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Bringing the Customer Closer to the Innovation Process

How Customer Involvement can be Adapted to the Phases of
the Innovation Process

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PREFACE

This master thesis was conducted during the spring 2014 at the Department of Production Management, Lund University, Faculty of Engineering, LTH. The thesis represents the final part of the M.Sc. Industrial Engineering and Management program.

We want to thank everyone involved at the Swedish division of Bramble AB in Malmö for inviting us to write this thesis and for supporting our work. The creative atmosphere at the office has motivated us through the phases of the thesis. We would especially like to thank our supervisor, in this master thesis called, Daniel Grip, who has supported us even during his busiest times. At the Department of Production Management, we would like to thank our supervisor Lars Bengtsson who has provided us with valuable knowledge and advice.

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ABSTRACT

- Title:** Bringing the Customer Closer to the Innovation Process – How Customer Involvement can be Adapted to the Phases of the Innovation Process
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- Supervisors:** Lars Bengtsson, Professor in Industrial Engineering and Management, Department of Production Management at Lund University, Faculty of Engineering, LTH, Daniel Grip, Senior Concept Designer at the Swedish foresight division of Bramble AB Sweden
- Problem Definition:** The Swedish foresight division, SFD, of Bramble AB is charged with developing concepts for new products and innovations. At the time, this process is generally disjointed from external input from customers about the needs of the target group. Ideas are generated based on hypotheses, proposed by the employees at SFD, after which concepts are developed and tested internally. However, the validity of the hypotheses is rarely tested. This suggests an opportunity for improvement to the innovation process within SFD by including external information from potential customers to more effectively meet the market needs.
- As a part of this thesis external information is gathered through personal interviews with potential customers with the purpose of increasing SFD's information base about the domain of business meetings. This method produces qualitative data which can be utilized in the innovation process. However, the information obtained may be differently suited for different phases of the innovation process. As such, an analysis is required to evaluate what type of customer input is suitable in the different phases of the innovation process.
- Purpose:** The purpose of this thesis is to explore how external input from the customer can be utilized in different phases of the innovation process at Swedish foresight division of Bramble AB by (1) describing and analyzing the current innovation process and (2) conducting market research about the domain of business meetings as an implementation to include external input in the innovation process. Furthermore, recommendations are made as to

how to include external input from the customers in the innovation process at SFD at Bramble AB.

Methodology:

Due to the dual characteristics of the purpose, the methodology is twofold. For the first part of the purpose the innovation process of SFD is described, which corresponds with a descriptive research strategy. The research conforms to a case study. The data used to describe the innovation process at SFD is both gathered through unstructured interviews without specific interview questions, and through semi-structured interviews with three key persons working in three different projects.

For the second part of the purpose a market research is conducted in order to generate knowledge about needs and behaviors of customers, which corresponds with an exploratory research strategy. The chosen method for the market research is personal semi-structured interviews. The primary data collected through the interviews is following an interview guide. Thus, the market research method conforms to a qualitative case study.

Conclusions:

SFD adheres to an innovation process, which combines a supply-push and demand-pull approach and includes feedback loops and iterations of phases. New products and solutions are developed with a focus on the customer. However, external input from the customer is currently limited throughout the innovation process.

Analysis of the empirical findings revealed the need for different types of knowledge in the different phases of the innovation process. Through the application of theory, suitable modes and methods of customer involvement could be assigned to the phases of the innovation process at SFD. Methods where customers take a passive role are suitable for the early phases of the innovation process. As the process progresses the customer may take on a more active role

Keywords:

Innovation process, customer involvement, external input, customer needs, feedback

