Master Degree Project in Knowledge-based Entrepreneurship

Product Development in Start-ups

a case study of the relationships created through the product development process

Linnea Rehnberg

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By: Linnea Rehnberg

This thesis has been written within the research topic of entrepreneurship, entrepreneurial marketing and branding.

School of Business, Economics, and Law, Gothenburg University

Vasagatan 1

 P.O. Box 600

SE-40530 Gothenburg

Contact: linnea.rehnberg@gmail.com

I.   Abstract

Title: Product development in start-ups,

A case study of the relati-onships created through the product development process

Author: Linnea Rehnberg

Supervisor: Johan Brink

Key Words: Co-development, lean start-up, customer relationship

Purpose:

The purpose of this research is to examine the intersection between the start-up methodology, co-development and the customer perspective. Co-development is an area with many aspects; this research will focus on the relationship between the company and its customer. By doing so, an understanding of which are the most important factors of new product development can be formed.

Research question:

RQ1: How does the customer involvement affect the product development process?

RQ2: How does the stage of the development process where the customer gets involved affect the co-development?

Method:

Due to the nature of the research questions a qualitative research method was chosen with an inductive strategy. The research has been designed as a comparative case study were three case companies as well as two customer of each company have been interviewed. The interviews were semi-structured in order to capture the similarities and differences between the participants.

Findings:

The research suggests that by involving the right customers in the product development process the value can be increased and it can result in new clients. Involving a customer does not necessarily have the same impact. Instead it might result in valuable resources being misused. The research further implies that involving the customer in the early is related to positive outcome in many aspects.

II.   Acknowledgements

III. Table of content

1. Introduction

The introductory chapter of this thesis will begin with a background of the researched subject, product development in start-ups. It will be followed by a closer description of the researched topic and the issues related to the co-development. This is then followed by the aim and the research questions addressed.

1.1. Background

Product development in the past has been an internal process within the company. The finished product was then pushed out onto the crowd and sold by the help of advertising or pushy sells people. For a newly started company conducting product development in this manner most likely ends up spending valuable capital on a product the market might not accept. Lean start-up has become a popular buzzword in recent years. It focuses on experimentation, customer feedback. Products are developed through an iterative process compared to the more traditional way. The lean start-up methodology identifies that a start-up is not just a small version of a big company. Therefore management, planning and product development differs in a start-up compared to a large corporation. Steve Blank (2013) argues that the core difference lies with that a large company executes a business model where as a start-up is looking for one, meaning that a start-up company yet has to identify their customers as well as their value proposition. The process of identifying customers and verifying the value proposition is by Steve Blank referred to as the customer discovery phase whereas Eric Ries (2011) describes it as feedback loops during a build-measure-learn process. Both authors underline the importance of customer feedback, and to receive it as cheaply and as fast as possible. It can be done by creating a prototype or a first generation of a product with a minimum set of features, a Minimum Viable Product (MVP). Engaging the first customers to test and evaluate the MVP the lean start-up owner can learn from real customers thorough out the development process. It is then possible make small changes throughout the whole development process instead of fully develop the product and risking that no one will be interested to buy it. Research on customer co-development in larger companies finds advantages such as shorter time to market and a cheaper development process. By developing a close relationship to the customers the companies can learn from them. The advantage for the customer on the other hand is help to solve a problem they have been looking for a solution for by a company who is very attentive to their feedback. According to Steve Blank et al (2012) the entrepreneur is selling a vision of the product rather than the actual MVP.

Therefore the early adopters need to fall in love with the idea, not the product per see. A great experience creates loyalty towards the company as well as generating word of mouth, both important for a company in the start-up phase (Ismail, 2011, Tynan et al 2009). A new trend in product development can be seen which goes in accordance to the concept of lean start-up, the customer co development. In the lean start-up literature as well as the customer co-development literature little light has been shed on the customer. Von Hippel (1988) identified the lead user which shares many similarities to Blanks et al (2012) earlyvangelist. Hoyer et al (2010) identified what motivates the customers to participate. What has yet not been studied is how the customers perceive the co-development and how it affects their view of the company.

The outline of this thesis is as follows. After this introductory chapter the methodology chapter will follow describing the method used in order to collect the primary as well as the secondary data. Further the reliability, validity as well as trustworthiness and authenticity is being discussed. Following the methodology chapter is the theoretical framework discussing theories regarding the different aspects of customer co-development followed by a section regarding relationship marketing. The forth chapter contains the empirical findings followed by the analysis chapter where the empirical findings are analysed in the light of the theoretical framework. Lastly the concluding chapter will present the implications of the findings as well as proposed further research.

1.2. Problem description

Most start-ups fail and most products developed are not successful (Ries, 2011). Ries (2011) argue that one of the reasons is too long and costly product development cycles. By using the lean start-up methodology the failure frequency can be minimised argues Ries (2009) and Blanks and Dorf (2012). The main point of their arguments is to involve the customers and to do it early. However there is yet little research available on the subject. The research available focuses to a large extent to existing companies with existing customers. However, the development process between large and small companies difference. It is therefore of importance to understand how the product development process works also in start-ups.

The majority of the research focusing on product development has a strong focus on the companies and their reasons to involve customers in their product development process. This

study will also include the customers. By focusing on the customers perspective a new dimension can be added to the customer co-develop theory. When including the customers in the product development process close relationships are developed. But not every customer should be involved in the development of new product. Von Hippel (1986) is describing the lead user as a customer who experiences a problem a head of the mass market. The lead user has similar traits to the earlyvangelist described by Blank and Dorf (2012).

It is, in the end, the customers who determine whether the start-up will evolve into a successful business. The relationships to the customers are therefore the most important relationship a company has (Ford et al 2003). Throughout the co-development process the relationships strengthens as a result of that the close cooperation. If the companies adapt a win-win mentality during the co-development the advantages of relationship marketing can also be achieved.

In order to gain a deeper understanding of the customers participation in the product development process a comparative case study has been conducted. Three start-up companies have been interviewed as well as two customers of theirs. The companies' very first customer participated and one customer who came in later in the product development process. The outcome shows that the relationship to the customers is more important than in what phase of the product development process the customer become involved. Furthermore, the relationships with newer customers who enter the process when the product development process is coming to an end seem to have more of a distant relationship to the company.

1.3. Aim and research question

The aim is to explore the relationship between, in which stage of the product development process the customer gets involved and the relationship between the customers and the company.

> *RQ1: How does the customer involvement affect the product development process?*
>
> *RQ2: How does the stage of the development process where the customer gets involved affect the co-development?*

2. Methodology

The methodology chapter describes the method used in order to conduct the research. It treats the areas of research philosophy, choice of method, work progress, data collection, reliability and validity.

2.1. Research philosophy

The epistemological considerations in this thesis will follow the view of the interpretivism which acknowledges that studies of the social world require a different logic compared with the study of natural science. Interpretivism recognises the differences between people and requires that the social scientist grasp the subjective meaning of the social actions (Bryman and Bell, 2011).

2.2. Choice of method

The lean-start up methodology is a rather new field of research. The advantages of involving customers in the development process have however received more attention. Customer involvement in the product development process of start-up is thus a combination of the two. It is an angel of research which is rather unexplored, a qualitative research strategy is therefore to prefer as it is concerned with the generation of theory (Bryman & Bell, 2011).

An inductive approach is often connected with a qualitative research strategy. It is used in order to explore the relationship between theory and empirical research and thereby generate new concepts and theories. The inductive process is based upon drawing conclusions out of observations, meaning that by analysing the data collected through empirical studies a theoretical understanding of the phenomenon can be formed. Critique against the inductive design is that much of the qualitative research does not generate theories (Bryman & Bell, 2007). This research will have an iterative approach as weaving back and forward between theory and data collection is being done. The research strategy is indeed qualitative where the empirical data is collected through interviews, the research thereby focus on words rather than numbers. Little qualitative data has been used in this study.

The research is designed as a comparative study where multiple cases are being examined and compared with each other in order to find similarities and differences. Thereby a deeper understanding of the customers' role in the product development process in start-ups can be

gained. The use of case studies is common among business researcher and multiple case study design is of increasing importance according to Bryman and Bell (2011). However, by using a case study, statistical generalisations cannot be drawn; analytical generalisations may on the other hand be supported by a multiple case study approach (Yin, 2013).

A case study focuses on a specific situation or entity with a purpose. The setting of the specific case is intensively researched and by using a multiple case study design the researcher needs to find common and unique aspects of the cases and reflect over the findings on a frequent basis (Bryman and Bell, 2011).

