of this thesis.

4.1.2 Types of innovation

As seen in the ambiguous nature of the notion of innovation, the term seems to include many different things. There exist theories describing innovation more broadly by including typologies for understanding the different nature of innovation. One of these typologies are presented as 'the four Ps of innovation targeting', from (Bessant et al., 2005). The Ps are (Bessant et al., 2005):

- P_1 innovation to introduce or improve *products*
- P_2 innovation to introduce or improve *processes*
- P_3 innovation to define or redefine *positioning* of the firm or products
- P_4 innovation to define or re-define the dominant *paradigm* of the firm.

Within these different types of innovations, targeted at different objectives, there lies different ways perceiving innovation. Especially P_1 is represented in the popular definitions in the first section of this subchapter. P_3, positioning, is present in Porter's definition (1990), and P_2, processes, is introduced in the working definition (Tidd & Bessant, 2009). P_4, where innovation is the definition of re-definition of the firm's paradigm (Bessant et al., 2005) is not present in the previously discussed definition. Not all scholars support this type of innovation (Bessant et al., 2005), which is why it may not be presented widely in literature, yet for the purpose of this explorative study of digital disruptors, it is quite interesting. The paradigm can be regarded as "*the collective mind-set of the organization*" (Bessant et al., 2005). This is interesting due to the author's assumption upon the mindset as a differentiating factor between incumbents and disruptors. Such a mind-set "…*includes a requirement for learning, including self-reflection*" (Bessant et al., 2005), which is assumed different from the incumbents' mind-sets. Furthermore, P_4 can itself have two forms, one being inner-directed, and the other being outer-directed, meaning business models (Bessant et al., 2005). This assumption along with the other assumptions prior to the beginning of the thesis, will be explained in the analysis section.

Besides the four Ps there also exists other typologies of innovation, such as Doblin's ten types of innovation (Doblin, 2015).

Figure 4.1 – Ten types of innovation (Doblin, 2015)

Figure 4.1 illustrates the ten types of innovation, which can be categorized into 'configuration', 'offering' and 'experience'. Each of the ten types will be briefly explained below (Doblin, 2015).

1) Profit model regards the way in which the company makes money.
2) Network regards the company's value creating connections.
3) Structure is in terms of the company's alignment of talents and assets.
4) Process is how the company is doing their work (superiorly).
5) Product performance regards the distinguishing features and functionalities.
6) Product system is about the complementary products and services to the core product.
7) Service is the support and enhancements of the company's offerings.

8) Channel is how the company delivers the offerings to the customers and users.
9) Brand is the representation of the offerings and business.
10) Customer engagement regards the interactions the company fosters (Doblin, 2015).

These innovation types are quite detailed, and may in many cases overlap with the definitions explored previously, yet also adds new perspective, for example broadening the term of delivery from product/service to also include complementary products/services, and brand. The purpose of exploring different typologies of innovation is to build up an understanding able to grasp the characteristics of the digital disruptors in the analysis section.

4.1.3 Degrees of innovation

Having discussed what innovation is, and what types of innovations there exists, it is also relevant to touch upon the degrees of innovation, since there are distinct differences between these degrees.

Incremental innovation

"*Incremental innovation introduces relatively minor changes to the existing product, exploits the potential of established design, and often reinforces the dominance of established firms*" (Henderson & Clark, 1990:9). Incremental innovation is therefore characterized as the lowest degree of innovation related to 'existing' products, and related to the 'product life cycle' (Levitt, 1965), this degree of innovation type would be termed as sustaining innovations, where the objective is to "*make good products better in the eyes of an incumbent's existing customers*" (Christensen et al, 2015). Although this is most often the case, incremental innovation can also be major breakthroughs "*but they all enable firms to sell more products to their most profitable customers*" (Christensen et al, 2015).

Radical innovation

"*Radical innovation is a critical variable is the field of innovation and is usually defined as a significant departure from existing products/services, processes or, (…,) business models*" (Taran & Boer, 2013). As indicated in the quote, radical innovation is a more radical level of 'newness' and often opens new markets (Henderson & Clark, 1990:9). The degree of the innovation is relevant, since radical and incremental innovations require different organizational capabilities (Henderson & Clark, 1990:9) and as mentioned organizational capabilities are part of the assumptions regard the difference between disruptors and incumbents.

Architectural innovation

Henderson & Clark (1990) in their work about architectural innovation state that "*the traditional categorization of innovation as either incremental or radical is incomplete and potentially misleading and does not account for the sometimes disastrous effects of industry incumbents of seemingly minor improvements in technological products*" (Henderson & Clark, 1990:9). The authors explore innovation by looking at the components that constitutes the products and looking at the product architecture. They see the product as a set of components that creates an entity, and the connection between these constitutes the architecture. As such they add two more dimensions to the incremental and radical innovation, namely the modular and the architectural dimension.

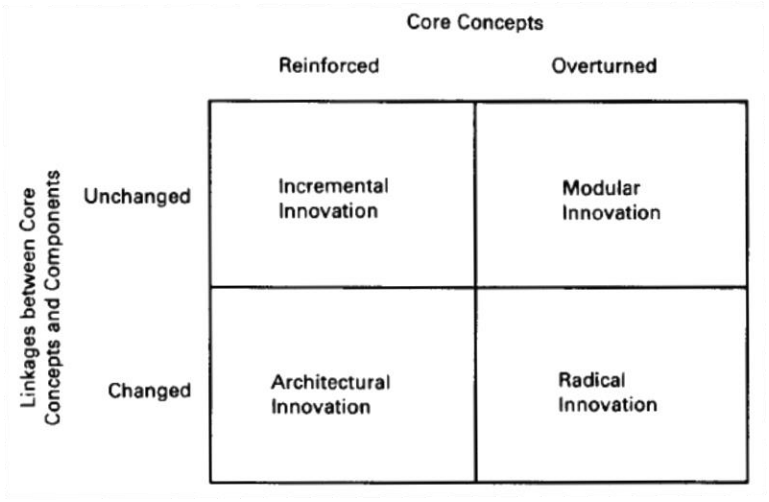

Figure 4.2 – A framework for defining innovation (Henderson & Clark, 1990).

Figure 4.2 illustrates the two added types of innovation to the incremental-radical innovation typology. "*Innovation that changes only the core design concept of a technology… is a modular innovation, such as replacement of analogue with digital telephones*" (Henderson & Clark, 1990:12). Architectural innovation is the "*innovation that changes the product's architecture but leaves the components, and the core design concepts that they embody, unchanged*" (Henderson & Clark, 1990:12). For example, the wayfinding industry that makes analogue signs are being challenged by AskCody offering a digital way-finding experience, thus a modular or even radical innovation, since the core concept has changed from analogue to digital and the core concept of showing the way is unchanged. Radical innovation can be discussed since AskCody adds other concepts to that of wayfinding, so it can be considered changed, thus radical.

4.1.4 Innovation life cycle – different emphasis over time

The innovation scope change over time, and thus there is a different emphasis of innovation depending on the time. For example, mature industries tend to focus on process or position innovation (See subchapter 4.1.2) (Tidd & Bessant, 2009:40). Abernathy and Utterback (1975) has created a model of the innovation life cycle to explain the different emphasis over time.

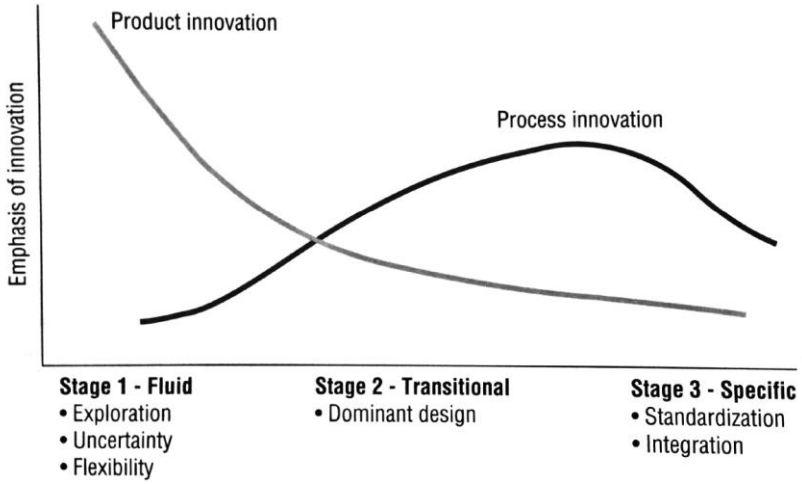

Figure 4.3 – Innovation life cycle (Utterback & Abernathy, 1975, reproduced and modfied by Tidd & Bessant, 2009:40).

Figure 4.3 illustrates the innovation life cycle where the vertical axis describes the emphasis of innovation, which changes over time (the horizontal axis). Furthermore, the time dimension can be divided into three stages, the fluid, the transitional and the specific.

Fluid stage

Under discontinuous conditions, when new technologies or market arise, the 'fluid phase' exists, where there is a high level of uncertainty on two dimensions, namely target and technical (Tidd & Bessant, 2009:40). Target regards what the configuration will be and who will be the target for such, and the technical regards how the company harness new technological knowledge to create and deliver this product (Tidd & Bessant, 2009:40). This is where uncoordinated processes (i.e. experimentation) helps explore the two dimensions, and is therefore characterized by uncertainty and requiring the company to be flexible (Tidd & Bessant, 2009:40; Utterback & Abernathy, 1975:645).

Transitional stage

As the technology evolves the innovation space surrounding it becomes narrower, which is typically being presented in the market as a dominant set of configurations(design) of the product (Tidd & Bessant, 2009:40). Technology trajectories starts to appear which increases focus on optimizing the processes of the dominant designs to reduce costs and optimize functional performance. This can also be called the segmental process stage, where the focus in on sales-maximization strategies (Utterback & Abernathy, 1975: 649). Activities in this stage move from radical concept development to product differentiation, increased reliability, higher quality, and extended functionality, since imitators start to appear (Tidd & Bessant, 2009:41).

Specific stage

The final stage is the specific stage where the focus in on standardization and integration to reduce the cost through economies of scale (Tidd & Bessant, 2009:40). This stage is also called the systemic process stage, where most innovations are stipulated by production related factors, to keep the focus on the cost-minimization strategy (Utterback & Abernathy, 1975:649).

The main findings from review the theory regarding the innovation life cycle is that different stages appear along the innovation journey that all have apply different focus on the innovator. This will be used to discuss the conceptual model (Subchapter 8.1).

4.2 Disruptive innovation theory

The theories regarding disruptive innovation is part of the conceptual frame of innovation theory F_A. Disruption is defined as *"… a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent business*" (Christensen et al, 2015). This will be the working definition of this thesis, yet it is relevant to explore the phenomenon more broadly to enable a wide understanding that will support the development of the conceptual model for understanding disruptors.

In the definition, there are two actors, one being the incumbent and the other the disruptor. The incumbent is a reference "*to a company that is powerful and has a large amount of market share*" (Investopedia, 2017b). The disruptor is a smaller organization in terms of resource able to challenge the market leader's (incumbent's) business, and can be regarded as a new market entrant. The definition describes disruption as a process, which can also be visualized in the disruptive innovation model (Christensen et al, 2015).

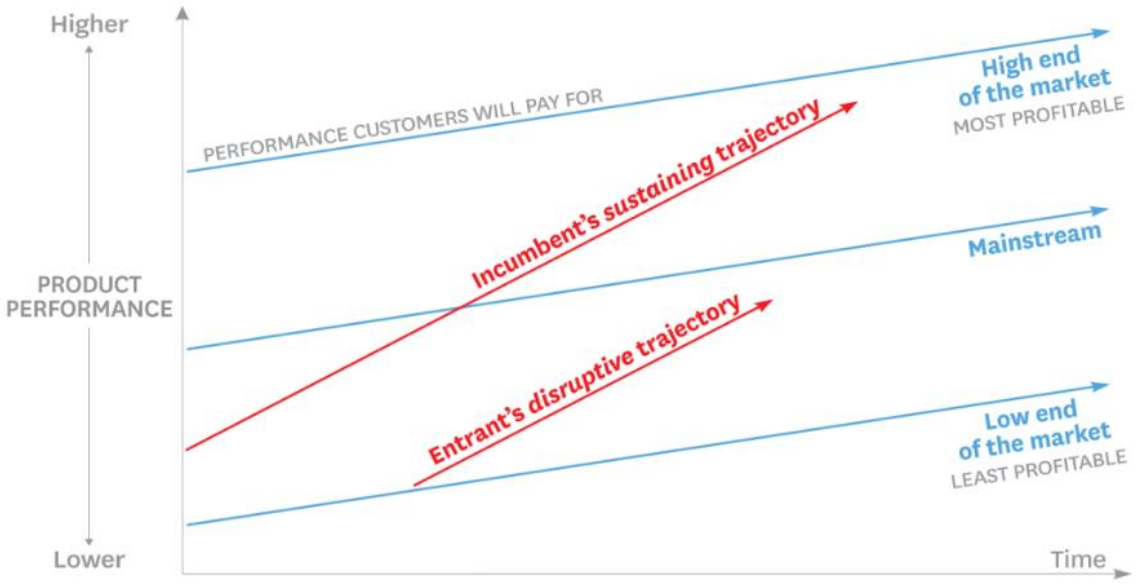

Figure 4.4 – The disruptive innovation model (Christesen et al, 2015).

Figure 4.4 illustrates the disruptive innovation model, with two axes, one being time and the other being product performance. The time axis indicates that disruption is a process occurring over time, and thus does not happen in the blink of an eye (Yu & Hang, 2010). Product performance can relate to different performances, such as price or quality performance, which are most often interrelated. Performance can in a more abstract form be described as a 'disruptive technology' where technology is defined as "*the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value*" (Christensen, 1997:9). Price performance describes the ability to outperform the other actors on price, which is what disruptors often do, by offering a product to the low end of the market, thereby taking some of the market share in this domain. This entry is called a low-end disruption since it is an entry from the bottom with a low-price performance allowing the low-end market to be the first target customers (Christensen & Raynor, 2003:46).

The figure also illustrates three customer segments (the blue lines), which are the customer's willingness to pay for the level of performance (Christensen et al, 2015). Here there is a low end, mainstream and high end of the market. Each of the customer segments represent each customer group's ability to absorb the given level of performance (Yu & Hang, 2010). This emphasize the importance of customer segmentation and the need-profile for each of these.

"*In its early stage, each product based on a certain disruptive technology could only service niche segments that value nonstandard performance attributes*" (Yu & Hang, 2010). The disruptor's (entrant's) trajectory starts from the bottom, if being a low-end disruption, since the product performance introduced is initially inferior to that of the incumbent (Yu & Hang, 2010). Once entering, the disruptor moves up-market. When the performance of the technology arrives at a customer demand trajectory, it is referred to as a 'technological disruption' (Yu & Hang, 2010). Similarly, the slope of the incumbents rise, illustrated in parallel to that of the disruptor, yet beginning at a previous time. For both actors, it is seen as an aim to move up-market to arrive at a more profitable market. Whether the performance trajectories of both the incumbent and disruptor follows a parallel line is worth discussing. Such will be discussed in a later section regarding technological development and growth curves in regard to the acceleration and therefore slope of the trajectories (see 4.2.2).

There is also a third dimension to the disruptive innovation model, which is called the new-market disruption. "*We say that new-market disruptions compete with "non-consumption" because new-market disruptive products are so much more affordable to own and simpler to use that they enable a whole new population of people to begin owning and using the product, and to do so in a more convenient setting*" (Christensen & Raynor, 2003:45). In other words, a new market is created, which may serve the same need on an abstract level, but in a different way. An example is the introduction of the smartphone, which over time pulled people from the 'old' mobile phone market towards the new market. The new-market disruption does not invade the existing market space, but creates a new, i.e. a blue ocean market, which in time may substitute the original red ocean market. More of the blue and red ocean markets will be introduced and applied in the analysis chapter to supplement the findings (Chapter 7).

