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Title: Crossing the Chasm of Entrepreneurship

- A Nordic Software Company case-study

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Abstract:

The overall scope of the master thesis is to study entrepreneurship and relevant theories of such. This approach is used with a theoretical framework "Crossing the Chasm" and a case-study of a newly started business.

The research includes a problem field with relevant topics and a section with theoretical innovation and business frameworks that are applied to answer the stated problem formulation. An interview with the COO of the company and a target specific survey ensures the relevance of the findings and the indispensable use of strategical approaches to obtain market share growth.

The paper includes a three specific findings of a proposed business model, an overview of digital strategies and theoretical start-up strategies, which are based on the literature review, theoretical frameworks and empirical evidence.

The project is tied together by the case-study of a start-up company used to answer the stated problem. Finally, the master thesis is wrapped up with a discussion of the methodology and approaches and a conclusion on the stated research questions.

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CROSSING THE CHASM OF ENTREPRENEURSHIP

- A Nordic Software Company case-study

Master Thesis
Stud. MSc Eng. in Innovative Communication Technologies & Entrepreneurship
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Aalborg University Copenhagen
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Abbreviations list

AI	Artificial Intelligence
BCG	Boston Consulting Group
BT	Behavioral Targeting
B2B	Business to Business
B2C	Business to Consumer
CEO	Chief Executive Officer
COO	Chief Operation Officer
CORS	Cross-Origin Resource Sharing
CPC	Click Per Cost
CRM	Customer Relationship Management
CSR	Corporate Social Responsibility
CSS	Cascading Style Sheets
DPD	Data Protection Directive
EU	European Union
GDPR	General Data Protection Regulation
ICT	Information and Communication Technologies
IP	Internet Protocol
IT	Information Technology
NAI	Network Advertising Initiative
NSC	Nordic Software Company
PII	Personally Identifiable Information
PR	Public Relations
SEO	Search Engine Optimization
SMART	Specific, Measurable, Achievable, Realistic and Timely.
SME	Small and Medium Enterprises
SOTA	State of the Art
SQL	Structured Query Language
TV	Television
URL	Uniform Resource Locator

Figure list

1 Introduction

Advertising is everywhere, from the moment you leave your house or go online you are exposed to advertising and subconsciously making decisions about brands. There is no denying that the world has been digitalized and the possibilities of online marketing and its opportunities lay straight ahead. One of the possibilities is to brand your company on social media platforms or search engines to reach an ever-expanding audience. The problem however is, how do you ensure that your advertising and marketing is relevant and reaching the right audience? That is why digital marketing companies are in business and one of these is Nordic Software Company. (NSC) The company is newly founded and a perfect case to study towards digital strategies and more so on the challenges of entrepreneurship.

The master thesis will be centered around NSC and identifies the obstacles regarding a start-up company. The challenges are many, but the focus will be towards the services provided by the company and how the company can reach potential clients. The theoretical framework from Geoffrey Moore's "Crossing the Chasm" is included in the master thesis to understand the challenge of reaching more market shares and to create a strategy for the challenge. The composition of the research will include multiple areas of explorations and this research paper will include an in-depth interview with one of the founders of NSC to indicate how the research can benefit the company and why specific theories and strategies were chosen. This interview will be greatly influenced by the literature review about the company's services and applied throughout the research and analysis of the problem formulation as it gives the researcher an underlying understanding of the topic and in which directions the analysis should go.

The master thesis study relevant subjects taught in courses such as business models and one of the final outcomes of the project is a proposed business model for the company, which can certify NSC with a sustainable business future.

The case-study of NSC uses the findings of the research after the initial investigation phase, which beside literature reviews and an interview includes a survey with potential customers. After the analysis of the problem a discussion is applied to evaluate the study and the findings stated in the project. The paper is completed with a conclusion on the findings of the research, answers to the stated problem formulation and furthermore with a preview of future initiatives in the company.

2 Motivation

The subject chosen for the master thesis was inspired by the entrepreneurship studied in the master thesis program. The idea was encouraged by the studies in business development and I wanted to study possible roads to a successful and sustainable business. During previous research in the master program [1] I had studied a company who did not meet the initial expectations of their business plan and idea, so I asked myself how can a start-up overcome such obstacles? I got the inspiration to use the workplace where I am employed since the company (IC Gruppen) had recently created a subsidiary named Nordic Software Company, who specialize in digital marketing and would eventually incorporate artificial intelligence as a service as well. The inspiration was partly inspired by these services but a great influence was also the entrepreneur opportunities that a newly founded business provides me as a student with. There was a real excitement in the opportunity to apply theory learned in the courses with a real-time project of a newly started business and the Chief Operation Officer was open to changes and applying new knowledge to the business. The company specified their flaws and their willingness to listen to a business model that could help the company cross market barriers and create a sustainable business over time. The company had not specified a business model for their business as they have based many things on previous experience. These barriers were defined and the theoretical method of Geoffrey Moore "Crossing the Chasm" gave even more motivation to pursue the idea of a business model and help launching NSC into different market segments. Through the courses taught in the Business Development track on the master program I have felt inspired to practice entrepreneurship and see how different choices effect a business and hopefully create a successful outcome.

As an ICT student, the idea of using digital strategies to reach a customer segment or winning terrain is compelling to study. The digital strategies are based on complicated algorithms and the ICT background provides an advantage in the market as the algorithms can be better understood and altered when having knowledge about the mechanisms behind.

Inspiration was also found in the data gathering process as many of the interaction proved vital to understand the need of potential customers and how others have approached digital marketing beforehand. This was among other done by including a target specific survey where decision makers in different areas of business provided insight knowledge about their digital marketing experience and explained their hurdles.

3 Problem formulation

The following phrasing defines the scope of the master thesis and the central research question answered throughout the research is:

How can theoretical strategies assist a start-up company to expand market share growth beyond the company's personal network?

The master thesis will in addition to the central research question formulated concentrate on answering these sub-questions to give an expanded supportive knowledge on the processes of creating a new business:

How can a start-up company ensure a financial sustainable business defined through a business model?

How do digital strategies improve the possibilities of a successful marketing campaign?

4 Methodology

The next chapter of the master thesis will describe the methodology of the project and how the methodology is applied in the research. The expressed and written methodology used Saunders "Research methods for Business students" [2] as a major inspiration towards the approaches taken during the writing process. The book was chosen because it has a central substance of business research and development theory and because the book has several guidelines towards approaching projects involving businesses. The book does not provide specific facto but can be used as a guideline towards different research approaches, business strategies and data gathering methods. The major pint points from the book are how to organize and structure the research theory and methods, which can lead to answer the stated problem formulation. This research paper is a study of theoretical strategies applied to a case-study of a marketing company and the nature of research is business development research.

4.1 Preliminary research

The first step of the methodology followed the process of finding and refining research ideas. The research idea had to meet the requirement of the examining study program and after various methods of topic consideration the first problem formulation could be stated. This process started with a comparison of own strength and interest and it became clear that the topic should have entrepreneurship and daily life influence in order to motivate through the stretch of the project.
The next step was to look at how a title could be formulated, how literature could support the research and how own findings could be conducted. The research also received inspiration from previous projects and approaches as they were evaluated for their likeness and dislikeness. The research title was defined and the next step was to introduce a relevance tree [3] in which subtopics and research areas were mapped. An outline of the relevance tree is illustrated in figure 1, while the rest is represented in the appendix.
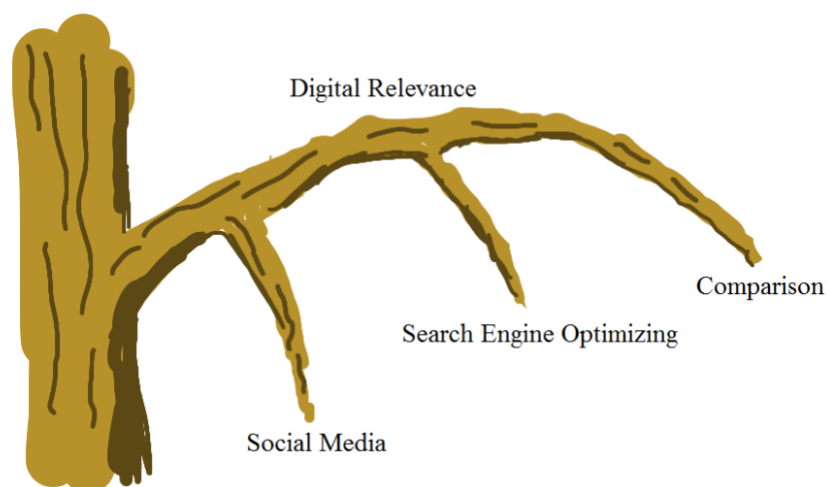

Figure 1

Before the research question can be formulated completely, the preliminary study needs to be conducted. In the preliminary study ideas was exchanged with Nordic Software Company as it was the company used in the case-study. This approach helped specify if the research questions were relevant towards the company. The process led to altering in the research and new ideas were implemented in the research. The research topic was formulated into research questions that could be studied through the "goldilocks" test. [4] The specific theory test and defines if a research question is either too "big", "small", "hot" or just right. An example of a research question too "big" was how the company could use AI marketing in the future as the timeframe of the project would be exceeded before the development of the technology has been completed. A case of a research question too "small" was how to create a start-up company as the findings are too simple to study and answer. Through this methodological framework, the research questions in the problem formulation were made.

Last but not least, the whole preliminary research was wrapped up with a process of defining research objectives. The research question and their sub questions were evaluated and their objectives were expressed for each of them to specify how they would contribute to the research. This was done using the SMART [5] test. SMART stands for **S**pecific, **M**easurable, **A**chievable, **R**ealistic and **T**imely.

Specific is what do the researcher hope to achieve when using this formulation.
Measurable is what can be used to measure if the goal has been archived.
Achievable is to evaluate if the achievements can be done given the constraints that might occur.
Realistic is whatever or not the specific question can be answered by the researcher.
Timely is to evaluate if the question and its objective can be answered within the timeframe given.

When the first research question was evaluated through the test the steps were as following. Firstly, the stated problem: "What are the entrepreneur challenges for the start-up company?" and the specific objective is in this research to gain knowledge about a start-up company, how different approaches can be evaluated and study the challenges. The objective was furthermore to apply theory towards market share growth and see the corresponding outcome. The measurable is how the objective of this can be achieved and for this case and for this specific question the outcome should be measured by its relevance and responsiveness. If the challenges for instance can be defined but there is no relevance to theory or changes it would not make any significant findings. This lead to an alternative formulation of the problem formulation: "*How can theoretical strategies assist a start-up company to expand market share growth beyond the company's personal network*?"

Achievable is how can the objective be archived for the first research question this means that the constraints of time especially are an obstacle, which means that many of the findings may be provoked in order to be researched within the time frame. Realistic is the possibility of completion which for the first research question is quite possible as the start-up already have gotten an idea of how to approach the market and the responses to these challenges are the contribution the

researcher would provide when answering the question. Finally, timely compare the objects with each other and the likelihood of completing all this within the timeframe, which may seem like a stretch for the first research question, but at the same time the timeframe allows the researcher to fulfill multiple of the objectives, which ultimately gives a satisfying result.

4.2 Literature review

The next section will describe the data gathering and the literature review, which is the next phase once the preliminary research has been done. Literature was already a major influence when creating the research ideas, but the texts need to be incorporated and critical reviewed. It is important for a researcher to understand that a research seldom reinvent the wheel, but uses and build on-top of other research. Other research can be altered, mortified or applied in this research to enhance the contribution. [6] Furthermore the research that is applied is relatable towards other research in the area, hence the need to review relevant research and literature.

The critical review process also ensures a more specific area of research as it narrow down the literature to relevant contributions only. The first approach to the literature review is to apply a research method that support the critical review, which can be done by identifying research ideas and theories to support the problem formulation using a deductive approach, which is an approach which develop a hypothesis based on existing theory and then applying research strategies to test the hypothesis. [7] This approach was also chosen for the master thesis. The opposite methodology of the deductive is the inductive approach, which subsequently relate to a researches own findings and contribution in a research. On-top of these new approaches are further research questions, new possibilities, insight on research approach and non-reputation of research already conducted. The inductive approach is based on observations and learned experiences through the process, which ultimately leads to a proposal of theories that can form a hypothesis. [8]

The different types of literature are included in the literature and data gathering section to specify what type of information that was gathered to support the findings. This is included to specify their sources and how information is interoperated before being applied in the thesis. There are three different types of literature: Primary, Secondary and Tertiary literature.

Primary: Primary literature is the first occurrence of sources to data and information; this includes emails, thesis, company reports and governmental statistics. Primary literature is hard to distinguish as they are often theses or result of a type of research. This is closely related to secondary literature.

Secondary: Secondary literature is journals, books or other publications which often is a collection of data or an outline of primary data. E.g. referred academics journals. Secondary literature is simplest to obtain and find as they are also found through tertiary literature.

Tertiary: Tertiary literature is encyclopedias like Wikipedia or bibliography of books, journals, research papers etc. and they are often used as an inspirational search engine rather than actual source of information in a literature review.

The master thesis uses all three sorts of literature. An example of this is Rodgers diffusion of innovation as a primary resource, which also is described in books for secondary literature. These relevant sources can be located through tertiary searches. This is a great example of how the thesis combines the three literature types to enhance the quality of research.

There are three main perspectives to conducting a literature review for usage in a research; *preview*, *annotating* & *summarizing*. [9] Preview is the first account with the literature where it is measured for its content, purpose and future contribution to the research. Annotating is the inner dialogue of a researcher when reading the literature to help understand the content and how it may contribute to research by constantly questioning the information received upon reading the material. The last perspective is the summarizing. The summarizing is to go through the thoughts and impressions to see if the perceptions are the same as the relevance and if the literature can be applied in the research. This approach was used when encounters of new literature and information was received to specify the relevance and possible usage of the information.

Lastly, the last thing to discuss in the literature review is the structure chosen. For this research, much of the literature was reviewed due to relevance of topic, reading the abstract and the chapter with the relevant information to determine if the literature could support the research. A common mistake is to apply a portion of others' research in their own work as it supports what a researcher is proposing even though it is not a new contribution. [10] The master thesis seeks to be different from such approach by providing own findings with a clear definition of how other researchers inspired and supported these. Throughout the thesis, the literature will be referred to and the contribution highlighted to give the reader an understanding of the critical review process.

The literature review gave different aspects to the research. Primary literature was obtained from Danish Statistics [11] and through studies of published master theses. Christensen & Seebach [12] was one of the theses with focus on Social Media Marketing in Denmark and Bång & Hell [13], who studied Digital Marketing Strategies and also had many relevant references about the topic.
The secondary literature was studies of books where the most influential were: "Research Methods for Business Students", [2] "The lean start-up", [14] & "Crossing the Chasm". [15] All providing different features to the study. Investigation in scientific journals revealed interesting subjects like IT competence in relation to innovation, [16] digital transformation of business

models, [17] from B2B to B2C using digitalization [18] and use of innovation products to crossing the chasm [19] among others.

The literature review illustrated that research had been done with the theoretical framework of "Crossing the Chasm" in areas such as heritage organizations, [20] beacon products in the music player industry, [21] Software education, [22] and supply chain security. [23] But the review did not specify any references to a study or research in digital strategies and the marketing business, which gave more motivation to include the framework in the research. The tertiary literature review was to follow potential interesting sources in the scientific journals and theses to obtain more primary and secondary literature.

4.3 The research onion

The data gathering and interpretation of such is a key part of a research and the reason for the describing section in the master thesis. Thus, this is merely the inner layer in the methodology as the whole research can be seen as a research onion. [2]
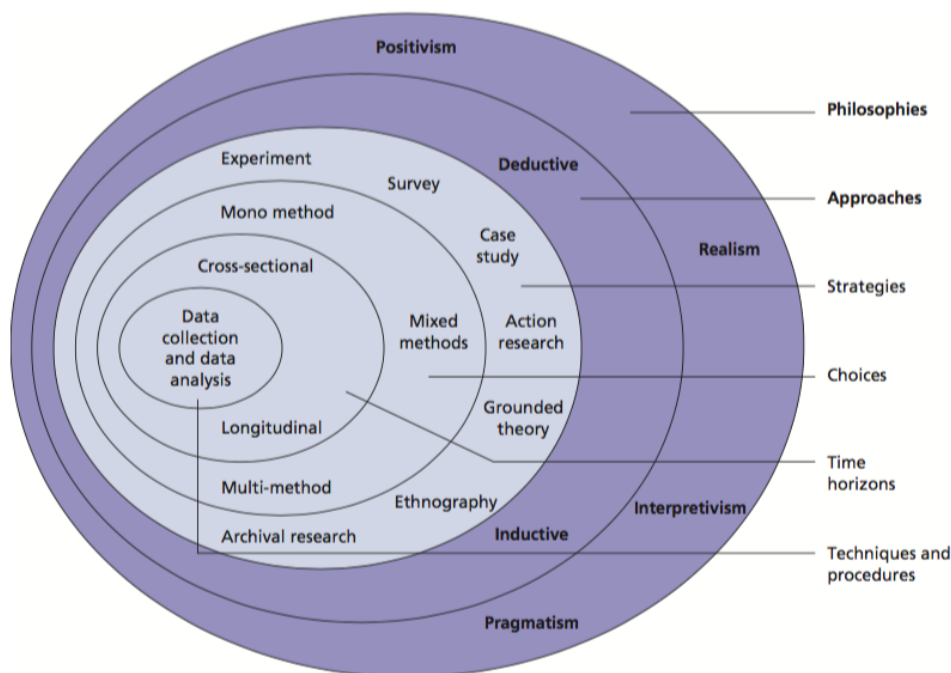
figure 2

The research onion has been a major part of the master thesis study at Aalborg University [1, 89] and is included in the methodology section due to its versatility and business management relevance. The next section will explain how the research onion was applied in the master thesis.

The figure 2 is an illustration of the research onion. The "onion" is a representation of layers in which different methods are evaluated for their contribution to a research and how such method would benefit the master thesis.