2.3. Work progress

The problem on which this research is built was discovered during classes treating the subject of entrepreneurship and product development. The lean start-up method is a relatively new approach to product and company development and has therefore not been critically researched. As described earlier the lean start-up method is based on as early as possible present the idea and the MVP for the customer in order to gain feedback. A question was raised in conjunction with the testing of a business idea, how early can the MVP be presented to the customer without destroying the customer's faith in the product?

The lean start-up methodology was made popular by Eric Ries in 2009 and little academic research has been made on the subject. However, as discussed in the introduction, the subject of customer co-development has received more attention. The aim of this thesis is to contribute to research through empirical findings using a customer perspective on the product development in start-ups. The insight gained from this research can aid entrepreneurs to maintain their customer relationship as well as in the choice of co-development partner. A choice, which this research shows, is of great importance.

Following the decision of research topic was the condition of a narrative literature review. The review resulted in the theoretical framework and is based on theories regarding customer co-development. In connection to the literature review the interview guide (see: appendix 1 and appendix 2) was drawn up and the search for suitable case companies was initiated. As a result of the first interviews the course changed from aiming to research the change in the customers' view of the company to concerning the relationship created throughout the

development process. The reason for that change was the realisation that prior to the cooperation the customers did not know anything about the start-ups. They therefore did not have any preconceptions of the companies. Further reviews of the literature were conducted and the result of the second review was the decision to include theories regarding lead users and relationship marketing.

The empirical findings from the case companies and their customer were analysed within the guidelines of a comparative case study design. The cases where compared in order to find similarities and differences and there after bundled and examined in the light of the literature through an iterative process. By identifying the similarities in the relationships between the case companies and their customers, and compare that to where in the process the customers became a part of the product development the research questions could be answered in the light of the literature review.

2.4. Data collection

2.4.1. Primary data

The primary data was collected through semi structured interviews. It is a flexible method used when it is important for the researcher to gain a profound understanding of the interviewees' outlook of the world. An unstructured interview style could also have been possible but when a doing a multiple case study a semi structured interview style is preferred compared to an unstructured one. The reason is that some structure is needed in order to be able to compare the different cases in a meaningful way (Bryman and Bell, 2011). Interview guide was therefore followed, one concerning the case companies and another one designed for the customers. The interviewees were, however, allowed to freely respond to the questions in their own way.

The case companies will remain anonymous due to their expressed will to do so. They were chosen from the following criteria's; firstly, none of them were older than 10 years. That is due to the fact that the research concerned start-ups. Another reason to have as young companies as possible was to minimise the risk of remembers bias of the case company as well as the customer. Secondly, the companies had to have paying customers as the customer was the core of the research. Blank and Dorf (2012) argues that being able to charge the customers for an early indicates that they are genuinely interested in the product. The third

criteria was to only include case companies who actually did co-develop with their customers as that was the point of research. Lastly the case companies had to be business to business companies in order to facilitate the research of the customer perspective. Business to business companies tends to have fewer customers and it would therefore be easier to identify and get in contact with the first customer. In all case companies the founder or one of the founders was interviewed. In the customer interviews the person responsible for the co-operation was interviewed.

A screening of suitable case companies was conducted and attempts to get in contact with the suitable start-up companies were being made. What was found to be problematic was the fact that the in majority of the contacted companies, the founder or CEO did not find the time to participate in the interviews. An additional issue was to get the permission to contact their clients. The screening resulted in three companies who fulfilled the criteria, had the time and were willing to include their customers in the study. The customers were chosen by the case companies, the criteria's where that it should be the first customer and the second customer should be a typical customer. The number of customers the companies had to choose from differed as they were all in different industries and were in different phases of the development of the company.

2.4.2. Secondary data

Throughout the research secondary data has been collected from written sources such as books, research papers and reports. The literature review has been of a narrative character where the sources of the books and papers have been reviewed as well as the citations. The majority of the documents were collected from the Gothenburg University Library and Google Scholar. The documents used have been carefully reviewed and fulfilled the criteria of authenticity and trustworthiness as stated by Bryman and Bell (2010). In order to find relevant literature the following key words have been used: co-development, co-creation, customer co-creation, customer involvement and relationship marketing. Articles were also found through a narrative literature review where articles which were referred to in, as well as cited relevant articles.

2.5. Reliability

The reliability is in qualitative research divided into external reliability and internal reliability. The external reliability concerns to which degree the study can be replicable (Bryman and Bell, 2011). It is difficult to meet the criterion as the social setting in which the empirical data was collected is impossible to recreate. Comparing the outcome of each interview, a wide difference can be seen. Differences would also exist in the responses if another researcher would duplicate the study; hence the external reliability is a difficult criterion to meet.

The internal reliability concerns the degree of agreement between the researchers (Bryman and Bell, 2011). This thesis only has one author and it is therefore difficult to assess the criteria. However, throughout the process the observations have been discussed in a team of researchers with focus on similar topics. The researchers view has thereby been challenged to some extent.

2.6. Validity

The validity of the study is argued to be the most important research criteria. In qualitative research the term is divided into internal validity and external validity, in similarity to reliability. The external validity or the generalisability in case study research has been discussed thoroughly by the scholars. What is important to remember is that a case study is not a sample of one, or as in this case, a few. Instead a case study focus on the uniqueness of the cases in question and from there develops a deep understanding of its complexity (Bryman and Bell, 2011). Nor has this study produced any generalisable findings, but indications at best.

The internal validity is argued to be the strength of the qualitative research and refers to the match between the empirical findings and the ideas generated (Bryman and Bell, 2011). An advantage of using an inductive approach is that the researcher has been able to ensure the internal validity.

2.7. Trustworthiness and authenticity

Bryman and Bell (2011) propose two other criteria used in order to assess the quality of quantitative research: trustworthiness and authenticity.

Trustworthiness is divided in to four sub criteria and corresponds to reliability and validity as stated by Bryman and Bell (2011). The first sub criteria is dependability which links to reliability, secondly is transferability which links to external validity, third is credibility which is linked to internal validity and lastly is conformability. Reliability and validity was argued for in previous section and will therefore be left out from this section. Conformability on the other hand has not previously been discussed. According to Bryman and Bell (2011) conformability concerns the objectivity of the study. Naturally the aim has been to have an objective view that is what I have been striving for. However some of the research objects (Company B, Company C, C1 and C2) have I interacted with before and it is therefore possible that previous experience has influenced the response. There was only one interview conducted with each interviewee therefore it is possible that the responses would differ if the interview was conducted by another researcher, on another day or if the questions where formulated differently.

Authenticity is the other criterion which is discussed in relation to trustworthiness. Authenticity concern the political impact of the research with five sets of criteria: fairness, ontological authenticity, educative authenticity, catalytic authenticity and tactical authenticity. Fairness concerns whether the researcher represents the different viewpoints among the members of society (Bryman and Bell, 2011). As the companies where chosen from different industries they have some spread. What is a problem within all entrepreneurial research is the survivorship bias, a problem which is also represented here as only companies who still are in business are represented. The ontological authenticity refers to whether the researcher helps the subject of the research to better understand their social environment (Bryman and Bell, 2011). It has been accomplished by sending a summary of the thesis subject to all participants. Educative authenticity concerns how well the research has facilitated the understanding of others. It has been accomplished through a copy of the final report being sent to the participants. Catalytic authenticity concerns whether the researcher has suggested changes or actions to be taken by the research subject. No changes have been suggested, the interviewee has rather had the position as a teacher, not the interviewer. Finally, the tactical authenticity, it concerns whether the researcher has empowered the research subject engage in action. That has not been done by the researcher.

3. Theoretical framework

The theoretical framework begins with describing product development in start-ups. The point of departure is in customer co-development, a process which to some extent differs between small and large companies. When developing a product there are several factors which are important to be aware of. Firstly, the importance of the relationship between the co-developing parties will be discussed. Trust, learning and communication are cornerstones in a lasting business relationship. Secondly, the choice of partner is an equally important factor in the co-development process. It will be examined from the company's perspective, and the reason why the customer choose to participate will be further looked into. Thirdly, what part of the development process the customer should be involved in, is studied. Lastly the additional outcome of the co-development process in terms of relationship marketing is closer examined.