CONTENTS

1	INTRODUCTION	1
1.1	BACKGROUND	1
1.2	PROBLEM DEFINITION	2
1.3	PURPOSE	2
1.4	TARGET GROUP	2
1.5	DELIMITATIONS	3
1.5.1	Organizational frame	3
1.5.2	Time frame	3
1.6	DISPOSITION OF MASTER THESIS	3
2	METHODOLOGY	7
2.1	RESEARCH STRATEGY	7
2.1.1	Exploratory	7
2.1.2	Descriptive	7
2.1.3	Explanatory	7
2.1.4	Predictive	7
2.2	RESEARCH METHOD	7
2.2.1	First dimension	8
2.2.2	Second dimension	8
2.3	DATA COLLECTION METHODS	9
2.3.1	Interviews	9
2.3.2	Observations	10
2.4	QUALITY OF RESULTS	10
2.4.1	Reliability	11
2.4.2	Validity	11
2.4.3	Triangulation	11
2.5	METHODOLOGY FOR STUDYING THE INNOVATION PROCESS	11
2.6	METHODOLOGY FOR MARKET RESEARCH	12
2.7	MARKET RESEARCH PROCESS	13
2.7.1	Defining problem and research objectives	13
2.7.2	Research plan	15
2.7.3	Implementing the research plan	16
2.7.4	Interpreting and reporting the findings	17
3	THEORETICAL FRAMEWORK	19
3.1	INNOVATION PROCESSES	19
3.2	THE INNOVATION VALUE CHAIN	20
3.2.1	Idea generation	20
3.2.2	Conversion	21
3.2.3	Diffusion	21
3.3	MARKET ORIENTATION	22
3.3.1	Dimensions of market orientation	22
3.3.2	The intelligence continuum	23
3.4	OPEN INNOVATION	24
3.4.1	Customer focused organizational strategies	24
3.4.2	The need for external information	25
3.4.3	Modes of customer involvement	26
3.4.4	Requirements for open innovation with customers	26
3.5	PRODUCTIVE MEETINGS	29
3.5.1	Meeting preparation	29
3.5.2	Meeting facilitation	30
3.5.3	Meeting follow-up	30
4	COMPANY PRESENTATION	33
4.1	BRAMBLE AB	33

4.2	THE SWEDISH FORESIGHT DIVISION	33
4.3	THE INNOVATION PROCESS AT SFD	34
4.3.1	Idea development.....	35
4.3.2	Conversion	35
4.3.3	Market adoption.....	35
5	EMPIRICS	37
5.1	THE INNOVATION PROCESS AT SFD	37
5.1.1	Idea development.....	37
5.1.2	Conversion	40
5.2	MARKET RESEARCH DATA.....	43
5.2.1	Individual cases.....	43
5.2.2	Coded data.....	52
6	ANALYSIS	61
6.1	ANALYSIS OF MARKET RESEARCH	61
6.1.1	Defining business meetings	61
6.1.2	Execution of business meetings.....	62
6.1.3	Meeting productivity.....	64
6.1.4	Meeting costs	66
6.1.5	Initial testing of hypotheses.....	66
6.1.6	Evaluation market research	69
6.2	ANALYSIS OF THE INNOVATION PROCESS AT SFD.....	69
6.2.1	SFD's degree of market orientation	69
6.2.2	Determining the generation of the innovation process at SFD	71
6.2.3	The need for external information	72
6.2.4	Customer involvement in the phases of the innovation process at SFD.....	72
6.2.5	Requirements for SFD to achieve successful customer involvement.....	79
7	CONCLUSIONS AND RECOMMENDATIONS.....	81
7.1	INVOLVING CUSTOMERS IN THE INNOVATION PROCESS.....	81
7.2	THE APPLICATION OF MARKET RESEARCH	82
7.2.1	Summary of market research results	82
7.3	RECOMMENDATIONS TO SFD	82
8	REFLECTIONS	85
8.1	INTRODUCING CUSTOMER INVOLVEMENT AT SFD	85
8.2	ACADEMIC CONTRIBUTION	85
	REFERENCES.....	87
	LITERATURE	87
	ARTICLES.....	87
	E-SOURCES	89
	INTERVIEWS MARKET RESEARCH.....	89
	INTERVIEWS INNOVATION PROCESS	90
	APPENDIX.....	91
	A.1 INTERVIEW GUIDE MARKET RESEARCH (TRANSLATED VERSION)	91
	A.2 INTERVIEW GUIDE MARKET RESEARCH (ORIGINAL VERSION).....	94
	A.3 INTERVIEW GUIDE INNOVATION PROCESS RESEARCH	97
	A.4 METHODS FOR CUSTOMER INVOLVEMENT.....	98