The outer layer of the onion is the research philosophy taken by the researcher throughout the process. These philosophies can be described as positivism, realism, Interpretivism & pragmatism. Positivism is an external, objective and independent view on social actors through only observable phenomena that can be evaluated through credible data. The data collection techniques are often highly structured in large quantitative measurements, but can use qualitative research as well. Realism is objective and the researcher's view is independent of human thoughts and beliefs. The philosophy argues that phenomena can create sensations that can be misinterpreted and hence focus on explaining within a context. The researcher might be biased towards other opinions or former opinions so the methods chosen must apply directly to the subject's matter.

Interpretivism, on the other hand, is subjective and might change the researcher's view through the research process, when he or she focus on the social details in a given situation motivated by subjective actions. The researcher is tied to the research and cannot be separated independently and the data collection is often small samples or in-depth investigations of a subject. The last philosophy pragmatism, which is following different views to answer the research questions best as possible. The researcher adopts both objective and subjective points of view and uses mixed or multiple data collection methods to answer the problem formulation. The research philosophy chosen for the master thesis is realism, because it uses the philosophical position in which the data gathered is objective and independent from the researcher's personal experiences. All data collected is understood through processes where they are evaluated for their relevance and personal objective of the data provider. Both direct realism, where what you see is what you get and critical realism, where there is a reason and experience behind the data is applied as statistical and non-numerical data are gathered. This approach was used in the gathering of empirical evidence as the answers from the survey participants and the interviewee are subjective of nature and it was important to understand their intensions and stances before applying the answers as valid facts.

The second layer is the research approach either deductive or inductive. The approach was described in the literature review section [Section 4.2] as a deductive approach. The master thesis uses the deductive approach by creating an overall problem formulation, which is reduced into smaller parts through the research and answered through analysis of the problem.

The third layer is what methodological strategy to choose, when conducting the research. There are multiple strategies to consider and more than one can be applied to a certain research. In this master thesis the strategies of *case-study*, *survey* and *experiment* are used to study the research questions.

The *case-study* strategy is a strategy for doing research involving empirical investigation of a contemporary phenomenon within its real-life context using multiple sources of evidence. [25] The case study strategy gives a rich understanding of the context of the research and its processes. [26] There are four case study approaches; single case, multiple case studies, holistic case & embedded case. [27] Single case study is a specific case study, while this thesis focuses on a

broader perspective and hence uses a multiple case studies approach. The second dimension could have been holistic, where a whole organization is studied. But in the master thesis the approach is more embedded case as it focusses on a subsidiary of a company and its specific function rather than a whole organization. The reason why the case-study approach was chosen was because it is a well-established technique, which provided the researcher with the possibility of applying a theoretical framework in a real-life situation.

The survey strategy usually deploys a deductive approach used mostly for explanatory and descriptive research. [2] Data collected is often standardized through questions and can be easily compered. Survey results are often authoritative by people in general, when they are represented in news or another context. The survey strategy collects qualitative data that can be analyzed using descriptive statistics. It is important the respondents are represented of the target group to provide the correct insight. The data collection needs to be designed and plotted to get a good response rate. The master thesis uses a survey to study companies' approaches to digital strategies and this empirical evidence could be used to answer the stated research questions or at least support the findings of the thesis.

The reason to conduct an experiment is to study casual links and how changes effect a dependent variable. [2] The experiments are often exploratory and answers "how" and "why" questions. A classic example of an experiment is to compare two groups or instances to see how they react to different input independently of each other. The master thesis does apply an experiment of different market share growth strategies, but due to the limited time available for the study the results of the experiment cannot be included in the thesis as relevant findings.

The succeeding layer of the research onion is the methodical choice chosen, where a researcher specifies what type of data collection is used in the thesis and how it will be applied. There are two main methods of methodical choices: qualitative and quantitative. Qualitative is a research method in which an in-depth approach is undertaken towards the research topic, when answering the stated problem formulation. This approach provides the researcher with a more detailed data focusing on soft values in a non-numerical sense. [24] The quantitative method is a more statistical approach focusing on the broader perspective with numerous inputs. As the master thesis focuses on different aspects in its research the need of both methods is clear, hence the use of a mixed-method strategy. The qualitative will be used when interviewing a stakeholder from Nordic Software Company and when gathering soft "information" from some of the target specific survey participants. The quantitative method will be used in the survey for statistical purposes and in some of the data gathering to get an overview of how different approaches have worked in the past.

The fifth layer is the time horizon of the master thesis and in which timely manner the project will be done. The cross-sectional time horizon takes place in a given time period and can be used for case-studies and surveys. The other time horizon is the longitudinal time, which uses an extended time-period from one time to another to study certain consequences or to study how an

environment acts towards change, so its main strength is the capacity to study these changes and development. The master thesis follows the longitudinal time horizon as it studies the changes in the Nordic Software Company during the master thesis and how theory applied. [28]

The sixth and final layer is the data collection and the approaches chosen. [Section 4.1, 4.2] This layer was already described earlier in the methodology due to its importance to the master thesis and its extensive length.

5 Problem field

The problem field is included in the research to enlighten the reader towards different subjects relevant to topics of entrepreneurship and digital strategies. The subjects illuminated in the section will be further included and studied in the master thesis and this section illustrates the main principles of the topic of interest. The reason to include the problem field is for the reader to obtain a basic knowledge about the founding ideas behind the knowledge used in the analysis. The problem field contains all the relevant subjects discussed and used with empirical evidence to create the analysis and answers to the problem formulation.

5.1 Nordic Software Company

figure 3

Nordic Software Company is the company used in the case study to apply relevant theory for their current situation. NSC is a newly founded marketing company from February 2018, which focusses on digital strategies and eventually artificial intelligence to market companies. The company is located in Brøndby and has one permanent employee, which is the COO Tristian Sommer, but multiple external partners exists as well. The NSC is a subsidiary of IC Gruppen [d1] - an IT-consultant house established in 1998 – which main function is to act as an outsourced IT department for other companies. NSC motivation is "to help companies into the future".

The company has three major business services; *digital relevance*, *website content & development* and *artificial intelligence*. [29]
Digital relevance is helping companies set up social media campaigns, analyzing their present online, SEO [d2] analyzing of websites and other content development.
Website content & development is creating websites and webshops that reflects the business' intention and create content that fits the customers' digital behavior.
Artificial intelligence is a service the company work with together with Anders Kofoed-Petersen [d3] which eventually should provide users with innovation processes of their products by using machine learning in the daily operations.

The company was established with the intentions of helping their customers fulfill their growth potential by using State of the Art digital solutions. The company believes their digital strategies can make a large difference for their customers. The goal of NSC is to be "a name to be reckoned" in the line of business within 24 months. [Section 9]

5.2 Digital algorithm

The next section of the master thesis will study the digital algorithms used when creating target specific advertising through social media sites like Facebook [d4] and retail sites. The section will at first explain the reasoning behind these algorithms and then eventually explain how the algorithm works in theory on different platforms.

The reason why advertising digital strategies are important using digital strategies is because users are more likely to buy products through search engine links (paid or organic) rather than through email or other approaches [30]. The same study showed that paid searches gave a more goal oriented customer base, which the study defines as users who had the most page views and product views and 18-24% of these users are likely to make a purchase or engage in contact with a company. [30] The study also showed that thus more specific the advertising was thus more a likely purchase would happen. The more information available about the user behavior the more specific the ad could be. Example; one user might buy one specific item and is taken straight to the checkout, while another user could be directed to the invertor or contact site based on previous behavior.

Predictive algorithms like these cannot only be used for shopping but also for recommending a new movie on a streaming service or other services, but the way to a successful algorithm is the scope of data available.

Data can be collected in multiple ways, one of the most (in)famous examples of behavior predicting algorithms being used is from the United States based store Wal-Mart. Wal-Mart has over 3600 stores with over 70 million customers each week meaning a collection 460 terabytes stored since 2004 on customer behavior. [31] Through data mining and algorithms Wal-Mart can predict costumer behavior during different occasions and can push the supply accordantly to the demand.

Another reason to understand digital algorithms is because the social media and search engines can limit the organic reach for a company as the reach is limited by the business model [32] from the publishers.

By January 2018 Facebook's ad rates had increased 35 percent in the last quarter alone. For that reason only a marketing strategy on Facebook should be target specific or it would be an expensive and wasted digital marketing strategy. Greg Allen, head of social for JellyFish argues there is a shift in traditional social media marketing as paid content will be the only company exposure in peoples' newsfeed. [32] Companies and other pages can also choose to "boost" their

posts for a larger audience, but with less organic reach it seems almost impossible to maximize the reach without knowing the audience as ads rankings are not driven by user engagement but rater user relevance or even just the higher paid rank. Never the less the study of digital algorithm proves to have great relevance for any type of digital advertising as a newly started company can exploit this knowledge to increase the adoption rate.

5.2.1 Target marketing

The target market is a conceptual key part of marketing management, which is the market within the serviceable available market that a business has decided to pursue. Target market is built with shared characteristics based on numerous attributes that identifies these as most likely customers.

The idea of a target market is routed in the basis that target marketing can increase the efficiency of marketing resources and reduce time, cost and effort to reach potential customers. [33] Targeting also makes it possible to study user behavior based on the data collected about the user. There are many ways to segment the target market, but the five most common are geographic, demographic, psychographic, behavioral segmentation and product-related segmentation.
Geographic is related to where a person lives, which is relevant for Nordic Software Company as they want to target companies in the greater area of Copenhagen.
Demographic is age, gender, race and such specifications, which is relevant for NSC if they want to exclude kids or people who do not have the right occupation or decision ability to decide whether to buy a product or not.
Psychographic is values, religion and lifestyles and can be relevant to target customers who are willing to try new things and not bound by tradition.
Product-related is as the word suggests the relationship the customer has with the product.
Behavioral targeting is the last type and is based on users' online behavior and how they use different occasions to buy certain product. Behavioral targeting is especially interesting for NSC as it is also part of the marketing algorithms and will be explained further in the next section.

5.2.2 Behavioral targeting

One of the techniques using algorithm is behavioral targeting (BT) in digital advertising. Basically, the goal of behavioral targeting is to increase the effectiveness of a digital advertising campaign. These behavioral target campaigns are based on information on the user collected through web searches and browser behavior. Cookies [d5] are the main data collector for user behavior is registered. Cookies are bits of text stored on the client side which are created when a user makes a HTTP request towards the website the cookie is from. There are two types of cookies; *session* and *persistent. Session* is the cookie type which is stored in temporary memory and deleted after the browser is closed. Such cookie does not collect personal identifiable information (PII) but is

rather just used for session identification. *Persistent* cookie is the other type stored on the hard drive until its predefined lifetime expires or it is deleted by the user. These are used to monitor website usage, preferences and many behavior related characteristics.

A cookie consists of six attributes: name, value, expiration date, the path validation, the domain validation and if the cookie uses a secure connection. These features can ensure user modification on websites to increase user experience but the most controversial use of these cookies is the tracking of user behavior. These are often third-party cookies allowed by website owners to track advertising and used for marketing purposes. Nordic Software Company could use third-party cookies on their clients' website and retrieve the information using CORS specification. [34] The term is referred to as cookie profiling as NSC can then use this information to target or retarget potential customers.

The cookie could also be installed in the clients website frame by a setcookie() command and specify $name(string), $value(open value), $expire(integer) and the other three attributes related to the cookie. The NSC uses either WordPress or CSS to create websites and an example of a WordPress cookie is:

```php
<?php

function wp_set_all_cookies() {

if ($_COOKIE["viewed1"] != get_the_title()) {

setcookie("viewed3", $_COOKIE["viewed2"], time()+3600, "/", ".nordicsoftwarecompany.dk");

setcookie("viewed2", $_COOKIE["viewed1"], time()+3600, "/", ".nordicsoftwarecompany.dk ");

setcookie("viewed1", get_the_title(), time()+3600, "/", ".nordicsoftwarecompany.dk ");

}}

?>
```

This creates a cookie valid for an hour tracking the behavior of the user on the next three websites visited after NSC's own website.

CSS uses JavaScript [d6] and an example of a cookie installment could be: [35]

```javascript
function setCookie(cname, cvalue, exdays) {

var d = new Date();

d.setTime(d.getTime() + (exdays*24*60*60*1000));

var expires = "expires=" + d.toUTCString();

document.cookie = cname + "=" + cvalue + ";" + expires + ";path=/";

}
```

To get the data NSC can then issue a get command which return the value of the cookie if found. These values could be stored in a SQL database while the marketing campaign is running.

Then merging this information together with the conversation tracking in Google AdWords [36] and the tracking of user behavior in Google Analytics to increase the conversation rates of visitors and in order to provide the user with the most relevant advertising experience. Most targeting campaigns combine this information with demographic and geographic information.

A digital advertising campaign can choose to either make user segmentation or user segments ranking. One is to segment users according to behavior while the other is to target user segments for advertisement. There are many commercial BT systems and techniques for data gathering and this section of the master thesis seeks to enlighten the reader about some of these.

Related to the Google AdWords [section 5.3.2], Google Inc. allows "internet-based advertising" (BT) for its advertisers [37], which is also auctioned of as seen in Google AdWords, but the information of user interest is included based on online behavior. A user survey by Goldfarb and Tucker [38] showed a 165 higher change of a user buying a target specific product, while Yan et. al showed that behavior targeting advertising increase the click trough rate by 670 percent. [39]

Even though behavior advertising increases the user experience, the users often raise privacy concerns in regards to the data collected and the monitoring of their behavior. [40] This has led to man changes in laws, most recently the large General Data Protection Regulation by EU, which is enforced 25th of May 2018. [Section 5.4] The value of behavioral targeting was studied by Howard Beales in 2009 and his findings was first published in 2010. The major key findings were that the advertising rate was 2.68 higher for BT compared to regular network advertising. The study also found that behavioral targeting is more powerful than standard network advertising and scored a clear appeal for advertisements. The survey used information from the Network Advertising Initiative (NAI) members to obtain data. [40]

Chen and Stallaert [41] studied the process behind BT and one of the most interesting studies were the equilibrium payoff under behavioral targeting. In this case, the researcher assumes that the advertiser had collected information about users' behavior and user preferences. The advertising slot is sold through an auction as seen in AdWords. Specifiable, the highest payment for user *j* is presented in the advertising slot for different users, because they differ in their preferences. The auction raises two problems: winner determination and the price determination problem. When auctioning the ad the publisher chooses is with the highest expected value and the notion that: "the comparable value assumption, any user *j* located between advertiser *i* and *i + 1* must be assigned to either advertiser *i* or *i + 1* in equilibrium." [41]

The study of digital algorithms showed there had been made many different research attempts about algorithms variating from relevance to pricing. The section illustrates the possibilities of algorithms, but at the same time exemplifying the huge underlying possibilities of algorithms that

the common folk do not control and have knowledge of. These findings can be used when creating strategies and making policies about data management.

5.3 Digital business strategy

Digital business strategy is a business approach towards the increasingly evolving digital world and is part of a business's overall strategy. Digital business strategies are also known as digitization and its main focus is on enacting on digital transformation. The digitization thrives on disruptive models on different types of strategies. These strategies can be divided into five different types: [42]

1. New marginal supply: Businesses use their online platform to tap into sources of income that previously was unreachable. An example of this could be to offer resell of products for customers to other customers through the business platform.

2. Platform play is a strategy that uses a platform to extend income through network effects. An example of this is a restaurant joining "Just-eat" [43] to expand the customer base.

3. Digital distribution channels: Using video, audio or software to distribute media content to obtain more exposure and reach a larger audience, this could be radio spots or online marketing.

4. Rebundling and customizing: Using IT technology to provide a better service for the user, like specific content based on cookies among others.

5. Digitally-enabled products: The last strategy applies to products which apply other technology to an existing product like providing weight in scales with Bluetooth so that results can be stored on a smartphone.

There are many guidelines to build a digital strategy but it is important to build your costumer personas to represent what an ideal costumer is. This should be reflected in a target audience research. The research should include a mixture of possible costumers, prospects and newly audience. B2B analyze would depend on quantitative and qualitative information. Quantitative of job titles, location and size of business to find the most relevant. Qualitative could be goals, priorities and interest of a company. The second step is to identify the actual goals of the marketing and digital strategy. The goals should reflect the effort and resources a company is willing to invest in its strategy.

Thirdly, the company can evaluate what existing marketing assets are possessed by the company. This can either be owned, earned or paid media. Owned media is either own website, social media platforms, blogs among others. Earned media is the exposure through word-of-mouth, which you

did not pay for like mentioning on other websites or other PR. The last type is paid media, which is money spending on attracting new customers through advertising, social media etc. A company should gather the information on each media type and decide which to incorporate in the future. All three can be incorporated when creating the strategies as you can create context on your owned media, make it shared through earned media and even expand to reach a large audience through the paid media.

The digital media strategy is deeply rooted in the owned media and the fourth step is to plan how to use the owned media. Using the context in a positive manner could make visitors into possible customers. The company should plan whether different factors are necessary to focus on like "About us" sections or other investments should be taken. The company should make an analyze of its existing content on possible gaps towards the preferred target audience. The fifth and six steps are to audit your earned and paid media in the same manner, before finally bringing it all together.

The final digital strategy should consist of five points. Clear profile of the customers, specific marketing goals, overview of exiting media and audit and a content creation plan for the strategy and further plans. [44]

5.3.1 Facebook Advertising

The Facebook advertising algorithm is interesting to study as it is the social media platform with the largest audience reach, which potential could mean that targeting the right costumer segment would provide valuable interaction with the marketing campaign. Mark Zuckerberg, founder of Facebook, announced on January the 12th that Facebook would alter its representation in its news feed to be more conversational instead of public promotional. [45] Facebook has not made any direct statements on how this is going to affect their marketing campaigns for companies, but a few hints have been studied to show the "future" of Facebook marketing.

5.3.1.1 The future of Facebook marketing

The Facebook algorithm has a clear goal for its user and that is to keep them engaged with the platform. Facebook uses different data point to decide what relevant content a user should receive so he or she would engage in most activities on the platform. The data points are looking at average time spend on content, time of posting, number of likes, comments, replies and how informational the post is among other. [46]

In the future however the main data point will be; *activity*. Activity is the main feature of Facebook interaction with commenting, shares and reactions. Comments will be key for a marketing campaign as meaningful interaction will be evaluated higher over other interaction.