3.1. Product development in start-ups

The term Minimum Viable Product was first used, and trademarked by Frank Robinson, CEO at SyncDev, in 2001. It was later popularised by Steve Blank and Bob Dorf (2012) and Eric Ries (2009). The concept focuses on how to get a product to the market as cheaply and with as low risk as possible. Rise (2009) defines the minimum viable product as the "*version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort*". According to Blank (2012) the goal of the MVP is to find out whether you understood the problem of the customer well enough to define the key elements of the solution. If so, the solution should from there be refined through an iterative process. Instead of developing the product to perfection Robinson, Blank and Ries argue that by launching a product with the minimum viable features the development process can be cheaper as well as shorter for a young company.

Ries (2009) describes two common approaches when developing new products. The first approach is to maximise the chance of success which implies that the product has all the features required in order to satisfy everyone. The problem with this approach is that the feedback from the customers will not reach the producer until after the product is finished and by then it can be too late or too expensive to change the product. This approach creates a huge batch and has an all or nothing outcome. The second approach described by Ries (2009) is release early and often, here focus lies with the feedback, as much as possible and as soon as

possible. Problems connected to this approach are the potential overload of feedback and the risk of chasing what customers think they want and thereby go around in circles without getting anywhere. Ries (2009) describes the MVP approach as either none of these or a mix of both approaches. The aim is to reduce the hours spent on engineering and to get the product into the hands of a visionary customer, the early evangelist, who will be described later on (Blank, 2010).

3.2. Customer co-development

By using the lean start-up method the young company is engaging its first customers in development of the company as well as its product. Customer co-development however is nothing new, nor is it exclusive for start-ups. In 1971 Achilladelis, Robertson, and Jervis conducted the SAPPHO report where it was noted that by involving customers, innovators gain a much better understanding of the user needs. The importance of involving customers in the product development process was highlighted. Since then plenty of other studies have been carried out confirming the benefit of involving customers in the development process (Laage-Hellman et al, 2014).

Empirical research shows that a higher degree of product newness, a lower risk, and resources are spent in a more precise way when customers are involved in the product development. (Thomke et al, 2002; Ries, 2011; Blank et la 2012; Sandmeier, 2009). Companies will also achieve a sustainable competitive advantage over their competitors if they manage the customer co-development process effectively (Hoyer et al, 2010). Developing together with the customer enhances the understanding of the customer requirements. That result in a more market oriented approach as the ties to the customer is closer.

The structure of the customer co-development process differs between large and small companies (Langrosen, 2005; Laage-Hellman, 2014). In larger companies the process is well documented and following specific routines. Who is chosen to participate, where in the process the participation occurs and what form the participation should take is specified in manuals. In the study conducted by Langrosen (2005) the customers of the large companies are a part of a cross functional team, participants of focus groups or respondents to questioners. In smaller companies on the other hand, the process is less structured and less rigid and the only formal tool used is prototypes. The small company presents a prototype to

the consumer and re-designed it in accordance with the feedback. Langrosen (2005) argues for the use of formal methods as it prevents the company from neglecting the view of the customer, thus it is important to consider the time and cost of the method used. The different stages of development tend to overlap in small companies to a larger extent than in a large company and the activities which the customers participate in also differ. Smaller companies focuses on joint problem solving with the customers, information exchange as well as various types of tests. In larger companies on the other hand the customer is more seen as an informant (Langrosen, 2005; Laage-Hellman, 2014).

There can also be downsides with customer co-development. According to findings by Lau (2011) companies that develop integrated or commodity product may increase the development time and cost if involving customers in the development process as a greater lever of coordination is required. The study where however conducted on large companies with an existing customer base and business model. Start-ups on the other hand are conducting the customer co-development in order to find a product-market fit (Blank and Dorf, 2012).

3.3. Customer relationship

The customer relationship is the most important relationship a company has state Ford et al (2003). Coviello et al (2012) further state that the relationship with the customer is central throughout the entire development process. The process is normally quite long and collaborating closely with customers helps the company adapt to changes in technology and market throughout the development process. Relationships are multidimensional and every customer relationship is different but they are built on promises and expectations with a foundation of trust, mutual learning and communication state Ford et al (2003). Laage-Hellmans et al (2014) arguments goes in line with that statement. In order to have an effective development process it is important to establish a relationship built on trust as the uncertainty of the project can be difficult to regulate through formal contracts. Good communication leads to trust which leads to a sustainable relationship argues Ford et al (2003). With these cornerstones in place the uncertainty can be reduced and by agreeing on a long term commitment the uncertainties of the relationship can further be reduced. It diminishes the risk of one part take a short term advantage over the other. The possible benefits a company can achieve from the relationship is connected to which degree the involved parts are prepared to

actively react, adapt, learn and invest. According to Greer et al (2012) the level of learning is decided by the closeness in the relationship. When the parties learn more from each other, the relationship also develops and prevents dysfunctional consequences. Customers, with whom the company has a relationship characterised by a low level of involvement, are only participating in surveys or focus groups. The product is developed for them rather than with, or by them argues Greer et al (2012).

Ford et al (2003) describes relationships as ranging from high involvement to low involvement relationships. In order to achieve a high involvement relationship the parties need to have solid actor bonds, tight activity links and strong recourse ties. Solid actor bonds are based on communication, long term commitment, trust and learning. Tight activity links are achieved by interlocking behaviours, transactions, interactions and coordination between the actors. Lastly strong recourse ties derive from mutual adaptation of recourses and by creating a mutual dependency which raises the switching costs.

However, Langrosen (2005) argues that not all relations have to be close and informal. Distinctions can be made between customers as a source of information and customers as a co-developer (Fang, 2008; Tödtling et al 2009). In a co-development situation a highly involved partner is important argues Ford et al (2003). Langrosen (2005) state that a company should develop high involvement relationships with key customers and conduct the product development with them. The arguments presented by Mcdonald (1995) are in line with Langrosen's. He argues that when interacting closely with too many customers there is a risk of having to adapt the product to meet the requirements from all the different angles. A better approach argues Mcdonald (1995) is to apply the lessons learned onto new situations. He further points out the risk of being pulled away from the core business in order to become a supporter to the customer.

3.4. Co-development partner

The relationship to the customers who participate in the co-development is important. It is, however, as important to choose the right partner to co-develop with. As pointed out by Blank (2010) the MVP is not a product for the mainstream customer. Instead it is a product targeting the customers who can see and share the vision of the founder. In the lean start-up literature the earlyvangelist is the preferred customer to develop the product together with,

according to Blank and Dorf (2012) and Ries (2009), as they are visionary customers. Blank and Dorf (2012) present five common characteristics of the earlyvangelists: (1) they have a problem or a need; (2) they understand they have a problem, (3) they are actively searching for a solution, (4) assembles a solution out of parts and (5) they have a budget. As the earyvangelists shares the vision of the start-up they soon become a part of the product development team argues Blank and Dorf (2012). Hoyer et al (2010) present four customer segments that are especially willing to participate in the co-creation of new products. *Innovators* are the customer category which earliest adopts new innovations. *Lead users* experience a strong need for the particular innovation earlier than the general mass. *Emergent consumers* are more suited to improve concepts compared to the general public in order to attract the mainstream consumer. Finally, the *market mavens* are consumers who have a broad knowledge about products, shops and other aspects of the market and they are likely to engage in discussion and respond to requests from other consumers.

The lead user was recognised by von Hippel in 1986. He identified two characteristics which define a lead user of a novel product, service or process: *"Lead users face needs that will be general in a marketplace - but face them months or years before the bulk of that marketplace encounters them, and Lead users are positioned to benefit significantly by obtaining a solution to those needs"* (von Hippel, 1986, pp 796). Blanks earlyvangelists has similar traits to the lead users presented by von Hippel (1986). They do experience a problem and are looking for a solution for that problem as well as being willing to spend resources in order to solve it. They are described as the visionary customers, who buy unfinished and untested products.

There can also be negative aspects of involving an earlyvangelists or a lead user. Particularly two risk factors are described. Firstly, the risk of customisation, where the entrepreneur is listening too much to the visionary customer and develop a product specially designed for their needs without being able to sell it to others. However, it might also be an opportunity if several customers ask for the same customisations. Secondly there is a risk the entrepreneur is being asked by the visionary company to sell the product to them exclusively. The entrepreneur then needs to consider the pros and cons of such an agreement (Blank and Dorf, 2012).