LIST OF FIGURES

Figure 1.1 Map of the thesis disposition	5
Figure 2.1 The market research process (Armstrong & Kotler, 2009, p.134)	13
Figure 3.1 The Innovation Value Chain and its subcategories (Hansen & Birkinshaw, 2007)	20
Figure 3.2 The four dimensions of market orientation (Mohr et al., 2010)	22
Figure 3.3 The intelligence continuum (Mohr et al., 2010)	23
Figure 3.4 Relevant customer and firm competences depending on customer innovation type (Piller and Ihl, 2009).....	27
Figure 4.1 Organizational structure of Bramble AB (Henriksson, 2014).....	34
Figure 4.2 The innovation process at SFD.....	34
Figure 5.1 The utilization of input in the different phases of the innovation process	37
Figure 5.2 Input in the Hypotheses phase	38
Figure 5.3 Input in the Idea Generation phase.....	39
Figure 5.4 Input in the Idea Selection phase	40
Figure 5.5 Input in the Concept Development phase	41
Figure 5.6 Input in the Prototyping phase	42
Figure 5.7 Input in the Product Development Phase	43
Figure 6.1 Suitable modes and methods of customer involvement in the innovation process at SFD	73
Figure 6.2 Customer involvement in the hypotheses phase	74
Figure 6.3 Customer involvement in the idea generation phase	75
Figure 6.4 Customer involvement in the idea selection phase	76
Figure 6.5 Customer involvement in the concept development phase	77
Figure 6.6 Customer involvement in the prototyping phase.....	78
Figure 6.7 Customer involvement in the product development phase.....	79

LIST OF TABLES

Table 3.1 Different methods of customer involvement	26
Table 5.1 Coding classes in relation to the research questions.....	52
Table 5.2 Coded data for meeting definition.....	53
Table 5.3 Coded data for meeting execution	55
Table 5.4 Factors that negatively affect business meetings compared by occurrence	57
Table 5.5 Coded data for meeting costs	59
Table 6.1 Initial testing of hypotheses.....	67
Table 7.1 Suitable methods of customer involvement in the phases of the innovation process at SFD	81
Table A.4.1 Methods for customer involvement.....	99

1 INTRODUCTION

In this chapter the background and problem definition of this master thesis will be described. The chapter will also present the purpose in order to provide the reader with the scope of the thesis. A description of the target group and delimitations of the thesis as well as the disposition will be presented.

1.1 BACKGROUND

The pace of technological advances is increasing rapidly and in order to stay competitive companies must adapt. Technological innovations change the landscape of markets by creating new consumer behavior and enhancing organizational processes. The companies that embrace the technological changes stand to gain significant competitive advantages, while the companies that do not risk falling behind.

Along with these changes the customer needs are changing, both in terms of what they are and how they are being met. Technological strides allow existing customer needs to be fulfilled in new ways. At the same time new needs are arising and latent needs are being discovered. Adapting to the changing needs companies develop new products and services in the hope that the market will adopt them. By actively including input from the customers into the innovation process high-tech companies can significantly increase the chances of the market adopting their innovations (Mohr et al., 2010, s.189).

Bramble AB has been a part of the mobile communication industry for 30 years, primarily selling mobile phones with hardware and software especially configured for business and enterprise purposes. In recent years innovations within the mobile phone industry has radically changed the way mobile phones are used. Currently, the majority of market shares for mobile phones are held by two major competing actors. Bramble AB now stands before the challenge of gaining market shares and are working on new ways to differentiate the value proposition. Focusing on the core competencies the company is maintaining an emphasis on enterprise, where technological innovations are developed to help improve the productivity, security, communication ability of companies. However, Bramble AB is also creating solutions for the individual user.

The Swedish foresight division, SFD, of Bramble AB is charged with developing concepts for new products and innovations. At the time, this process is generally disjointed from external input from customers about the needs of the target group. Ideas are generated based on hypotheses, proposed by the employees at SFD, after which concepts are developed and tested internally. However, the validity of the hypotheses is rarely tested. This suggests an opportunity for improvement to the innovation process within SFD by including external information from potential customers to more effectively meet the market needs.

One area currently of interest to SFD is developing technological innovations that can facilitate and increase the productivity in business meetings. In line with the overarching innovation process in the division, idea generation and concept development in this area has been based on untested hypotheses about the customer needs. Consequently, there is a desire to test these hypotheses as well as increase the

knowledge base about how business meetings are executed and what factors affect the productivity of business meeting in order to better develop solutions which have a greater likelihood of being adopted by the market.