The new type of algorithm will force marketers to switch to intractable content instead of popularity content. This can be done by 9 different steps defined by Nick Schäfferhoff. [46] The following is an outline of the most relevant key pointers. Something that might seem trivial is that

a marketer must post high-quality content with a meaningful message or it would be unlikely that it would be shared as seen in the figure 4.
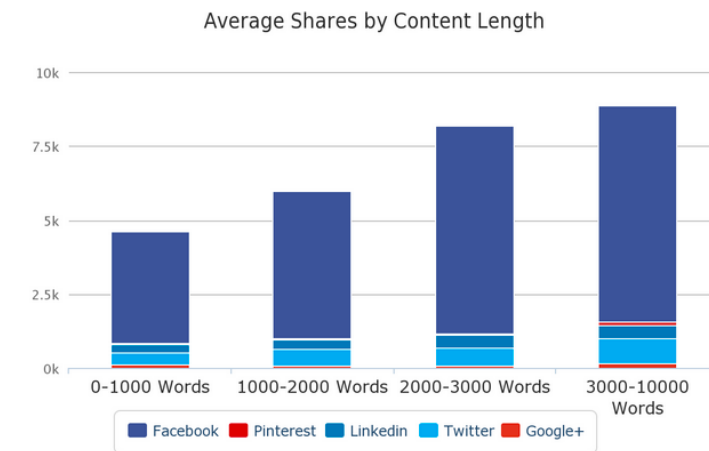
Figure 4

Since Facebook will focus on interaction the content by marketers also needs to be interaction worthy. Regular Facebook users would notice that almost all brand posts have questions or "tag your friends" labels to get more user interaction. The posts are also often timely to the season or a hot topic to gain user attention – new marketing branding can also focus on personal stories as brands try to be more in touch with the common user, which also means replying to comments and interact with the users in other ways. A company can also create groups or communities where people of same interest as the company can join and discuss their common interest unaware that the company has a hidden agenda with the community. As organic marketing is declining a company should focus on paid content and the next section will describe the functions of paid marketing and why Facebook is the social media leading advertising option.

5.3.1.2 Paid content

The usages of Facebook as part of advertising has increased rapidly and in the last quarter of 2017 companies spend more than $9 billion alone. [47] With 800 million daily users Facebook has a large potential which has been recognized by companies. [Section 8] The larger the crowd thus more difficult the targeting, but Facebook offers many layers to their advertising to ensure the relevant users are engage. To underline why Facebook is the number one social media targeting platform is the survey by Social Fresh, [48] which showed 95,8 % of marketers identified Facebook (when asked to pick three options) as the best platform to obtain return of investment on their campaigns, beating Twitter at second with almost 30 %. [Fig. 5]

Social Media Platforms that Produce the Best ROI According to Social Media Marketers Worldwide, March 2016
% of respondents

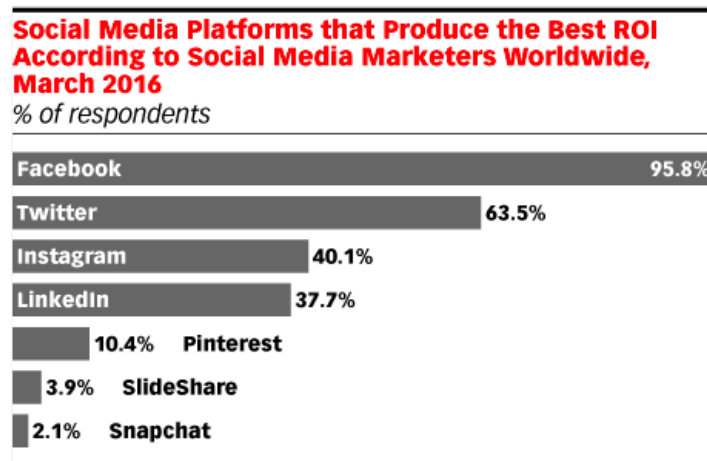| Platform	%
Facebook	95.8%
Twitter	63.5%
Instagram	40.1%
LinkedIn	37.7%
Pinterest	10.4%
SlideShare	3.9%
Snapchat	2.1%

Figure 5

Facebook offers 10 different ways of marketing brands and businesses based on the objective of the marketing campaign: app install, brand awareness, conversions, engagement, lead generation, reach, product catalog sales, store visits, traffic & video views.

A marketer can choose between the different marketing types depending on what success criterion the campaign has. Examples of this could be engagement to reach a larger audience that can like your company page or promote an event or basic store visits, which will attract the user to the company's physical or web store. For each campaign type, there is a campaign goal.

Beside choosing company type the marketer also needs to pick advertising type. As it can be multiple different content posts such as; photo ad, video ad, slideshow ad and leads ad – which all have their pros and cons based on their usage in the company.

5.3.1.3 How to set up an advertise on Facebook

There are four steps to setting up an advertise. First you choose your company object where you either pay for the action or the exposure your advertise gets.

You can also choose between advertising to your page likers or to a new audience in the second step. The second step also includes the option to brand your business to a look-a-like audience that you have specified. [48] The marketer can choose to pick a custom audience based on people connected to your page or client emails, information etc. The look-a-like audience is especially useful if the audience you are targeting has a lot of common characteristics.

The third step is to set your daily budget and schedule for the marketing campaign.

Lastly, the marketer must choose what type of content (photo, video etc.) the ads will be featured as. A company should always test the different features to see what creates the most value. This section will provide further value when discussing what digital strategies to apply for a start-up company.

5.3.2 Google AdWords

Google AdWords is the search engine's advertising system and generates revenue through a pay per click system. The system was launched in 2000 and is now the main income of the Google concern. The auction of the Google AdWords made roughly $43.7 billion revenue in total earnings. [49] The following section will describe the steps of the AdWords auction.

Firstly, the whole auction starts with a search query from a user. The search engine deems if there are enough relevant advertisers present to hold an auction once the user search for something. The second step is for the search engine to identify keywords and the Google algorithm determines what keywords from the AdWords account are the most relevant and enter that word into the auction with its maximum bid size for a cost per click (CPC). [50]

Once these steps have been done the process is a little more complicated. The Google ranking system will then determine what advertise to post first based on its ad ranking algorithm. The algorithm is based on "max bid times quality score". The max bid is specified by the account holder, while the quality score (from 1 to 10) is based on keyword relevance, URL + user experience. If your "max bid times quality score" = the highest ad rank then your advertise will be shown first.

The max bid you made does not mean you will pay all the CPC. The price is based on another algorithm which is the ad rank below you divided by your quality score + $0.01. Which means if you pay $1 CPC with a quality score of 10 and the account below you has an ad rank of 5 you would pay "5 divided by 10" + $0.01 = $0.51 per click on the ad.

5.3.2.1 Other features

The Google AdWords campaign offers a large range of other features for its users. One of these is excluding IP addresses [51] from the advertising campaign. The campaign offers geographic exclusion, but a company can choose to be more target specific by excluding specific IP addresses. If the company is aware of different networks (High Schools, rival companies or other) without potential costumers they can choose to exclude these IP addresses for clicking. The company might also have employee portals or other regular used features by non-profitable users, which can be excluded so the ads will not be shown and costs of these clicks can be reduced.

Another feature of the AdWords system is the AdWords Express where businesses who do not have the resources to conduct the campaign by themselves can pay Google to automatically managed the keywords and where an advertise will be placed. Google offers a free setup if a business commit to a daily budget of $10 per day. The AdWords Express is simply based on a story created by the company and submitted to the Express team. Google then promise the campaign to stand out on the web and that the companies only pay for results of potential customers.

5.4 Legal terms

The following section will study the Danish law regarding cookies and collecting of user information used in digital marketing. The information will be complimented by the General Data Protection Regulation (GDPR) from the European Union (EU), which will be enforced the 25th of May 2018.

The reason for this study is to understand the legal mechanisms behind the storage of user information used for behavioral targeting in digital strategies and general data management for a newly started company. The master thesis seeks to study how to overcome the innovator stage of diffusion and to reach the early majority for a start-up company with the usage of digital strategies and marketing among other. Hence the legal aspect enlightment in this section is related to this process.

In the Danish law the legal text about storage and collection of user information through cookies are written in law number 169 from the 3rd of Marts 2011 about electronic communication and services. [52] Most important is §3 which defines that no physical or legal person may store information or obtain already stored information on an end user's terminal system [d7] or let a third party obtain these without the end user's consent after they are presented with adequate information of the storage. The adequate information is clear text about why the data is stored among other. The formulation is interesting for a start-up company as they probably will not collect the information themselves, but will still be reliable if a third party collects end user data for behavior targeting advertisements. The punishment for breaking the law is a fine imposed to the legal subject or company.

Consent is also the core tenet in the GDPR [d8] and has its offspring in the Data Protective Directive [d9]. (DPD)

The legal basis of the GDPR is based on Article 16 TFEU [53]. The Article 16 TFEU is based on data protection laws derived from the Lisbon treaty. The article encourages new rules to be formed related to free movement of personal data from member states and private parties. Therefore, the approach and reason to apply the GDPR is because it is the most suitable way to define the framework for protection of data in the EU.

The reason the Commission issued the process of a new legal framework was also to provide a greater certainty of how data processing is done by coordinating the rules within the EU member states. The right to have personal data protected is not an absolute right in the EU, but personal data must only be used in its purpose in society. Grades are reserved the teaching institution, criminal records the police and so on. This right is already reflected in the European Charter of fundamental rights Article 8 which reads: *Such data (Personal Data) must be processed fairly for specified purposes and on the basis of the consent of the person concerned or some other legitimate basis laid down by law. Everyone has the right of access to data which has been collected concerning him or her, and the right to have it rectified."* [54]

The GDPR consists of 11 chapters with 99 articles and 26 definitions, a large build on top of the original 7 chapters of the DPD. The chapters in the GDPR are widely including "rights of the data subject", "controller and processor" & "cooperation and consistency". To understand the new contributions of GDPR it is important to study the dissimilar points in the laws from each other. The regulation is important to understand for any business involved with IT or data processing as the difference between an EU directive and an EU regulation is that a regulation is immediately applicable and enforceable by law, while a directive is only applicable. [55]

The GDPR regulation wants to empower data subjects by giving them control over the process of their own personal data. The previous directive under DPD gave member states the option to legislate their own data protection laws, while GDPR intend to uniform protocol mechanism.

	GDPR	DPD
Topic	General Data Protection Regulation	Data Protection Directive
Name	REGULATION (EU) 2016/679	DPD 95/46/EC
Enforced	Adopted 27 May 2016, 25 May 2018 enforced	Adopted 24 October 1995
Chapters	11	7
Definitions	26	8
Articles	99	34
Applicability	Processor and controller	Processor and controller

Table 6 [89]

The table 6 is an illustration of some of the basic information regarding GDPR and DPD. The GDPR changes many of the formulations from the DPD to give a more modern update on different topics.

In the DPD the role of consent is not defined clearly while the GDPR focus on "ambiguous" consent and demonstrate how a valid consent is an important obligation. The GDPR defines consent in Article 4 (11) as: "*any freely given, specific, informed and unambiguous indication of the data subject's wishes by which he or she, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her*". [56] There are two main new definitions applied in the GDPR: unambiguous and statement of clear affirmative action. Unambiguous meaning that the user shall have no doubt in regards to what data is collected and why. The statement of clear affirmative action is the second expansion to the definition as a company cannot define silence, no-actions and pre-ticked boxes as an indication of consent – users must have given a clear acknowledgement before any of their data can be processed.

The GDPR also explain if and when a child can provide a valid consent or if a company needs to have consent from the child's parents in order to collect data.

The GDPR also defines the "right to be forgotten" more detailed as DPD only mentioned that a user can have incorrect data erased when requested. [57] The GDPR has a total of seven conditions that a user may pursue if they want their data to be erased. The "right to be forgotten" is not an absolute right as there are some cases where the data cannot be erased like medical records. The biggest difference between the two legislations is the specification of 18 new definitions in Article 4. [53] The GDPR still uses 6 definitions from Article 2 in the DPD (controller, processor etc.) 2 definitions have been expanded (consent, personal data) and 16 completely new definitions have been added to the GDPR, which includes profiling, information society and personal data breach. These studies of the GDPR will be important for any company using digital strategies as these strategies are tied with personal data and it is important to comply with data management before applying digital strategies.

5.5 Business models

The following section includes different types of business model frameworks that will be described in their theoretical function to narrow down to a business model framework that can be used to study Nordic Software Company's business model. "A business model describes the rationale of how an organization creates, delivers, and captures value." [58]
This study should include the use of digital strategies as part of the business model, which will be relevant for the case-study but also as an asset to other companies who wants to overcome the hurdles of marketing.

5.5.1 Business model canvas

The first type of business model framework that could be used when creating a new business is the business model proposed by Osterwalder et al. which can be described through nine basic building blocks. [58] The nine basic building blocks are:

1 *Customer segments*: An organization serves one or several Customer segments, which as an example could be niche market or multi-sided platform.
2 *Value propositions*: How to solve customer problems and satisfy their needs, which as an example can be price, design or performance customization.
3 *Channels*: How are the value propositions delivered to customers, which could be types of partners (B2B, B2C) and how the information is communicated to those.
4 *Customer relationships*: How are the relationships between business and costumer for each segment, which is how the relationship with the customer are formed and maintained once established.
5 *Revenue streams*: Revenue streams results from value propositions used or bought by customers, an example is many users create advertising revenues.

6 *Key resources*: Resources are what assets that are required to offer the elements of a business to its customers, which could be employees, servers or even copyrights.

7 *Key activities*: Activates are related to the resources such as production and problem solving.

8 *Key partnerships*: Outsourcing of different business elements can be possible; an example in this case could be a marketing company handling the digital strategies.

9 *Cost structure*: The business model elements results in the cost structure, which can identify expenses and whether the company is cost driven or more value driven.
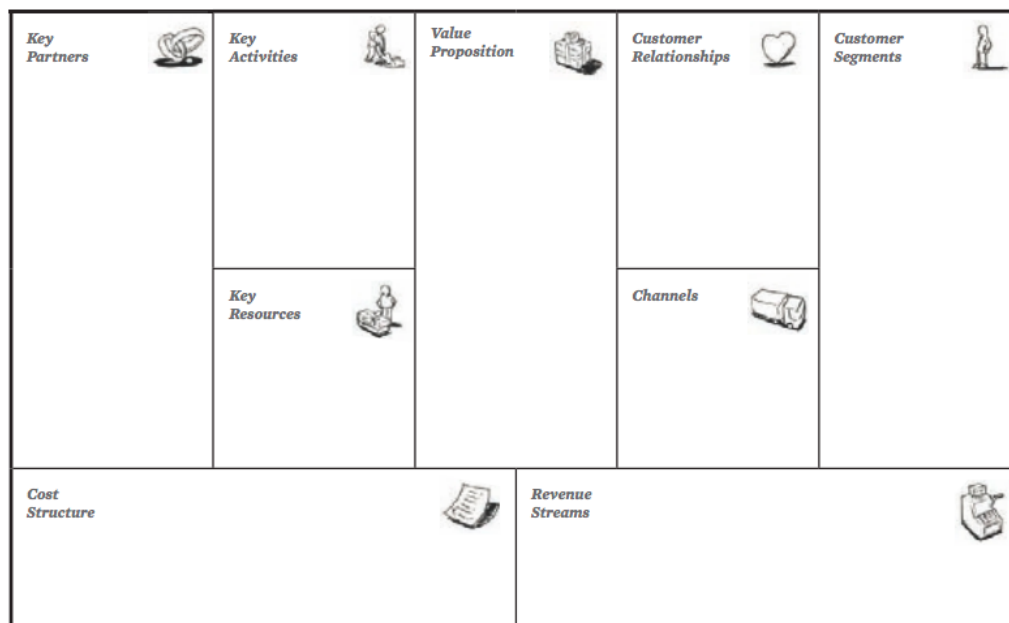
Figure 7

The figure 7 shows an overview of the whole business model canvas. The left side of the canvas represent the efficiency side of a business, while the right side is more value focused. Once the business model canvas has been created a business can choose to strategically plan its business model. One value driven business model is the "Bait & hook" [59] model in which the value proposition reach the customers through the revenue stream by providing free or cheap samples and once the relationship is establish the company can create contractual lock-in for subscription or a higher price on the follow-up product. The business model canvas creates a great overview for a new business to create strategies, but lacks investigation of financial sustainability and other key factors of a business.

5.5.2 Holistic business model framework

The second business model framework is a business model created to the creative industries to deal with the digital transformation. The model is developed by Feng Li [17] and focus on how business models have changed and what role digital technologies play in business model innovations. The holistic business model framework defines three constructs layers to study. The

top layer is the *value proposition*, which is known as product offering, revenue model and target segment. The second layer is the *value architecture* includes how value is sensed, created, distributed and captured. And it is supported by the *functional architecture,* which is customer relations management, infrastructure of production and product innovation & commercialization.
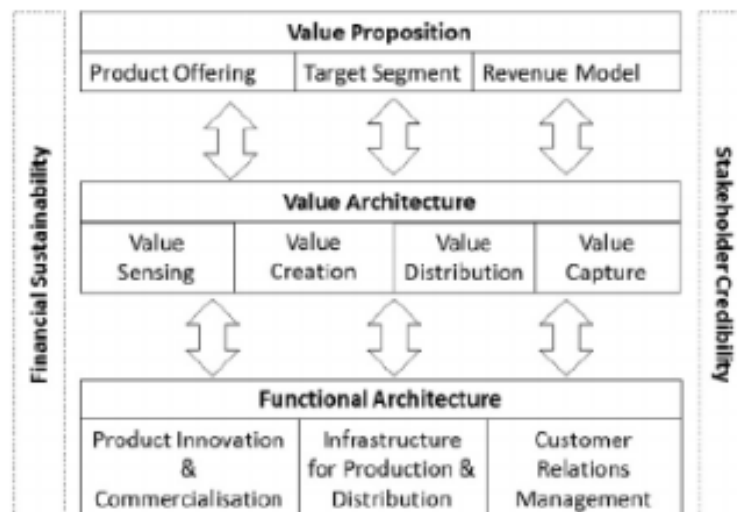

Figure 8

As seen on the figure 8 Feng Li argues that one of the most critical criterion for translating commercial opportunities into revenue generating activities is to have a clear plan of how the company is going to be *financial sustainable*. A business model is only worth anything if it generates more revenues than costs or adding new value that will eventual create a positive turnover. The other factor is *stakeholder credibility* as a company should study how they can maintain confidence in its stakeholder's interest and support of the company. Once the company has defined the different layers it is also important to discuss the digital technologies and how they create new ways of capturing value. The extensive model creates many good key pointers for a newly started in business in the creative industry as not only does it focus on the current situation but also on sustainability and development of the company. Since Nordic Software Company is focusing on marketing the business model framework is ideal to study and the analysis will include a business model for the company to show how a company can use theoretical frameworks in its beginning phase.