4.2.1 Digital disruption

"Disruption might have a long history, but digital disruption is relatively new; only a handful of industries have felt it to date" (McQuivey, 2011:2). Now having covered the aspect of innovation, and disruptive innovation, the relatively new domain of digital disruption will be briefly introduced. Despite the popularity of digitalization, not much has yet been made directly regarding digital disruption. The purpose of the subchapter is to introduce elements from existing literature regarding the subject.

"*Digital disruption is swifter and deadlier than prior disruptive forces*" (McQuivey, 2011:3).

As indicated in the statement above, the digital disruptors have more aggressive growth patterns than non-digital disruptors. This is what makes them threat to the incumbents more quickly. Digital disruptors are threatening the incumbents by delivering more compelling products and services, often without the incumbents noticing it (McQuivey, 2011:1). This emphasize a real threat to incumbents, who might not have a wide enough scope to detect the disruptors that may eventually challenge their business. This is supported by McKinsey & Company's industry report 'An incumbent's guide to digital disruption', where disruption at first is detectable if the incumbent looks wide enough, but barriers such as myopia and eventually inertia results in the actual disruption of the incumbent's market position (Bradley & O'Toole, 2016:4).

The purpose of this section was to give brief idea of what digital disruption is from the limited body of literature on the subject, and since it is the scope of the case-study, the analysis seeks to provide additional information on this matter. An interesting quote specifically related digital disruption is that "*Every business — no matter how analog — is susceptible to the same digital overhaul … it's not a matter of if, but when, and by whom*" (McQuivey, 2011:2).

4.2.2 Technological development and exponentiality

As previously mentioned, technology is defined as "*the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value*" (Christensen, 1997:9). Whether the performance trajectories of both the incumbent and disruptor follows a parallel linear line is worth discussing. In 1992, Christensen described technological development as an S-curve (Christensen, 1992:334).

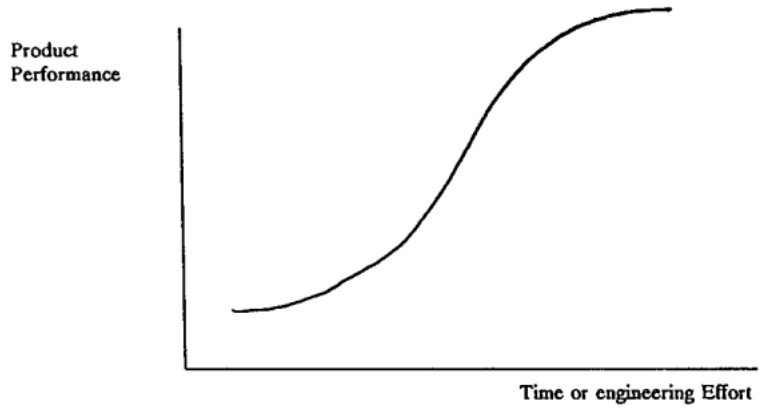

Figure 4.5 – The Technology S-Curve (Christensen, 1992:335)

Figure 4.5 illustrates the technology s-curve, which is the development of product performance over time. The figure shows an exponential pattern before verging and levelling out at the top. This has been a well-accepted and is still used by many academics today. However, "*Christensen (1992) showed that the S-curve construct cannot be used to describe disruption, because disruptions cannot be plotted on the same graph with the same metric of performance as the prior technology*" (Christensen 2006:53). Therefore, in relation to disruption s-curves does not apply. So then what type of technological development can apply to disruption, and in this case digital disruption?

Exponential Organizations

In the research of 'Exponential Organizations' (ExOs) the author explains the exponential growth patterns of organizations in the digital domain. ExOs are built upon information technologies (Ismail et al, 2014:20) and are therefore illustrating the digital development pattern. "*An ExO is one who's impact (or output) is disproportionally large -at least 10x larger – compared to its peers because of new organizational techniques that leverage accelerating technologies*" (Ismail et al, 2014:20). The quote states not only the aggressive development patterns of the ExOs but also the 'new organizational techniques' that leverages this development pattern. This again illustrates that digital disruptors have certain organizational characteristics, which supports the premises of this study. Other studies also support that the digital technologies are exponential.

"*Exponential improvement in core digital technologies is fueling exponential innovation"* (Deloitte, 2013). Furthermore, one of the findings which conflicts directly with that of the s-curve is that "*once the doubling pattern starts, it does not stop*" (Ismail et al, 2014:21). This is further supported by Deloitte's industry report regarding exponential innovation. "*The current pace of technological advance is unprecedented in history and shows no signs of stabilizing as other historical technological innovations, such as electricity, eventually did… These rapid advances have the power to disrupt industries*" (Deloitte, 2013). As mentioned in the quote these rapid technological innovations in the digital domain can disrupt the established industries or industry incumbents.

Since this thesis is investigating the digital domain of disruption it was assessed important to illustrate the rapid development in technologies, which fuels the effect of digital disruption versus the disruption that has been known for quite some time. The rapidness is a reoccurring subject that will also be present in the following chapters, and thus can be explained by the exponential nature of digital disruptors.

5 Pre-analysis – Creating the basis for analyses

The purpose of this chapter is to establish the approach for the analysis, which includes establishing a theoretical model and describing the case companies. The case companies chosen are those that can be categorized as disruptive within the digital domain, since this is the area of investigation. The data collection, data analysis and the theoretical have occurred iteratively (see section 3.1.2), yet for the purpose of clear communication the theoretical model is described in this section, and the analysis will be provided in the following chapter.

5.1 A theoretical model

The purpose of the following subchapter is to develop a theoretical model of understanding disruption by combining existing frameworks from F_A and F_I and actively using this theoretical model for the iterative processes of analyzing the digital disruptors' characteristics. The model consists of the following components which will be explained respectively:

- Input-transformation-output
- Adding the conceptual frame (F_A)

5.1.1 Input-Transformation-Output

The input-transformation-output (ITO) model will serve as basis for the theoretical model since it explains a simple process, which corresponds to the definition of disruption, as a process by which a smaller company with fewer resources is able to challenge an incumbent's business (Christensen et al, 2015). "*All operations produce products and services by changing inputs into outputs using an 'input-transformation-output' process*" (Slack et al, 2010:11). Therefore, the ITO model is a generic applicable model to any given company with a product or service. The process is illustrated below:

Figure 5.1 – Excerpt from 'Contingency Approaches to the Measurement of Organizational Effectiveness' (Daft et al, 2010:68).

Figure 5.1 illustrates the ITO model, where the input regards the resources such as materials, information and customers (Slack et al, 2010:11). These are transformed using the processes and systems within the company,

to arrive at the output, which are the products and services for the customers. All these elements are relevant to the context of the case companies. Since the purpose of the investigation is to arrive at a set of characteristics of the disruptors, this simple model will help in the categorization of such characteristics, and make it applicable across the different case companies. The ITO model is not constrained to any certain type of product, which is why the case companies with their digital products/services are able to be described by such a model. Each of the three parts of the ITO model will now be elaborated.

Input

Inputs are basically resources, which can be defined as the following. "*An economic or productive factor required to accomplish an activity, or as means to undertake an enterprise and achieve desired outcome. Three most basic resources are land, labor, and capital; other resources include energy, entrepreneurship, information, expertise, management, and time*" (Business Dictionary, 2017d). Regardless of the differences between the case companies, the conceptual frame F_A regarding innovation literature will seek to describe generic inputs to the organization, which will be on an aggregate level, concerning what enables the companies to be innovative and thereby challenge the incumbent's business. It would not be appropriate to compare the case companies on other measures, since this would not be consistent in the sample of disruptors. This is due to them being in different industries with various products/services etc. and the scope of this investigation is to arrive at a generic as opposed to a specific set of characteristics.

Transformation

The transformation stage is where the company uses technology, which is "*the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value*" (Christensen, 1997:9). The processes in this context may vary due to the differences of the companies, yet the focus will be on the generic components enabling this process to see if such are able to describe generic characteristics of the case companies. These components are from the innovation literature (F_A).

Output

Finally, the output will be the products/services that are able to challenge the incumbent's business. Again, these may prove to be very different, and thus the focus is not specifically on disruptors products/services, but on what made them able of creating such products/services.

From this simple model, the purpose is to add on findings from adjacent literature such as the literature on innovation theory to arrive at a theoretical model that described the disruptors. From the theoretical model, the data from the case companies will be added to refine and adjust the model, thus resulting in a conceptual model for describing the digital disruptors.

5.1.2 Adding the conceptual frames

The purpose of this subsection is to add theoretical inputs from F_A to the input-transformation-output model. Since there are no directly described characteristics regarding digital disruptors in the body of literature, the literature regarding innovative companies has been subject to analysis, and findings from this conceptual frame will constitute the theoretical model. This is based on the assumption that disruptive companies are innovative companies, and since disruptive innovation, is an imbedded theory within the scope of innovation theory, the assumptions are assessed to be justified. Should the assumption prove to be wrong, the theoretical model is merely a tool for the iterative process for investigating what the actual characteristics of digital disruptors are and thereby a means to find the appropriate characteristics. The model is visualized below:

Figure 5.2 – A conceptual model from theory (Own creation with inspiration from Bessant et al, 2005;Slack et al, 2010)

Figure 5.2 illustrates a theoretical model for explaining the characteristics of the disruptors. From the left the inputs are seen, which can be related to the sources of innovation that describes where the innovation comes from. In the middle, the transformation is shown, which includes the innovative company's innovation process and a set of descriptive components of the innovative organization. On the right the output is shown, which to confer the definition of disruption is a product or service able to challenge an incumbent's business. This conceptual frame, F_A, will serve as an initial framework for understanding disruptors, based on innovation theory, and will be an offset in the iterative analysis process, for analyzing the empirical data from the interviews with the case companies. The remainder of the subsection is dedicated to explaining each of the elements constituting the theoretical model.

Input - Sources of innovation

The input in this context is the sources of innovation (Tidd & Bessant, 2009:229-231) which can also be denoted the sources of discontinuity (Bessant et al., 2005:1368). The inputs to disruption are based on changes of the status quo, which can relate to either technological shifts or shifts in the market (Bessant et al., 2005:1368). Therefore, the different inputs or 'sources of innovation/discontinuity' will be explained in the following (Bessant et al., 2005:1369-1370).

#	**Triggers/sources of discontinuity**
A)	New market emerges
B)	New technology emerges
C)	New political rules emerge
D)	Running out of road
E)	Sea change in market sentiment/behavior
F)	Shifts in the regulatory regime
G)	Fractures along the fault lines
H)	Unthinkable events
I)	Business model innovation
J)	Architectural innovation
K)	Shifts in techno-economic paradigm

Table 5.3 – Sources of discontinuity (Bessant et al., 2005:1369-1370) (Adjusted to fit purpose).

Table 5.3 lists the different sources of innovation/discontinuity. Each of these will be briefly explained and later held against the contexts of the case companies.

A) *New market emerges* – Sometimes completely new markets emerge, which could not have been predicted. This poses a problem for the established companies, since they either focus on the already existing market

or do not account the new market as a potential growth market of interest (Bessant et al., 2005: 1369). There lies an opportunity in the new market, which is a trigger for the innovation/discontinuity.

B) *New technology emerges* – Sometimes step changes occur taking the performance of a technology to a new level. Established companies do not notice this development, since it is in the periphery of its investigational scope (Bessant et al., 2005:1369). The new technology can be applied differently, opening the prospects of innovation, i.e. exploration or exploitation.

C) *New political rules emerge* – In the macro-environment, political activities can shift dramatically and cause a chain of events to occur to the subsequent layers of the environment, e.g. market, industry, national layer etc. This causes a new set of rules to play by, and increases the need for the incumbent's adaption (Bessant et al., 2005: 1369).

D) *Running out of road* – A system and a business is typically built up around a trajectory, which at some point may be at the risk of reaching the end of its potential (Bessant et al., 2005:1369). Path dependency can cause a company to stay on this path even if it is not appropriate, causing it to fail. Further growth can arise by pivoting towards the new trajectory concurrent to the market preferences, or even setting the stage and creating an entire new market, see A).

E) *Sea change in the market sentiment/behavior* – Public opinion can change towards a certain product/service. For example, the current focus on health has caused the soda companies to launch new 'stevia'-based products, such as the "Coca Cola Life"[4]. Companies who do not pick up these trends may risk stagnation (Bessant et al., 2005:1369). On the other hand, companies that embrace these, may innovate and find a new potential for growth, as with the "Coca Cola Life" product.

F) *Shifts in the regulatory regime* – A new set of rules can be caused by changes in the regulations and legislation or be a liberalization of a market (Bessant et al., 2005: 1370). This can include changes in the environmental legislation, posing barriers to an industry etc. Old mindsets persist and rigidness can make some companies slow to the change, which opens opportunities for the agile companies. With this change of the rules, innovation can occur.

G) *Fractures along the fault line* – Long standing issues of a minority may accelerate and cause changes. This can be linked to the sea change in customer sentiment/behavior (Bessant et al., 2005: 1370). An example is the public view on smoking cigarettes, where the Danish consumption has been reduced 16.5 % from 2011-2015 (DST, 2017). Again, this changes the rules of the game, and may be trigger for the innovation. Following the example above, this change can explain the growth in related products such as the e-cigarettes or the increased usage of 'snus' (TV Midtvest, 2016; Aarhus Stiftidende, 2014).

H) *Unthinkable events* – There is always a risk of unthinkable events occurring, which may shake a world/industry/market. For instance, the terrorist attack of 9/11-2011, had a significant impact on the world, and caused for new rules disempowering the existing systems, which could be a trigger of innovation (Bessant et al., 2005: 1370). In this example, unthinkable events was the predisposition, and the new rules the manifestation.

I) *Business model innovation* – New market entrants may rethink the business model of an industry, and thereby challenging for the existing (Bessant et al., 2005:1370). This can be seen in especially the digital domain, where for instance news-media and mail-companies have experienced an increasing digitalization of these businesses, and new business models have appeared in that context. This has an additional effect, where mimics are fast to adopt the principles of the first market entrants. For instance, JustEat has been replicated many times, and sometimes the competitors are rethinking the JustEat business model, thereby innovating that particular model.

[4] http://www.coca-cola.dk/stories/fa-en-naturlig-start-pa-2017--prov-ny-coca-cola-life--med-endnu- and https://www.mx.dk/nyheder/global/story/16499805

J) *Architectural innovation* – Changes in the system architecture rewrite the rules for those involved at the component level (Bessant et al., 2005:1370). Architectural innovation is the "*innovation that changes the product's architecture but leaves the components, and the core design concepts that they embody, unchanged*" (Henderson & Clark, 1990:12). This can for instance mean changing some aspects of a product while the core functionality remains.

K) *Shifts in the techno-economic paradigm* – A paradigm shift in the technologic or economic systems can also change the rules and context of the market, driving up the innovation to adapt to the new set of rules (Bessant, 20015:1370). A paradigm shift is "*fundamental change in an individual's or a society's view of how things work in the world. For example, the shift from earth to sun as the center of solar system*" (Business Dictionary, 2017e).

The above stated are all regarding changes, most often in the external environment of the company, which may trigger the need to explore or exploit the new opportunities to gain an attractive position in the market. In brief the sources of innovation are primarily based on such changes of the status quo. These triggers are all added to the theoretical framework for understanding the digital disruptors, to enable a further investigation of which of these the case companies have used as their sources of innovation, and to explore if these companies experience triggers that are not listed in the above. Having considered the inputs, the transformation processes will now be subject to further theoretical investigation within F_A.