1.2 PROBLEM DEFINITION

From the introduction of market orientation in the 1950s to present day, organizational strategies have become increasingly customer focused (Piller and Ihl, 2009). The segmentation of customers has become increasingly refined, to the point where customers are considered highly heterogeneous (Von Hippel, 2005) and product development is based on individual needs. As a consequence of the more customer focused organizational strategies, the customer has become more important in the innovation process. Dodgson (2000) presents how innovation processes have evolved through five generations where the customer becomes a vital source of innovation through sharing information about needs and solutions.

The key effect of including external information from customers is the increased pool of information that can be used to make decisions throughout the innovation process, which in turn increases the chances of successful innovation (Piller and Ihl, 2009). Acquiring such information can be done using various methods, ranging from surveys where the customer is passive to customer co-creation where the customer takes an active role in the innovation process. The quality and the characteristics of the information will vary between different methods. Thus, firms should not only include external information but also consider what method to use in order to obtain information suited for a specific situation.

As a part of this thesis external information is gathered through personal interviews with potential customers with the purpose of increasing SFD's information base about the domain of business meetings. This method produces qualitative data which can be utilized in the innovation process. However, the information obtained may be differently suited for different phases of the innovation process. As such, an analysis is required to evaluate what type of customer input is suitable in the different phases of the innovation process.

1.3 PURPOSE

The purpose of this thesis is to explore how external input from the customer can be utilized in different phases of the innovation process at Swedish foresight division of Bramble AB by (1) describing and analyzing the current innovation process and (2) conducting market research about the domain of business meetings as an implementation to include external input in the innovation process. Furthermore, recommendations are made as to how external from the customers can be included in the innovation process at SFD at Bramble AB.

1.4 TARGET GROUP

This thesis has two main target groups; (1) students and professionals with a background in business or engineering and (2) stakeholders within or with ties to the Swedish foresight division at Bramble AB.

1.5 DELIMITATIONS

1.5.1 Organizational frame

The organizational frame of this thesis is limited to SFD of Bramble AB. Thus, descriptions and analyses of innovation processes in this thesis only apply to SFD and do not necessarily reflect innovation processes used in other divisions or in Bramble AB as a whole.

1.5.2 Time frame

The time frame for this thesis is limited to 20 weeks of full-time work. Consequently, the thesis will be restricted to generating recommendations for future implementations as the time frame does not allow for full implementation and evaluation.

1.6 DISPOSITION OF MASTER THESIS

This section presents the disposition of the master thesis. The section ends with a disposition map of the thesis, see Figure 1.1, in order to provide the reader with an overview.

CHAPTER 1 – INTRODUCTION

The introduction chapter provides description of the background and problem definition, followed by the purpose of the thesis in order to illustrate the scope of the thesis. A description of the target group and the delimitations of the thesis is included as well. The chapter ends with a presentation of the master thesis's disposition.

CHAPTER 2 – METHODOLOGY

The methodology chapter presents the utilized methodology of the master thesis. The first part of the chapter presents methodology from theory and is followed by presentation and discussion of utilized methods for the innovation process research and the market research. The chapter ends with detailed description of the methodology used for the market research process.

CHAPTER 3 – THEORETICAL FRAMEWORK

The theoretical framework describes the theories used for analysis of the gathered data. The chapter begins with a presentation of innovation processes and is followed by explanation of the importance of market orientation and the four dimensions of a company's market-oriented approach. Thereafter follows two sections presenting and describing innovation value chain and open innovation. Lastly, theory about productive meetings is presented.

CHAPTER 4 – COMPANY PRESENTATION

This chapter provides a general company presentation of Bramble AB and Bramble AB's foresight division in Malmö, Sweden. The end of the chapter describes the conceptual framework of SFD's innovation process, which has been developed in collaboration with the Swedish division.

CHAPTER 5 – EMPIRICS

The empirics present the gathered research data. The chapter begins with presentation of the current innovation process at SFD based on the conceptual framework developed for the purpose. The second section presents the data gathered during the market research process. The section begins with a presentation of six cases, and is followed by compilation of these, based on the research questions, to provide a structured overview.

CHAPTER 6 – ANALYSIS

The analysis chapter begins with analysis of the market research based on the research questions, and analysis of the predefined assumptions. These two sections are followed by an evaluation of the market research. The chapter ends with analysis of the innovation process at SFD.

CHAPTER 7 – CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations chapter presents the conclusions considering involvement of customers in the innovation process at SFD, and the application of conventional market research. The chapter ends with recommendations to SFD.

CHAPTER 8 – REFLECTIONS

The reflections chapter summarizes additional reflections regarding the introduction of customer involvement at SFD and ends with reflections of the academic contribution of the thesis.