5.6 Simon Sinek's "Why?"

The "Why?" by Simon Sinek is included in the problem field as it is one of the approaches used by Nordic Software Company, when defining the marketing campaign and decisions of how a client's product should be displayed. The subsubsection is merely a brief explanation of the ideas behind the approach as the idea is referenced later in the paper and the analysis.
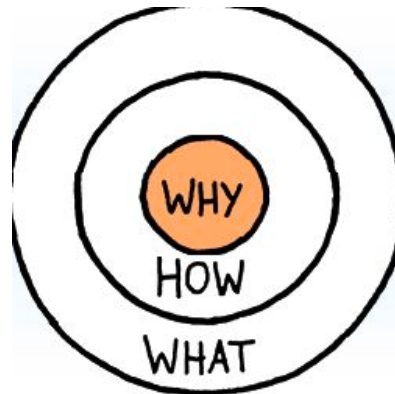
Figure 9

The figure 9 explains three founding aspects of company marketing: *why, how,* and *what*. [60] *Why* is the core belief of the company who are they and *why* do they exist? *How* is *how* the company fulfill its beliefs and *what* is *what* the company does to fulfill these beliefs. Mr. Sinek found in his research of marketing hat most companies do not know *why* they exists and what the company really do. [60] The argument here is that people do not buy what the people do, but instead *why* they do it.

The three take-away from this approach is to 1. Define your company's "*why?*" 2. Incorporate the "*why?*" in the marketing by communicating this value right from the start of the campaign. 3. Understand the buyer persona and *"why?"* they are buying the product.

The usage of the approach will later be explained as part of the proposed business model.

5.7 The whole product

The following part of the master thesis describes the idea of "the whole product" a concept developed by Theodore Levitt in *The Marketing Imagination*. [61] Levitt argues that there are four different perceptions of product:

1. Generic product: The product sold and delivered to the buyer
2. Expected product: The product the customer thought they were buying when paying for the generic product. This is the minimum configurations a customer expects to gain when buying the generic product. This could be getting a controller stick to a gaming console, even though the console was the generic product.
3. Augmented product: This is the product that helps the provider with a maximum chance of reaching the objective of the customer. With the gaming console, this could be games, online access and other services.
4. Potential product: These are the product's room for improvement and growth as the system can develop through processes that enhance the willingness of use from the customers original buying the generic product.

A company with a new idea will always use its generic (core) product in the search for early market adoption, but thus larger the market share thus more does the generic product resemble the other products and the company then needs its outer layer (2, 3, 4) to gain market share.

The whole product is vital in any business wanting to win more market through the innovation adoption cycle. [Section 6.1.1] The most important difference between early adopters and early majority is that early adopters create their whole product themselves or are willing to do so, where the early majority do not see the same possibilities. [62] Many businesses fail with the approach that their core product is winning the market alone when the consumer actually expects more than just the core product. The core product might win over innovators and early adopters, but a business should plan to develop their product through different versions that will satisfy the original customer segment and ensure that the product can develop in the market.
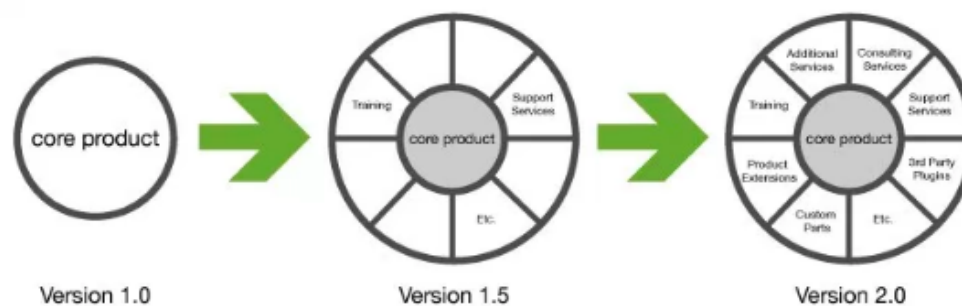
Figure 10

The figure 10 illustrates the main point of the whole product as a business might need to expand their ideas of the service if they want to reach the later market and not just enter the early market with a product that is well known or can be substituted by other competitors. This idea of services launching will be further applied in the analysis as it can create new business opportunities for Nordic Software Company and help them expand further into the digital marketing market.

6 Theoretical Framework

The next chapter will focus on the theoretical framework used in the master thesis to explain how it can be used and implemented in the master thesis. The different frameworks are concepts based on different types of business development, but their conceptual ideas are creatively interpreted when applied to the research questions of the master thesis.

6.1 Diffusion of innovation

Diffusion of innovation is a term coined by Everett Rogers in 1962 and lastly edited in his sixth edition in 2010. [63] He describes the idea as "*The process by which an innovation is communicated through certain channels over time among the members of a social system*.". This definition defines four elements to study to obtain a successful innovation:

- **The Innovation**
- **Communication Channels**
- **Time**
- **A Social System**

Figure 11
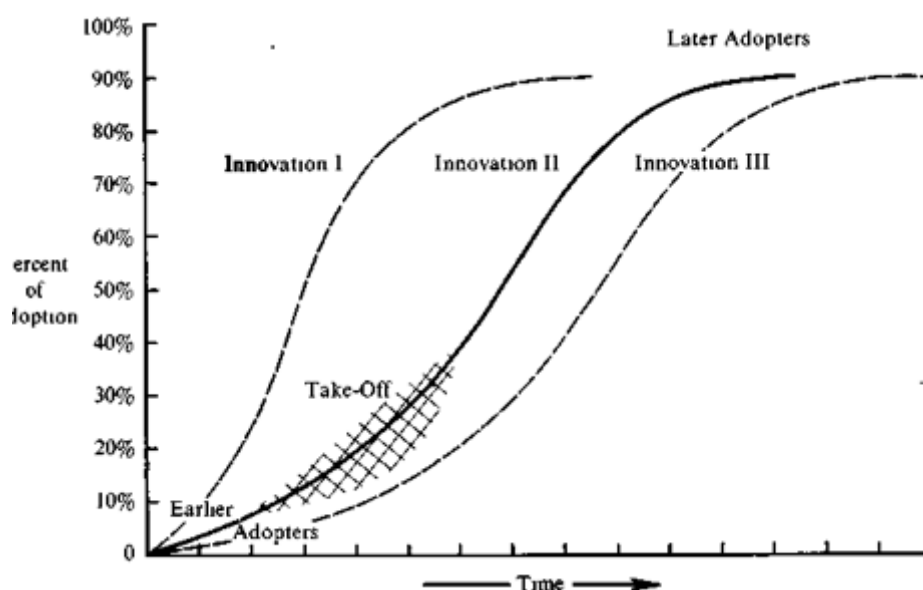
The first element is the *innovation*, which is an idea, practice or object which is seen as new by other individuals. This is often related to a technology, which is a design for instrumental action that reduces the cause-effect relationship involved in achieving a desired outcome. [63] Most technologies consist of hardware (physical object) and software (knowledge base). The innovation

can have different take offs but as seen on the innovation adoption rate it follows a s-curve, as seen in figure 11, where innovators and early adopters are key to create a successful innovation. There are five attributes of an innovation related to its diffusion and adoption that can be studied, these are:

1. Relative advantage
- Degree to which an innovation is perceived as better than the technology it supersedes

2. Compatibility
- The degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters.

3. Complexity
- The degree to which an innovation is perceived as being easy or difficult to adopt.

4. Trialability
- The degree to which an innovation may be experimented with prior to adoption

5. Observability
- The degree to which the benefits (+ and -) are visible to others

The research will benefit from analyzing the innovation process in respect to Nordic Software Company as the five characteristics can be applied to the company in its take-off phase and describe how the current situation is.

The second element is the *communication channel* in which the word of an innovation is communicated through. An innovation can either be spread through mass media to reach a broader audience or it can be spread through small interpersonal channels to influence people's attitude toward the innovation and shape the innovation towards higher adoption. This can either be done through homophily communication where individuals interact with people they share common characteristics with, which means they can promote innovation through each other. The opposite communication type is heterophily in which individuals with different characteristics interact in a network.

The third element is *time*. Time is involved in three aspects of the innovation: The diffusion decision process, the innovativeness and the innovation's rate of adoption. The innovation decision process is from the first encounter of an innovation to choose whether to adopt or disregard. There are five steps in the process of this decision going through 1 knowledge, 2 persuasion, 3 decision, 4 implementation and 5 confirmation. Through the whole process an

individual gets perception which eventually leads towards two possible outcomes: Either fully adoption of the innovation or a rejection of the innovation. The innovation decision process first stage is knowledge where the innovation is exposed to an individual and the individual become aware of its existence. The second stage is the persuasion where the individual decides on the position in regards to the innovation. The third stage is the decision, in which the innovation is either adopted or rejected by the individual. If the individual adopts the innovation the fourth stage is then the implementation where the individual starts using the innovation. Finally, the fifth stage is the confirmation where the individual confirms his or her decisions which can either lead to a continued adoption, a later adoption if rejected earlier, a discontinuance of the adoption or a continued rejection. Even though the innovation-decision process is greatly related to time it is also influenced by the communication channels as they influence individual behavior in each of the stages.

The *social system* is the fourth element for an innovation and it consists of two basic components; structure and norms. The structure is the communicating force deciding various aspect of the adoption and the norms are the structure's behavior patterns and mind-set towards innovation.
The social system is depended on different individuals and their role in the system. Opinion leaders can persuade others to their liking, while a change agent seeks to change individual perception in favor of his agency. The four factors and their underlying characteristics can be combined to accelerate the adoption rate for a given innovation.

6.1.1 Technology Adoption Life Cycle

Rogers theory also identifies the rate of adoption, which is the relative speed participants adopt an innovation. [63] Adoption is an individual process a user undergoes from first hearing about a product to finally adopting it while diffusion is the processes described previous in the section. The classification of individuals can be divided into adopter categories and can be illustrated as a bell curve.

Figure 12

As seen on the figure 12 there are five different categories. Innovators, who are willing to take risks as they are the closet to the scientific source and often have enough financial resources to cover any loss in the investment of the innovation. Early adopters, who have a high degree of opinion leadership and wants to join a market that can lead to an advantaged over their competitors. Early majority, who are often followers of the early adopters and look to their opinions to decide whether to adopt an innovation or not. Late majority, who are sceptics and are usually adopters of an innovation because it has become vital or every other person has. Laggards are the traditionalists with low financial liquidity who only uses family and friends to decide on their standpoint on an innovation.

Linking research in the area of innovation with theory of entrepreneurship can help a start-up business overcome stages of early adoption to achieve an early majority and reach larger market share.

All these factors put together create an idea of how the rate of adoption of an innovation can evolve, which is a key supplementary study of an innovation before applying it. The idea can also be applied in the studies of market share and company evolution and will be used further in the study for these reasons.

6.2 Crossing the Chasm Theory

The idea to find an innovation framework was created during the supervision meetings and found after research about innovation. The innovation framework takes an instant in Rogers's diffusion of innovation [Section 6.1] and more specifically the gap between early adopters and early majority. This leap to overcome the gap was in 1991 defined by Geoffrey Moore as "Crossing the Chasm" [62] The framework theory is subtracted from the 3rd edition of the book "Crossing the chasm: Marketing and selling disruptive products to mainstream customers".

The book defined the area between early adopters and the mainstream market "the rest" as the hardest obstacle to overcome as a mainstream market wants the benefit of the service, but does not want to be involved in the process. For that reason the marketing needs to change from focus on selling products towards creating relationships with the customers. [62] Moore argues that a good relationship buffers the shock of change. The services will remain the basic of economic exchange, but it is not the main focus. Another point made by Moore is that clients do not want to be owned in a sense that they feel they do not have a free choice. They rather have the vendor to take an ongoing responsibility for the success of a marketing campaign and afterwards show enormous loyalty towards other company services, which can be used as an economic base to grow from.

The essential framework is derived from chapter 2 of the book, which argues for cracks in the adoption life cycle of the bell curve. This chapter argues that there are two cracks in the adoption life cycle for technology related innovation, the first one between innovators and early adopters.

The first crack is often related to lack of understanding of usefulness of a service. Services are often failing this in this leap between two types of customer segments because they have too steep requirements to use the product or the product is ahead of its time. An example of this is video conferences as Intel, PictureTel and IBM among others tried through the 90s to market such product but it was not until Skype in 2003 entered the market with a user friendly service that the video conferencing caught the early adopters. Skype lowered the entry barrier by providing a simple voice communication for free, which later finally made the breakthrough for video conferencing. Skype was later obtained by Microsoft to turn their Lync application into Skype for business – an application widely used for video conference call.
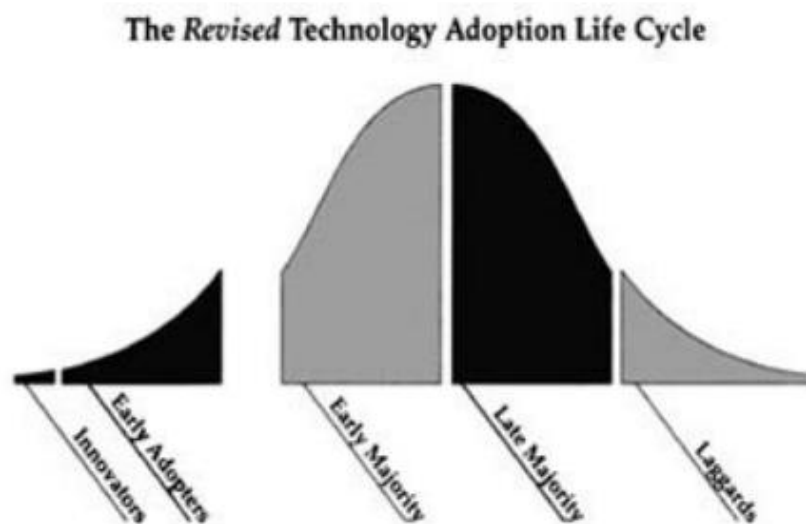
Figure 13

The figure 13 is included to illustrate the second crack in the adoption life cycle, which is where most companies fail to overcome and the main area of research in the master thesis. The main difference between the two markets is that early adopters seek some type of change agent [d10] while the early majority wants to have a productively improvement for existing operations. They do not want the service to transform their business as it should rather evolve their existing business model, which also mean they are more focused on references and earlier results.

The book identifies four major characteristic differences between early adopter and the early majority:

Firstly, the early adopters are visionaries and they want to put themselves in front of markets by taking chances and seek opportunity to gain competitive advantages. The early majority on the other hand are pragmatics that values the experience and feedback of other companies, which

makes the crossing harder as there are often few visionaries in a market. Most or almost anyone will be a pragmatic, who wants to see a tested service before entering the market. Secondly, the visionary early adopters take a greater interest in trends happening in their industry wanting to experience the future while the pragmatics early majority is more concerned with their present-day operations.

Thirdly, they fail to recognize the importance of their product infrastructure. The early adopters like to build things from the scratch and the early majority expects everything to be in order as their whole organization is built upon industry standards, which again show the large differences between the two customer segments.

Lastly, the early majority see many changes as overall disruptiveness. Early adopters want to spend the budget on all sorts of changes while the early majority point of view is that the organization is already state of the art, meaning they are committed to their business model on a long run while early adopters want to find newest new and are quick to jump from one service to another service.

6.3 Crossing the Chasm Strategy

There are two theoretical ideas behind the approach to cross the chasm suggested by Moore. The first idea was proposed in the first edition on how to penetrate the early majority market by using a D-day analogy. Europe can be described as the mainstream market controlled by the axis, while you as a marketer are the allies trying to force their way into Europe. (The market) Obviously, the analogy shows the early adopter market as England and the English Channel as the chasm that needs to be crossed. Moore clarifies the idea behind the analogy as D-day because you need to have a single point of attack if you want to enter an established market. The idea is to win an entry to the establish market by picking a niche and from there on force the competition out of that particular niche and then use the experience as base for further gains in the market.
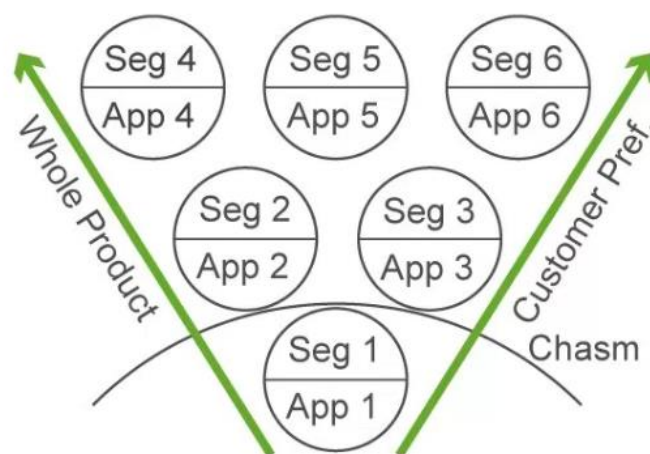

Figure 14

The second theoretical idea builds on the comparison of a bowling alley as seen on figure 14 where not only the crossing of the chasm is included, but also the further expansions into the early majority market. The idea is based on the whole product [Section 5.7], where one service (the first bowling pin) will help the business enter the market but the whole product will make other bowling pins fall within the product and customer preferences. They whole product add features to the original services to reach other customer segments.

These ideas were proposed in relation to high-tech technologies, but the general framework can be used to study the chasm of business as well. In the master thesis, the framework will use the approaches to overcome the chasm proposed by Moore to give an understanding of how a business can succeed when changing customer segments from innovators to pragmatics.