3.4.1. The customer point of view

From the customers point of view to which degree they are willing to get involved is dependent on the perceived benefit (Enkel et al 2005). The more benefits a company can obtain by solving a problem the more time and recourses they are willing to invest in finding a solution. Therefore, argues von Hippel (1986), these users understand the need far better than any other potential users. By looking at the users who are trying to solve problems and spending money on innovation at the fore front of a trend, one can identify the lead users. However, a lead user is not necessarily able to shed light on the entire new product or service, but rather on a specific aspect of it (von Hippel, 1986).

Hoyer et al (2010) divided the reasons to why customers participate in co-creation activities into financial reward, social benefits, technology knowledge and psychological reasons. Brockhoff (2003) identifies that either customers or suppliers take the initiative to co-develop. The reason for customers to participate according to Brockhoff (2003) is to improve their competitive advantage.

Füller (2010) identified intrinsic and extrinsic motivation whereas Grönroos (2012) discuss the value created for the customer. According to Grönroos (2012) value creation is a process where the customer ends up better off than before and that satisfaction is reached when there is a fit between the need and what is created. Echeverri and Skålen (2011) states that value is personal and contextual and can differ from one point of time to another. According to the argumentations by Füller (2010) customers who participate in co-creation activities can either see the value in the actual activity while others see the value in the outcome. Intrinsically motivated customers participate in co-creation if they valued the activity for its own sake. These customers tend to prefer experimental orientated activities characterised by enduring involvement, ritualised orientation, interest in the medium and the content. This customer group is driven by experimental activities and are looking for an enjoyable experience. The intrinsically motivated customers are interested in the discussed topic and the vividness and design of the context. The second customer group, the extrinsically motivated participants, are more goal-oriented and focus on the outcome rather than the actual activity. Situational involvement, selective and intentional engagement, directed cognition, interest in content, work, and utilitarian benefits are characteristics of extrinsic activities. The focus lies in the utility gained from the participation.

3.5. When to involve the customer

When in the development process the customer should get involved is an additional factor which needs to be considered when co-developing. The product development process consists of several steps such as ideation/concept generation, design, development/testing, and launch. Depending on which part of the process the customer is involved in, the contribution and outcome differs. Research shows it is most effective to integrate the customers in the early stages when the developers have the flexibility to respond. It reduces the cost, strengthens the relationship between the company and the customer as well as contributes to product and company performance (Guner et al, 2000; Sandmeier, 2009; Hoyer et al, 2010). Enkel et al (2005) argues that the knowledge required from the customer involved increases in the later stages of the product development process. In early stages the customers can contribute with their needs and requirements. In the later stages, what companies tend to ask for is technical know-how of how the prototype can be improved argues Enkel et al (2005).

According to Sandmeier (2009) the level of product newness as well as the market position of the company is decided by when in the process the customers are getting involved. Companies who enjoy a leading market position are using a different strategy compared with companies who does not have a leading position in the market. The market leading companies generally developed the products in-house and involve the customers as a source of information through feedback on design and handling. They are using an anticipation strategy which is found to lead to a lower degree of newness in regards of product development (Sandmeier, 2009).

For companies who do not enjoy a market leading position or have limited in-house development possibilities the customer involvement appears differently. The companies with less know-how have to be more flexible and find competency outside of the company already from the start. By involving the customers for inspiration and idea generation as well as validation the finished product has a higher degree of newness, detached form industry norms. These are major contributions in terms of determining new product scope and functionalities (Sandmeiers, 2009). Similarly, research by Coviello et al (2012) carried out on small start-up companies shows that the companies who collaborated with customers already from the ideation phase tended to be more successful. Coviello et al (2012) further argues that the customer should be the source of a latent need and from there the opportunity should be recognised.

How the cooperation should evolve from the ideation stage differs between the scholars. Laang-Hallberg et al (2014) argues that three main views in the literature can be found. Firstly, there are researchers who argue that the customer mainly should be involved in the ideation/conceptualisation phase, after that their contributions becomes less important. The second stream claims that involving the customer in every part of the process including ideation/conceptualisation, design, testing/development, and launch is to be preferred. Christiansen (1997) argues for the contrary, involving the customer in the design process could prevent the development of radical innovations. The third stream goes in accordance to the results found by Coviello et al (2012) in their comparison between successful and non-successful start-up companies creating major innovations. According to their findings, the successful companies collaborated with the customers in the ideation stage, the development and testing, the commercialisation as well as with funding. Thus, little interaction was found during the design phase. All steps where supported by continuous feedback.

To create a successful collaboration process the opportunity recognition should be seen as a continuum rather than a onetime occasion. It can be compared to the product market fit described by Blank and Dorf (2012) where the entrepreneur gets out of the building to test the hypothesis, problem and solution. To find the product market fit the entrepreneur most likely has to make several changes and iterations, pivots, before the right solution to the right problem is found. It is also noted that the different stages in the development process are overlapping each other in the successful companies whereas for the failed companies the process followed a more traditional, sequential model. The successful companies worked much more according to the lean start-up methodology proposed by Ries (2009) with continuous feedback loops and a constant update of the product rather than a single launch (Coviello et al, 2012).

3.6. Relationship marketing

The purpose of the customer co-development activity is to develop a product desired by the customers. As an additional outcome of the co-development and the relationship created through the process is relationship marketing.

Marketing theory has gone from focusing on transactions towards a focus on relationships. When this shift occurred companies went from competing against each other to cooperating

with one another, companies need to collaborate in order to survive (Morgan et al, 1994). Berry (1983) was one of the first scholars to introduce relationship marketing and argued that it concerns attracting, maintaining and enhancing customer relationships, where focus lies on keeping existing customers rather than attracting new ones. Grönroos (1994) described it as a paradigm shift from the traditional marketing emphasising the production rather than the market or the customer. The new focus, according to Grönroos (1994), is more market oriented with the customer on the centre stage. Relationship marketing implies that the customer is in the centre and has recognised the importance of collaboration in the market economy (Gummersson, 1999). Interaction is, according to Gummersson (1999), the key to value creation and relationship marketing recognise, develop, retain and enhance the relationship with customers and stakeholders by developing trust. In order to create a sustainable relationship Morgan et al (1994) also point out trust as one of the core factors together with commitment. Morgan et al (pp. 22, 1994) define relationship marketing as: "all marketing activates directed toward establishing, developing, and maintaining successful relational exchange". In order to develop trust in a relationship communication is key and considered the glue of the relationship. Having a win-win mentality and having a long term orientation are other important factors. When a relationship is considered important, the parties are prepared to commit to it and therefore a central part in the relationship marketing according to Morgan et al (1994).

Zontanos et al (2004) argue that entrepreneurship and relationship marketing can be viewed as a sub set of aspects of the other and that each can be understood in the term of the other. Successful entrepreneurs tend to practice relationship marketing to a larger extent than others, and successful marketing behaviour is entrepreneurial according to Zontanos et al (2004).

The definition of relationship marketing provided by Morgan et al (1994) did not distinguish between buyers, sellers, customers or key accounts but named everyone partner. This caused the relationship domain to become extremely large. However, in 2002 Seth and Parvatiyar argued that relationships beyond customer relations should be assigned to other fields such as strategy, human resources or recourse management. The American Marketing Association defines relationship marketing as:

Marketing is an organisational function and a set of processes for creating, communicating, and delivering value to customers and for managing customer relationships in ways that benefit the organisation and its stakeholders. AMA (2015)

In accordance with Gummersson (1999) O'Malley (2012) describes a shift in power from the producer to the customers. She also describes the consumer as more knowledgeable and that they more actively participate in co-creation and use the market offering to support their personal identity. The relationship between company and consumer is complex and thus consumers have relationship with brands, the relationship between humans that some brands can facilitate, are more important (O'Malley, 2012). Brand communities are an example of a platform providing human-to-human interaction, facilitated by a brand.

By having a relationship marketing approach the company will develop closer relationships with their clients. The nature of the relationship can vary, they may be technology-related, knowledge-related, information-related or of a more social nature. According to research by Day et al (1998) the closer the relation is between the company and its customers, and the more the company learn about the particular needs of the customer the greater the hurdle will be for the customer to change the supplier. It can also help the company to monitor the level of satisfaction among the customers. And a close dialogue can result in an additional offering by the company such as new products or services as the company easier can anticipate the needs of the customers. Further Day et al (1998) points out the financial benefits a relationship marketing strategy can result in. Firstly, when the parties learn how to interact with each other the relationship costs will decrease. Secondly, Day et al (1998) argues that the customer will be willing to pay a premium for the tailored product or service. Thirdly loyal customers are more profitable as the cost of acquiring new customers is higher than the cost of retaining the existent ones. As a fourth beneficial aspect Day et al (1998) argues that satisfied customers with whom the relationship is good, the customers will refer to new prospects. According to Day et al (pp. 834, 1998) entrepreneurs "*engage in a much more measured, calculated and effective approach to what is the heart of the relationship marketing concept – customer retention and development*".