REFERENCES

This chapter presents the sources used for this master thesis. Primary sources consist of interviews within SFD in Malmö, Sweden, and interviews with the different companies for the market research. Secondary sources include relevant articles, literature, and internet sources utilized for description of theories and company backgrounds.

APPENDIX

This chapter presents the interview guides utilized for the gathering of primary data during the interviews. Three interview guides are included; a translated version and the original for the market research, and one for the internal innovation process research. A list of methods for customer involvement is also to be found in this chapter.

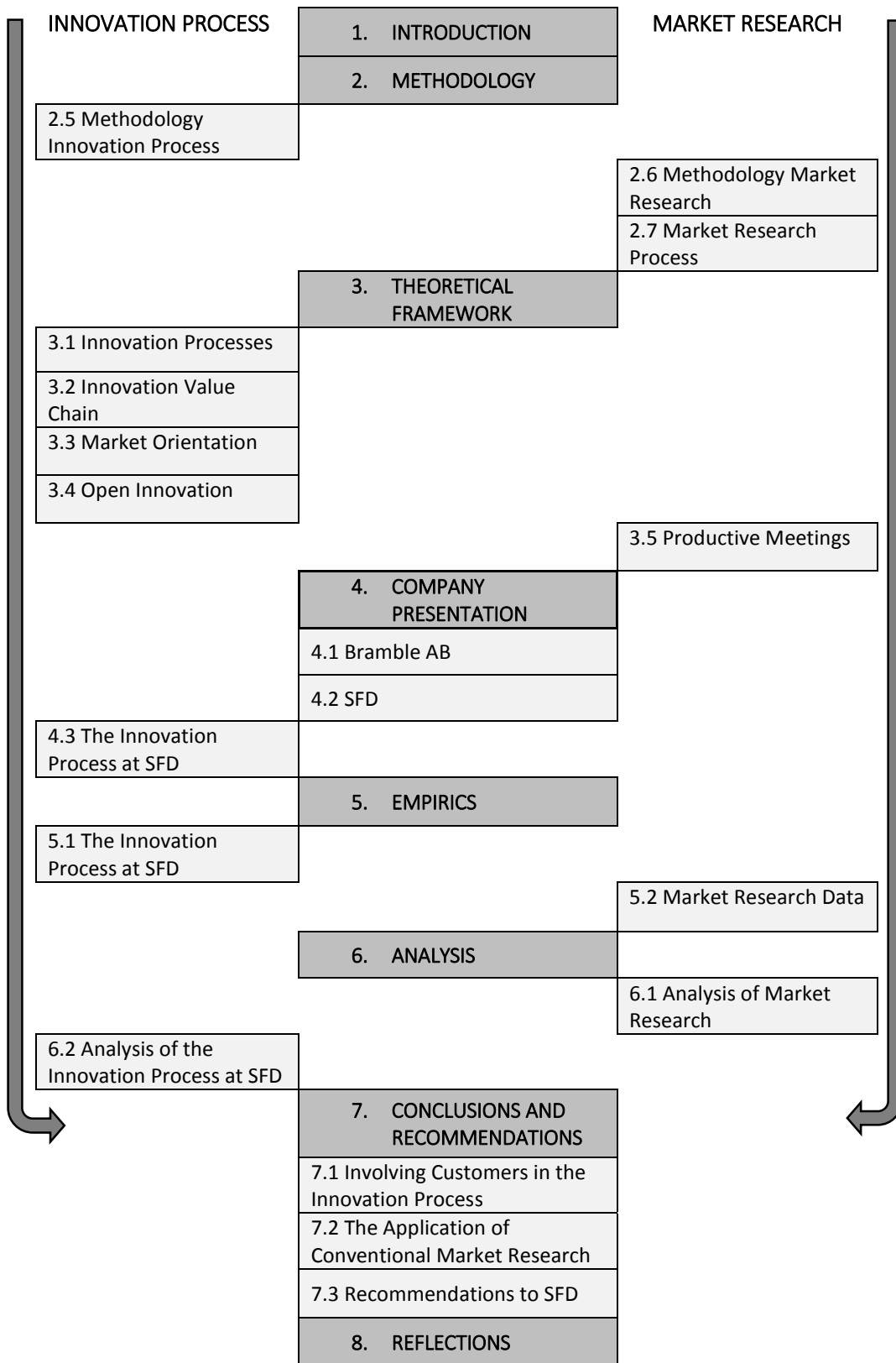


Figure 1.1 Map of the thesis disposition

2 METHODOLOGY

Höst et al. (2006) define methodology as the fundamental procedure chosen for the master thesis. Hence, this chapter will present the utilized methodology, based on literature. Because the purpose of the thesis constitutes of two main purposes, different methodology is required for the innovation process and the market research. The chapter ends with detailed description of the methodology used for the market research process.