6.4 The BCG Growth-Share Matrix

The BCG growth-share matrix is a planning model developed in 1970 by Bruce Henderson and was designed as an analyzing tool to determine how business unites can impact future profit margin so that companies could make the right investments. The matrix is built upon the assumption that business units can be divided into four categories based on a combination of market growth and market share relating to the biggest market competition as it analyzes the "growth share". The matrix is still used by BCG and has a great relevance when mapping potential according to Reeves Martin, Senior Partner of BCG. [64]
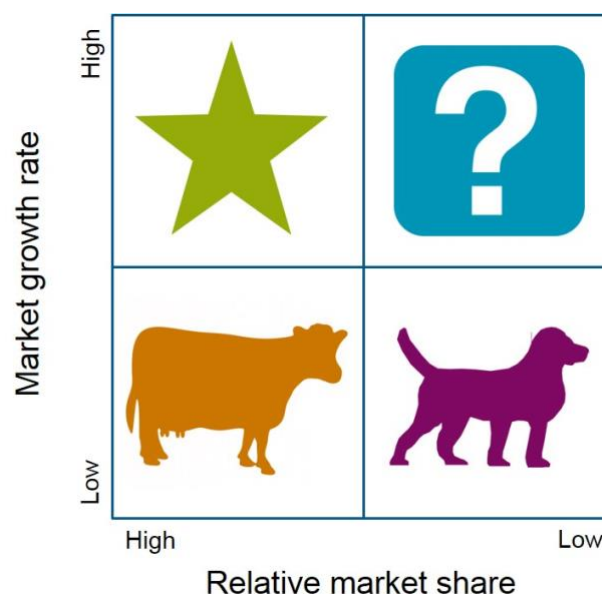

Figure 15

The figure 15 illustrates the BCG growth-share matrix in which a business unit can be divided into four categories categorizing market share from the x-axis and market growth form the y-axis. The four categories are: cash cows, dogs, stars and question marks.

Cash cows: Cash cows are leaders in the market with low growth rate, thus generating more cash than they consume. The cash cow of a business generates a stable cash flow and its net present value can be determined when doing cash flow analysis. This cash can be used to turn other units around, cover administrative expensive and scared resources costs or funding further research. A maximizing strategy for a cash cow is to harvest [65] the units' cash flow and reduce investments to increase overall profitability.

Dogs: Dogs are the business units with low market share and low market growth. This means they break even at most, but companies have money tied to the unit, which makes it a cash trap. The business strategy for dogs is to divest and release the amount of money already stuck in the business unit.

Stars: Stars generates a large amount of cash but also consume a lot of cash due to the high growth rate. The goal for a star is to maintain market share, while the growth rate decreases eventually turning the star into a cash cow. This can also be done by investment where you build upon the unit to increase market share.

Question marks: Question marks are the last category and they are a business unit which is growing rapidly and consuming cash but does not generate cash due to a minimum of market share. Question marks are the units which needs to be analyzed carefully as they can either change into stars and eventually cash cows or the can be a waste of resources and turn into a dog with money tied to a non-cash generating unit.

To understand the purpose of cash flow in the matrix it is important to know four basic rules:

1. The cash and its margin generated are a function of the market share. Having high margins goes together with gaining high market share.

2. In order for a company to grow, it needs to invest in its assets. The cash that is needed to hold the market share is a function of growth rates.

3. High market share must be earned or bought. To obtain more market share the company needs to add additional increment or make an investment.

4. No product market can grow indefinitely. You need to get your payoff from growth when the growth slows; you lose your opportunity if you hesitate. The payoff is cash that cannot be reinvested in that product.

The BCG matrix is used in the master thesis when studying how to approach and market different types of product for potential clients to ensure a successful marketing campaign for different types of businesses. Since the NSC can use the matrix when deciding on which digital strategy to apply to its clients as different types of products need different types of marketing.

7 State of the Art

The next section of the master thesis aims to clarify the State of the Art in digital marketing. The State of the Art will investigate two types of approaches, one which is a software developed for marketing called HubSpot known through the survey [Section 8] and the other which is a marketing company known through competitor research. This State of the Art analysis can also be applied throughout the research paper as reference to other approaches to the industry and alternatives for entrepreneurs.

7.1 HubSpot

Figure 16

HubSpot is an American software company founded in 2006 at MIT by Mr. Halligan and Mr. Shah. The company provides services and tools for social media marketing, web analytics and search engine optimizing. The State of the Art analyze is based on the case study: "HubSpot: Inbound marketing and web 2.0". [66]

The company specifies two types of marketing approaches *outbound* and *inbound*. *Outbound* is pulling people away from their comfort zone or interrupt them in some way, while *inbound* is about creating viral integrating content the user wants to engage with voluntarily. An example of this could be TV advertising (outbound) that interrupts a series versus Vlogging (inbound) where the company makes videos that people can subscribe to and want to engage with freely.

The company also define three distinct skills for useful inbound marketing, the first being the ability to write compelling content, which will spike the interest of the user instead of just being just promotional. The second is to distribute the content easily to prospective customers and the third is to engage and attract followers to interact with the content and spread the message further. HubSpot argues that this inbound marketing allows SME's to compete with larger companies. [66]

The two most interesting services offered by HubSpot for this SOTA research is the exposure optimization and lead tracking intelligence. The exposure optimization consists of various tools

which can help a company to be more visible on the Internet. This includes SEO tools that grades the content and estimate where it might appear in a search engine based on this advertising rank. Once this has happened, the tool can optimize blogs, website content and social media and grades these compared to other search engine links to maximize exposure.

The other feature is the lead tracking and intelligence analysis of user interaction with a company's content. This feature allows companies to analyze which of their inbound marketing strategies work by explaining how users enter the content and how users interact with the content as well. This leads to a profiling of each user which gives a business insight towards successful campaigns.

7.2 Adapt

Figure 17

The second approach to digital marketing is using an extern company as a digital marketing strategic. By outsourcing your digital marketing, you get a company specialized in the area of expertise. One company already established in the market NSC wants to enter is the company Adapt, who has done marketing since 1998. [67] As for now they are 130 employees in five countries.

The company works as an extern branch for other companies and have different approaches to help start-ups among other by client interaction. They have a test lab facility at their company where they do the initial marketing research for companies with interviews, focus groups and surveys to help their clients get an insight towards their product and how well changes are received by a noncommittedly audience. Data is essential for the business to apply its solution and every decision is data driven throughout the whole process.

The other interesting part of the business compared to NSC is the performance analysis as the company specifies goals with their client and analysis the process throughout, which Adapt identifies as a process that can help companies reach a higher conversion. The company also analyze why the users behave in the way they do by narrowing the process down to what the user expects when engaging with a marketing campaign. This process is done by analyzing the target

group, but also creating heat maps on the website to see how people interact with the website when clicking on links etc. These are all marketing techniques that NSC could possibly use in future campaigning strategies.

8 Survey

The following section will describe the findings of the survey conducted for the empirical research of the master thesis. A survey is a quantitative data collection method, which can be used to give a statistical overview. [Section 4.3] The survey [68] was launched the 5th of April using Google analytics and the complete statistical responses are embedded in the appendix. The survey response time ended 11th of May and had 42 participants. The survey was target specific as it sought to study digital marketing by including answers from decision makers only. The extensive entitlements of the respondents ensure the empirical relevance of the answers, but also provided the research with qualitative data through the non-statistical answers. The answers came from a variety of entitlements including CEO's of IT companies, entrepreneurs & master craftsmen. The survey was conducted in Danish to reach a larger audience and translated to English for this thesis. The section will describe the most interesting findings from each of the questions asked.

Question one asked the auditions which communication and marketing strategy had relevance for the exposure of their company. The respondents could choose between, minimal relevance, some relevance or maximal relevance. It was interesting to learn that only two participants said that digital advertising had minimal relevance for their company, while the rest of the respondents could see potential in digital strategies enhancing the relevance of the study in those digital strategies. The participants had almost the same flow for the rest of the communication forms represented and could see relevance in social media sponsored post, network meetings and celebrity exposure and only analogue communication (TV, Radio and Billboards) had less than 10 respondents answering it had maximal relevance for its company. This answer could see the potential switch in marketing, where analogue communication is reserved larger companies and not the Danish SMEs, who represent 97 % of the company share in Denmark. [11]
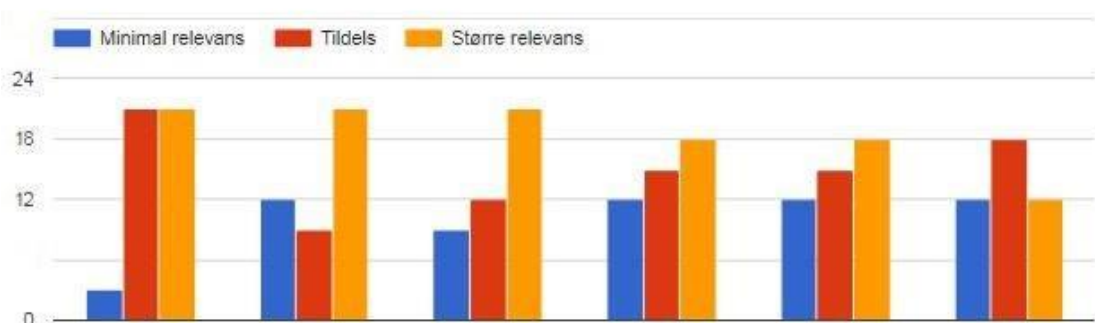

Figure 18

Question two asked the participants if they have ever used any type of resources in marketing to reach a larger audience and the answers were widely spread between types of communication. The survey showed that smaller sized companies > 5 people have tried marketing online but only used LinkedIn, Facebook & Instagram's free posts feature, also referred to as organic reach. The

same company types later replied that they have uncertainty of how to reach the right audience, which could be one of the problems for companies trying to reach the early majority. Only two companies out of 42 said they had not used marketing, but was making business through earlier work contacts. Hence, the use of marketing is still a great influence on a business strive to make revenue.

Question three asked the participants to explain how they approach marketing if it was either continuously or ad hoc. Again, the answers varied from how the company structure was, thus larger the company thus more continuously the marketing strategy. The most interesting answers about continuously marketing came from a large clothing company explaining the use of an ad hoc approach and from a Real Estate Agent (Nybolig), who explained how they were trying to use digital strategies through their new "SmartSalg" solution. HubSpot [Section 7.1] was also mentioned as a marketing platform and this answer was used to do further studies about the platform. The interesting answers regarding ad hoc was the common "distortion" factor that most companies using ad hoc wanted to achieve. One company also explained the ad hoc was to reach potential new audience, but then having the organic posts create temporary marketing between the ad hoc campaigns.

The last three questions had same overall goal of explaining how the views on digital marketing was from the participants' point of view. One question focused on which successful criteria a marketing campaign should provide and 79 % of the respondents said that a larger costumer base was a successful criterion, while 57 % would consider a positive reflection in the turnover as a success criterion. The least concern people had with a marketing campaign was to create more sale to existing customers with only 25 % saying it was relevant, which can see on the figure 19.
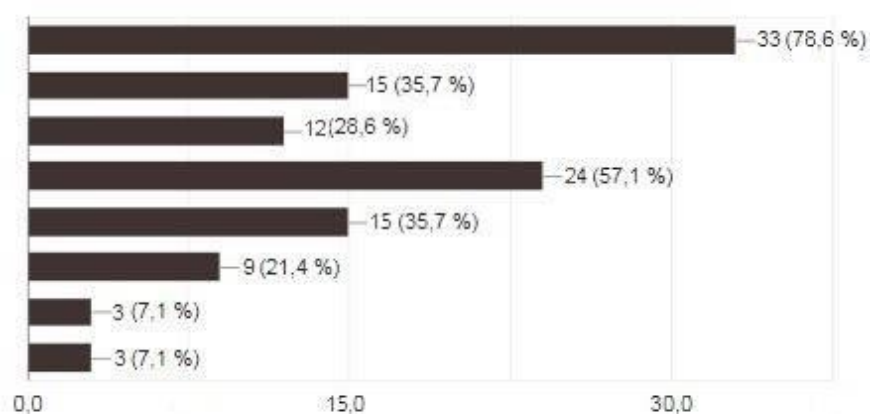
Figure 19

Another question focused on the challenges of digital marketing to get an insight of the struggles people have when during marketing online. The two topscores with 80 and 75 % was the

uncertainty of the relevance of the advertising and the uncertainty of what outcome a marketing campaign would provide. These answers were greatly connected to the last question in which the participants were to answer on different statements. 96 % of the respondents answered they did not agree on the statement that: "Digital marketing is easy". Over 80 % of the participants answered that digital marketing is more relevant that analogue, has greater exposure and that the digital algorithms help business reach the right audience. This is contradictive to the statement regarding being in control when using digital strategies where only 40 % felt they were in control during a digital marking campaign. For these points of views, it can be concluded that uncertainty heavily involves the lack of knowledge of how algorithms optimize digital campaigns and a study of this or explanation to start-up companies could provide a vital help when trying to reach the early majority of their potential market.

The survey provided the master thesis with a lot of pin pointers on the market and the relevance of NSC's services. This could be used in the further study and some of the conclusions can be drawn back to the study and the support of the respondents' answers which had a great relevance to the study of digital strategies and online marketing.

9 Interview

This next section is describing the interview process with Tristian Sommer, who is the COO of Nordic Software Company. The interview approach was conducted as part of the empirical research to get a deep encounter with the business operations and to get the insight that would be necessary to provide the thesis with substance that can support the findings. The interview was in-depth and scripted as the interviewee had been presented with an interview protocol beforehand, but it was structured as conversational so that questions or side questions could be further explained. The methodological approach is qualitative data gathering as it gives a lot of insight to the case-study with non-numerical values that can be interoperated and used as empirical evidence. The company was involved through the whole process and the main interview was the basis of knowledge, but further questions were asked later in the writing process.

Picture 20

The main interview was conducted at Nordic Software Company, where Tristian Sommer [Picture 20] was present. The first part of the interview explained the company basis [Section 5.1] and the later part was the actual interview focusing on business operations. The interview was held at the 17th of April. The interview protocol and the recording can be found in the attached appendix. The interview was original held in Danish and the findings of the interview is outlined in this section of the master thesis and translated into English.

The first part of the interview focused on basic information on the services provided by the NSC and how their daily operations are. The company is a digital marketing bureau that helps its clients getting success online from sales to creating digital relevance – which means everything from studying online presence and behavior to run advertising campaign and creating websites.
The conversation then led to questions regarding an overall business model. Tristian Sommer specified: "*There is a business model, but then again there is not one […] we believe that the IT and marketing solution is unique and cannot find others who does these types of solutions for SMEs.*" The company had created initial marketing research and found a possibility for their services, but a

basic business model had not been created. Tristian Sommer also explained the difficulties of making a start-up company: "*You need clients, but to more clients then you also need a "proof of concept" [d11] for references, which is the process we are in right now*." Another lesson learned was that typical failures of entrepreneurship happen because people give up on their projects to early. You might get beat up the first half year and maybe the second as well, but a time period of 2 years is needed at least to see the success or failure of a start-up and that is the time period NSC is given to become financial independent.

The interview proceeded with talks about the solutions and how most companies do day-to-day marketing but do not have an overall plan or knows how to communicate their product. A solution starts with a meeting, where NSC wants the client to explain why they differ from the alternative competition to find the right message to broadcast. After an initial meeting a solution that covers the clients "pains and gains" is proposed. It is also important to be honest about the expectations of the campaign as: "*You cannot just promise them gold, tell them if we do this solution A that this are the expected outcome and these things will happen*", Mr. Sommer added. The solutions are different from customer segments and are also dependent on the financial situation of the client. Tristian Sommer gave an example of a solution: "*One of our approaches is Golf Clubs, whose pain is that they are losing members. They pay a low entry fee for the start-up of the service and then a small amount for each new member they obtain. So the expenses of the solution is a variable depending on the success, which benefits both parties.*". These solutions and services are also sold to generate business networks that can be used for future references and exploit the market that may lay among the golf members as well.

The interview gave many key pointers towards starting a business and which thoughts the Nordic Software Company had about future business strategies and many of these findings are used in the further research.

10 Analysis

10.1 Nordic Software Company's Business Model
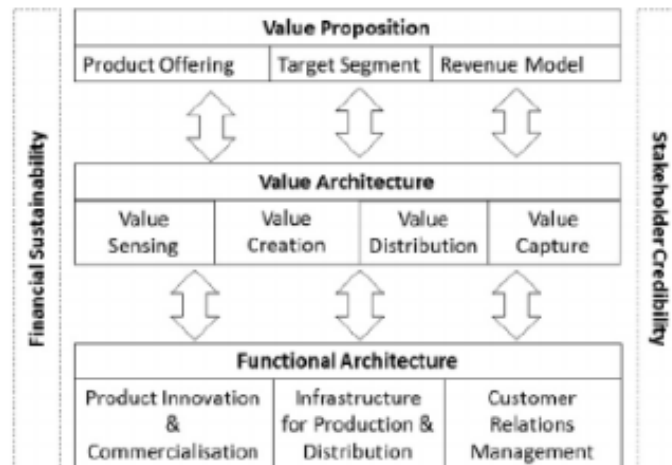
Figure 8

The following section of the analysis will describe the proposed business model and an analysis of the business operations of Nordic Software Company. The proposed business model is influenced by the holistic model made by Feng Li [17, section 5.5.2., Fig. 8] and the analysis will describe each of the five main characteristics of the business model. These are *value proposition, value architecture, financial architecture, financial sustainability* and *stakeholder credibility*. Each of these characteristics is analyzed separately in the following subsections before they are collected in a proposed business model for the company.

10.1.1 Value Proposition

The value proposition is how the company solves the problems and satisfies customer needs. This section will describe the company provide value to the customers. There are three subcategories to the value proposition as they are *product offering*, *target segment* and *revenue model*.

Product offering:

The services offered by the company are *digital relevance*, *website content & development* and *artificial intelligence*. [29]

The digital relevance is as described in Section 5.3 a service that help clients create social media campaigns, analyzing how they are present online and how their website can be search engine optimized to gain even more exposure. The process is done by: Arranging a meeting to get an

understanding of what the pains of the client are (lacking customers, no digital presence etc.) and which part of the solution that can be applied to solve these pains. [Section 9] The client then agrees to a contract with a solution on how to solve these pains, typically with a 3-6 months try-out period before a final agreement about a continuously or ad-hoc marketing campaign. The client is also interacting with NSC when a client gets inquiries from potential customers to help the client to as many successful inquiries as possible.