Transformation - Components of the innovator

From F_A, descriptive characteristics in terms of components of an innovator are accounted for. These are projected to the theoretical model for understanding the digital disruptor. The theoretical model will list the findings from F_A to later determine whether these in fact are characteristics describing the digital disruptors, when analyzing data from the case studies. The latter is done to confirm or challenge these characteristics. Such will result in characteristics describing the digital disruptor, thus improve the understanding of the such. The components from F_A are mentioned in the table below:

#	**Components**
I.	Shared vision, leadership and the will to innovate
II.	Appropriate structure
III.	Key individuals
IV.	Effective team working
V.	High-involvement innovation
VI.	Creative climate
VII.	External focus

Table 5.4 – The components of the innovative organization (Tidd & Bessant, 2009:100) (Adjusted to fit purpose).

Table 5.4 illustrates the components of the innovative organization. These will be described according to theory and will be assigned to the theoretical model, in the transformation stage.

I. *Shared vision, leadership and the will to innovate*. This is about having a clear and articulated sense of purpose that all employees including the management agree on (Tidd & Bessant, 2009:100). An issue here is that the competencies need to be appropriate for the current market segment, yet this might cause organizational rigidness, and disable the company from pivoting in another and more appropriate market segment. This has many names, such as 'core rigidness' (Tidd & Bessant, 2009:102) or 'path dependency', which is the continued use of a product or practice based on historical preference, even if a newer products/practices are more efficient (Investopedia, 2017c). Top management commitment is also

a distinct characteristic of the successful innovator and especially regards the acceptance of risk (Tidd & Bessant, 2009:102). Furthermore, top management also needs to create and nurture a long-term vision, instead of short-term returns (Tidd & Bessant, 2009:102). It is therefore interesting to see whether the disruptors have certain generic characteristics regarding the vision and the mindset.

II. *Appropriate structure*. Creativity, learning and interaction is designed into the innovative organization, and the challenge lies in finding the right balance between organic and mechanistic options (Tidd & Bessant, 2009:100). Organic options are loose, free-flowing and non-formalized, while mechanistic are conversely formalized, characterized on rules and with a clear hierarchy and authority (Daft et al., 2010:155-156). These strategies are used under different circumstances, where a high degree of uncertainty fits well with the organic structure, while certain market fit well with the mechanic structure (Daft et al., 2010:155-156). The appropriate structure is also regarding the short- versus long-term orientation of the management. In a large company governed by a board of directors and with many stakeholders (and shareholders), there is often a focus on returns, while in the entrepreneurial ventures, patience is a virtue (Tidd & Bessant, 2009:102). In the entrepreneurial venture, there is most often not the same pressure from the top, and in the large company, forcing it to focus on short-term returns. This emphasize the importance of an appropriate structure, and through the case-companies it will be interesting to see if there is a dominant structure present at the case companies.

III. *Key individuals*. Employees in any organization is often seen as the most critical resource or asset (Gabcanova, 2011; Forbes, 2013) and this is also the case in innovative organizations. Employees can have different roles as individuals or in groups. Some can be champions of the company vision, who provide enthusiasm and energy to the organization (Tidd & Bessant, 2009:112). The right individuals also have the necessary knowledge and skillset to fulfill the job, as well as contribute with motivation and inspiration to the peers and the top management (Tidd & Bessant, 2009:112). It will be interesting to see how the case companies focus on key individuals, and if there are any typical characteristics to look for.

IV. *Effective team working*. There are experiments indicating that team work has more to offer than individuals when it comes to the generation of ideas and the flexibility of solutions (Tidd & Besant, 2009:123). Problem-solving using team working is used in the innovative organization, and therefore training and teambuilding is a necessary expense (Tidd & Bessant, 2009:100). Successfully high performing teams are a result from selection, investment in team building, clarification of guidelines and roe allocation (Tidd & Bessant, 2009:124). Cross-functional teams combine different knowledge domains and can therefore be exceptional, yet can also due to the difference of the team members be a costly and ineffective affair if not managed correctly. The case companies will be investigated in terms of their use of teams to explore if any generic characteristics appear, and how the use of teams have had an effect on the success of challenging the incumbent's business.

V. *High-involvement innovation*. If each individual can contribute with ideas or improvements, the organization can excel as an entity (Tidd & Bessant, 2009:115). This is called an organization-wide and continuous improvement activity (Tidd & Bessant, 2009:100). An example can be found in the Japanese manufacturing companies with its continuous improvement activities, Kaizen, where the entire organization provides improvement inputs. The organization implements these inputs and that has given the Japanese companies a competitive edge (Tidd & Bessant, 2009:115). Much of the input will result in incremental innovations, yet studies show that it can significantly impact the strategic development of the entire company (Tidd & Bessant, 200:116). From this it is interesting to investigate whether the case companies use this type of high-involvement innovation, and if so, how, and why or why not.

VI. *Creative climate*. Creativity is key when ideating, and can potentially result in a competitive advantage for the organization. Therefore, creativity is gaining increasing interest in an organizational setting. "*Microsoft's only factory asset is the human imagination"* (Bill Gates reproduced by Tidd & Bessant,

2009:130). Innovative companies show a tendency to have a positive approach to creativity and ideas supported by an organizational motivation system (Tidd & Bessant, 2009:100). Developing a creative climate is difficult, time consuming, and requires a systematic development of organizational structures, communication policies, reward systems, training policy etc. (Tidd & Bessant, 2009:131).

VII. *External focus*. Internal and external orientation through extensive networking are components of the innovative organization (Tidd & Bessant, 2009:100). "*One of the consistent themes in the literature on innovation success and failure concerns the need to understand user needs"* (Tidd & Bessant, 2009:148). External focus can also regard others than the customers or users, and includes suppliers, collaborators, regulators etc. (Tidd & Bessant, 2009:148). As such probing the environment for input seems to be a distinct characteristic of the innovator. This will also be examined in the case studies.

All the components described above will be subject to analysis and regard whether the case companies reflect such components or if they have a set of different components. The above-stated components are from the innovation literature F_A, which is not necessarily an exact fit with the characteristics of the digital disruptors. Thus, the purpose of the analysis chapter is to review if these components fit those of the digital disruptors, and if not, which components can be added/withdrawn from the conceptual model.

Output – The innovative products/services

The last part of the model is the output, which in this context is the innovative product/service, which is capable of challenging incumbents' business (Christensen et al, 2015). This is not the scope of the thesis, and will not be elaborated further.

5.1.3 The theoretical model

As a result of the above, the theoretical model has been created and is summarized in the illustration below:

Figure 5.5 – A theoretical model (Own creation)

Figure 5.5 illustrates the input-transformation-output model explaining the characteristics from the conceptual frame F_A. The theoretical model is a tool and a starting point for the analysis, which has the purpose of findings the characteristics of the digital disruptor. Therefore, the theoretical model serves as inspiration to what some

of those characteristics might be. The following subchapter is where the case companies are described and the scope of these explained prior to the presentation of the analysis.

5.2 Case company descriptions

The purpose of this subchapter is to describe the case companies to provide the reader with the necessary knowledge to understand their businesses and how these qualify as digital disruptors. The three companies were chosen because these can all be categorized as digital disruptors. Each of the case companies will now be described respectively.

5.2.1 AskCody

AskCody was founded in 2010 by Allan Mørch (AM), who got the idea of digitalizing the wayfinding experience (AM, 2017a). His parents have a wayfinding company, producing signs, providing Allan with the domain knowledge to take on the digitalization of the conventional 'business as usual' wayfinding market. "*A sign does not contribute with anything extraordinary, since it is basically the same product anywhere you buy it*" (AM, 2017a). After pivoting several times, AskCody found the core problem which was that meetings in organizations are subject to great frustration due to many parallel processes and the activation of multiple organizational silos. This includes everything from facility management, finance, parking, catering etc. The product range includes complementary services to solve the issues of meetings, and range from an add-in to Microsoft Outlook for booking meetings simplifying the many processes, and products such as digital indoor way- and room-finding, and a virtual receptionist. All products seek to simplify the current processes through automation and the main value proposition is convenience. AskCody is a rapidly growing company both financially and based on the number of employees, which have surged from 4 full time employees in 2016 to 17 in 2017 (AM, 2017a). The disruption is a new-market disruption, where AskCody challenges the existing domain of the analogue wayfinding business and the conventional meeting planning systems. The CEO and founder Allan Mørch was interviewed twice during spring 2017.

5.2.2 Debito

Debito was founded in 2013 by Christoffer Baadsgaard (CB) and Morten Holst Henriksen, who both had previous entrepreneurial activities to their name. In 2014, they won the Venture Cup Competition in their respective category[5]. The idea was based on Christoffer's subjective experiences with bad payers to his previous online marketing bureau, where he suddenly lacked 80.000 DKK in payments. He experienced that the debt collecting companies did not want to engage on such an amount and when it regarded only a few cases. Debito takes care of debt collection for small and medium sized companies, which would not be able to be served by the large debt collection companies. Debito partners with Lindorff A/S[6], and Debito aggregates the cases of its customers, and thereby acts as one customer to Lindorff. This is done in order to gain a considerable volume in cases so that Lindorff is willing to process the debt collection (CB, 2017a). Debito is growing and now the two founders can both work full time in the business. Ironically Debito is potentially disrupting the debt collection business by allowing customers at a lower market tier to benefit from debt collecting companies, at a low price. Debito is using existing platforms such as e-conomic[7], an accounting platform, to enter a market where many potential customers are present. The company is following the

[5] http://blog.debito.dk/debito-vinder-venture-cup/
[6] https://www.lindorff.com/da/danmark
[7] https://www.e-conomic.dk/forside

trajectory of disruption and entering the market with a low price-performance, i.e. low-market disruption, and with a digital and scalable product, the growth is potentially exponential. Debito found a hole in the market where they could enter, and enabled by technology the digitalization and automation makes the product simple and scalable. The key value proposition is simplicity and convenience. "*It should be as easy to make a debt-collection case as ordering a pizza on JustEat*" (CB, 2017a).

5.2.3 Traede

"*Traede is a B2B sales system enabling brands to connect with distributors and agents and sell directly to retailers around the world. Traede give brands a simple order management system and a B2B web shop while keeping track of products, customers, orders and invoices*" (Traede.com, 2017). The founders Esben Søndergaard Petersen (CTO) and Christopher Heilmann (CEO) founded the company in 2014. Both had experiences as entrepreneurs and found a hole in the market through Christopher's own experiences in the clothing industry. The company has received investments from SEED capital and the company seems to follow an exponential growth pattern in terms of revenue[8]. Traede is a simplified ERP system and thus challenging the existing ERP systems such as SAP, Dynamics AX etc. Also through a partnership with e-conomic, Traede is present on one of the most common accounting system in Denmark, with approximately 100.000 registered companies. Traede strives to optimize inventory and purchasing to the small and medium segment, who cannot afford the very pricy ERP systems. Traede is therefore a case of low-market disruption with lower pricings and more simple functionalities and performance than the ERP providers. This fit well with Christensen's model of disruptive innovation (Christensen et al., 2015). The primary value proposition is 'simplex', which means making a complex process as simple as possible (ESP, 2017).

5.2.4 RTX

RTX is a listed company with approximately 250 employees worldwide (JCL, 2017). The company started in 1993 and is currently divided into two principal divisions, where respondent Jens Christian Lindof is the manager of the Danish department, thus the Vice President of RTX. The company has different business units such as design service where RTX serves as R&D partner for external companies and business communications, where RTX is an OEM of advanced wireless business solutions.

RTX is not directly within the digital frame of this report, yet insights about disruption from RTX was gathered before arriving at that scope. RTX experienced policy induced innovation, at a time where the broadband was under pressure from the extended usage of cellular telephoning. The broadband mix was changed, increasing the width for telephoning and thereby reduced the width for professional audio. This changed the market for professional audio, and RTX used the change to disrupt this industry, by redesigning and making improvements in this segment. This change of policy resulted in a product innovation enabling RTX to outperform the existing players within this field.

5.2.5 Screening and scoping

Now having described the case companies an overview is provided to summarize who the case companies are, who the incumbent was related to disruption and what the trigger was.

[8] https://www.proff.dk/firma/traede-holding-aps/k%C3%B8benhavn-nv/softwareudvikling/15987912-1/

Case company	What they do	Incumbent	Trigger/ Enabler	Domain
AskCody ApS	Meeting optimization, facility management optimization, process automatization	Sign business, company facility management	Technology	Digital
Debito ApS	Debt collection for small companies, automatization	Debt collection business, e.g. Lindorff A/S	Technology	Digital
RTX A/S	High quality microphone business, technology development	Professional microphone business, music industry	Regulations, Technology	Digital/Analogue
Traede ApS	Purchasing and inventory optimization, automatization	Manual purchasing processes	Technology	Digital

Figure 5.6 – Case company overview

Figure 5.6 provides an overview of the case companies, what they do, which business they disrupted, what has enabled the disruption and which domain it is within. As visualized the domain is mainly digital, which was because the increased focus and spreading of the digitalization.

Many companies were contacted and expressed willingness to participate, yet due to the iterative process of finding the appropriate scope, some of these were sorted from the sample. The figure below serve to illustrate the companies that was part of the investigation to begin with, but was screened out or failed to reply when it was time to conduct the interviews.

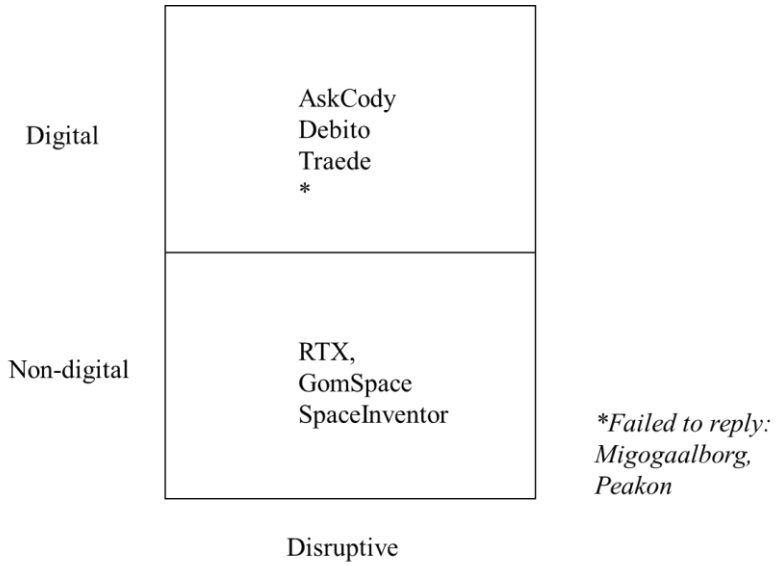

Figure 5.7 – Case company screening

Figure 5.7 illustrates the screening process. Several more companies were initially accessed to be within the scope, yet when investigating the area of concern the digital domain became a noticeable and interesting frame to complement the theory of innovation and disruption. Therefore, RTX was screened from the sample, since their products are mainly hardware based, which also was the case with GomSpace and SpaceInventor, where the latter had already agreed to participate. Two companies were also somewhat interested yet too busy to find the appropriate time to be interviewed. The screening highlights the difficulty attaining access to the elite-type interviews. Now the basis for understanding the analysis has been provided, thus moving forward to the analysis.

6 Analysis – Findings from the case companies

The purpose of this section is to present and analyze the findings from combining the case company interviews with theoretical inputs, to arrive at descriptive characteristics of the digital disruptors. The interview statements are held against the theoretical model to identify the dominant characteristics, which are supported by the innovation theory, and furthermore to complement the model with elements not contained in the theory. The specific distribution of dominant characteristics directly related to the theoretical model is summarized in the table below, and an additional subchapter will subsequently present the complementary findings.

Company	Input	Transformation
Traede	**New technology**	**Vision-driven**
	New market	Key individual focus
	Business model innovation	High-involvement innovation
		External focus
AskCody	**New technology**	**Vision-driven**
	New market	**Key individual focus**
	Business model innovation	Appropriate structure
		High-involvement innovation
		External focus
Debito	**New technology**	**Vision-driven**
	New market	Key individual focus
	Business model innovation	**External focus**

Table 6.1 – Case company findings related to the theory model (Own creation)

Table 6.1 illustrates the different case companies and their stated characteristics in both the input and transformation stage. The ones highlighted with bold are the primary characteristics emphasized either directly or between the lines, by the respondents. The non-bold were secondary characteristics. To analyze the findings, each part of the ITO model will be analyzed separately with statements from the multiple case company interviews. Complementary findings are presented in a subsequent subchapter and cover the findings that are not directly related to the theoretical model, yet equally important. Finally, the last part of this chapter will be the creation and description of the conceptual framework for understanding digital disruptors.