2.1 RESEARCH STRATEGY

Depending on the character of the master thesis the thesis can be classified differently and different research strategies can be applied. According to Lekvall and Wahlbin (2011) there are four relevant research strategies which often are used simultaneously.

2.1.1 Exploratory

In order to gain knowledge and understanding regarding a problem an exploratory strategy should be applied. The strategy can provide a foundation for relevant question formulations and enable specification of the task which in turn makes it possible to define different alternatives of action.

2.1.2 Descriptive

A descriptive strategy is based on detailed problem formulations with purpose to describe facts and state of affairs. The strategy only provides a map of the situation without explanation of the condition.

2.1.3 Explanatory

If a study has the purpose of disambiguate causalities the research strategy should be explanatory. The explanatory strategy present how different factors are connected and affect each other which require that the planning of method and measuring of the factors have been done properly in order to provide an accurate study.

2.1.4 Predictive

If the study aims to have a prognostic approach a predictive research strategy should be applied. Based on given presumptions a predictive strategy tries to anticipate the future development of certain phenomenon.

2.2 RESEARCH METHOD

An appropriate method or a combination of methods should be chosen in order to perform a research for the master thesis. Different tools for data collection and analysis can then be selected based on the method or methods (Höst et al., (2006), p. 30). The choice of method explains the path the master thesis will take in order to yield relevant results and thus being able to answer the formulated problem and to provide an accurate conclusion.

The research method will be chosen based on two main dimensions. Firstly a decision has to be made whether the master thesis will study a single or a few cases in-depth, or if a larger amount of cases will be studied more in general. The second dimension is

whether the master thesis should include quantitative or qualitative data and analysis methods (Lekvall and Wahlbin, (2011), p.209).

2.2.1 First dimension

For the first dimension four relevant methods for master theses are described; survey study, experimental study, case study and action research.

2.2.1.1 *Survey study*

A survey study is a type of cross-section study where a larger amount of cases are studied. The method include measuring of specific situations or conditions relevant to problem formulation. The results are usually presented in tables and diagrams which require that the exact same questions are given to all respondents. The survey method is typically used for studies with descriptive or explanatory strategy. (Lekvall and Wahlbin, p.216)

2.2.1.2 *Experimental study*

A second type of cross-section study is the experimental method which is based on a manipulation of the studied reality. The method requires well formulated problem definitions and hypotheses since the purpose is to actively control the studied area in order to receive relevant results. (Lekvall and Wahlbin, p.210)

2.2.1.3 *Case study*

The case study is an in-depth method for describing a phenomenon. The method is suitable when situations should be studied thoroughly for detailed information. It is a flexible method and can be performed with the use of interviews, observations and archive analysis. Interview questions and study direction can thus be changed during the process. It is important to affect the studied object as little as possible in order to collect as relevant qualitative data as possible. (Höst, p.34)

2.2.1.4 *Action research*

Action research is a method common in scientific contexts and has the purpose of closely monitor and document an activity which may solve a problem. This type of approach is however complex to apply on market research. (Lekvall and Wahlbin, p.212)

2.2.2 Second dimension

When conducting research there are two different categories of data that can be collected; quantitative data and qualitative data. The categories have different characteristics, methods of collection and methods of analysis. It is important to understand these differences to be able to choose the means of collection and analysis most suitable to fulfil the purpose of the research. Additionally, knowledge of how to treat quantitative and qualitative data separately and in conjunction can lead to improved validity and reliability of the results of the study.

2.2.2.1 *Quantitative research*

Quantitative data is typically used to investigate causality between different variables to be able to make some type of generalization that can also be applied to populations beyond the sample population (Bryman and Bell, 2005, p.100). Analysis is made in the form of numerical calculations and statistical compilations. In order to perform such

analyses it is vital that the collected data is quantifiable (Lekvall and Wahlbin, 2011, p.213).