The website content is creating websites and webshops that reflect the business' intention and exposure their company value towards a digital behavior. The process is also based on the same approach as the digital relevance service, but the end product is sometimes just a final website, without any other obligations. The client is included through the content making and taking decisions about design and content throughout the process of creating the website.

Artificial intelligence is a service the company will be offering, which eventually should provide users with innovation processes of their products by using machine learning in the daily operations. The process includes the same key pointers as the two other services, but the customers come from a different segment so the approach is seldom a meeting and even more seldom an approach by the companies themselves. For that reason NSC hold quarterly presentation / inspiration seminars for a selected number of invited potential clients. This gives the company a chance to have an informal discussion with the clients and show them all the possibilities AI provides for their type of business. If the client is interested the company can make follow-up meetings and go through the same phases as the other services.

Target segment:

The target segment is describing the ideal customer and who they might be. This is used to identify whom might be suitable and interested in the services offered by Nordic Software Company. Through the interview [Section 9] the company specified that the ideal customer would be a Small and Medium Enterprise in the greater Copenhagen area as the different product offerings were tailor made for these types of businesses. The NSC recognizes that not all SMEs are relevant as the clients need to have at least around 10 employees to match the costs of a NSC service. Furthermore, the NSC target clients that are willing to take part of the process and want to establish a collaboration towards a common goal instead of just paying for the service and hope the results will magically appear. This means that the company will always engage in a meeting process to see if the two participants can reach an agreement about the structure of the service.

Revenue Model:

The revenue model of Nordic Software Company consists of two layers. The first layer being current revenue and the second one is the potential income the business can generate.

The first layer is the revenue created by the company's services. The digital strategies have a high profit making once they are established, but the approach is often "bait & hook". [59] This means the client only pays for the wages and time of the consultants to begin with and then make an agreement that benefit both the client and NSC. An example of this is the Golf Club approach [Section 9]. The Golf Club is missing members and wants to gain more members using digital strategies, the initial campaign is set up and the two parties agree on an additional fee for each member that joins the Golf Club, thus more members thus more revenue for both the Golf Club and for NSC.

The AI solutions are sold in three different aspects. One is a workshop regarding the possibilities of AI, which has a high entry barrier because of the use of many consultants and partners, which creates a steep pricing + the preparation of the workshop. These workshops are aimed at larger companies or many SMEs joining for a shared fee to cover the costs. Due to the many involved partners the workshop does only create revenue to cover consultant wages and is merely used to spread information regarding AI. The second and third aspect is the implementation of AI, which can either be a test period for some fee or the whole implementation. The fees cover consultants, software implementation and maintaining of the system, which creates a larger profit for the company and flow of income for the maintaining service.

The second layer is the potential business and NSC is here a catalyst to revenue in IC Gruppen as the core product can be sold with IC Gruppen solutions, which will create the whole product experience for the client. [Section 5.7, Fig. 21] The core product is digital strategies for marketing and the client has a specific expectation towards the campaign and digitalization of the company. NSC can lead the client towards a different experience by recommending IC Gruppen solutions that will create overall company revenue and ensure the existence of NSC both as a stand-alone company, but also as a catalyst for business in IC Gruppen.
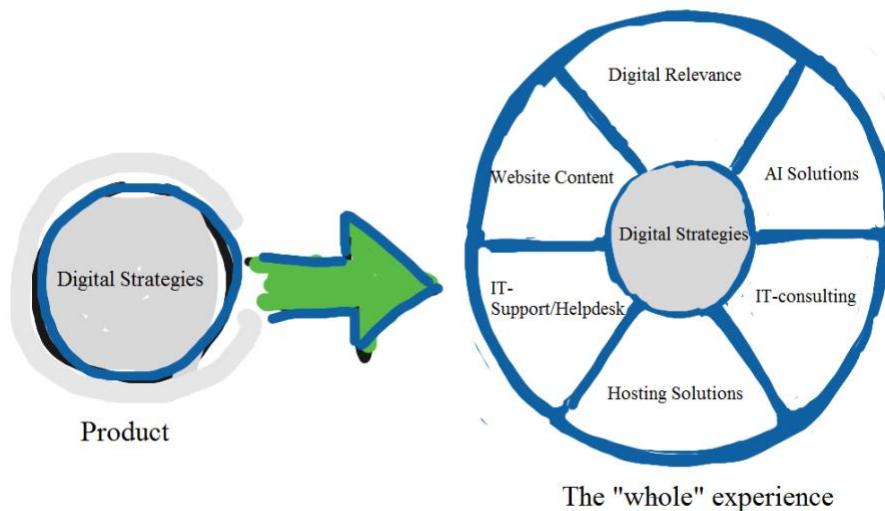
Figure 21

As seen on the figure 21 the core product can be expanded with other solutions. A company might choose to become cloud-based using O365 for emailing through the recommendations of NSC. Should the company establish the "good relationship" [Section 6.2] they will be even more likely to buy future services and as the last version illustrates on figure 21 this could be a whole product satisfying client needs.

Another key feature of this type of revenue model is that it ensures some sort of sustainable business should NSC fail or the client choose to end its marketing campaign. In this case, the whole product approach ensures that some clients still will have a relation to IC Gruppen and use its services or solutions.

10.1.2 Value Architecture

The value architecture is divided into four subcategories in the holistic model: sensing, creation, distribution and capture, but for Nordic Software Company the subcategories are relative closely related and the architecture can be defined as value creation with the respect to the other three categories. The value creation is the action NSC takes to increase the worth of their services to the client, but also to generate value to the business. [69]

The first and second value creation was mentioned in the revenue model about generating contracts based on performance and the whole product that ensures that the core product also is the expected product that satisfies at least the minimum of expectations of the client.

The creation of value is vital for the client, but they see value differently. The survey [Section 8] showed that most clients expect a larger customer segment by using digital marketing and that few cared about selling more products to existing customers. This is important empirical

knowledge as NSC then have a potential advantaged in their marketing as they know the segment better. The value architecture is deeply connected to the value proposition as the clients of the company need to fulfill specific requirements for a successful campaign to be established.

Based on the initial meeting the NSC can define the value creation for their client. A company seeking new customers might use Google AdWords and NSC can then tweak the algorithm with search words that addresses new customers, while a company interested in digital presence might use the Facebook brand awareness solution. [Section 5.3.1.2] The NSC strives to tell the success stories to their client as digital marketing might have other benefits than the intended and the client would then still feel some sort of success of the campaign.

The clients also need to specify what type of product they are branding through the marketing campaign. Is it the cash cow, which needs revival? [Section 6.4] Or a new exiting question mark that needs promotion to enter the market and win over market share, different products need different type of value creation.

As potential customers described in the survey the most difficult about digital marketing is not knowing the outcome and not knowing the relevance of use. NSC can thrive from this information and ensure value creation by addressing these obstacles as part of the sales pitch and during the marketing campaign as well.

10.1.3 Functional architecture

Data Management:

This subsection to the business model is concerning the data management of a company. This is a new proposal to the original holistic model due to the GDPR [Section 5.4] and the increasingly focus on companies' data management. The study of the GDPR in the problem field and the inclusion of consent and other definition clarified specific areas a business needs to administer, when creating a business as it seems more appropriate to create a data policy in the beginning of a start-up. These are: managing *data flow analysis*, *data rights*, *data storage*, *specify purpose of data collection* and *general data policy*.

Data flow analysis: Data flow analysis is analyzing how and where the company is generating data, that is covered by the law. In case of Nordic Software Company the main data is generated from clients' information, which covers names, addresses, billing information and so on. There is also data stored through different types of website analysis and email addresses of people who are signed up for newsletters.

Data rights: The data rights cover a control of access to data of who gets access to data and whom are responsible for logging and modifying the data in general. For NSC the responsibility of these functions will be appointed to the Data Protection Officer, which is a role appointed to the COO.

Data storage: The data storage is as the name suggests where the data is stored and logged. The company uses various cloud solutions within the EU to store the data. A company like Microsoft has created online licensing agreements which can be downloaded from a website and signed when a service is used. [70]

If the NSC had to process client's data they would create such agreement as well ensuring the right data treatment either as a controller or processor of the data. The data stored from cookies should be on a SQL database, which will ensure the PII's unlinkability [d12] with other user information.

Specify purpose: Specifying the purpose is to create a clear understanding on why the data is collected to make sure unnecessary data is not collected and that the persons given the information are aware of the use of data. The data collected on clients is used for customer relations management about billing information etc. E-mails are collected for any person who sign-up to receive newsletters and data collected through website analysis and cookies is used for marketing purposes and to improve the user experience.

General data policy: The general data policy is the company's stance on different data related subjects and how they are complying with those. NSC wants to keep data as long as the client is still active and once that relationship changes the data is kept in a three-year period. (Financial records for five years according to Danish law) [71] The data collected through analytics and cookies are stored only as long as a campaign is running and deleted immediately afterwards.

Beside the data policies the NSC will ensure that users or clients are given a valid consent message when confronted with one of the data collection possibilities. This would either be an option to give consent or an option out for each of the elements. By following these data steps NSC would be GDPR compliant and can add extending policies if there is a change in the data flow.

Solution Innovation & Commercialization:

The subsection of solution innovation and commercialization relates to how Nordic Software Company is assembling solutions to fit customer needs and finally having those commercialized. The "whole" product [Section 10.1.1, Fig. 21] is an extension of the core solutions of NSC, but the core solution package differs from each client as NSC wants to be flexible in its marketing campaign to reach different client goals.

The basic solutions are based on the "turnkey" solution theory, [72] which means the clients only need to implement the solution and will be good to go afterwards. The solutions differ from whether the business is B2B or B2C and what the success criterion of the marketing campaign is. The innovation of these solutions is the ability of NSC to customize the service to fit the client's needs and cover their pains. For instance, the website solution is standardized through the same components but it can be customized to a website universe for a high fashion brand with their

products. The customers can then access the website and order their preferred product through the website. The resellers of the high fashion brand buy a part of the marketing campaign to share the expenses, which commercialize the solution. The customer can then choose his or her preferred reseller to distribute the order. This is the innovation of the solution as the standardization can be customized to apply to the needs of the client.

Customer Relations Management:

Customer Relations Management is the approach that Nordic Software Company uses to manage interaction with potential and current clients. The approach is from when a customer engages with the company and continuously through the whole active period. The system is also used to keep track on potential sales lead and to learn more about the target audience by data mining.
The overall program used for managing sales and marketing is Microsoft Dynamics CRM [d13] (365), which is capable of tracking sales, marketing, project, operations and finances for NSC. An example could be the invoices between NSC and a client from a financial stand point. The program is also included in Outlook (e-mail client) to keep track of the mail correspondence between NSC and the client. The NSC also uses CRM in their service through the helping of clients interacting with potential customers received through the campaign. The main operational purpose to include the system is to deal with the "top of the iceberg" [d14] problem, which means any employee with appropriate access, can interact with a client and know the status. The beneficial features of good CRM are improved pricing, individualized campaigning and increased responsiveness – a study shows a 5 % increase in customer relations boosts lifetime customer profits by 50 % on average. [73]
The CRM part of the business model must be flexible as the need of CRM solutions increases with the client base. These new solutions could be 24/7 live chat about marketing campaigning or training of new employees.

10.1.4 Financial Sustainability

The financial sustainability of Nordic Software Company is depending on two factors: the equity of IC Gruppen and the revenue from solutions and services. The equity of IC Gruppen ensures that NSC has the financial stability to operate for 2 years before generating a positive turnover. The NSC would have the ability to carry on after the 2 years, but the 2 years are a time-horizon set by the founders and IC Gruppen to motivate the company towards being self-sufficient. The NSC is expected to create a revenue turnover that covers 10 % of the total turnover of the two companies, which is a requirement set as usage of scarce resources like time would not be appropriate if NSC does not create the 10 % turnover at least. The company is covered by IC Gruppen's equity and financial stability, but must also create its own revenue to be a continuous business and for the business model to be successful. The revenue model was covered in a previous section [Section 10.1.1] but NSC needs to gain specific amounts of business before being

able to cover the 10 % share of the revenue. This includes at least 15 digital strategy campaigns running, 10 other trial periods or content creation and 2 AI software solutions sold during a financial year. These numbers are regulative, but they show an estimate of how much the company needs to produce a year to cover its costs and achieve the expected turnover.

10.1.5 Stakeholder credibility

The stakeholder analysis is included in the research as it is a vital part of the proposed business model of how to obtain stakeholder credibility. Stakeholder interest is identified as one of the main factors in the business model and the analysis focus on relevant people and organizations, which have an interest in the company. These are called the actors. The stakeholder analysis identifies these actors for their relevance to the business and clarifies whether or not they will have any important influence on the success criterions of the company. [74]

The analysis also gives a strategical overview of how the company should interact with the stakeholders depended on their relevance and status. The stakeholder analysis provides the reader with an understanding of why the different stakeholders might have an interest and what type of contribution they can provide the company with.

The stakeholder analysis will focus on three different values of the stakeholders; their interest, concerns and how they should be involved in the success of the company. Through the evaluation of these three factors the company can decide whether the stakeholder has a positive or a negative influence on the company. The identification of these stakeholders gives the company an upper-hand advantaged when creating business strategies as they will now know the stakeholder interests and plan towards these. The analysis will also help the company with information on how to inform the stakeholders and satisfy their needs.
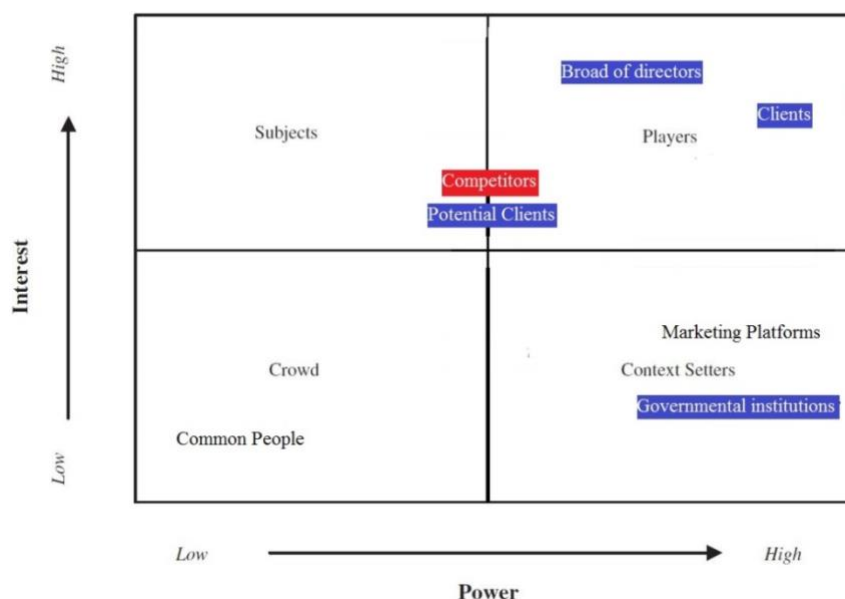

Figure 22

The figure 22 illustrates who the different stakeholders are and how they are positioned in an interest/power matrix called the Mendelow matrix. [75] The vertical line shows how the interest level increases from low interest to high interest. The horizontal line is a representation of the power the stakeholder has represented from low to high as well. The stakeholders are either illustrated with a blue or a red box in the matrix, which have different meanings and are based on pre-analyzing the stakeholders. Red is a negative effecting stakeholder, while the blue represents a stakeholder who has a positive effect towards the company. The ones without any box are neutral. The final component of the matrix is the four different types of stakeholders, who depended on their placement, must be approached differently. The first type is the "Crowd" (low interest, low power) who does not have a direct influence on the company an example of this can be common people who are not the target group of potential customers; they are not relevant to create any strategy for and should remain in the crowd section. The second type is the "Context setters" (low interest, high power) who can be the Danish government or other institution who has a direct influence on the company's daily operations but does not have a specific interest. They should be kept in mind when creating the business model, but should not be directly approached as the company cannot change the laws and other factors of the "context setters". The third type is the "subjects" (low power, high interest) which have a high interest in the company, but does not have the ability to change the business model. This could be potential customers or indirect competitors, which should be monitored somehow. The last type is the "players" (high power, high interest) and they are the most valuable in the stakeholder matrix. The need the most attention as they can alter the business model towards their likings and either have a positive and negative effect on the company. This could be all sorts of stakeholder types from customers to board of directors, but the all share the common characteristics of having high power and high interest.

The stakeholder analysis will evaluate these different actors for their interest and power and compare this to the factors of their concerns and how NSC should inform these about changes in the company business model and strategy.

10.1.5.1 Board of directors

Interests
The board of directors is a major player for the company as they are the decision makers and the owners are part of the director's board. They have a huge interest in the success of NSC as they have equity in the business and want it to succeed. The interest is in the daily operations, how well different campaigns are performing and how resources should be divide in the company to maximize revenue.

Concerns
The concerns are also tied to the equity in the business and the personal relationship to the NSC. The concerns are also based on the performance of the company and how the quotas are being

fulfilled. The board of directors would like to have a saying in most of the daily operations for that matter, which is also a concern for the employees as long as the company has a small size.

Involvement
The board of directors should be involved in any major changes in business model as they would likely have to approve certain actions. They should also be included in status meetings, which could be held in each quarter of the year to discuss the company future and be presented with financial results.

10.1.5.2 Customers/Clients

Interests
The customers and clients are valuable players for the company as they are the key source of income in the business revenue model. The math is simple in the sense that without these stakeholders the business does not have a sustainable financial foundation. Their interest is based on the offerings of the company and the services it can provide them. The interest in the company will also be based on how the company store and uses its clients' data [Section 10.1.3] as Nordic Software Company (NSC) will gain a lot of client information when creating marketing campaigns that are target specific.

Concerns
There are two main concerns seen from the clients' side: marketing success and how their data is used. The decision makers clarified the uncertainty of success in a marketing campaign in the survey [Section 8] and the NSC must focus on delivering these results in its start-up to gain the trust of the clients and to thrive from these success stories. The second concern should be dealt with by creating a specific framework for data handling to gain the trust of the client. The client would be interested in a target specific and relevant marketing campaign but on the other hand would not like to give away company secrets and data.