A small company tends to have closer and often personal relationship with their customers and can, through the open dialogue, capture the market trends. The flexibility and closeness to the market is the small companies' advantage in comparison to larger companies. Small

companies have the possibility to respond quickly and thereby increase the customer satisfaction and loyalty. The main advantage, however, argues Zontanos et al (2004) is the easy access to market information as they are close to the market as well as to their staff. Information is gathered in an informal manner, of the through face-to-face interaction which allows the entrepreneur to make more informed and timely decisions. In order to survive a company needs to change and adapt to new realities. Marketing is the connection between the external environment and the company. However, small and young companies do not apply structural market research mainly due to the cost aspects. According to Zontanos et al (2004) and Day et al (1998) entrepreneurial companies tend to rely on word-of-mouth and find new customers through recommendations.

4. Empirical Findings

Interviews have been made with the founders of three companies. Further two customers of each company were interviewed; the first customer of each company as well as a customer who got involved later on in the development process.

4.1. Companies

What is similar to all companies is that they can all be considered academic spin-offs and they all have a business to business focus. All the interviewees aimed to apply the lean start-up method in their product development process. The founders are still working within the companies and they are constantly improving the product and the offering. Despite the young age of the companies, all have paying customers together with whom they have developed and improved the product. A brief presentation of each company and their relationship with their clients will follow.

4.1.1. Case company A

The first company, company A, derived from a science project where the product was the outcome of academic research. Company A was founded in 2009 by PhD students together with an academic holding company. They sell and market a technical solution which supports the interaction between humans and computers. The founder of company A argues that co-creation with customers is a necessity for start-ups. There was, according to the founder, not enough capital available to conduct user studies and therefore a close cooperation with customers would have been preferable.

The relationships company A had with their customers are described as ranging from distant with little interaction to close cooperation. Their relationship with first customer A1, was distant. The founder of company A describes them as totally uninterested in the co-development. They ordered a prototype but failed to specify what it was they wanted. The result of that according to the founder was that; *"the customer wanted something completely different from what we thought they wanted"*. The founder later state that they and A1 was not a suitable match and it was therefore it all came to nothing.

Company A had two target customer groups which they came up with through a brainstorming process, states the founder, the automotive industry and automatic customer

services. There was advanced plans to initiate cooperation with both customer groups but as an order was placed by the customer on the automotive side that became the sole focus due to time limitations, states the founder.

When approaching the first customer company A had a raw version of a software program which was difficult to handle. It was the result of science projects, and it was not ready to be built into their hardware. *"It was not viable"*, argues the founder, however, A1 never defined what their minimal required features where, he states. According to the founder A1's excuse was that they did not have any knowledge in the field. The founder also got the feeling that A1 assumed that company A could tell them how it would be done.

The relationship to the second customer, A2, is described by the founder as more integrated. They are striving for symbiosis and want to work together and co-develop the product. A2 has expressed a will to distribute the resources in order create the optimal co-development process for everyone. What strikes the founder as odd is that there is very little feedback from the customer and that their software is rarely used. He later states that the A2 is currently talking to customers in order to sell it and that might be the reason for the lack of feedback.

The founder of company A received a phone call from A2 proposing the co-development. The prototype they showed A2 was refined from what was presented to A1. How it worked had not changed, but the founder of company A describes the first presentation as similar to the process of starting a nuclear power station which has evolved in to an app on a tablet.

4.1.2. Case company B

The second company, company B, evolved from customer research where the founders asked potential customer of their needs, based on the competency of the founders. Company B was founded in 2013 and provides an innovative solution for quickly receiving customer feedback. For company B the co-creation was an important aspect even before the company was created.

Company B describe their customer relationships as ranging over a broad spectra similarly to company A. They have, however, many more customers than company A. If generalising, company B describes a closer relation to the early customers whereas the relationship to the

newer customers is more distant. The CEO of company B describes a close relation to the first customers who are still using their products and services. Company B meet with them and see what they need and from there develop the product in line with their wants as well as in line with the overall product vision.

The customers were involved in an early stage. The founders called potential customers in different segments asking what they were in need of. Through the interviews they identified that many companies had a problem of collecting customer feedback. Their first target customers were restaurants and cafes. Thus, through their market research they found that public institutes had a latent need of their solution. They then developed an early prototype, a power point presentation, which they presented to the preferred customers. The immediate response was overall positive and some of these customers are still customers of company B today states the founder.

The relationship with the later customers is more distant and the feedback concerns the packaging or the design of the offering. The CEO of company B explains that they take a greater note on the feedback from the close, long-term relationship when it comes to the development. They provide feedback on a deeper level such as the content or technical features. He further state that how close the relationship with the customers are also dependent on whether the customer is a constant and continuous user of their product or if the customer only acquires the product on a onetime occasion or irregularly.

The CEO points out the fact that they had paying customers from the start and it contributed to the growth of the company. As a result of the customer integration the value of the company has increased tremendously.

4.1.3. Case company C

The third company, company C, was also born within the academy but the idea came to the founders as a result of own experiences. Company C was founded in 2014 and provides innovative marketing solutions as well as customer loyalty solutions. The idea that is the base of company C came from a problem discovered by the founders. From there a market research was conducted in similarity to the one conducted by company B, together with as a survey among the customers customers. The aim, explains the founders, has always been to

communicate close to the customers as well as understand the need of the customers' customer. By doing so the founders of company C believes they can develop a better offer.

When conducting a market research the potential customers' response to the idea was overall positive, despite that, it was only few who were prepared to take the full step and actually test the product, according to the founders. The founders believe that it is due to the fact that the sector is rather conservative as well as the actors within the sector do not want to be associated with each other. Throughout this process the founders learned alot and tweaked their offering. What they also did, they state, was to target related industries which were characterised by a different company structure and therefore not as dependent on differentiation.

The first customer of company C, C1, where contacted during the market research and they are still an active customer. The relationship to C1 has evolved over time and the founders describe it now as a close relationship. Their contact person is engaged and willing to listen and to give valuable input to the idea which helps them move forward, state the founders. He is knowledgeable in his field and willing to share that knowledge. The feedback has not concerned any particular aspect of the concept, *"it has more been like a dialogue and a reassurance that we are on the right track"* states one of the founders from company C.

 The founders further state that it was through a lucky coincidence the partnership with C1 begun. They got invited to his office to further present the idea as he found it interesting. The founders did not yet have a prototype so they visualised their idea through a power point presentation. From that point on, they have been in contact on an irregular basis

The founders of company C describe their relationship to other customers as relatively close as well. Thus they argue that during the product development process with C1 they learned plenty which made it possible to approach larger companies in a second stage of the development of the offering. They explain however, that they are in such an early stage that they still need input from several sources in order to develop a concept suitable for more than one customer. They do, however, have a much more distant to their suppliers than they do to their customers. The reason for that, they believe, is that what they are buying is much more standardised.

4.2. Customers

Two customers from each company have been interviewed. The result of the interviews will be presented in this section starting with the two customers of company A, A1 and A2. Thereafter the result of the interviews with the two customers of company B, B1 and B2, will be presented, and lastly the result of the interviews with the customers of company C, C1 and C2 will be presented.

4.2.1. A1

Company A's first customer, Customer A1, is a large company within the automotive industry. They have a long history, slow processes and are used to in house development. They have several thousand employees all around the world. The person in charge of the contact with company A had a position as attribute leader.

The contact she had with company A, she explained, was outside of her ordinary tasks. Today the company has employed someone for that task. The contact between company A and A1 was therefore sporadic she argues. She further states that both parties could probably have gained more from the co-operation and that synergies could most likely have been created but lacked an explanation to why. According to A1 there was no word of mouth or other synergies from the co-operation with company A. Today the companies have no relationship with each other; A1 does, however, work within the field but with another supplier.

Before initiating the cooperation company A needed to sign an agreement with A1. According to A1 it took long time to draw up the contract as their organisation is large with long inflexible processes. A contract which in the end mainly favoured A1 explains the interviewee. It was in the end unnecessary as the product was not used.

The co-operation could begin first after the lengthily process of drawing up the agreement. The reason why A1 engaged in company A and their product was because they wanted to be in the forefront of the development in that particular area. A1 claims that they often finance science based companies in order to promote research in general and to promote specific fields in particular. Even though they found the product interesting they did not expect that they could implement it in their production and therefore there was no continued cooperation between A1 and company A.