6.1 Input

This subchapter will include the analysis of the primary findings in the input-stage. Each of the findings will be analyzed in accordance with the theoretical model and the case companies' statements regarding these. The illustration below serve to portray the theoretical model from where this analysis takes its starting point.

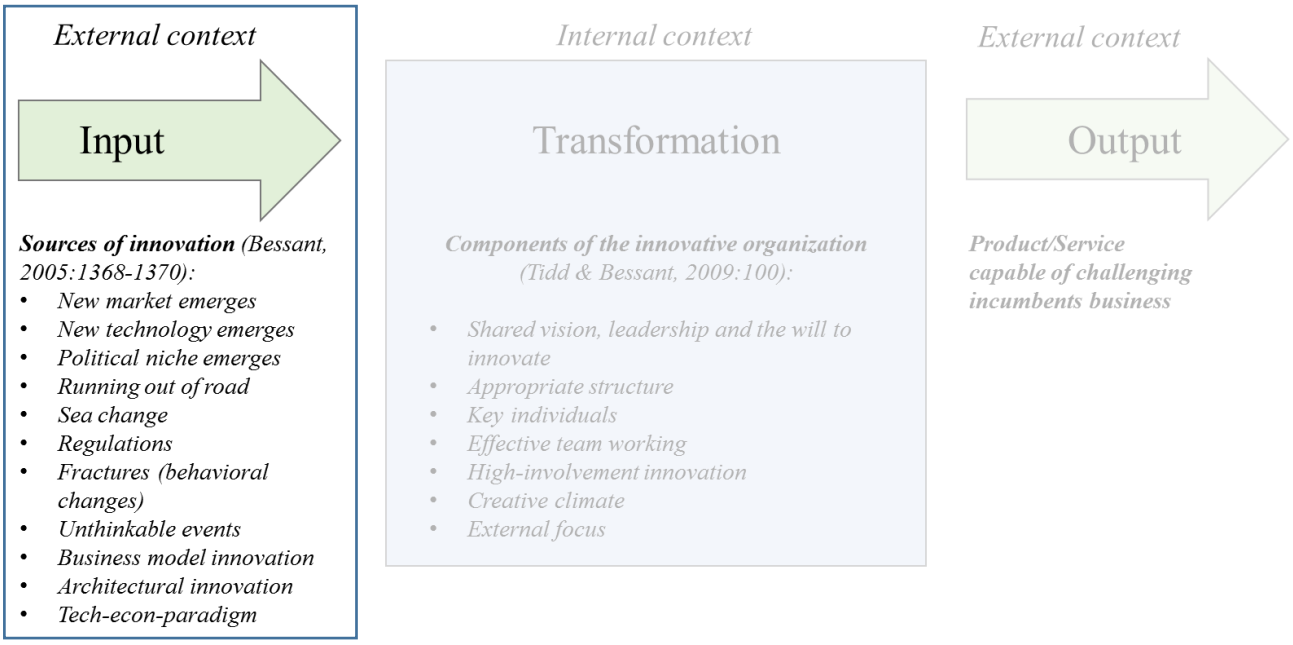

Figure 6.2 – A theoretical model – Input focus (Own creation)

Figure 6.2 illustrates the theoretical model and highlights that this part of the analysis will regard the inputs, i.e. the sources of innovation (Bessant, 2005: 1368-1370). These have been reviewed through multiple case company interviews. In the input section the primary findings are identified as:

- New market
- New technology
- Business model innovation (BMI)

Each of these will be analyzed respectively.

6.1.1 New market emerges– 'Drops of Blue in the Ocean of Red'[9]

When a new market emerges, opportunities arise. Incumbents sometimes find new markets as a threat rather than an opportunity, but in the cases of the disruptors, these are opportunities that allow for market entry or growth. All the case companies display the aspect of an emerging market as an input to their business, resulting in transformation efforts to comply to the market. Sometimes emerging markets are entirely new markets, and other times the emerging market can be seen as holes in the existing market. "*We have seen a hole in the market, which is somewhat covered, but not entirely*" (CB, 2017b;05:14). As indicated in the quotation a hole in the market can appear for those are looking for it. Whether being part of an organized process of findings such holes, or simply due to plain luck is not certain, yet the case companies have all spotted holes in the

[9] Metaphor by the author

existing market, and through that hole tried to establish themselves by approaching that market differently from the existing businesses.

Example 1 - Debito: The founders found a hole in the market based on personal experiences with the problem, and began to investigate the issue, only to find that incumbent debt collecting companies are volume based (number of debt collecting cases) and not based on how much money they have to collect. They serve large companies who has thousands of payments each year, or even each month, and that volume is what drives the incumbents' businesses. Debito has rethought the concept into a 'broker' concept, where they create volume by aggregating cases from multiple companies into one entity, thus Debito can be seen a one customer, with many debt collecting cases. By doing this Debito can be served by the incumbents due to the volume of the cases (CB, 2017a). In the view of disruption, Debito is utilizing a low-end disruption (Christensen & Raynor, 2003:46), by serving the low-end market. Debito has found a hole in the low-market, where up to 30 billion DKK of debt is not collected each year (CB, 2017a). This is a quite significant hole in the market. Other parameters allowing them to serve as a broker are based on emerging technologies or the maturing technologies, which are adopted in the market, and will be addressed later in this subchapter.

Example 2 – Traede: Similarly, Traede also started due to the identification of a hole in the market, where small and medium sized companies were not able to purchase the ERP systems that the large companies can afford (ESP, 2017). At a lower price performance, this allowed the simpler software system that Traede made to enter the low-market, where functionalities fit well within the customers' rage of absorptive capabilities, thus another example of low-market disruption (Christensen & Raynor, 2003:46).

Example 3 – AskCody: AskCody has also found a hole in the market, which was found by seeing the solution to a problem from a technological perspective. The existing competitors were using outdated products to fulfill the customers' demands. Customers' demands were changing and AskCody found that digital products instead of analogue wayfinding products would address these preferences in a new way and create a new market from the existing, i.e. there was a hole in the market, and this is the case of a new-market disruption (Christensen & Raynor, 2003:45). By using cloud-based technologies and a standardized product for all, AskCody has been exceptional in navigating through the market before finding their current niche, that allows them to gain foothold and quickly access the higher-level markets.

The three cases above all based their business on analyzing the holes in the markets that the incumbents did not serve or was not able to serve appropriately. Analyzing the incumbents for flaws allowed market entry and quite significant growth patterns. In relation to Debito and Traede, the holes in the market have allowed access in the low-market ensuring that they can gain a disruptive foothold, which is "*... the initial product or service that is the point of entry for a new-market disruption*" (Christensen & Raynor, 2003:79). This gave them access to customers who the incumbent did not serve, and that gave the disruptors the space to grow and prosper, before eventually being able to move up-market to the mainstream or even premium market. Traede and AskCody has for instance created their product around their first customers through e.g. co-creation. Traede has started with small companies and their current growth pattern indicates that they are accessing up-level markets, i.e. the mainstream. Another interesting finding in this regard is that Traede, AskCody (and Debito, although maybe too early to confirm), are making standardized products from the beginning that are designed for multiple customer groups. This gives them the ability to stay attractive in both the low market and the mainstream market at the same time. This is enabled by digitalization and modular product designs, giving them the ability to make a 'one-fits-all' products, which is scalable due to the digital nature of the product.

Blue Ocean

The blue ocean thinking can apply to the context of new markets. Blue oceans are markets where "*competition is minimized*" and red oceans are where "*industries are already well defined and rivalry is intense*" (Johnson et al, 2011:73). The holes in the markets are in this relation called 'strategic gaps', where the opportunities in the market are not fully exploited by the existing companies (Johnson et al, 2011:73). Whether the disruptors have used that theory as argument for their entry into the strategic gaps is unknown, but the theory describes this process exactly.

To some extent this way of thinking can be called the 'drops of blue in an ocean of red'. In the vast red ocean of dense competition, tiny drops of blue may appear, and upon using the blue drops as entry, the blue drops may in fact create an entire new market. This will be illustrated below.

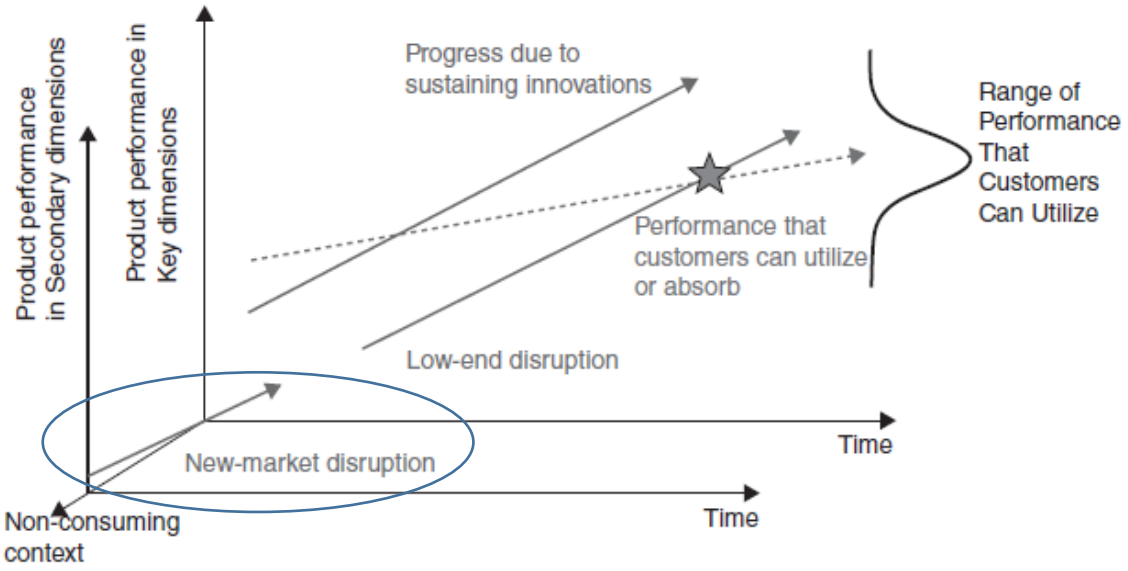

Figure 6.3 – The disruptive innovation model (Yu & Hang, 2010:437).

Figure 6.3 illustrates the disruptive innovation model (Yu & Hang, 2010:437), which is a representation of the disruptive innovation model from Christensen (Christensen et al, 2015). The figure illustrates how a new market is created upon the existing, which is called the new-market disruption (Christensen & Raynor, 2003:45). This can be related to the metaphor above, where the exploitation of the blue drops can create an entire new market. Thus, holes in the existing markets may be a gateway to a new market, and this is how the disruptors are able to enter and existing market and leverage technology to eventually outperform the existing business and create a strong customer pull, that creates a new market and terminates the old. A reference in this regard is to the authors previous semester project, conducted at a large engagement survey company, where the product performance was too high for the selected customer segment's ability to absorb, thus making the company have a very high price performance. Combined with an outdated product concept (analogue), the company was suffering from stagnating sales in this old way of doing things, and new entrants exploited the lower markets. The entrants were much cheaper and digitally based, which allowed them to enter through the 'strategic gaps' and through this, grow a market where many of the customers eventually started moving towards. This is an example of how the drops of blue can become a new ocean, i.e. creating a new market even from a low-market disruption.

To conclude on the new markets, it is seen from the case companies that they enter existing markets through the holes or 'strategic gaps', and establish a business corresponding to a low-end disruption. Upon establishment, these disruptors have a digital one-fits-all product mentality allowing them to keep price

performance low and still attack the higher-level markets. There is also a case of creating a new-market disruption (AskCody), that relies more on head-to-head competition on product performance than with low-market disruption. Either way, the holes in the markets are not stand-alone characteristics of the case companies. A premise for their growth is that they are digital and driven by new technology, that allows them to provide an appropriate product for the given market. Therefore, new technology will now be analyzed according to the case companies.

6.1.2 New technology emerges

"*Technology opened a new market for us*" (AM, 2017b;14:30). "*By using technology in a new way, new markets appear*" (CB, 2017b;07:02). As indicated in the quotes and in the previous section new technology can help trigger growth and potentially create a new market. Technology is defined in this context as "*the processes by which an organization transforms labor, capital, materials, and information into products and services of greater value*" (Christensen, 1997:9). New technology does not need to be an emerging technology, but can also be a technology that has gone from the innovators to the early adopters or early majority (Moore, 1999) where at the same time the competition uses an older technology. Typically, the technology of the disruptors is initially inferior to that of the incumbent (Yu & Hang, 2010), which emphasize how disruptors use this technology early on to be ready for when the technology gains foothold in the market. This is for example what AskCody has done, by using cloud-technologies for their software, which gives them a competitive advantage against their relative market incumbents through product performance (AM, 2017a). From the interviews with the case companies, technology was mentioned in different contexts. Therefore, this section will treat technology in three categories:

- Using technology differently
- Using new technology
- Looking into new technology.

Using technology differently

"*We are not inventing something new, merely by using the existing differently and making it more accessible*" (CB, 2017b;06:00). Most of the case companies echo this statement. By using technology in a new way, a product with other offerings can be made. In the examples of the case companies, the abstract level of the product might not be different to that of the incumbents, yet the way of solving the customers' problem might be quite different. CEO Allan Mørch emphasize how AskCody is not solving a new problem. For instance, in relation to analogue signs showing the direction, AskCody is doing it differently by using technology in a new way to achieve the same purpose of showing directions (AM, 2017b;08:55). Similarly, in the case of Traede, the technology of using an ERP-like system is not new (ESP, 2017), it is merely an offering that has not been offered to the low and mass market, which is why Traede through a 'simplex' model simplifies the technology of an ERP system to fit with the customers' range of product performance absorptiveness. Therefore, technology is used to change the functionality and not the purpose of the overall product, which in many of the case companies could have been solved using Excel in the case of Debito (CB, 2017a) or Traede, (ESP, 2017) or simply by using pen and paper (AskCody, AM, 2017b).

Using new technology

Emerging technologies are in many of the cases part of why the disruptors are able to outperform the incumbents. "*The digital transformation has been a driver, because there are some technologies that have become more mature and accessible, and along with this the recipients are becoming mature enough to use*

this technology" (AM, 2017b;08:00). This can be related to Geoffrey Moore's 'Crossing the Chasm' (Moore, 1999).

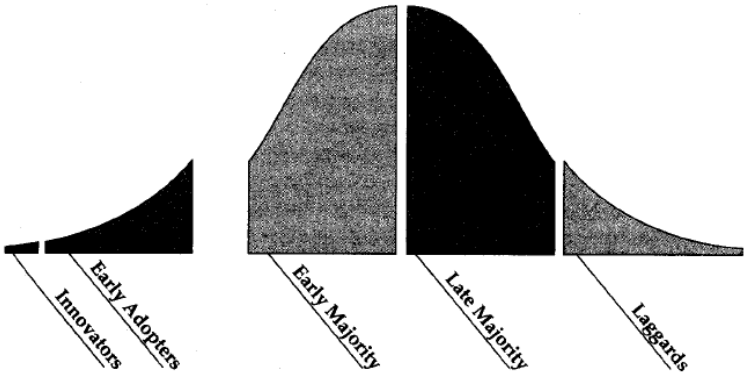

Figure 6.4 – The Revised Technology Adoption Life Cycle (Moore, 1999).