According to Bryman and Bell (2005, p.89), a central concept when collecting quantitative data is measurement. Measurement provides the ability to perform more exact estimations, describe small differences and finding significant causality. Examples of appropriate methods in quantitative research are surveys, structured interviews and structured observations. These methods enable the use of large sample populations, which in turn increases the precision of the result (Bryman and Bell, 2005, p.122).

Quantitative data is collected at a distance with an objective view and the researcher has little or no influence on the respondents in surveys or the situation that is being observed. This is critical in order to achieve replicability, which is another central concept in quantitative research according to Bryman and Bell (2005, p.102).

2.2.2.2 Qualitative research

The objective of a qualitative data collection is typically to describe a certain situation or phenomenon by viewing it from the perspective of the subject. Contrary to the numerical nature of quantitative data qualitative data is presented in the form of words. Analysis is made using verbal reasoning, illustrations and mind maps (Lekvall and Wahlbin, 2011, p.213). The results generated by such analyses are often case specific and provide contextual understanding, but are difficult to generalize beyond the sample population (Bryman and Bell, 2005, p.307).

Qualitative research has more of a subjective character compared to quantitative research and the data collected runs the risk of being influenced by the researcher (Lekvall and Wahlbin, 2011, p.214). The data collection is performed in close proximity to the subjects and the methods of data collection are relatively unstructured (Bryman and Bell, 2005, p.322). When performing qualitative research it is common to use a smaller sample population (Lekvall and Wahlbin, 2011, p.214). Examples of appropriate methods of collecting qualitative data are qualitative interviews and focus groups.

2.3 DATA COLLECTION METHODS

Data can be collected using several different methods such as surveys, measurements, interviews, observations, experiments, simulations, documents and focus groups. Due to the objective of the thesis, interviews and observations are the main methods chosen for data collection in the research. Additionally, documents are used as supplementary data.

2.3.1 Interviews

Bryman and Bell (2005) describe three different types of interviews; structured interview, semi-structured interview and unstructured interview. The choice of interview type depends on what type of data is to be collected in terms of quantitative or qualitative.

2.3.1.1 Structured interviews

In a structured interview the interviewer poses a set of pre-set questions from an interview questionnaire. The questions are typically closed, very specific and often presented along with pre-set answers for the respondent to choose from. The

questions are posed in the exact way when interviewing different subjects to make the results comparable. This type of interview is most suitable when conducting quantitative research. (Bryman and Bell, 2006, p.135)

2.3.1.2 *Semi-structured interviews*

In semi-structured interviews the interviewer bases the questions on a prepared list of themes, often referred to as an interview guide. The questions are relatively open and the respondent has the ability to answer the questions more freely. This type of interview enables the interviewer to ask follow-up questions and the respondent to elaborate. This type of interview mainly generates qualitative data but offers some opportunity to gather quantifiable data. (Bryman and Bell, 2006, p.363)

2.3.1.3 *Unstructured interviews*

In an unstructured interview the interviewer uses a few memory notes at most to guide the interview. The interviewer poses a question and lets the respondent answer and associate freely. When the interviewer reacts to a point in the answer a follow-up question is posed. The character of unstructured interviews is close to that of a normal conversation. The data collected from this type of interview is purely qualitative. (Bryman and Bell, 2006, p.362)

2.3.2 Observations

There are two main types of observation methods according to Bryman and Bell; structured observation and participative observation. The choice of observation type depends on whether the research is of a quantitative or a qualitative nature.

2.3.2.1 *Structured observations*

Structured observations are used to observe predetermined variables in the behavior of individuals or groups. The observer adheres to explicit rules for how the observation should be made, what variables to look for and how these variables should be recorded. As a result structured observations can be made in a systematic manner and multiple observations can be aggregated. This type of observation enables the generation of quantitative data. (Bryman and Bell, 2005, p.197)

2.3.2.2 *Participative observations*

In participative observations the observer becomes a part of the sample group and the "eco-system" in which they act, often for an extended period of time. The observer both observes and takes part in conversations between individuals. Recording of the observed behavior is done in a relatively unstructured manner and the generated data is mainly qualitative. (Bryman and Bell, 2005, p.334)

2.4 QUALITY OF RESULTS

The quality of a research can be secured by evaluating criteria such as reliability and validity. If these are high the quality of the research is good. (Bryman and Bell, 2005) According to Bryman and Bell reliability and validity are applicable on especially quantitative studies while it has been questioned whether validity is relevant for qualitative studies.