A1 were of the impression that they could have influenced the product development process to a larger extent than what they did. However, as there was no one to assign for this particular task, finding time to test and supply company A with feedback was therefore difficult for A1 explains the interviewee. She further states that they did not have the competency they felt they needed. They further hoped and assumed company A had the knowledge required and that they were working towards a direction suitable for A1.

4.2.2. A2

Company A's second customer, Customer A2, is a small start-up similar to company A. It is a software project management company founded in 2013. The founder from A2 was interviewed. According to him, A2 do not have all processes in place yet and they are still in the process of finding the perfect product-market fit.

The interviewee explains that the paths of company A and A2 crossed thanks to an employee of A2 who had connections with company A through their holding company, states the interviewee. He further states that it was them who approached company A. The founder felt that they have been engaged in the development process and even though the dialogue has been failing at points, the aim has been to create a synergy from which both parties can benefit. The interviewee explains that prior to the purchase they had thorough pre-order discussions regarding which minimal required features the solution must have. The founder of A2 found that company A was very attentive to their needs and listened to their feedback. He further explains that there was no structured way of giving feedback but the feedback came sporadically during meetings. Thus, he believes they have only contributed with feedback which has resulted in minor changes and adaption to the product.

The reason why A2 chose to work with company A was because they were in need of company A's unique technology. The founder believes that they maybe could have developed the technology themselves but preferred to acquire it from company A as they were experts in the field. It was also a matter of cost and time states the founder. He explains that if they were to develop the product by themselves it would acquire more resources in form of money as well as time. As A2 had specific requirements they could not buy the technology of the shelf. If they would have done so, a lot more development and customisation efforts would have

been required from their side. Due to the extensive customisations a close cooperation with the provider was optimal for them.

After using the technology provided by company A, the interviewee realised that cooperating on a deeper level could help improving their offering. He further states that they are planning on including the technology of company A into more of their applications and thereby take the relationship to the next level and expand the collaboration. According to A2 their collaboration is more like a partnership than a customer supplier relationship. Thorough out the process A2's loyalty towards company A has increased. Co-branding with a strong partner such as company A is a good strategy according to the interviewee, it is also a good sales argument. He doubt that it has generated new clients for company A but plenty of word of mouth have occurred which has raised the awareness of company A.

4.2.3. B1

Company B's first customer, B1, is a governmental institution responsible for cultural events, local sights, and the historical and cultural environment. Their mission is to preserve and develop the cultural and natural heritage of the region. The interviewee is in charge of marketing and communication.

The first time she heard about their solution, which she thinks was when the founders did their market research, she thought it was too good to be true. They were using a similar design when measuring their customer satisfaction rate, but it was not digital. She further describes the relationship with company B as really good an all levels. One reason for that, she believes, is that they have the same view of how to collect customer feedback. She feels that company B in turn have been very attentive to their feedback, developing features according to their needs as including finding user-friendly ways for the personal within the organisation of B1 to work with it. The interviewee further states that there has been product development from both parts through continues dialogue, she felt very involved in the product development process. She also argues that company B is very easy to deal with and test the new features or areas of use prior to introducing it to B1. There have been some worries from her part, she further states, that with the digital solution they will not be able to reach the older population. But, she explains, they are testing this solution for a set number of years in order to create stability over time.

The interviewee assumed that company B was a fully-fledged company with functions such as service agreements and tech support already in place. That was not the case, she states and guessing that they were one of the first customers of company B. When they presented the idea it was as a power point and as previously mentioned, B1 was using a similar solution but analogue instead of the digital solution provided by company B. It was therefore not a large step for B1 to switch from the time consuming analogue solution to something that was more or less the same but in digital form explains the interviewee. *"It was structured in the same way, open and quick and gave us the results we needed"* notes the interviewee. Company B and B1 had the same outlook on data collection and it therefore felt it was a good match she explains.

The outcome of the cooperation has been overall positive. As a result of the digitalisation the handling and analyse of the data has become easier states the interviewee. Further, she believes that they are the customer which company B refers to as they have been a part of the product development process from the start. In turn she is promoting company B and the importance of their solution. She explains that she has introduced the concept to others and argues that plenty of word of mouth effects have been created through the cooperation. Their relationship has developed and become closer argues the interviewee. They have a free and open dialogue and she feel that they communicate on an efficient level.

4.2.4. B2

The second customer of company B, B2, is in similarity to B1 a governmental institution. Their main focus is the development of the tourism destination through co-ordination of local actors, development and marketing of the destination. B2 got in contact with company B through a customer who already used the services provided by company B. The interviewee is the coordinator within the marketing department.

She describes the relationship with company B as a business relationship. The main reason why they started working with company B was because they were so highly recommended by colleagues, she explains. Together they found good areas of use and could, by the help of company B reach the goals they set up. It suited their business and she feel that it is an easily accessed and trustworthy solution. According to the interviewee the product delivered by

company B has lived up to their expectations and aided them in the way they expected. The interviewee does not see any changes in the relationship this far. She describes it as a normal customer supplier relationship. Yet there have not been any other outcomes such as word of mouth or synergy effects noted by the interviewee.

Thus, the interviewee is satisfied with the cooperation they have had with company B. There has been a close dialogue and in their experience they have gotten the help needed. And as the dialogue has been so good it is through dialogue they have been giving their feedback, rather than from structured evaluations. She further states that company B has been fast and efficient whenever they have needed something. Initially they described for company B how they intended to use the product and from there company B created a suitable solution. The interviewee explains that they however do not feel that they have been a part of the product development process in that sense. When they got access to the product it was already in a stage where only minor updates were needed.

4.2.5. C1

Company C's first customer, C1, is a franchise of a large real estate agency. They are well established with two local offices and have over 50 years of experience of the area. Their objects are ranging from seafront apartments and villas to smaller flats in the suburbs as well as vacation homes. The interviewee is the franchisee.

The reason why C1 decided to work together with company C was that they believed in the idea states the interviewee. It solved a problem they had not put words on nor actively sought a solution for, he claims. He explains that by the help of company C they could tighten their own customers closer and creates good relationship with them, something which is a part of their vision statement. Company C could help shaping suitable solution for their business and their motives. He further argues that it will give them an advantage over competitors and that he noted increased appreciation from his clients.

The relationship with company C has also grown closer, he states. "*Initially there was a phone call with a few months in between but when they decided to go for it we have been having a closer contact*" states the franchisee. The closer communication is regarding feedback as well as the next step for their cooperation. He explains that he helped company C

to a large extent in finding new customers. As they are a franchise they have been able to connect company C with other franchisees within the same umbrella. Thereby the word of mouth effect of the co-development activity has been great.

When C1 was contacted by company C it was in order to check if there was any interest form his part to buy their product. When the idea and the vision were presented to C1, company C did not have any prototype for them to try, he states. The idea was instead presented through a visual presentation where company C told them about their vision and discussion around development potentials occurred. At the start of the process the dialogue was very sporadic and it could go months between updates state the interviewee. After the first prototype was presented the dialogue has become more frequent and he feels that company C has been attentive to their feedback and customises the solution to suit their needs. He further explains that he has in turn provided company C with information so that they could strengthen their offering as well as the feedback from their customers.

During the testing phase the prototype has been acceptable and the process has taken quite a bit longer time than initially estimated, he states. *"Having started a few companies myself, I know that is how it is, however, that will not be acceptable in the future"* he states. He further explains that during the testing phase they have bought the product for reduced price and that the founders of company C have been very flexible and always tried to solve upcoming problems.

4.2.6. C2

The second customer of company C, C2, is a large building company with a long history. The particular division which company C approached is focusing on building new homes. The interviewee is in charge of marketing and communication.

The cooperation with company C was initiated through a cold call made by company C, explains the interviewee. From there, internal discussions occurred in order to find the right solution for C1, she further states. She further describes the founders of company C as attentive and being very concerned with their needs. The communication between them are good, she states, even though it is hard to find time for activities outside of the daily tasks in a large organisation such as C1.

The interviewee states that prior to the contact with company C they were using a similar solution in order to strengthen the relationship with their customers. However, it was a time consuming activity and there was no one in charge of that task. She explains that she had to do it on top of her ordinary tasks; it often became a last minute solution. Through company C they can get a more time and cost efficient solution which, she believes, creates more value for their customers. When applying the solution provided by company C, she hopes she will be able to focus on other aspects of their business, she states.