Figure 6.4 illustrates the technology adoption life cycle (Moore, 1999). This shows how a technology over time is adopted in the market. It separates the market customers into distinct groups, the innovators, who are the 'first movers', the early adopters, the early majority, the late majority and the laggards (Moore, 1999). This development shows how for instance the case companies use technologies that are corresponding to the early adopters/early majority to be at the forefront of the development of the market. In contrast, almost all the case companies describe the incumbents in their market as using technologies that are in the late majority and moving into the laggards (CB, 2017a; AM, 2017a). This emphasize that disruptors are using technologies, which are relatively new in comparison to their competitors' technologies. All the case companies were also open to new technologies (ESP, 2017; AM, 2017a; CB, 2017a) making them look for the 'next big thing'. This is related to the third context wherein technology was mentioned during the interviews.

Looking into new technology

"*AskCody is looking at new technologies and new opportunities"* (AM, 2017b;13:15). All the disruptors are following the development of the emerging technologies such as AI and machine learning closely. They are aware that at some point, the new technology will disrupt their current businesses (AM, 2017b;40:08). By looking into new technologies and how to apply them while it is only the innovators or first-movers that are looking at the technology, the disruptors allow themselves to be one step ahead of the competition. When the technology moves to a more mature stage, they can deploy it into their business and gain additional competitive advantage against the incumbents, who often suffer from myopia (Bradley & O'Toole, 2016:4).

In summary, new technology does not relate only to emerging technologies, but also of how to use existing and more mature technologies to increase the competitive advantage against the incumbents. The case companies show a tendency to be on the left side of the technology adoption life cycle (Moore, 1999), which gives them the advantage of utilizing newer technology than the competitors. This fit well with the tendency of disruptors' technologies in the beginning are inferior to that of the incumbents (Yu & Hang, 2010; 437). The technology is inferior in the beginning but as it matures more and more customers are able to adopt the technology and therefore the disruptor's products. Furthermore, the case companies show the ability to look for how to implement emerging technologies in their business, and make structured plan for how to do so, when a significant mass of customers are able to adopt it. This means that the disruptors are pro-active rather than reactive. Many incumbents fall in the reactive category, since they are facing issues such as myopia and path dependency (Bradley & O'Toole, 2016:4). More of this will be discussed later in this chapter.

6.1.3 Business model innovation (BMI)

New market entrants may rethink the business model of an industry, causing challenges for the existing (Bessant et al., 2005:1370). A business model is a "... *conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue stream*" (Osterwalder, Pigneur and Tucci, 2004; reproduced by Taran, 2016). Therefore, the understanding of a business model being the constellation of different elements will be used in this context. The concepts of the business model canvas (Ostewalder & Pigneur, 2010) is applied to describe the case companies' business models, due to its intuitiveness and widely-spread acceptance.

Business model innovation is when one or more of the business model elements are innovated upon (Taran, 2016). Take for instance the nine elements in the business model canvas (Ostewalder & Pigneur, 2013). Choosing to change or reconfigure one of these elements would result in a business model innovation. This is what the case companies have done. They differentiate from the incumbents' business models through business model innovation. Whether the case companies have directly tried to make a business model innovation, or it has happened as a result of them finding holes in the market or utilizing technology differently is not certain, but by doing so they have changed some of the business model elements, i.e. business model innovation. The purpose of this subchapter is to highly how the case companies have done so. A commonality for the case companies are that on an abstract level they solve the same problem as their respective incumbents. With departure in the business model canvas, the case companies' business model will be described relative to their respective incumbents to emphasize the business model innovation.

Debito

In the example of Debito, the abstract problem solved is debt collecting, yet Debito's business model is significantly different from that of the incumbent, Lindorff A/S. Debito offers somewhat the same to the customers, yet the market segments are different. Furthermore, Debito includes the customer segments' input in the configuration of the value proposition, ensuring that the offerings fit to the customers' requirements. Debito's customers would not be served by the existing competitors in the market, due to the low volume of the customers as individuals, where Debito serves as a broker and aggregates the debt collecting cases as one customer instead of hundreds of different customers. Debito uses different channels, such as social medias etc., which is where the customer segment is present. The value propositions are almost the same yet represented differently. Large customers of the incumbents will automatically send debt collecting cases to the incumbent, and this is somewhat also what happens at Debito. The difference here is that Debito focus on simplicity. "*It should be just as easy to make a debt collecting case as ordering a pizza on just eat*" (CM, 2017a). Then of course the cost structure and revenue streams are significantly different. Cost structure is kept to a minimum by solving only the simple needs of their respective customer segments. *"... our system has much less functionality compared to theirs [red. the incumbent]*" (CB, 2017a). This applies well with Christensen's disruptive innovation model (Christensen et al.,2015), where Debito's offerings fit with the low-market disruption and low price performance. If their functionality and performance was higher and they did not move up-market, this misfit could most likely results in a non-profitable business where costs for the performance would reduce or remove the profit margin due to a low-price requirement from the market. Through this short business model analysis, it is apparent that Debito's business model is significantly different from that of the incumbent, and can therefore be categorized as a business model innovation. This was only possible for Debito through research and continuously adaption of their business model, to find one that fits the market and enables an entry to the debt collecting industry.

Traede

Similar to Debito, Traede offers to solve the same problem as the large ERP systems but to the lower markets, and with fewer and more simplified functions. The CTO and co-founder, Esben Søndergaard Petersen calls this for the 'simplex' model (ESP, 2017). As with Debito, the customer segments are different from the incumbents, offering to customers in the lower levels using alternate channels such as the social media. The revenue model itself is not different from that of the ERP systems, but the price is significantly lower.

AskCody

Their core offering is the same as the incumbents. For example, if taking the wayfinding-industry, the problem solved is the same, namely showing the way. The incumbents made signs and new competitors are making this digitally. The customer segment is the same, and with technology as enabler, AskCody has innovated the business model, by simply doing something differently and through that offering different value propositions than that of the incumbents. Simplicity is again a value proposition that is one of the main drivers. This is seen in AskCody's meeting management offering. "*That one meeting you try to host suddenly involves 7-8 organizational units, whether you like it or not, because every unit is subject to procedures and processes related to meeting-activities*" (AM, 2017a). This statement indicates how complex the usual process is, and one of the main value proposition is therefore simplicity and convenience. AskCody focus on the same customer segments as the incumbents and rely on their product and value propositions as main differentiators. Thus, this can also be argued to be a business model innovation, offering something new to the existing market, but solving the same problem.

In short, business model innovation is a part of the characteristics of the case companies. This falls well in line with the business model being a representation of the company as an entity, thus overarching multiple elements of the theoretical model. One specific reoccurring element is the 'simplex' value proposition, that means a simplification of a what usually is a complex process. In such the extent of the business model innovation can be discussed, but in terms of the case companies this is one of the findings, which makes sense, since interleaves in the elements in the theoretical model.

6.1.4 In summary

All the case companies have found holes or 'strategic gaps' in the market that allows them to enter. Often the markets are what could be denoted as red oceans, and the case companies have found the blue drops of opportunities within these markets and developed their business on that. To differentiate from the competition and to drive their growth the case companies utilize digitalization as driver for growth. Using relatively new technology, that has gained acceptance in the mass market, gives the disruptors a competitive edge against incumbents. Furthermore, the case companies have an active outlook on market and especially technological development, enabling them to spot technologies while they are new and work towards deploying them once the customer segments are ready to absorb such technology. The case companies are all examples of business model innovators, where they differentiate from the incumbent business models in their respective markets. Simplicity of complex processes seems to be a value proposition that allows for the differentiation and fits well with the low-end or mass market. All these findings point in the direction that the case companies must have quite a flexible organization in order to adapt and constantly receive input to their businesses. This is further investigated in the following chapter regarding the transformation, i.e. the internal characteristics of the case companies.

6.2 Transformation

This subchapter will include the analysis of the primary findings in the transformation-stage. Each of the findings will be analyzed in accordance with the theoretical model and the case companies' statements regarding these. This is to determine how these act as characteristics of the case companies, and therefore with a certain probability also disruptors in general. The illustration below serve to depict the theoretical model from where this analysis takes its starting point.

Figure 6.5 – A theoretical model - Transformation (Own creation)

Figure 6.5 illustrates the theoretical model and highlights that this part of the analysis will regard the transformation, where the components of the innovative organization (Tidd & Bessant, 2009:100) serve as a theoretical input. These have been reviewed through multiple case company interviews and based on these categorized into the following findings. In the transformation stage of the model, there are two dominant characteristics, namely:

- Shared vision, leadership and the will to innovate
- External focus

While some of the cases also demonstrate a secondary characteristic:

- Key individuals

Each of these will now be analyzed respectively.

6.2.1 Shared vision, leadership and the will to innovate

All the case companies highlight vision as a primary driver in the transformation stage. Most companies have formulated, vision, mission and value statements, and some, but not all, also have formulated strategies. In this context vision is the guiding star that the company moves towards, by using plans and strategies. Values are the drivers for the expressed behavior within the company. The mission is the reason d'être. This section of

the transformation stage will regard how the case companies use and act within these terms, to see if there are overarching tendencies within the realm of digital disruptors.

AskCody

"*We are very vision driven. If this company was a football team, we would like to play football, and the frame is set to be the field. There are two teams, each given the direction of scoring in the opposite end of the field, and try to defend their own half of the field. How the ball is played towards the goal is determined by the individual and the team itself, but the ambition and the vision is to get the ball in the goal, within the frames and rules that are set. So, it is my finest task to guide and coach the team in how we win, but it is not my task to dictate every move the team should take*" (AM, 2017a).

The analogy above describes how AskCody works with the vision, and this reveals that the CEO Allan Mørch has given this much though. The vision is in this case the guiding star, but the employees are encouraged to find the path to that star themselves. Autonomy means giving the employees the ability to change how they do their job, while empowerment means giving the employees the authority to change it (Slack et al., 2010:247). In this case, the employees are close to empowerment, since they are given the authority to do what they think is right, within the frame and playing field. Of the case companies in this study, AskCody is the one giving the most authority to their employees, while others are still close to this, but is more likely in the 'autonomy' category. Another important statement in the analogy is that Allan Mørch describes his employees as one team. "*We are all driven by the same vision*" (AM, 2017b;19:30). This entails multiple things, firstly that they all work towards the same goal, which indicates that they are not silo-structured with different agendas. They might have different departments, but they are there to help each other towards the vision. In contract, many large organizations build up structural silos over time, which makes the company more rigid, and eventually risk that each silo having their own specific agenda, that not necessarily entail moving towards the same goal. "*Do what is most important for the team, before I what is most important to me*" (AM, 2017a). This is the mentality and the values that exist at AskCody. Moving towards the same goal as one entity the willingness to innovate is present and is an embedded part of the company. This is seen through the company culture.

"*Culture is the sum of one's behavior, wherein different values are expressed… We would like to be ambitious, passionate… and try to drive curiosity, adventurousness, courage, honesty and selflessness*" (AM, 2017a). The culture and values are key factors to look at when assessing whether the company actually has a shared vision, or merely a stated vision. Another thing that supports the shared vision in AskCody is that the culture allows failures and mistakes (AM, 2017a).

Debito

AskCody has been very explicit in their description of shared vision, leadership and the will to innovate, yet many of the characteristics are also present in the other case companies. "*We are very vision driven*" (CB, 2017b;13:50). Along with their vision as primus motor, Debito highlights the willingness to do something differently, and multiple times explain their vision and how they work towards it. Even though the industry of debt collecting might not be an obvious choice for Christoffer Baadsgaard or his co-founder, they are driven by the will to change the status quo more than necessarily wanting to work with debt collecting explicitly. The drive for them is also to help those who is out of range of the incumbents. The willingness to innovate as well as to solve a problem for many people is what gets the Debito founders to work long nights and early mornings. The thoughts in Debito are much like in AskCody, yet with no employees at the moment, besides the founding partners, Debito has not been exposed personnel management the same way as AskCody, which has seventeen employees. Therefore, some of the insights regarding values and culture are hard to determine.

Traede

Traede also states that one of their primary characteristics is that they are vision-driven (ESP, 2017). "*At Traede we look out for each other – we are a team, a family! We are all equally dedicated to our shared vision to change the way companies do business with each other*" (Traede.com, 2017) Traede has several employees, which gives them some of the experience regarding company culture and values. Also, Esben S. Petersen emphasized that it is important that the employees are driven by more than money, i.e. by the willingness to be part of something (ESP, 2017). By dedicating equity to key employees, they drive motivation and ensure that the employees share the same vision as the management.

The statements from the case companies confirm the theory that innovative companies have a "*clearly articulated and shared sense of purpose*" and that top management is committed (Tidd & Bessant, 2009:100). Other findings complement this by highlighting certain values or mindsets, that needs to be part of the employees such as, courage, honesty, passion, selflessness. This is while the management must allow for empowerment or autonomy, and create a frame and within that an environment where failures are accepted. To do this, it is crucial that the founders rely on accessing key individuals that fit into these characteristics (see, 6.2.3).

6.2.2 External focus

External focus is regarding the company's ability to focus beyond the boundaries of the organization to external elements such as the market, the industry, and from a value chain perspective this is both up- and downstream. External focus can regard others than the customers or users, and includes suppliers, collaborators, regulators etc. (Tidd & Bessant, 2009:148). Because of this, the characteristic is divided into two categories, upstream and downstream.

Downstream - User and customer involvement

Downstream is used to describe the value chain path towards the end-customers. This means the actors that stand between the focal company and the end-customers are considered to be downstream. In relation to this study there were throughout the interviews clear statements regarding the involvement of customers and users. "*One of the consistent themes in the literature on innovation success and failure concerns the need to understand user needs"* (Tidd & Bessant, 2009:148). All the case companies have in some sense included the insights from both the users and the customers, which may be one of the reasons for their success.

AskCody CEO, Allan Mørch, explicitly states "*Our development is more user-driven/customer-driven. We are very good at bringing a product and then asking questions, listening, challenging and testing, and then convert this into product development*" (AM, 2017a). Similarly, Debito co-founder, Christoffer Baadsgaard states that their core competencies are "*digitalization, automatization and user-involvement*" (CB, 2017a). CTO and co-founder of Traede also states that Traede are close to their users and customers to get feedback on their product (ESP, 2017). Even in the non-digital scope, RTX Vice President, Jens Christian Lindof, also states that customer-involvement plays an important role in their design-services (JCL, 2017).

It seems that user and customer involvement is a characteristic of the digital disruptors, especially in terms of how to configure their product/services. "*There are some large customers we work closer with than others that are helping us to set the direction, because they fit well with what our product needs to support. This gives value to both*" (AM, 2017a). Although listening to the customers and users, none of the digital case companies make customized products. They are all trying to make a simple one-fits-all type of product, which keeps customer-specific maintenance costs down, and simplify the development processes.

In summary, downstream engagement is utilized by all the case companies not only to create the right product, but also to create the right value propositions and to exploit the co-creation to arrive at a better fit between the one-fits-all type of products and the target customer segment.

Upstream – Suppliers and collaborators

Upstream is here used to describe the value chain path from the focal company to the last tier supplier. This kind of external focus is present in all the case companies. This is not used in the traditional sense as direct collaboration to create a product/service, but rather the 'back of the tiger' business model (CB, 2017a). This means exploiting the success of large and well-established companies and their products, to benefit from their many users.

Traede lies in the slipstream of e-conomic, an online account program used by more than 100.000 companies in Denmark. By using an existing the customer base of e-conomic as entry point, Traede gains access many users avoiding canvas selling. Furthermore, Traede has become an e-conomic partner and is highlighted on e-conomic's website[10]. This favor both parties of the relationship, since e-conomic adds functionality to their platform, while Traede gets approved and exposed to the existing users as a directly related app to this system.