Involvement
The clients should be involved in a respected manner, but without directly influence on the daily operations of the company. The NSC could choose to do focus groups with some of its most loyal clients when changing part of the business model to see how they react to such changes. The clients should of course also be well informed about how their marketing campaigns are performing and if the trends they have been exposed to changes. The clients will also feel entitled to information in regards to changes in the marketing campaign, if it switches platforms or customer segment.

10.1.5.3 Potential Customers/clients

Interests

Potential customers and clients are interested in the company in the extent that covers their knowledge of the company. The more information known about the company thus more of a preconceived opinion the potential customers will have. This is greatly influenced by the offerings of services of NSC as different clients might have different values and expectations. The survey [Section 8] showed that almost none of the participants thought that digital marketing was easy and combined with the willingness to use professionals could spike the interest of the NSC services.

Concerns

A potential client would have the same concerns as a company client has [Section 8] and a few more addition to this. This includes the doubtfully part of the budget to use NSC as marketing campaigners as the company does not originally have a budget for such marketing. The potential clients would also be careful to include digital marketing as a strategy if they have preconceived opinion about the success rate and the relevance of a digital marketing campaign.

Involvement

The potential clients are the subject of the master thesis both seen from the NSC perspective, but also as a whole. The thesis seeks to answer how to involve potential customers and how to win over the segment of customers in the early adopter phase of a company. [Section 10.3.2] The usage of digital strategies to engage in contact with the potential clients is also described. [Section 10.2]

10.1.5.4 Danish Government & Governmental institutions

Interests

The Danish Government does have some sort of interest in a start-up company. The Danish Government has among other initiatives created the "Iværksætterpanel" [76] in which the goal is to make Denmark the best place to create a new business. The Government is also interested in any business that can impact the economy in a positive manner.

Concerns

The Danish Government has multiple concerns with companies in general. How is the work environment according to the Cooperate Social Responsibility? (CSR) [77] Are the companies following the Danish Act on Public and Private Limited Companies? Are the companies reliable to other general law like the GDPR? [Section 5.4] The Danish Government has concerns but they are more general for any company in Denmark rather than relatable to a specific company.

Involvement

The NSC should not include the Danish Government as a specific stakeholder to keep in touch with during their daily operations. The Government has created many laws to be followed, but the company should make one-time strategies to deal with CSR, GDPR and other regulations. Since the company is an ApS they are bound to provide a deposit capital of 50000 DKK, founding document and a valid financial record each year. [78]

10.1.5.5 Marketing Platforms

Interests

The marketing platforms will not have a specific interest in one particular company especially as they would not recognize one company's contribution to their yearly revenue at all. The NSC does use marketing platforms like Facebook and Google AdWords in their marketing campaigns and the platforms do recognize the importance of the advertising revenue. So they will listen to any suggestions from marketing companies as their business model is solely depended on the income from advertising and if a company is increasingly successful in their marketing they might consider how they are using their platform.

Concerns

The concerns are also in respect to the opinions of many companies and not just one company alone. The business model of these platforms used for marketing is heavily depended on the income as an example Google makes 97 % of their total income from advertising. [49] The platforms will listen to suggestions as they cannot afford the companies to switch to other platforms. NSC's concerns about the platforms are the exposure and digital algorithms [Section 5.2] the platforms use to broadcast the messages of the clients. If they change the algorithms and the company is not aware they will lose revenue.

Involvement

The platforms should not be directly involved in the business model of NSC, but since they are used on a daily basis the company should sign up to different news feeds that provides it with news in regards to changes on the platform. The company would then get an upper-hand advantaged before changes happens and can adjust the marketing campaigns towards the changes made by the marketing platforms.

10.1.5.6 Competitors

Interests

Competitors will always have an interest in other companies to see if they reveal any new trends or if NSC is stealing some of the customer segment. The interest is also regarding how different marketing approaches are done so that they might copy successfully marketing campaigns. The

competitor would also be interesting in knowing the approaches and business model of NSC as they might find inspiration.

Concerns

The concerns that a competitor has towards NSC should not be relevant as they are mostly not positive and would not affect the company in a positive way. The focus should more be on the concern that NSC has towards competitors as they can harm the business model by gaining more market ground or by offering better prices for some of their services. So instead of including their concerns the company should consider how the competitors are doing as seen in the SOTA [Section 7.2] and try to gain inspiration to its own business model by doing this type of market research.

Involvement

The competitors should be monitored for their prices and their success, but they should not be involved. They are part of the business model because they own an existing market and are competing for the new clients entering the market with NSC. The competitors could be relevant to involve for making conferences on digital marketing and spreading awareness of the company to reach the clients who are not part of the business cycle yet, but they should not be included in the financial sustainability as such.

10.1.6 The Proposed Business Model

Figure 23

The figure 23 illustrates the proposed business model for Nordic Software Company and the different interactions that each element has with each other. The business model defines three layers and two outer pillars like the holistic model. The dollar sign represents the financial sustainability [Section 10.1.4] and the three people are a representation of the stakeholder credibility. [Section 10.1.5] The lower layer is the functional architecture [Section 10.1.3] represented with a lock (data management), a light bulb (innovation) and a handshake (customer relationship management). The middle layer is the value architecture [Section 10.1.2] represented by a heart. The upper layer is the value proposition [Section 10.1.1] represented by a fishing rod (revenue model), a computer (product offering) and a man with a target (target segment). The arrows represent how they different representations interact with each other. The content of the business model for NSC was described in Section 10.1, but the business model can be used by any start-up company to evaluate their potential as it is based on research that wants to create a larger likelihood of start-up success.

10.2 Google AdWords Vs Facebook advertising

The following section describes the differences between the two types of marketing possibilities. After the initial investigation phase they were both chosen as the most relevant [Section 5.3] based on the findings and to compare search engine with social media. The basic information about the two types a listed in the table 24. [79] [80] [81]

	Google	**Facebook**
Topic	Google AdWords	Facebook Advertising
Created	October 23, 2000	2004
Features	User only pays per click and not a daily budget	Increases overall Facebook present (177 % more page likes in study)
Different Advertising Types	2	10
Average Click Trough Rate	0.4 %	0.051 %
Average Cost Per Click	$0.75	$0.80
Best for	Immediate sales	Brand awareness and lead generation

Table 24

Google AdWords has many positive attributes to apply in a marketing campaign and with the CPC system an advertiser is ensured at least an interaction with a potential lead client before paying for the advertisement. The negative aspect of Google AdWords is the uncertainly of relevance of the clients interacting with the advertise. If the advertising company is B2B, example IT-Support for businesses and a person is searching for support to a computer problem he or she might click the advertisement if they think the IT-support is for B2C. Compared to other advertising options

the Google AdWords makes it easier to track what type of client follow the lead from their campaign by using Google Analytics [82] as it shows who engages with the company's website, when clicking on the specific advertisement.

Facebook does also have a lot of positive attributes and differs from many other platforms with its huge variation of marketing campaign options. As an advertiser you pretty much can choose to apply settings that seemingly guarantee some sort of successful outcome. The negative is the spending of daily budget no matter what and there are flaws in the algorithm as well. By clicking settings on the home screen and afterwards "ads" on Facebook.com any user can see the information stored about their advertising preferences. Seeing yourself as a Finnish take-away eating, techno listening Vogue reader confirms that the algorithm for a look-a-like person must be flawed. The take-away attribute might be relevant when marketing a sometimes-hungry Danish master thesis student, but a lot of information is collected through mistake clicks or unintended interaction and a marketer cannot be completely definite that the algorithm reaches the specific audience with this misinformation. Another negative attribute about using Facebook is that use of the social media platform actually is associated with not working. [83] If you are a B2B company the relevance of targeting a decision maker from a B2B in his spare time might generate limited success.

To conclude on the two types of advertising they both have a great relevance for each of their customer segments. Google AdWords clearly have an advantaged on the B2B market given the fact that the ads are shown on a request from users searching on key words provided by the marketing company and the marketing campaign can be tweaked in the algorithms to reach the right customer segment by using different wording.

The main difference between the two advertising options are the fact that Google AdWords appears by searching and Facebook is more traditional billboard type of marketing appearing based on user profile preferences. The study section 8 showed that a customer is more likely to engage in a potential successful criterion when presented with a link specialized to them, which means an advertising campaign on Facebook would increase their success rate if the user knows why he or she is targeted with that campaign. Facebook's main advantaged is the large audience and the fact that marketing campaign are seen by thousands, but the advertiser only pay for the interaction with the ad. The user may see the product and then remember it later when shopping, known as the "top of mind effect awareness", [84] while Google AdWords advertisers depend on direct interactions. [79]

Learned through the empirical data gathering and initial research the Google AdWords campaign strategy is most suitable for B2B campaigning of the two and for direct contact with potential leads. Advertisers cannot fight other products through AdWords and is merely based on the key words regarding services. Example; "*A Pepsi advertisement when the user search for Coca-Cola*" which would not make a successful match. Nordic Software Company could use AdWords for

marketing the company in the greater area of Copenhagen for SMEs searching for marketing help and NSC could use it for its B2B clients.

The Facebook marketing campaign targeting is more fitting for B2C advertising especially if you are a well-known brand as the "top of mind effect awareness" [84] of the marketing reaches large amounts of customer segments while you only pay for the direct interactions. Facebook is also a good marketing platform if you are branding something familiar that is season specific. If market sandals online in the summer period people might not interact directly, but remember your brand name when going shopping next time. For B2B is seems almost impossible to reach the right audience on Facebook, but NSC could use the platform for marketing well known types of products and for B2C marketing as well.

10.3 Crossing the Chasm

The next analysis includes the diffusion of Nordic Software Company as a start-up company and how market shares can be gained through the theoretical framework "Crossing the Chasm". [Section 6.3] The company is analyzed through the phases of innovation and in relation to how a business model strategy can overcome the chasm between early adopters and early majority.

10.3.1 The Diffusion of Nordic Software Company

There are four elements to be studied regarding the company with respect to Rogers's "diffusion of innovation". [Section 6.1] These are *the company (innovation), communication channels, time* and *social system*.

The first element, *the company*, can be analyzed to see how it differs from other companies by using the five attributes of diffusion and adoption. The NSC's relative advantaged is the freshness, change of creating own reputation and other opportunities of a new company. The survey [Section 8] showed flaws and weaknesses of other marketing solutions and further market research could ensure NSC with the relative advantaged of knowing what customers expect and target specific companies, who wants to try a new approach and seek for a company with no bad reputation or bad references.

The company is also compatible with State of The Art marketing companies and the potential customers are pitch towards the NSC services by the "whole product" [Section 10.1.1] experience. The customers are not only buying a marketing campaign, but they are gaining an overall digital strategy for their whole company.

The process of setting up a marketing campaign with NSC is not complex and the company even ensures that clients get guidance in how to handle potential customers interacting with the campaign. The company's services are also trial friendly as the clients are offered options of 3-6

months' trial periods, where they only pay for the consultant wages – if successful the trial period can be extended into a permanent service agreement.

The observability of the company is part of the company strategy and eventually used when the NSC is reaching the chasm, but it is also described in the process of each service in Section 10.1.1. This analyze of the five attributes can be used further in the "Crossing the Chasm" process and support the answering of the stated research questions.

The second element is the *communication channel* and much has been written about digital strategies and the use of different platform to communicate products and services. Another communication channel used by NSC is the heterophily approach of network meetings. The COO of NSC is engaging in network meetings through Backspin Copenhagen, [85] where decision makers of different business types meet and network through golf and this network is used to spread information about NSC and gain new business opportunities as well.

The third element is *time* and known from the purposed business model [Section 10.1.6] the time horizon for the company is two years in which the NSC should be self-sufficient. The decision process also follows the five steps of innovation towards timely adoption. 1 The noncommittal meeting 2 the pitch of different services and trail periods 3 the decision of the client 4 the implementation of the service and 5 the final confirmation after a trial period, which should lead to continues adoption of the NSC services.

The fourth and final element is the *social system* where the focus is on clients' structure and norms. The marketing of NSC is targeting opinion leaders and their behavior patterns towards marketing. This element can either be improvement by gaining social status through these leaders of different business types or improvement of the services offered. The services improvement is the process of defining the client's product and image as they are not only receiving a marketing campaign they are also being evaluated for their digital presence and company value by a NSC change agent that interact with the decision maker's behavior and communication force to get a potential sales agreement.

These are the four elements related to the diffusion of the company and these findings can be used in the start-up of the company to ensure a leaner process towards gaining market shares.

10.3.2 The Chasm strategies

The next process is to look at the chasm between these early adopters and an early majority of market shares as the company eventually needs to expand its customer segment if it wants to be self-sufficient within the next two years. Companies often fail after the initial take-off [86] because they are expecting the market to follow a pattern instead of creating the pattern themselves. In my own previous research [1] the company Hitachi and its Big Data Copenhagen Marketplace also

lacked a strategy for gaining market shares and expected a "hockey stick effect" [d15] without strategical marketing planning towards this. Hence, the need to plan towards obstacles.
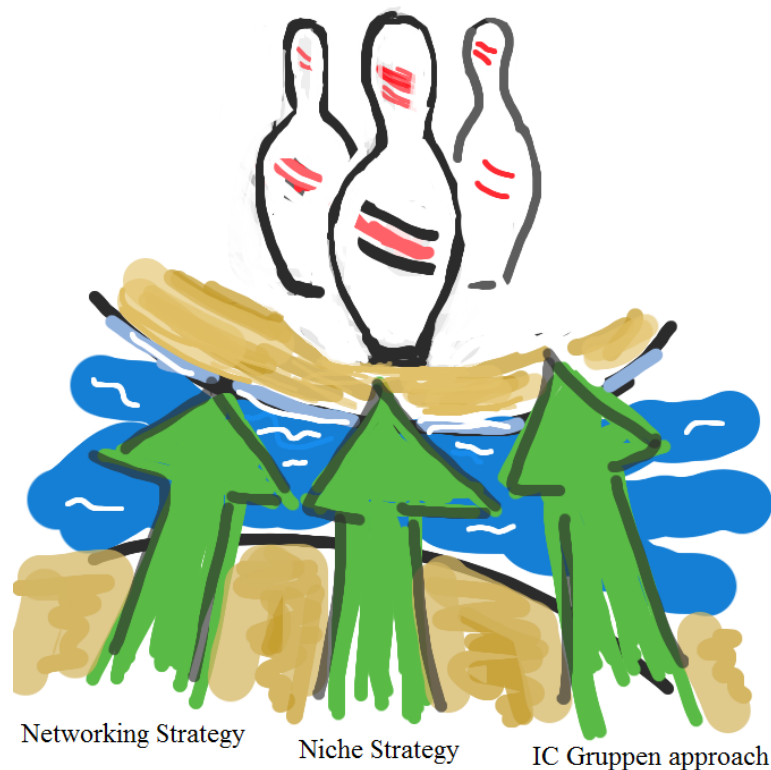

Figure 25

The "Crossing of the Chasm" is the theoretical idea of a great gap between different adopter categories as they are not the same types of customers. [Section 6.2] The Nordic Software Company will eventual reach such gap after the first clients are obtained through the founders known network and the innovative early adopters. The strategies to overcome this gap are illustrated on figure 25, which is an illustration of the D-day analogue and bowling alley together in an overall strategy to overcome the chasm.

The three arrows are the three different strategies created based on the findings of the research and they might be able to help NSC cross the chasm and they are: *network clients*, *niche strategy* and *IC Gruppen clients*.

Network clients: The "network client" strategy is a back-up strategy to gain momentum in a market if the company should reach a chasm, when fighting for potential customers. The network strategy is a "shotgun" approach [87] where NSC target all their potential contacts received from networking with a large discount on their services to contacts obtain through the business network. The idea is to target all types of business with the offer and hope they reply and start the marketing campaign process. The discount should be for the initial consultant fees and the

additional terms in the contract in a given period, while afterwards the network contact would have to pay the standard amount.

The niche strategy: The "niche" strategy resembles the niche approach used by G. Moore [Section 6.3] as it focuses on the pains of most golf clubs, which is loss of golf members that have happened over the last couple of years. [88] This is currently NSC's main strategy to enter the market as they are focusing on three golf clubs and their needs to relaunch themselves on the digital platforms. Having people paying for golf memberships is the bread and butter income of golf clubs and it is their cash cow [Section 6.4] that needs a revile through the help of digital marketing strategies. To enter this market NSC offers free marketing in the beginning where the client pays for a low consultant fee and the expenses of running the campaign only. NSC will receive additional payment for each new member and can use these three companies as launching point in the market by getting good references and reputation.

IC Gruppen clients: The" IC Gruppen clients" strategy is also a back-up strategy to the main strategy, but could prove vital if the NSC is unsuccessful in crossing the chasm by one of the two other strategies. This strategy relies on the bound between IC Gruppen and its clients as they already have trust in their relationship or it could be a possibility to incorporate NSC solutions in the future IC Gruppen contracts. In this case IC Gruppen can sell some of their own solutions and apply NSC services as an extra fee to make a combined offer. The strategy is a last call strategy as it is not supposed to be IC Gruppen that creates the contacts for NSC it is supposed to be the other way around. Furthermore, the strategy is depended on a reverse "whole product" [Section 5.7, Fig. 21] in the sense that the clients then expect their IT-solutions with a digital marketing extra to fulfill their experience, which will be a hard requirement to comply with if NSC is shut down.

Regardless of which one of the strategies are successful the Nordic Software Company would then have reached the customer segment of the early majority and needs to plan from there to ensure a successful launch and not just a small insignificant penetration. The key here is to find the right strategy that will make the bowling pins fall in line after the first bowling pin, which is the digital strategies, has fallen. [Section 6.3] From the niche strategy perspective a successful campaign would provide the company with a good reference base and reputation that could help the NSC reach more Golf Club clients as the early majority segment often relies on others opinion. [Section 6.2] This is the main strategy once the company succeeds in creating successful campaigns and the use of AdWords [Section 5.3.2] and personal emails with the success references should be used to spread the word and to engage with the early majority. A second approach is to follow-up the initial solution to sell other services and solutions to the clients once the relationships have been formed. The proof of concept [d11] could also be used to gain similar arrangements with other sports clubs or other associations that are losing members. The other bowling pins could also be involved with the other solutions of NSC and IC Gruppen to gain more momentum and a stronger relationship with the client.