Company C presented a prototype for them on their first meeting as well as explaining how the processes around it worked. *"I have in turn presented the idea for my colleges as well as my superiors and they are all very interested in the idea"* she explains. It is now being customised for their needs in order to initiate the pilot study. She further states that they are now being able to put forward values to their customers which they have not found a channel for. It is fun to be part of something new, even though it is difficult to find the time, she state. She also states that it would have been nice to work closer to company C during this process but that is not possible at the moment, unfortunately.

5. Analysis

In this chapter the empirical findings will be compared and analysed in the light of the theoretical framework. The point of departure will be in the relationship between the companies and their customers and the important role it plays in the product development process. This will be followed by an analysis of who the co-development partner is. Lastly a comparison of when in the product development process the customers get involved will be made and what the implications and requirements are depending on when in the process the customer gets involved.

5.1. The importance of the relationship

A result of analysis of the gathered data and previous research is the indications that the relationship between the start-up company and its co-developing customers is of great importance. All the case companies describe having close relationships with at least one of their customers. Together with that customer they are striving to achieve synergies and develop a desirable product. Co-developing with the customer brings the company closer to the market and gives them a better insight of what the market actually wants.

In order to create lasting relationships Ford et al (2003) propose that the company create solid bonds with their customers as well as tight activity links and strong resource ties. They argue that by coordinate systems and mutual adaptation of recourses a mutual dependency will be created which will raise the cost of switching supplier. It can be discussed, however, that by too heavily coordination with one particular customer there might be a risk that the product cannot be sold to anyone else. The companies examined in this case study have not experienced that. Company B expresses a clear product vision to which they stay true, by doing so they diminish the risk of heavy customisation. Instead they tie the customers to tight long term agreements. Company A and C did not express such a clear vision and are also working more in order to customise their product to fit each client. Thus, they are not exclusively supplying one customer with their product, rather adapting it in order to fit the particular customer.

All case companies expressed a desire to develop their product together with the customers. For two of the case companies it started as a market research whereas the third case company involved the customers in a later stage of the development. The aim was, however, to acquire

the knowledge and resources needed in order to develop the product and the company. In all cases the customers have contributed with feedback when using the product. When the founders shared their vision with the first customers, the customers in turn gave their input on the idea. It gave both parties an opportunity to learn from each other as well as the customers' expectations with the companies' promises. Customer B1 and C1 both expressed a feeling of having created a close and trusting relationship where the problems that occurred could be solved together. The communication flowed easily and they developed an understanding for each other. Communication is an important aspect when creating sustainable relationships. Both companies are described as attentive to the feedback of the customers and they have throughout the process had a continuous dialogue. Through the cooperation with their first customers company B and C also learned plenty, more than they did by the cooperation with the later customers. Learning is the one of the main reasons to develop a MVP argues Ries (2009), it is the core throughout the start-up methodology. Greer et al (2012) further argues that the level of learning is decided by the closeness of the relationship. It is true also in these cases. The learning curve for company B and C was steeper during their cooperation with B1 and C1 than with their later customers.

In the case of company A the communication failed with their first customer, A1. The parties did not agree on the minimal features required to satisfy the need of the customer and the communication during the development which was described as sporadic. Company A and A1 does not have any contact today, the relationship between them was distant. According to Greer et al (2012) a distant relationship can cause dysfunctionality as it did in this case. Their relationship flawed in most aspects Morgan (1994) presents as crucial in order to create relationship marketing. Instead A1 is today working with similar technology but with another company.

A1 also stands out when it comes to the next corner stone in the building of a sustainable relationship, trust. Prior to initiating the cooperation company A had to sign a lengthy agreement regulating the co-development. However, literature states that due to the uncertainty of the co-development process it is difficult to regulate it in an agreement. Having a trusting relationship is therefore favoured prior to agreements. The other companies did not regulate the development process in that rigid way as A1 did with company A. Instead they built trust by open dialogue where they together discussing the next step.

Through the interviews with early as well as later customers the research suggests that there is a difference between the relationship with the first customers and the relationship with the later customers. Company B as well as company C created a high involvement relationship with their first customers who were involved in the product development process. The high involvement relationship was created through communication and trust. Company B states that they value the feedback from the long term customers higher than they value the feedback received from newer, more distant customers. The customer B1 together with company B are developing new features suitable for their business whereas B2 states that little feedback has been given from their part. Company C has a similar pattern, thus they have not yet gotten as far as company B in their product development process to be able to sell the product over the counter in the same way as company B. These findings go in line with McDonalds (1995) research, arguing that what is being learned from previous customers can be incorporated in the product. It is therefore not necessary, nor desirable to have a close relationship with all customers.

An additional outcome of the relationships which this study implies is the new customers generated through their first customers. B1 as well as C1 confirm that word-of-mouth have occurred to a large extent. None of the companies or the customers had an out spoken relationship marketing mentality. However, they were all working towards the same goal and saw the value in each other's efforts. They had a win-win mentality and valued the relationship with the other party. All which are important factors in relationship marketing according to Morgan (1994). The founder of company B stated that as a result of the co-operation the value of the product has increased tremendously, they have also received new customers through their existing customers. Company C also experienced that benefit as the franchisee of C1 has acted as a sales representative for company C by selling the concept to the other franchisees within the same organisation. According to Day et al (1998) it is an additional advantage of having a good relationship with satisfied customers. Something Day et al (1998) argues follows the relationship marketing approach. It is further argued by Zontanos et al (2004) to be even more important for start-up companies.

Yet again company A and their first customer A1, is the odd one out as their relationship was characterised by low involvement and no word of mouth occurred. Here on the other hand, the communication failed and A1 did not show trust as they required company A to sign a lengthy agreement. It shows the importance of a close relationship, built on trust, learning and

communication when co-developing a product. It further underlines the importance of finding the right partner to co-develop with, which will be discussed in the next section.

5.2. The importance of the right partner

Finding the right partner to co-develop with is a difficult task. This research implies that finding the right is of great importance in a co-development situation. It goes hand in hand with the relationship the company build up with their customers. To find the right customer can however be a difficult process, especially for a start-up who knows not yet their customers. None of the founders described an active process of looking for the right co-development partner. Company B and C did, in difference to company A an extensive market screening through which they found customers interested in co-developing their product.

Company A expressed a need of having a partner willing to test and evaluate their product as they did not have the means to do so themselves. The founder also expressed that by examining how the customer interacts with the product a deeper understanding of their needs can be gained. The same understanding cannot be reached if asking hypothetical questions. Unfortunately what they found in customer A1 was not a co-developing partner but rather a regular customer. Blank (2010) does point out that the MVP is not for the mainstream customer. Research also shows that the customer needs to perceive that they are better off by participating in the co-development activity. A1 did not experience an urgent need for the product. Their reason for participation was instead to promote the science. They were interested in the field but did not fall in love with the product. Blank (2010) argues that falling in love with the product and sharing the vision of the founder is necessary when developing a product together with a start-up. The result of this case study is in line with that statement.

Company A ended up developing for A1 instead of developing with them. The co-development did not lead to a further cooperation. Instead A1 took valuable time form company A, which they could have spent on their second target customer segment. There is a difference between product development in small, start-up companies compared to large market leader. Developing for customers by anticipate their needs is a strategy commonly used by the market leader, show previous research. In difference to a start-up, the large market leader has experience in product development, they have existing customers as well as more recourses. It is a strategy which does not result in major innovations as the company

does not interact with the customers. For a start-up company, like company A, an anticipation strategy is not to prefer according to Blank and Dorf (2012) and Ries (2009).

On the other end of the scale is company B and their customer B1. B1 who showed a great interest in their product and happily shared their experiences, problems and needs with company B. B1, and to some extent, C1 and C2, did experience the problem, assembled a solution by parts, as well as had a budget. Those are three out of five characteristics Blank and Dorf (2012) uses to describe an earlyvangelist. Thus, B1 realised they had a problem and where actively searching for a solution, which are the remaining two characteristics. B1 shared the vision of company B and saw the advantages of their solution. They were thereby willing to contribute with their time and knowledge to bring the product forward, which increased the value of the product as well as the company. The customers of company C rather saw it as a possibility to gain an advantage over their competitors. They had yet not put words on the perceived problem but when the product was presented for them they saw the potential benefit. Gaining competitive advantage is one of the main reasons for customers to participate according to previous research.