Similarly, Debito tries to use the same strategy, also on e-conomic. "*We have a strategy where we want to be present in all ERP systems. We are on e-conomic now… You simply press a button and your entire Debito accounting system [red. e-conomic] shows unpaid invoices*" (CB, 2017a). Christoffer Baadsgaard argues that this gives them an advantage. "*I have once heard it called 'the back of the tiger' strategy. E-conomic has 100.000 paying customers in Denmark, Dinero has 10-15.000, Billy's Billing has maybe 5.000. C5 is a bit more difficult to integrate with, but have probably 80-100.000 customers. Therefore, we need to integrate with all of these*". Using this strategy, the companies gain access to a large network and sales are therefore made less cumbersome.

The same strategy is used by AskCody yet with another partner. "*We are lying in the slipstream of Office 365*", and adds "*they have billions of users*" (AM, 2017a). By making an app which can be integrated in a tool used by such a volume, AskCody benefit from the existing userbase.

The external focus upstream is more about the case companies gaining easy access to large existing customer bases, as well as product validity by using the already successful companies as partners. For the upstream partners, such as e-conomic and Microsoft, the case companies add functionality to the platforms, which only make the platforms more useful to their end-users.

In summary, external focus can be divided into down- and upstream. Downstream, the disruptors use inputs from both customers and end-users to have a product that fits their needs. This allows the disruptors to learn and iterate their products/services continuously. Upstream, the disruptors use partnership strategies to reap the success of large successful companies to enable access to a large userbase as well as product-validation. These external foci are some of the dominant characteristics, since all the case companies, independently, use such external inputs to boost their success.

[10] https://www.e-conomic.dk/apps/traede

6.2.3 Key individuals

Innovative companies need to have dedicated employees that acts as e.g. promoters or champions to facilitate innovation (Tidd & Bessant, 2009:100). To ensure that the company reaches its vision key employees need to be part of the organization. There were two categories that were the themes throughout the interviews regarding key individuals, namely recruiting and continuous motivation of the employees.

Recruiting

"*We recruit people that have a wish to make a difference, accomplish something and are able to see the vision… as was it their own*" (AM, 2017b;21:26). Recruiting the right people is one of the primary ways of ensuring that there is a shared vision in the company. "*I would rather recruit a nice person with the right attitude than a skillful person with the wrong attitude*" (AM, 2017a). This is echoed across the case companies. Traede searches for the appropriate skillset, autonomy and that people are driven by more than money (ESP, 2017). The latter is in respect to the need for creating which relates back to the 'will to innovate' and the chance of being part of something, which is emphasized through the employee getting equity, thus owning part of the venture (ESP, 2017). Debito has also made plans for recruiting, and had two full-time employees in 2016, yet determined that it was too early due to a high cash-burn (CB, 2017a). Their plan includes having people with the right skillset and as the others also emphasize the importance of drive and a buy-in on the company vision.

Continuous motivation

Once employed it is important to maintain the level of motivation of the employees. This is solved using different mechanisms. Traede uses a share of equity to motivate through ownership as well as autonomy and AskCody uses empowerment.

The aspect of key individuals is closely connected to the previous section regarding shared vision. They key individuals are there to ensure that the vision is reached, thus needing to buy-in on the vision. Evidence from the case companies indicate the needs for the required skillset, yet also the passion that come from being part of something that could change the status quo. In terms of skillset there is a tacit focus on skillset diversity, which is necessary in the case companies, that are in fast changing environments, enhanced by their efforts to constantly refine the purpose and ways of doing things.

6.2.4 In summary

In the transformation stage the shared vision seems to be a driver for the companies including the employees. The only constraint is the frame of business and the vision, other than that employees are free to 'fail' and learn from that experience. Thus, the approach is experimental, which is supported by the external focus of all the case companies. Utilizing end-users and customers in an iterative testing approach, the companies are able to navigate in the market and find the appropriate niche continuously, not only once. Key individuals are those able to buy-in on the vision and who are willing to take responsibility by being part of something new, challenging the existing or even through co-ownership. Key individuals must have the necessary competencies, yet this is rated secondary to that of a correct mindset. There are tendencies towards agility as an overall theme of the case companies. Agility in terms of maneuverability in the market, which require a flexible business, including not only the entire staff but also the decision models in play. The case companies tend to constantly get feedback from the market and convert it into their businesses. The combination of this openness and the maneuverability makes the case companies quite agile.

6.3 Complementary findings

This subchapter highlights the additional findings from the explorative case studies, and include elements that are not covered by the theoretical framework, thus does not fit the structure of the model directly. These additional findings are equally important as those directly related to the theoretical framework, since these new findings are in the periphery of the existing theoretical model. Therefore, these findings will serve to complement the theoretical framework and thus helping to arrive at a conceptual model for understanding disruptors. The following findings could be generalized for the sample.

- A rapid feedback loop
- Company legacy
- Appropriate structure
- A new strategy fit for digital disruptors

Each of the above will be elaborated respectively.

6.3.1 Rapid feedback loop

The digital disruptor "*operates at the speed of thought*" (McQuievey, 2011:2). "*In searching for an initial product foothold in new-market disruption, observation and questioning to determine what customers are trying to do, coupled with strategies of rapid development and fast feedback, can greatly improve the probability that a company's products will converge quickly upon a job that people are trying to get done*" (Christensen & Raynor, 2003:80). This quote confirms how the disruptors have an external focus and a closeness to the customers. The quote also emphasizes the rapid development and fast feedback that help the disruptors to develop a good product-market fit. The case companies exemplify this ability, by quickly implementing and integrating the relevant specifications from the customers and users into their products/services. Even more interestingly, in contrast to the incumbents, the case companies are much quicker at doing this.

"*Our feedback loop from the time we listen in the market to we are present with a new feature is extremely short*" (AM, 2017a). An important part of the quote is the aspect of listening in the market, which again emphasize the relation to the external focus characteristic from the transformation stage. One thing is to create a product or feature that corresponds to customer and user needs, another is to implement it quickly. All the case companies demonstrate the ability to quickly transform market needs into their products. Like AskCody, Christoffer Baadsgaard states: "*There is not long from thought to action, yet on the other hand, our system has limited functionality compared to them [red. incumbents]*" (CB, 2017a). This quote adds an important dimension into the subject. While the disruptors may be quicker to implement changes, their product functionality is in general significantly lower than that of the incumbents. Seen in the perspective of the disruptive innovation model (Figure 4.4, Chapter 4.2) incumbents score higher on the performance dimension, and can therefore serve the most profitable and most demanding customers. In this context, the performance is the functionality of the products, where Christoffer Baadsgaard adds that the complexity of the incumbent's system is significantly higher (CB, 2017a).

Digital disruptors sometimes need to be fast due to the changing market conditions and high uncertainty caused by them entering a new market with a new way of doing things. "*We have to be fast and adapt quickly*" (CB, 2017b;22:00). In addition, digital disruptors may be on a journey of entering market and thus iteratively trying to find the blue drops in the red ocean, which makes them dedicated towards being more agile. Whether it is a long-lasting characteristic or merely contemporary until finding the correct approach to the most profitable

market is hard to determine based on the current sample size. This will be subject to discussion in the respective chapter (Chapter 8).

6.3.2 Company legacy

"*We do not have any legacy … the development time is significantly reduced by having legacy … and we are quicker in implementing new technology compared with our competitors [red. incumbents]*" (AM, 2017b; 36:54). Partially related to the rapid feedback loops, the legacy explains why incumbents cannot apply the same short implementation time as the disruptors. All the case companies are free of the same level of legacy as their relative incumbents. "*We always win because we have a completely different agility and speed*" (AM, 2017b;12:20). The result of not having legacy is enabling disruptors to gain foothold in the market by using speed and agility to continuously review the market needs and thereby finding the differentiating factors allowing them either entry or growth. No legacy also allows a much faster implementation of the inputs from the externalities such as customers, users and collaborators.

"*We do not have any legacy … We are a much more agile organization and have a much more agile decision process*" (CB, 2017b;22:28). The quote emphasizes the agility required as well as decision processes. The latter is related to bureaucracy, where the case companies are flat organizations without many layers to make decisions. This is enhanced by the empowerment and/or autonomy of the employees, giving them the ability to take the decisions, thus reduce the time to get approval from a centralized system. Even though not directly stated as a characteristic by the case companies, all the digital case companies are flat organizations. This is a matter that will be discussed in the following subchapter.

"*They have actually spoken of making something similar for years, yet they have a legacy system with forty employees. They have so much legacy that it can take up to a month to get a file from them, which would take us about three hours*" (CB, 2017a). This statement clarifies that there are plans to develop within the incumbents, but these are not materialized due to the legacy systems. Furthermore, the quote exemplifies how the legacy also reduced the reactivity of the incumbent, whereas the disruptor is much faster. An exemplification of legacy is provided in the AskCody case, where the incumbent must master two platforms at the same time (AM, 2017a). The first being the old system providing many of the old customers, and the other which is much more like the offerings from AskCody. This poses the risk of organizational resistance and cannibalization between the two systems. The aspect of the corporate immune system, is concerned with this resistance, which usually takes the form of bureaucracy or strict funding (Birkinshaw & Ridderstråle, 1999:153). The corporate immune system tends to reject, delay or require greater justification for new initiatives (Birkinshaw & Ridderstråle, 1999:163), such as the ones found at the incumbent of AskCody as well as the incumbent of Debito. "*Their [red. disruptors] less formal market research and resource allocation processes allows managers to proceed intuitively rather than having to be backed up by careful research and analysis*" (Christensen & Kaufmann, 2008:6). Because of this careful research and analysis, new initiatives in a large organization tends to take a long time, if they are even able to be materialized. This is a result of the predispositions, which are found in the corporate managers, and are typically, ethnocentrism, suspicion of the unknown and resistance to change (Birkinshaw & Ridderstråle, 1999:159-162). The company legacy could be a result of the managers within the company. In the incumbent business, the 'business as usual' along with the corporate manager's personal incentives to advance are driving the company legacy towards these predispositions, creating barriers to change. In the case companies the managers are vision-driven, open to new inputs from external sources as well as the employees. This might be what keeps the legacy down to a minimum and enables the rapid feedback loops and fast implementation time. AskCody founder supports this finding when stating "*… it will disrupt what we are doing today, but it is ourselves making the disruption. For*

us disruption is about reducing our legacy" (AM, 2017b;40:21). This means that changes are not seen as negative to the company, rather as opportunities. The case company plans to keep legacy down, and here also emphasize the inherent will to challenge the status quo and the will to innovate, even if disrupting the existing business.

In summary, legacy is present at the incumbents which results in their loss of reactivity and serve as a barrier for further development. On the opposite side, the disruptors with no legacy are able to be agile and navigate freely, constantly changing and refining their value propositions to find the appropriate fit with the market requirements, that are constantly changing. Legacy is therefore a barrier that gives the disruptors the time to establish themselves. Even if the incumbent had the knowledge necessary they would most likely not have the ability to react proactively. In some way, it would appear that legacy and agility are disproportionately connected yet based on the qualitative nature and thus small sample size this is not possible to conclude.

6.3.3 Appropriate structure

Although not directly stated by the respondents, the aspect of an appropriate structure is relevant as complementary input to the conceptual model. This is because it is related to many of the findings throughout analysis, including the two sections above. Changes from the environment whether technology- or market driven require the digital disruptors to be able to absorb the findings, as described in the external focus, rapid feedback loops and regarding the company legacy and agility. To achieve this the case companies need to have the appropriate structure.

Incumbents tend be mechanistic organizations, while disruptors from the sample seems to be characterized as organic organizations. Each of these have different organizational structures. The table below illustrates the differences between the two.

Mechanistic	Organic
1. Tasks are broken down into specialized, separate parts. 2. Tasks are rigidly defined. 3. There is a strict hierarchy of authority and control, and there are many rules. 4. Knowledge and control of tasks are centralized at the top of the organization. 5. Communication is vertical.	1. Employees contribute to the common tasks of the department. 2. Tasks are adjusted and redefined through employee teamwork. 3. There is less hierarchy of authority and control, and there are few rules. 4. Knowledge and control of tasks are located anywhere in the organization. 5. Communication is horizontal.

Source: Adapted from Gerald Zaltman, Robert Duncan, and Jonny Holbek, *Innovations and Organizations* (New York: Wiley, 1973), 131.

Table 6.6 – Mehcanistic versis organic organizations (Daft et al, 2010:156)

Table 6.6 illustrates the differences between the mechanistic and organic organizations. As indicated previously the incumbents are highly centralized and rigid and has a strict hierarchy, that slows down the reactiveness. On the opposite side, the case companies are flat organic organizations where power and knowledge is distributing across the organization, rather than being centralized. The aspect of knowledge is not something that has been directly stated, yet due to the flat structure and shared vision, the case companies seem to be able to share knowledge more swiftly than the incumbents. By having an external focus and quickly implementing the findings, the case companies must have a high degree of knowledge sharing. Knowledge sharing in large organizations is a typical issue, since much of the tacit knowledge is hard to codify and share across departments.

"*Many innovations fail not because of some fatal technological flaw or because the market is not ready. They fail because the responsibility to build these businesses is given to organizational units that are not capable of succeeding*" (Christensen & Kaufman, 2008:1). The case companies exemplify how important the appropriate structure is and this is supported by the quote above. Therefore, organizational structures are either a barrier or an enabler agility. From the case companies, it evident that a flat structure allows for the necessary agility, also one explanatory variable in this context could be the size of the companies. The case companies have relatively few employees in comparison to the incumbents. For instance, Debito currently employs two full time employees, namely the founders, while the incumbent, Lindorff A/S employs 4.400 people across 12 geographical locations (Lindorff.dk, 2017). This emphasize what might be a second variable explaining the organizational rigidness, namely different geographical locations. This was also a variable existing in the study of the corporate immune system (Birkinshaw & Ridderstråle, 1999), where the investigation found that initiatives from Canadian subsidiaries often get rejected or delayed by the parent company in the USA.

There seems to be a relationship between organizational structure and the ability to possess the necessary abilities to be a digital disruptor. This is further supported by a framework for organizational design (Christensen & Kaufmann, 2008), see the figure below:

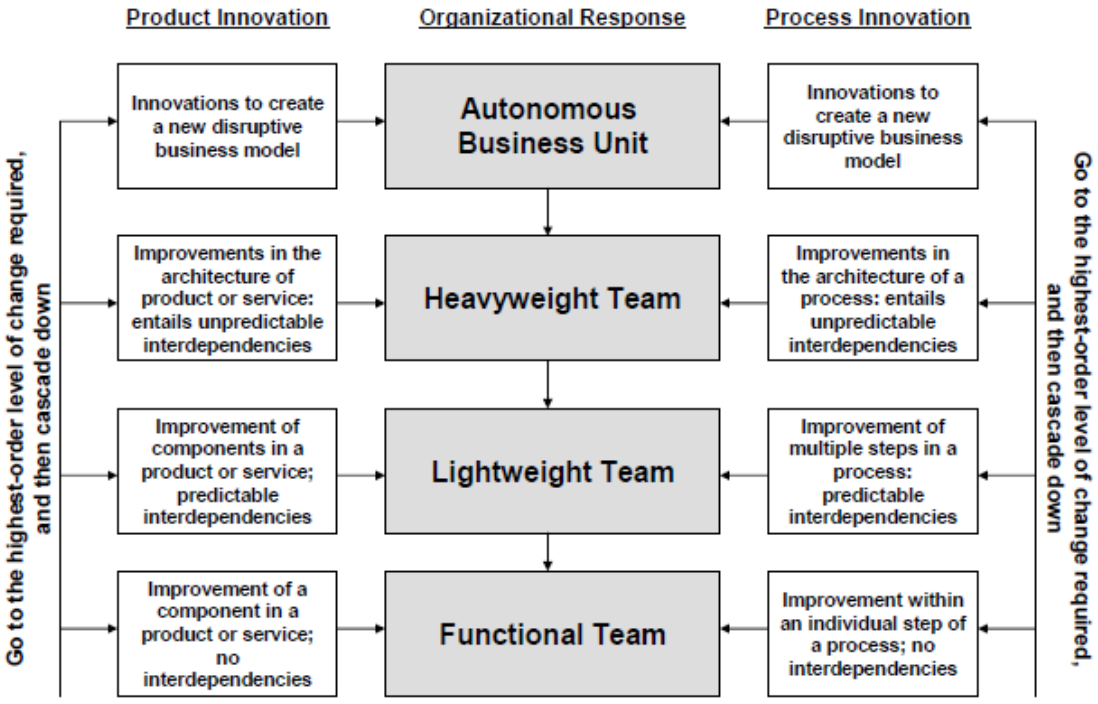

Figure 6.7 – A Framework for Organizational Design (Christensen & Kaufmann, 2008:9)

Figure 6.7 illustrates a framework for organizational design. The figure shows four types of teams in the middle, which fit corresponding types of innovations, i.e. product and process innovation, on the left or right. The figure shows that for incremental innovations with no interdependencies functional teams would be an appropriate fit, while the other extreme is the 'innovations to create a new disruptive business model' that will correspond to an autonomous business unit, free from corporate rigidness and with authority to take independent decisions. As mentioned earlier a business model innovation can be characterized as a change of one or more of the existing business model elements. This framework supports that the appropriate organizational structure to a disruptive opportunity is an autonomous unit. This further supports that corporate legacy is a barrier to such opportunities, which was also evident from the case company interviews. "*They have actually spoken of making something similar for years, yet they have a legacy system with forty*

employees. They have so much legacy that it can take up to a month to get a file from them, which would take us about three hours" (CB, 2017a). Furthermore, the aspect of key individuals (see 6.2.3) also emphasize that the case companies use autonomy as a tool to correspond to the market opportunities, while theories such as the 'corporate immune system' (Birkinshaw & Ridderstråle, 1999) proves that large companies does not.