11 Discussion

The master thesis researches innovation theories in relation to a start-up company, which then leads to a case-study of a newly started company. This approach was made to achieve an entrepreneur experience, but the research is only a small part of a real entrepreneur experience. The experience was limited to theory for most parts, even though I participated in network meetings and a meeting with a potential client. A lengthy research of entrepreneurship could benefit with descriptions of these initial client and network meetings.

The theory focused on a relevant concern about market shares and customer segments. The problem formulation could have focused on financial or social aspects, but digital strategies and business models were chosen due to their relevance to an ICT business development student. The kindness of the employees and founders of the two companies provided the research with detailed insights on the company business, which would have been impossible to achieve in a regular case-study. The subjective relations to Nordic Software Company were also influential when the analysis was created. The findings could have been directly deduced from the company, but the findings were objectified instead to be applied to any start-up company with a few modifications. By sparring the ideas from the business model with NSC that research illustrated that findings through course material were relevant and could be applied in a real-life situation. It is important to separate the subject nature of the answers in the interview and survey and understand the intentions of the answers before applying these as facts.

The approach of creating strategies could have been benefited by an extended time period as the research could have experimented more with the strategies and evaluated on the results. At the point of writing the thesis the "niche strategy" is only in its implementation and trial phase and it is impossible to predict the outcome of such. Had more time been available a more in depth-description of the use of the BCG matrix and the whole product could have benefited the answers as well.

The survey provided the research with results that could be used in the analysis. The answered were market oriented confirming the relevance of NSC, but the results gave insight data that could be used when creating the strategies too. The empirical evidence from the study was overwhelming as the questionnaire had 42 participants after being shared and posted on social media sites. The 42 participants are not a complete representation of the whole market, but the volume is enough to show specific trends among other the 96 % representation that did not find digital marketing easy. The opportunity to include course material and theory that has been processed and worked with gave motivation trough the writing process.

The State of the Art research could have included other aspects of the research, but the companies were chosen to see what type of alternatives the market already offered.

The implementation of the "Crossing the Chasm" framework introduced on of the major challenges of conquering market shares, which was due to the different types of adopter categories. The theoretical framework section described the different types, but an alternative research approach could have identified different adopter categories and obtained empirical evidence by interviewing those. The framework was modified to suit the intended business strategies and through the whole thesis the reader is illuminated on different approached taken base on the literature review, problem field and empirical evidence. The findings of the research cannot be reproduced by a similar case-study, which demonstrates the uniqueness of the combined tri-force of independent literature reviews, course material learned in the master program and empirical evidence gathered.

11.1 Delimitations

The master thesis is limited by the length of the writing period for numerous reasons. First of all, it could had benefited the project with a more extensive time-period as the strategies could have been applied and tested for a period of time to give extensive feedback on their relevance and study their impact on the market share and revenue of Nordic Software Company. Many of the findings were also limited by the time period as a larger scale entrepreneur research could have studied these findings more in-depth and have had follow up interviews with survey participants. The answers of the survey are also limited by the research type as an in-depth interview with some of the participants would have given more extensive answers. The entrepreneur experience was also limited as I am employed in IC Gruppen and did not have the decision-making abilities to apply the theory directly to NSC. The COO and board members were kind enough to listen to the ideas and contribute to the paper, but to get the "real" entrepreneur experience I would have had to be one of the founders of the company myself.

12 Conclusion

The master thesis intended to research theoretical strategies of innovation and entrepreneurship using course material studied in the master program. The idea to study how to overcome challenges of a start-up came through supervision meetings and a theoretical framework was found through a literature review of potential entrepreneurship challenges.

The stated problem formulation became: *"How can theoretical strategies assist a start-up company to expand market share growth beyond the company's personal network?"*. The answer to the problem was investigated through the whole thesis with a relevant problem field that reflected some of the material used later in the analysis. The theoretical framework of Rogers's "diffusion of innovation" was deduced to a specific problem and the theory of Moore's "Crossing the Chasm". Collecting empirical evidence and combining these findings throughout the paper made it possible to answer the stated problem formulation. Three theoretical strategies were proposed the "Network clients", "niche strategy" and "IC Gruppen clients" strategies showed a possible way of expanding market share growth beyond a start-ups personal network. The strategies were built on top of the D-day analogue and bowling alley approaches in "Crossing the Chasm" and furthermore including the "whole" product experience. The analyze also gave answers to what approaches a company can take once they have successfully crossed the chasm.

This approach created a foundation for further studies of entrepreneurship and a sub-question in the problem formulation stated: *"How can a start-up company ensure a financial sustainable business defined through a business model?"*.

The problem field stated two types of business models and the holistic business model framework was altered to an alternative business model that among other also included data management and the final proposed business model was suggested with respect to Nordic Software Company, but its diversity ensures that it can be used for any start-up company who wants to make a financial sustainable business.

Lastly, digital strategies also played a huge role in the findings of the thesis not only as the main product offering of NSC but also to answer which platform to advertise on. The study showed that Facebook increased brand awareness and was suitable for B2C, while Google AdWords was more suitable for immediately sales and B2B.

To conclude the master thesis provided meaningful findings of entrepreneurship by including theoretical knowledge and empirical evidence. Readers of the thesis are provided with a significant understanding of business strategies and models, which hopefully could inspire to pursue an entrepreneurship dream of their own.

Definitions

[d1] IC Gruppen; An IT-consultant company from 1998. Their main purpose is to be outsourced IT-department for other companies and provide IT consultancy when companies are making new IT implementations. [www.icgruppen.dk/ydelser]

[d2] Search Engine Optimization; Is the process of increasing organic search relevance in search engines such as Google. [https://searchengineland.com/guide/what-is-seo]

[d3] Anders Kofoed-Petersen; Deputy Director of the Alexandria Institution and professor at NTNU in Trondheim, Norway. Specialized in AI and Big Data optimizing. [https://alexandra.dk/dk/om_os/medarbejdere/anders-kofod-petersen]

[d4] Facebook; Is listed as Facebook, Inc. and is an online social networking site. The site is the most visited of its kind on the entire World Wide Web. The site has about one billion active users, and every day there are 250,000 new profiles created. [https://edition.cnn.com/2014/02/11/world/facebook-fast-facts/index.html]

[d5] Cookie; A "cookie" is a small text file installed on the computer through a website. Newer Danish law requires websites to enlighten users about the use of cookies they have become extremely sophisticated and are able to capture detailed data about users. [https://www.retsinformation.dk/Forms/R0710.aspx?id=139279]

[d6] JavaScript; Is a high-level, object-oriented scripting language used especially to create interactive applications running over the Internet. [http://www.dictionary.com/browse/javascript]

[d7] Terminal system; Defined in the Danish law as a product or relevant component which can be directly or indirectly connected to the public electronical communication network. [https://www.retsinformation.dk/Forms/R0710.aspx?id=139279]

[d8] GDPR; General Data Protection Regulation is a legal framework that sets guidelines for the collection and processing of personal information of individuals within the European Union (EU). [https://www.investopedia.com/terms/g/general-data-protection-regulation-gdpr.asp#ixzz5ELRw3syq]

[d9] Data Protection Directive; the Directive 95/46/EC is referred to as Data Protection Directive. DPD was adopted in 1995 and had two main purposes in mind: protecting fundamental privacy rights and ensure a free data flow between the member states of the European Union. [https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31995L0046:en:HTML]

[d10] Change Agent; In business parlance, a change agent is an individual or group, who carry out the task of prompting and managing change in the organization. The person is someone, who directly or indirectly influences change. [https://businessjargons.com/change-agent.html]

[d11] Proof of Concept; Indication or demonstration that a business model, solution or idea is achievable.
[http://www.investorwords.com/3899/proof_of_concept.html#ixzz5HYF98Jnm]

[d12] Unlinkability; Unlinkability is the attempts made to ensure that PII cannot be linked between domains which means PII stored in one domain cannot be processed or linked to other PII found on a different domain. [Bock, Kirsten (2012) Datenschutz-Schutzziele im Recht – Zum normativen Gehalt der Datenschutz- Schutzziele. Datenschutz und Datensicherheit (DuD]

[d13] Microsoft CRM 365; is Microsoft's ambitious cloud solution that combine enterprise resource planning and customer relations management in one solution.
[https://www.inventio.it/microsoft-dynamics-365/faq/hvad-er-dynamics-365-.aspx]

[d14] Top of the Iceberg; A term coined by Ernst Hemmingway. In business the principle ensures that no person is irreplaceable as there is not any employee, who had knowledge that are not available or known by another employee. [https://gothamculture.com/2015/04/30/iceberg-organizational-culture-change-infographic/]

[d15] Hockey Stick Effect; A hockey stick chart is a line chart in which a sharp increase occurs unexpectedly after a short period of inactivity. The line connecting the data points resembles a hockey stick. [https://www.investopedia.com/terms/h/hockey-stick-chart.asp#ixzz5HYICgFwk]

Reference list

[1] Nielsen, F. et. al. (2016). "Big data market place and Copenhagen's SMEs" Aalborg University Copenhagen

[2] Saunders, M., Lewis, P., & Thornhill, A. (2009). "*Research Methods for Business Students*." Pearson Education.

[3] Buzan, T. (2006) "*The Ultimate Book of Mind Maps.*" London: Harper Thorsons.

[4] Clough, P. and Nutbrown, C. (2002) "*A Student's Guide to Methodology*." London: Sage.

[5] Maylor, H. and Blackmon, K. (2005) "*Researching Business and Management*." Basingstoke: Palgrave Macmillan.

[6] Jankowicz, A.D. (2005) *Business Research Projects* (4th edn). London: Thomson Learning

[7] Wilson, J. (2010) "Essentials of Business Research: A Guide to Doing Your Research Project" SAGE Publications, p.7

[8] Goddard, W. & Melville, S. (2004) "*Research Methodology: An Introduction*" 2nd edition, Blackwell Publishing

[9] Harvard College Library (2006) "*Interrogating texts: 6 reading habits to develop in your first year at Harvard*."

[10] Greenhalgh, T. (1997) "*Papers that summarize other papers (systematic reviews and meta-analyses)*", *British Medical Journal,* Vol. 315, pp. 672–5

[11] https://www.dst.dk/da/Statistik/Analyser/visanalyse?cid=27867

[12] Chistensen, C. and Seebach, M. (2010) "*Social Media Marketing i Danmark*". Copenhagen Business School

[13] Bång, A. and Hell, J. (2015) "*Digital Marketing Strategy Social media and its contribution to competitiveness*" Linnæus Universitet

[14] Ries, E. (2011). "*The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*." Crown Books.

[15] Moore, G. A. (2002). "*Crossing the chasm*"

[16] Ravichandran, T. (2017). "E*xploring the relationships between IT competence, innovation capacity and organizational agility*" The Journal of Strategic Information Systems Volume 27, March 2018, Pages 22-42

[17] Li, F. (2017). "*The digital transformation of business models in the creative industries*". In Press: Available at https://www.sciencedirect.com/science/article/pii/S0166497217300536?via%3Dihub

[18] Hansen, R. (2015). "T*oward a Digital Strategy for Omnichannel Retailing*". PhD thesis Copenhagen Business School

[19] Lin, M. and Hong, C. (2015). "*Opportunities for Crossing the Chasm between Early Adopters and the Early Majority through New Uses of Innovative Products."* Article in "the review of socionetwork strategies".

[20] Gombault, A et al. (2016). "*ICT Adoption in heritage organizations: Crossing the chasm*" Journal of Business Research, Vol.69(11), pp.5135-5140

[21] Peng, Y. and Sanderson, S. (2014). "*Crossing the chasm with beacon products in the portable music industry*" Technovation, Vol.34(2), pp.77-92

[22] Fox, A. and Patterson, D. (2012). "*Crossing the software education chasm*" Communications of the ACM, Vol.55(5), pp.44-49

[23] Martin, D. and Ocampo, D. (2014). "*Crossing the chasm in supply chain security"* Supply & Demand Chain Executive, May 2014, Vol.15(2), pp.15-17

[24] Neuman, L. (2012). "*Social Research Methods: Quantitative and Qualitative approaches*"

[25] Robson, C. (2002) "*Real World Research*" (2nd edn). Oxford: Blackwell

[26] Morris, T. and Wood, S. (1991) "*Testing the survey method: continuity and change in British industrial relations"*, Work Employment and Society*, Vol.* 5, No. 2, pp. 259–82

[27] Yin, R.K. (2003). "*Case Study Research: Design and Method"* (3rd edn). London: Sage.

[28] Adams, G. and Schvaneveldt, J. (1991) "*Understanding Research Methods".* (2nd edn). New York: Longman

[29] http://nordicsoftwarecompany.dk/kompetencer

[30] Pallant, J., et. al. (2017). "*An empirical analysis of factors that influence retail website visit types.*" *Journal of Retailing and Consumer Services, 39*, pp. 62-70.

[31] https://www.nytimes.com/2004/11/14/business/yourmoney/what-walmart-knows-about-customers-habits.html

[32] https://digiday.com/marketing/organic-reach-facebook-dead-advertisers-will-spend-reach-facebooks-feed-purge/

[33] Grönroos, Christian. (1994). "*From Marketing Mix to Relationship Marketing: Towards a Paradigm Shift in Marketing,*" *Management Decision,* vol. 32, no.2, pp 4-20

[34] https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS

[35] https://www.w3schools.com/js/js_cookies.asp

[36] https://www.targetinternet.com/digital-marketing-guide-to-cookies/

[37] Dellarocas, C. (2009). "*The Impact of Performance-based Advertising on the Prices of Advertised Goods*"

[38] Goldfarb, A.; Tucker, C. E. (2011). "Online advertising, behavioral targeting, and privacy"

[39] Yan, J. et al. (2009). "*How much can Behavioral Targeting Help Online Advertising?*" (http://www2009.eprints.org/27/1/p261.pdf)

[40] Beales, H. (2010). "*The value of behavioral targeting*" https://www.networkadvertising.org/pdfs/Beales_NAI_Study.pdf

[41] Chen, J. and Stallaert, J. (2014) "*An Economic Analysis of Online Advertising Using Behavioral Targeting*"

[42] https://hbr.org/2017/07/6-digital-strategies-and-why-some-work-better-than-others

[43] https://www.just-eat.dk/

[44] https://blog.hubspot.com/marketing/digital-strategy-guide

[45] https://www.facebook.com/zuck/posts/10104413015393571

[46] https://torquemag.io/2018/03/facebook-algorithm-change-2018/

[47] https://finance.yahoo.com/news/facebook-reports-second-quarter-2017-200500013.html?guccounter=1

[48] https://blog.hootsuite.com/how-to-advertise-on-facebook/

[49] https://www.statista.com/statistics/266249/advertising-revenue-of-google/

[50] https://www.wordstream.com/articles/what-is-google-adwords

[51] https://support.google.com/adwords/answer/2456098?hl=en

[52] https://www.retsinformation.dk/Forms/R0710.aspx?id=139279

[53] http://www.privacy-regulation.eu/en/article-4-definitions-GDPR.html

[54] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012P/TXT&from=EN

[55] http://www.enhesa.com/blog/eu-directive-vs-eu-regulation-whats-difference?language=en

[56] https://gdpr-info.eu/

[57] https://united-kingdom.taylorwessing.com/en/insights/radar/ico-publishes-draft-guidance-on-consent

[58] Osterwalder, A., & Pigneur, Y. (2010). "*Business model generation: a handbook for visionaries, game changers, and challengers*". John Wiley & Sons.

[59] https://www.boardofinnovation.com/business-revenue-model-examples/bait-and-hook/

[60] Sinek, S. (2009). "*Start with why: How great leaders inspire everyone to take action*." Penguin.

[61] Levitt, T., & Levitt, I. M. (1986). "*Marketing Imagination: New*." Simon and Schuster.

[62] Moore, G. A. (2002). "*Crossing the chasm.*"

[63] Rogers, E. M. (2010). *Diffusion of innovations*. Simon and

[64] http://www.netmba.com/strategy/matrix/bcg/

[65] http://www.milnerltd.com/news/using-the-bcg-matrix-for-effective-portfolio-management/

[66] Steenburgh, T. et. al (2011). "*HubSpot: Inbound Marketing and Web 2.0*" Harvard Business School.

[67] https://adaptagency.com/

[68] https://docs.google.com/forms/d/e/1FAIpQLSf68KMb_CoeAldWYHifa06MjoY7YcT1IkMEMiPzhUN4VVtrqw/viewform

[69] https://blog.business-model-innovation.com/tag/value-architecture/

[70] https://www.microsoft.com/en-us/licensing/product-licensing/products.aspx

[71] https://www.retsinformation.dk/forms/r0710.aspx?id=27298

[72] https://www.investopedia.com/terms/t/turnkey_solution.asp

[73] http://www.bain.com/publications/articles/the-story-behind-successful-crm.aspx

[74] https://www.youtube.com/watch?v=5n1vf4pcmfw

[75] https://businessanalystlearnings.com/ba-techniques/2013/1/23/how-to-draw-a-stakeholder-matrix

[76] http://em.dk/nyheder/2017/04-07-ivaeksaetterpanel

[77] https://www.danskerhverv.dk/radgivning/csr/

[78] https://erhvervsstyrelsen.dk/stiftelse-registrering-selskaber

[79] https://www.wordstream.com/articles/facebook-vs-google-display-network

[80] https://www.wordstream.com/blog/ws/2017/10/27/search-ads-vs-facebook-ads-case-study

[81] https://blog.wishpond.com/post/106238043028/infographic-google-adwords-vs-facebook-ads

[82] https://www.webanalytiker.dk/tracking/udbydere/google-analytics/

[83] https://workspirited.com/should-facebook-be-banned-at-workplace

[84] https://www.insightsassociation.org/issues-policies/glossary/top-mind-awareness

[85] http://www.backspinbusiness.dk/

[86] https://www.investopedia.com/slide-show/top-6-reasons-new-businesses-fail/

[87] https://www.feedough.com/shotgun-approach/

[88] https://sn.dk/Sjaelland/Golfklubber-mister-medlemmer/artikel/8072

[89] Nielsen, F. (2018) "*General Data Protection Regulation – A SME's way to compliance.*" Aalborg Univeristy Copenhagen

All websites visited 5th of June 2018.

Appendix

Attached separately.