The findings imply that in order to be a suitable co-developing partner the customer has to be interested in the product. It goes in line with previous research stating that the larger the potential benefits are the more willing the customer is to participate. But the customer also needs to be able to devote time and resources to the development process. In this regard a difference in flexibility between the larger and the smaller customers can be seen. Previous research finds that the co-development process differs between large and small companies. Co-development in large companies is characterised by structured processes with manuals regulating who is participating and when. In small, entrepreneurial companies on the other hand, the process is more flexible and informal. It can be discussed whether the lack of formal structure was a reason to the failing co-development between company A and A1. It is stated that their organisation is more rigid and had a need of extensive agreements in order to initiate the co-development. Further, the interviewee from A1, who was the person in charge of the co-operation, stated that the contact with company A was outside of her daily task and therefore tended to get pushed a side.

Company B and C on the other hand co-developed together with smaller partners who had less rigid structures as well as shorter decision processes. The findings imply that smaller,

more flexible companies are better suited as partners. Their structures are more similar to the structures in a start-up company. Company Cs second customer, C2, is however a large company. What differs between that partnership compared to the one between company A and A1 is mainly the fact that it is not the first customer. When company C initiated the cooperation with C2 they have collected experience from working together with other customers. They had thereby been able to pivot and adapt the product throughout the process in order to attract also larger, more mainstream customers.

5.3. When in the process and level of knowledge

By including customers from the different stages of the product development process a comparison can be made between their contributions to the development. What the research further imply is that in what stage of the development process the first customer is involved has an impact on the outcome. Involving customers early in the product development process give the company a chance to pivot and make adaptations to the product already in the ideation stage.

By reaching out to potential customers in the ideation stage company B as well as company C got the possibility to tweak their offering inexpensively. The product idea could be adapted in accordance with the wants and needs of the customer group with the greatest potential market with the best economy of scale. The next stage was to present the idea to potential customers, company B and C both presented their vision as a visual presentation. From there they initiated discussions with their customers regarding how it could be implemented into their business and how it can be adapted. At this stage of the development process the input form the customer is the most valuable argues Enkel et al (2005). By involving the customer in the ideation phase both company B and company C could engage the customers in the development of their offering without requiring extensive knowledge in the particular field. Instead the customers could contribute by expressing their needs and requirements and the vison of the product could be adapted from there.

Company A approached their first customer in a later stage compared to company B and C. They had a physical prototype which they presented to the customers. The fact that customers did not get the possibility to voice their opinion until later in the process might have made potential pivots more difficult and more expensive (Ries, 2011; Blank and Dorf, 2012). Even

though it was a rough prototype Enkel et al (2005) argues that only incremental changes can be done to a prototype as well as more knowledge from the customer. The main argument from customer A1 to why they did not participate closer in the co-development was due to the lack of knowledge. In order to adapt a prototype more knowledge is required compared to when aligning a company's product idea to the solution imagined by the customer.

By involving the customer in the early stage company B and C also got the possibility to tie them closer by engagement. The relationship they have with the customers involved in the later stages are not as close as to the first customers as previously stated.

6. Conclusion

This thesis has examined the process of new product development, more particularly the intersection between co-development theory, lean start-up methodology and the customer perspective. It is an area of research which has achieved little attention from researchers. It is, however, important aspects to consider for the entrepreneur when developing the product and the company in order to increase the chances of success. In the following section the research questions will be systematically answered followed by a brief conclusion. Thereafter suggestions on further research will be made.

6.1. Addressing research question one

How does the customer involvement affect the product development process?

6.1.1. The importance of relationships

A company's relationship to its customer is the most important of all relationships. The customer is involved in the co-development process in order to provide the company with something they lack. It could be market knowledge, know-how or as a test pilot who gives feedback on the product.

For a start-up a close relation to the customers involved in the product development is especially important. A start-up developing their first product does not have any previous knowledge about customers to build their assumptions on. They therefore need to co-operate closely with the customers in order to learn from and about them. Learning is one of the three legs which build a high involvement relationship together with communication and trust. Failing in these aspects has throughout this research shown to be crippling for the co-development process.

6.1.2. Who to co-operate with

Equally as important as the relationship is the choice of co-developing partner as the MVP is not for the ordinary customer. Partnering up with an engaged and knowledgeable customer who is willing to devote time and resources to the project could increase the product value tremendously. The research shows that by having customers who are highly involved in the

development of the product can also result in new customers, through the word of mouth effect.

The result of partnering up with a customer who is not willing to engage in the co-development could instead mean valuable resources such as time and money not being used in an optimal way. It is therefore of great importance to choose the right customer to partner up with, not just a customer.

6.2. Addressing research question two

How does the stage of the development process where the customer gets involved affect the co-development?

6.2.1. When in the process to include the customer

The relationship between the customers who got involved in the ideation phase developed into high involvement relationships. Strong bonds were created and the customers also engaged others who later became customers. This research therefore suggests that involving customers in the ideation phase is related to a positive result in the aspect of product development as well as relationship marketing.

The effect of involving the customers in the development/testing phase differs depending on if it is the first customer or not. The research implies that not involving the first customer until the development/testing phase could be problematic; it could however also depend on the customer's intention with the participation. The research does however suggest that involving a later customer at the development/testing stage provides the company with valuable feedback.

6.2.2. The knowledge of the customer

The different stages of the development process put different demands on the client in terms of technical know-how. The customers who were involved from the ideation stage contributed with ideas and as a discussion partner. The research therefore implies that the technical know-how required is limited in the early stages of the development as it is yet on the ideation stage.

For customers who were involved later on in the product development process the research implies that they did not contribute in the same way. The level of technical know-how required from the first customer is higher if the customer is not involved until the development/testing phase, suggest the research. The level of know-how was, however, not found to be a problem for the later customers involved at the testing/development phase.

6.3. Future research

The study has been conducted during a limited time period and therefore fails to provide a long term perspective of the effects of the co-development. It can thereby not be determined whether or not the relationships will last in the long run or that the companies have developed a successful product by the help of the customer. Neither can it be determine whether or not a sustainable competitive advantage has been developed by involving the customers. Further research with a longer time perspective shed light on this matter

It was further noted during the research that the feedback was of great importance during the product development process, a factor which is not included in this research. By further researching the importance of feedback a deeper understanding of the product development could be gained. Further research is also needed on the customer perspective of the product development process over all. In particular research is needed to understand why the customers choose to participate and the negative aspects of participation in the product development.

This research only covered three companies and six customers, therefore no genralisable conclusion can be drawn. By conducting a quantitative study on the subject however, a larger sample will be reached and there by generalisations regarding the relationships and the customers participation can be drawn.

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8. Appendix

Relationship

Describe your relationship with company X. Close, distant

Who took the initiative to the co-operation?

Why did you choose to test their product/service?

Why where you involved in the product development process?

How has the involvement looked like?

Do you feel that they have been attentive towards you? Did they listen to your feedback?

How has your relationship to the company changed? Or has it changed at all?

Where in the process

Where in the development process did you get involved? And how where you involved?

In which part of the process have you been involved? Design, development, Ideation, all of them?

How did company X sell the product to you?

Have you noticed that the product has changed throughout the process? How/ in what way?

Outcome/ view

How do/did you perceive the opportunity to participate in the development of a new product?

Did the participation in the development process change the perception of the company?

Has your loyalty towards the company change in any way?

Has any word of mouth occurred/ have you talked about the company with other potential customers? Why/ why not? What have you been saying?

Did you feel that you contributed to the development? How?

MVP is "selling a vision" did you experience that your perception of their vision got blurred or stained?

Did the product live up to your expectations? Why or why not?

How do you feel that the co-development could have been done in a better way?

Interview guide, company

Describe your relationship with the first customers. (Arm's length? Co-developer? Idea generator?) Who took the initiative to the co-operation?

How did you identify the specific customer to partner up with?

Where there any incentives for the customers to participate?

When in the development process did the customer became involved?

What part of the development process where the customer involved in? In all parts, from opportunity recognition to finished product or at one specific point in time

How did you work with the customer feedback? Was it ongoing or just at certain points in the process?

Did you test different stages of the product?

How would you describe the product when first presenting it to the customers? How did you identify your minimal features?

What was the customers' spontaneous reaction when presenting it to them?

How did you fund your development? Grants, customer sales…?

What is your overall view off involving customers in product development?

How did the customer involvement affect the outcome?

How is your relationship to the customers helping you develop your product? Is it different compared to other customers?

Did you see any other effects of the customer involvement, than just learning?