"*Gilbert's work, fortunately, not only defines an innovator's dilemma but suggests a way out. The solution is twofold: First, get top-level commitment by framing an innovation as a threat during the resource allocation process. Later, shift responsibility for the project to an autonomous organization that can frame it as an opportunity*" (Christensen & Raynor, 2003:113). This quote emphasizes the need for an autonomous organization to capture new opportunities that incumbent may not be able to capture with a unit inside current organizational structure. This also emphasize the need for building venture to avoid the legacy of the parent company.

In summary, organizational structure plays a vital role in the success of the case companies and thus the digital disruptors. Flat organizations with a high level of autonomy, a high degree of knowledge sharing are enablers for the agile approach necessary to gain foothold in a market with incumbents. This is regardless of entering a market as from a low-market disruption or a new market disruption.

6.3.4 A new strategy for digital disruptors?

From the analyzes above, the digital disruptors operate under different conditions than analogue disruptors. This section will regard the different strategies to pursue as a disruptor and regards performance oversupply. Performance oversupply means that the functionality or performance overshoots the need of the respective target segment. Traditionally there are three strategies to utilize to avoid performance oversupply. The three strategies are summarized in the figure below.

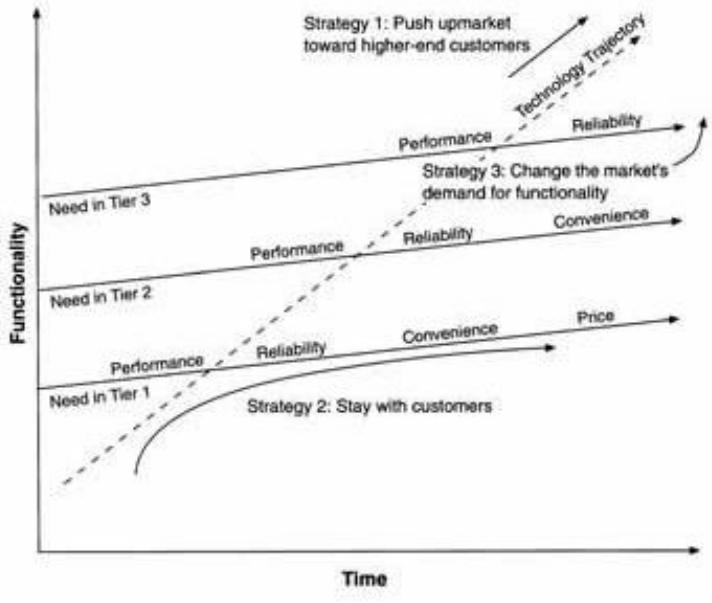

Figure 6.8 – Managing Changes in the Basis of Competition (Christensen, 1997).

Figure 6.8 illustrates the disruptive innovation model where three strategies for avoiding performance oversupply are added. The first strategy regards the aspects pushing upmarket towards higher-end customers or more profitable markets, and is most common of the three (Christensen, 1997:154). This is the sustaining

innovation trajectory also depicted in the disruptive innovation model (figure 4.4). The second strategy is to stay with the customer trajectory to ensure that the product/service performance corresponds to the absorptive abilities of that given segment. The third strategy is where the organizations "*use marketing initiatives to steepen the slopes of the market trajectories so that customers demand the performance improvements that the technologists provide*" (Christensen, 1997:155). The third strategy is to some extent what happens with every product over time. Kano (1984) shows how delighting features become the common features over time constantly pressing for new delighting features (Kano et al.,1984).

Besides the three alternatives it appears from the case companies that a fourth strategy may fit the digital disruptors. A fourth strategy is a combination of strategy one and two, where the case companies with low-market disruptions seek to stay with the low-level segments, while still moving upwards to capture those above. This is emphasized by the case companies when creating a one-fits-all type of product that allows to stay with the current customers, and add additional modules to their digital services that allows a performance fit with the up-market customers. For example, this is also a strategy you can observe with the freemium-business model where basic functionality comes for free and additional functionality comes with an added expense (Taran et al, 2015). Such enables a fit with the performance criteria in the different customer segments as well as the price performance.

A concrete example of this fourth strategy, is the mobile phone companies, that provides you with a subscription that fits you need, but you can always move up and add additional data or even complementary services such as music subscriptions, e.g. Spotify/Tidal. Such a flexible profit model combined with a flexible product configurations allows digital disruptors to potentially be present in more markets at the same time. This is of course a finding that needs to be further investigated before being able to conclude upon this.

6.3.5 In summary

Complementary findings not covered by the themes in the theoretical framework add new aspects and therefore additional characteristics of digital disruptors. While having an external focus, the case companies all have rapid feedback loop relative to the incumbents. Also, the feedback implementation time is considerably shorter at the case companies than of their relative incumbents. This can be an effect of company legacy, which is high at the incumbents, due to many years of operations and to some extent a high number of employees. This legacy is caused partly by the organizational structure, which seems to be mechanistic and hierarchical compares to the case companies that display flat structures and organic organizational features. It would seem that these structural elements are from the perspective of the digital disruptors enabling them to proactively seek out market opportunities, while the organizational structure at the incumbents is what constrains them from doing the same.

Finally, observations in relation to the performance oversupply patterns indicate that there might be a new strategy for digital disruptors, which makes them able to stay with the low-market customers while penetrating up-market. This is enabled by product and profit model modularity, yet need further investigation is needed before firmly concluding such a claim.

6.4 The conceptual model

This subchapter serve to wrap-up the analysis and emphasize the findings from the case company interviews. The purpose is to contribute to the understanding of the phenomenon by creating and presenting a conceptual model for understanding disruptors. To give an overview of the findings the conceptual model is presented containing primary characteristics found throughout the interviews. The conceptual model is the theoretical model adjusted to these findings. The figure visualizes the characteristics mapped throughout this thesis.

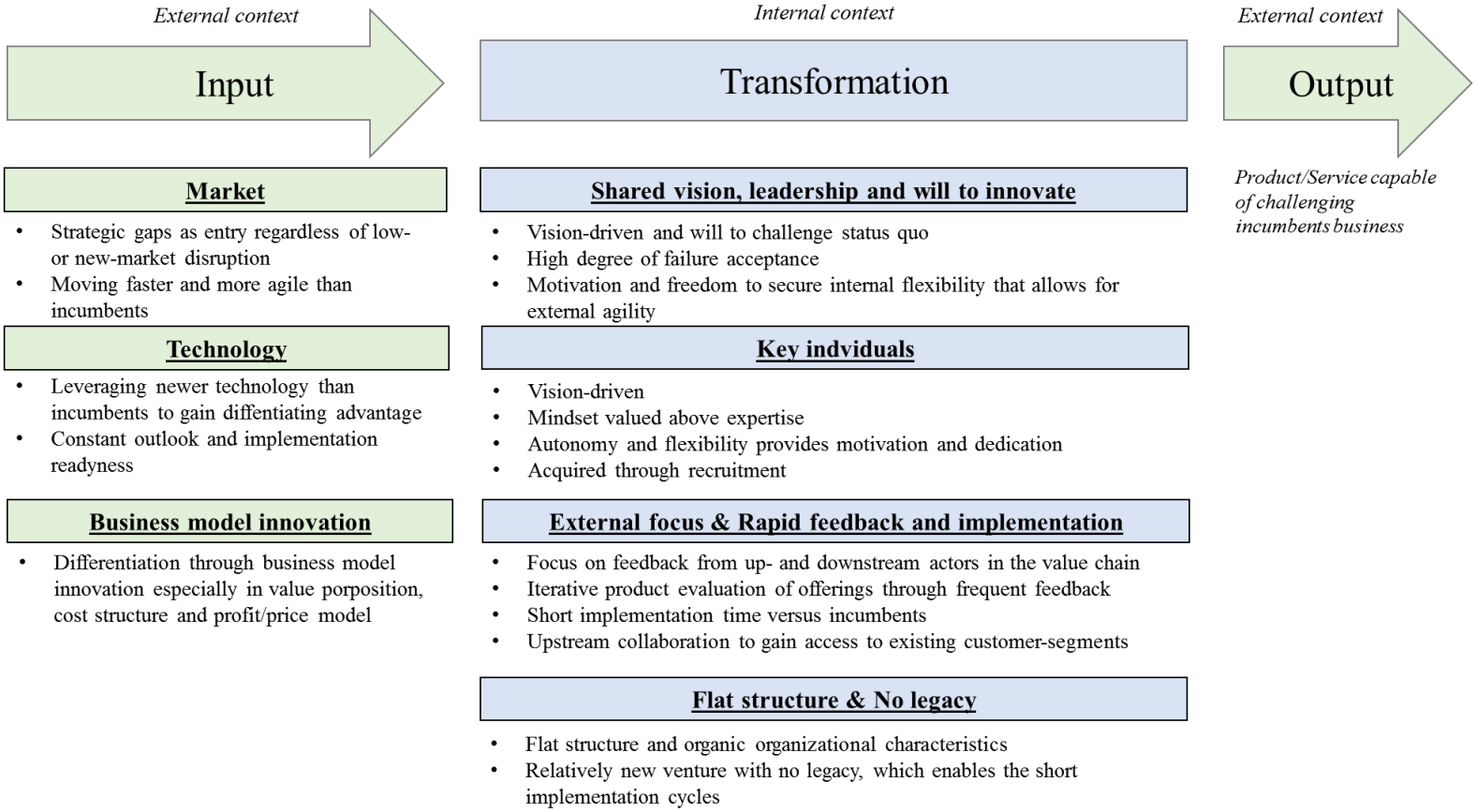

Figure 6.9 – A conceptual model (Own creation)

Figure 6.9 illustrates the conceptual model divided into the input-transformation-output format, where each stage has subsequent findings. The model briefly presents the synthesized findings from this case company study and will be collectively summarized and elaborated below.

6.4.1 External contexts – Inputs

Regarding the aspect of **new markets**, this thesis proves that in the digital disruption domain both low-market disruption and new market-disruption occurs. Furthermore, it challenges the 'either-or' aspect of a disruptor entering from low-end in an existing market, or creates a new market. From the case companies, it is seen that they can enter and gain foothold through low-market disruption and from that position create a new-market disruption. This is enabled by the use of technology and a modular product-architecture that allows rapid development and constant fit to customer needs.

In regard to **technology**, the disruptors do not create a new technology but utilize the existing in the early stages and keeps an outlook to potentially new technologies. When the new technologies gain momentum, the digital disruptors seek to implement it quickly and utilize it as a differentiating strategy against incumbent or other competitors. This is enforced by the case companies describing the technologies of the incumbents as being in a late maturity stage, which creates a gap between the incumbents and the digital disruptors. Furthermore, the incumbents are slow and reactive, while digital disruptors are swift and agile as well as being proactive.

Business model innovation is a reappearing subject, yet not directly stated by the case companies, it is to some extent present in all of the cases. That is due to entirety of the business model, meaning that it covers all aspects of the business, why the disruptors have innovated the business models of the incumbents by using technology differently, addressing other market segments, using different revenue models or offering different value propositions than those of the incumbents. One of the value propositions that seems to reoccur is the 'simplex' model, that simplifies otherwise complex processes. The business model innovation is hard to generalize since it is case specific to all of the case companies, yet it is a finding that may open the scope for a new investigation regarding the business models of digital disruptors.

6.4.2 Internal context - Transformation

Vision is characterized as the dominant motivation for the employees at the case companies, and the freedom and flexibility of how to reach it is also present to some extent. Being driven by the vision more than personal or departmental agendas allows the organization to move freely both within the organization but also in the market, if it is towards the collective vision. The employees are also given the necessary freedom to do this, and this creates a set of values and a mindset that support the organizational agility that is necessary to constantly adapt to customer and user requirements. Therefore, this is a predisposition for the second dominant characteristic of the digital disruptors, namely external focus.

External focus can be categorized into up- or downstream focus. Upstream it regards the suppliers and collaborators, while downstream it regards the customers and the end-users. The digital disruptors have focus on both categories and try to develop the organization using inputs from these sources. This ensures a high degree of fit between the company offerings and the external demands. Customer and user insights are included to help the disruptors to create a product/service that is within the performance absorptive range of the customers, and doing so at a corresponding price- and cost-performance that allows for a profitable business. Upstream collaborations are also used to give the digital disruptors a competitive advantage by tapping into already established markets, and thereby not having to struggle with penetrating the market as in a canvas sale situation. This is called the 'back-of-the-tiger' strategy and proves to be effective for case companies.

Key individuals are closely related to the element of the shared vision. The case companies need the right people with the right mindset to thrive in a vision-driven organization, and this process starts already at the recruiting stage. Rather than aiming for experts the case companies aim for people who fit in the organization and who is able to change with the organization. This removes the obstacle of aligning the vision to reluctant employees and enforce the agility both internally and thereby also externally by increasing the reactiveness.

Outside the direct scope of the theoretical model other complementary findings appeared that are related to those above, but new dimensions to these. These characteristics fall within the internal domain of the ITO model. The case companies all have **flat organizations**, which reduces the time to take decisions and enables the shared vision in contrast to a stated vision that is seen in the silo-based and hierarchic companies, e.g. incumbents. In addition, the digital disruptors are relatively new companies, which reduces company legacy. **Legacy** of the incumbents serve as a barrier for their reactivity, thus giving the digital disruptors time to gain foothold in the market, and accelerate from there. Flat organizational structures and no legacy enable a fast implementation time. Therefore, **rapid feedback loops** and a high degree of external focus allows the digital disruptors to iteratively navigate the market and offer a good customer-product fit. These structural elements of the digital disruptors are what allows for the agility, and if not present, they would most likely end up with path dependency much like that of the incumbents. There is also an indication showing that digital disruptors can utilize the disruptive strategies differently, by not just following one of the established strategies, but multiple at the same time. The digital disruptors display the ability to stay with the low-market segment while penetrating up-market segments. This is due to the digital nature, that allows for a flexible product-modularity as well as a flexible profit models.

Many of the findings are somewhat interrelated and the purpose of the conceptual model is to structure these into smaller pieces to enable a better understanding of such. The primary objective of this thesis was to contribute to the theory of disruptive innovation, by creating a conceptual model that can be further developed in the future. All the elements above display this contribution.

7 Conclusion

What enables digital disruptors to challenge incumbents?

Digital disruptors are agile companies with a high degree of external openness by which they are able to listen, explore and uncover the needs in the marketplace. Furthermore, the digital disruptors are incorporating relatively new technology, compared to their incumbents, which gives them a differentiating advantage, and enables exponential growth. Through organizational reactivity the digital disruptors are able to quickly correspond to the market needs, implement new technology, and thereby offer value to the market and innovate the existing business models. The agility is supported by flat organizational structures that decentralize decision-making by vision-driven leadership and employee autonomy and/or empowerment. This makes the organization swift in making decisions regarding the external elements, and quickly implement such into the organization, thus providing the customers and users with the appropriate value propositions at the right time. The agility is supported by the lack of legacy in the digital disruptors, where in contrast the incumbents often have a high degree of legacy that results in organizational rigidness, bureaucracy and path dependency, thus reducing the incumbents' reactive abilities.

Digital disruptors enter the market either from low-market or new-market disruption where they find a niche to grow from. They find the blue drops in the red oceans and seem to be able to create new markets within the blue drops by attracting customers from the red ocean. Market foothold is gained through the use of new technology and through offering simple solutions to complex problems with a high degree of automatization. Upon entry, refining of the product/service occurs through iterative processes and closeness to the immediate stakeholders, i.e. customers and collaborators. This allows for constant adaption of the value proposition.

When having established themselves in the market, the digital disruptors continue the iterative approach, yet major changes are not made to the product/service, rather sustaining innovations. Once having penetrated a market segment the digital disruptor illustrates the ability to maintaining that market segment, while still moving up-market. This is a unique characteristic, which exists because of the digital product that enables component modularity and flexibility, thus being able to offer a one-fits-all product, where additional functionality can be delivered at a price premium. Physical products do not have the same flexibility and the time to change the attributes of such, would be quite significant compared to a digital product, if even possible.

Furthermore, the case study illustrates that the characteristics pinpointed in the analysis are not either-or characteristics, rather collectively present in the case companies, and that it is the combination that results in their success. Take for instance one of the characteristics without the others. External focus would enable a company to know what the appropriate value propositions are, yet with a high legacy and bureaucratic organization the implementation time of this would be very long or impossible. This leaves the market open to those more agile and swift, i.e. digital disruptors.

This study reconfirms some of the already existing characteristics from innovation theory, yet projects these into the theory of disruptive innovation in the digital domain. Thus, this is a contribution and further contributions have been made by initiating a study of these companies, and defining conceptual characteristics which were not established in the theory of digital disruptors. Hopefully this contribution can be used for further research to help establish a theoretical model for understanding digital disruptors, and through that understanding create the basis for its applicability, both for new ventures trying to enter a market and the established incumbents, so that they may know what they are facing.

8 Discussing the model

The purpose of this chapter is to discuss the conceptual model. The investigation created a new model for understanding digital disruptors, yet needs to be revised and further researched, hence being a conceptual model. There are areas that could be discussed, and this chapter will serve to discuss the most urgent of these areas. The areas to discuss are:

1. Life cycle state
2. Environmental conditions

These will be discussed respectively in the following subchapters.

8.1 Life cycle state

Companies change over time and at any given point the company will be in a certain life-cycle state. Each life cycle state will require certain characteristics. Recall the innovation life cycle (see, 4.1.4), describing three life cycle stages of the innovator and how the emphasis of innovation changes over time. Applying this way of thinking to the case companies it illustrates that most of the case companies span between the fluid and transitional stage. This is illustrated below.

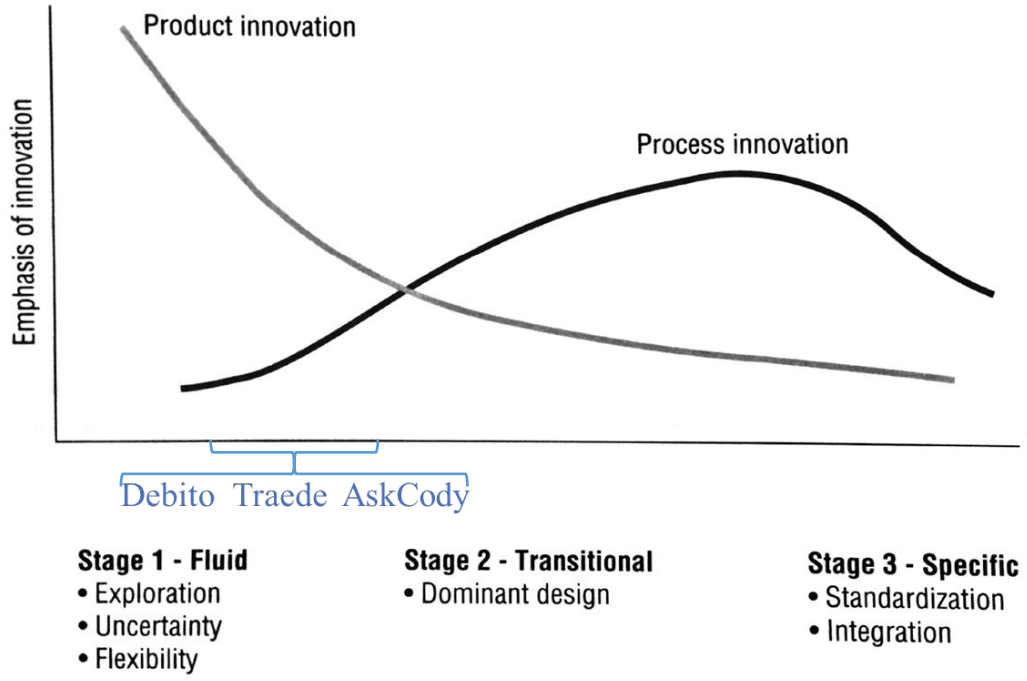

Figure 8.1 – How characteristics change over time (Own creation with inspiration from Utterback & Abernathy, 1975, reproduced by Tidd & Bessant, 2009:40)

Figure 8.1 illustrates where the case companies are related to the three life cycle stages. This also illustrates that the case companies are in the first half of the chart. In other words, the diversity is not large enough to

firmly conclude on digital disruptors in general, only in this particular span of the life cycle. Thus, needing a larger sample size to prove otherwise.

Each of the stages has specific characteristics, which is therefore also evident in the conceptual model. For instance, in the fluid phase, where most of the case companies reside, the dominant characteristics are for instance exploration, uncertainty and flexibility (Tidd & Bessant, 2009:40). This study reconfirms these characteristics. All the case companies used explorative approaches to find their niches in the market, which could explain the tendency to have an external focus and agility to maneuver into the appropriate market niches. "*One process is starting [red. the company] another is the incremental development of this*" (AM, 2017b;06:00). The ITO model can be used in two different phases, the startup phase and the development phase, which would correspond to the innovation life cycle model as pre-fluid (startup) and three respective phases in the figure 8.1. Some of the characteristics would change in dominance in these stages. The level of experimentation would be higher in the beginning, which corresponds to the stories of how the case companies began their ventures.

The conceptual model for digital disruptors echo some theoretical characteristics in regard to the life-cycle stage. The question is, what are the characteristics in the other stages of the life cycle, and if the digital disruptor eventually becomes the incumbent, and when? Much of the rigidity that is found in the incumbents is due to size, i.e. the number of employees. The more employees, the more silo-based the organizational structure becomes, and at some point, the internal flexibility becomes quite low, and without that, the agility is hard to comply. This could be input for further investigation, where it would be interesting to make a comparative study of digital disruptors in the three different stages of the innovation life-cycle.

8.2 Environment conditions

This study has sought to make a comparative study between companies to see if there are any similarities or differences. The study has provided findings that help improve the understanding of digital disruptors, yet the environmental conditions for each of these companies have not been included. Each of the case companies are in different industries, and each of those may not be directly comparable to the others. An industry is part of the external environment, and can thus work under different conditions. This could be important when assessing and comparing them. Each company is in a different environment, which works well when trying to fathom as broadly as possible, but each environment has certain conditions that pose different challenges to the companies within. The figure below describes some of the conditions that could be considered when comparing the companies.

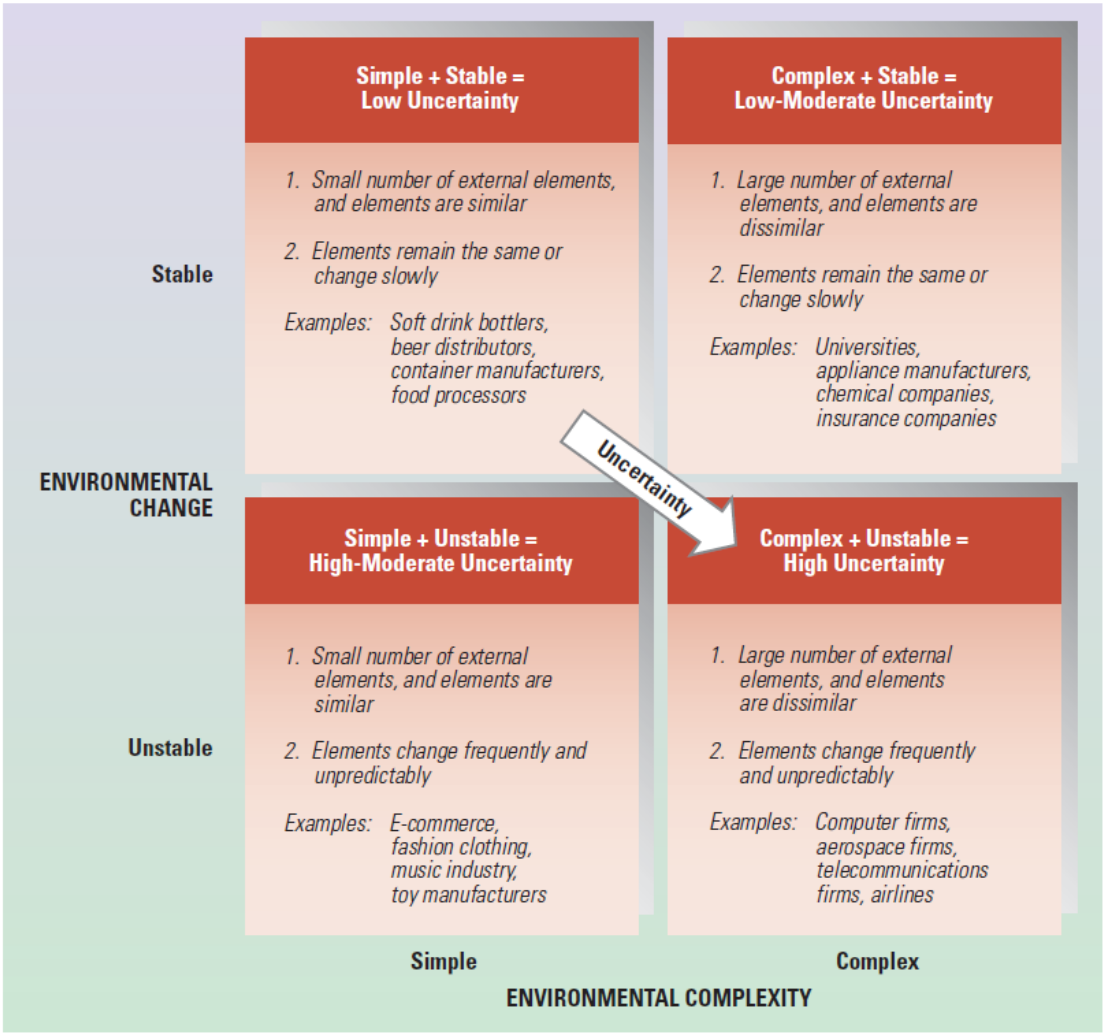

Figure 8.2 – Framework for assessing environmental uncertainty (Daft et al, 2010:150).

Figure 8.2 illustrates a framework for assessing the environmental uncertainty. Each of the four categories require the inherent companies to act in a specific way. The horizontal axes illustrate the environmental complexity from simple to complex. The vertical axes illustrate the environmental change from unstable to stable. The two extremes are thus 1) the stable and simple, which has low uncertainty and 2) the complex and unstable which has high uncertainty. For future screening of case companies, the considerations of whether these are comparable in terms of environmental complexity and change, would be appropriate to include. In terms of AskCody, Debito and Traede can all be argued as being in a complex-stable dimension, why they offer simplex models, yet the pace introduced in digital products are as previously argued exponential, so such a stable environment may become unstable as digitalization increases?

9 Reflection

Can an incumbent apply these findings?

The findings from this thesis outline differences between the incumbent and the digital disruptor. Some of the characteristics that enable a company to be a digital disruptor is in direct contract to that of the incumbent. Furthermore, theories such as that of the corporate immune system (Birkinshaw & Ridestråle, 1999) confirm that the built-in mechanisms and structures within a large company do not correspond to the agility of the digital disruptors. Based on this what are incumbents to do?

"G*ilbert's work, fortunately, not only defines an innovator's dilemma but suggests a way out. The solution is twofold: First, get top-level commitment by framing an innovation as a threat during the resource allocation process. Later, shift responsibility for the project to an autonomous organization that can frame it as an opportunity*" (Christensen & Raynor, 2003:113).

As the quote indicates the incumbent can succeed by creating a new autonomous organization that is not bound by the company's legacy system etc. can pursue such opportunities. The same is emphasized by Christensen & Kaufman's framework for organizational design (Christensen & Kaufmann, 2008:9). It seems to be too difficult to change the path of the incumbent, and therefore the opportuny lies with the creation of new ventures. The new venture will then be able to have the same characterstics as the digital disruptors described in the conceptual framework, but with one advantage – resources from the parent company. This can be a differntiator, but the probability of creating such a new venture relies on the risk willingness of the parent company. This is usually not high, and therefore creating new spinn-off organization are rarely found. There seems to be a tendency to create an internal business unit with focus on business development, but merely the aspect of being an internal company destroys the very purpose of having an autonomous organization, since this is still within the frame, structure and legacy of the incumbent.

If an incumbent is to be successful by applying the finding it is proposed to make an autonomous organization funded by the parent company but with few ties to this. The majority of the employees must not have a long-lansting worklife with the parent company, hence this will transfer the values and culture from the parent company. Primarily new employees, new ways of working and a geographically different setup would create the necessary distance from the parent company, and this enables new capabilities, values, culture and vision to be built. If an incumbent is riskwillingly enough this could be an opportunity. If not, another opprotunity is to purchase a smaller company that may show a threathening trajectory against the incumbent, and then overall business portfolio include two different companies under the same umbrella. In time, the business may want to extensively fund the newer venture that may be on a earlier life cycle stage than the incumbent.

10 Further Research

This report is the product of an explorative study giving a qualified and well-argued guess to what could be generic characteristics of the digital disruptors. In that sense, it will need further research to establish what could be generalizable characteristics. To do this the following is proposed:

1. Increase the sample size of the qualitative case studies to refine the characteristics
2. Create a quantitative study where each of the characteristics are scored on a scale, enabling a statistical factor analysis of which of the characteristics are dominant.

If the characteristics are generalizable after completion of the two points above, a theory could potentially be created. Again, it is important to determine what screening criteria are used, and maybe further segmentation of the digital disruptors is necessary, for example in regard to the external environment and its uncertainty. Another relevant segmentation could be to divide the digital disruptors of the future studies into the respective life cycle stages, since from the discussion of the conceptual model, the life cycle stage does affect the characteristics.

Lastly, the conceptual model may need to be revised based on further findings. The use of the ITO model may not prove to be appropriate when including other case companies.

I hope that this thesis somehow contributes to the theory of disruptive innovation in the digital domain, and that further research is conducted to understand the phenomenon better. More and more companies have digital businesses, and even established companies look into digitalization. By understanding digital disruptors better this transition might be improved and could help to create the basis for new successful ventures.

11 Table of figures

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13 Appendix

The appendix is found in a separate document due to the hand-in format.