2.4.1 Reliability

The reliability is affected by the amount of influence different contingencies have had on the research method. A research method has high reliability if the research is iterated and provides the same or almost the same results each time. If the method is not defined well enough the research risks low reliability (Lekvall and Wahlbin, 2011, p.306). According to Lekvall and Wahlbin (2011) low reliability is often caused by for example differences in mood of the individual such as motivation, health and fatigue; the interaction between the interviewer and the interviewee; variations in how questions are told depending on different interviewers.

In order to avert low reliability it is, as mentioned, of importance to define the research and measuring method stringent with unambiguous questions and standardized measuring. There are also some methods to secure reliability of the research method such as iterative measuring with the same interviewees. A parallel test where two similar measuring devices are used and two times applied on the same persons will also provide better reliability assumed that the results are the same. (Lekvall and Wahlbin, 2011, p. 307)

2.4.2 Validity

When performing a research it is central to be able to validate whether the measuring method measures the features that are supposed to be measured (Lekvall and Wahlbin, 2011). Bryman and Bell (2005) divide validity into intern validity and extern validity, and explain intern validity as the compliance between the researcher's observations and the theoretical ideas developed. Extern validity is instead whether the results can be generalized to and applied to other situations.

While external validity may become a problem due to the tendency of qualitative researchers to use case studies and limited selection of respondents, internal validity becomes a strength in qualitative studies. Since the researcher spends time with the specific social groups, interviewing and observing, it is possible to secure compliance between observations and theoretical ideas. (Bryman and Bell, (2005), p.306)

2.4.3 Triangulation

Triangulation is based on the idea of using more than one method or source of data when performing a research. The concept is mostly associated with quantitative researches but is a useful tool for qualitative studies for increased reliability. Qualitative and quantitative methods are also often used in combination in order to control the validity of the results. (Bryman and Bell, (2005), p.310) Since triangulation is about controlling results from one method with the results from another method it is then problematic if the methods used do not prove the same. If the results achieved are inconsequent the researcher could rank the results that seem most relevant and important, but such method is a contradiction to the purpose of the concept. (Bryman and Bell, 2005, p.505)

2.5 METHODOLOGY FOR STUDYING THE INNOVATION PROCESS

The first part of the purpose of the thesis is to describe the innovation process at SFD and to explore how methods of external information gathering can be utilized therein in order to provide recommendations. Describing the innovation process of the

company entails describing the facts about the current state of affairs, which corresponds with a descriptive research strategy.

In order to describe the process this thesis will in depth study the innovation process specific to SFD of Bramble AB. This conforms to a case study. When conducting the research, the data collection method will be qualitative.

The data used to describe the innovation process at the Swedish division was both gathered through unstructured interviews without specific interview questions, and through semi-structured interviews where an interview guide was used, see Appendix A.3. Unstructured interviews were held in order to create the conceptual framework which the semi-structured interviews were based on. Additionally, relevant literature and articles were utilized to theoretically support the framework. The researchers (the authors) were also situated at the division's office in Malmö and could through unstructured observations gain understanding of the innovation process.

The semi-structured interviews were held with three key persons working in three different projects. The documentation of the interviews was performed through notes and in order to confirm the quality of the results, the empirics from the study of the innovation process was sent back to the respondents for feedback. The feedback contained both comments on the accuracy of the compiled data, and comments in terms of confidentiality. The reliability of the research could have been increased with further interviews at the office. Recording of the interviews was however not considered necessary because of the possibility of feedback.

2.6 METHODOLOGY FOR MARKET RESEARCH

The second part of the purpose of this master thesis is to conduct a market research in the area of business meetings as an implementation to include external input in the innovation process of SFD. Hence, the market research is performed in order to gain knowledge about the needs and behaviors of potential customers, which corresponds with an exploratory research strategy.

To gain knowledge about the domain of business meetings in companies, the chosen method for the market research was personal semi-structured interviews. A number of potential customers were interviewed in order to describe different cases. The primary data collected through the interviews were following an interview guide, see Appendix A.1. The interview guide was created based on unstructured interviews, and relevant literature and articles, in other words both primary and secondary data. Thus, the market research method, which is further described in 2.7, conforms to a qualitative case study.

For the documentation of the semi-structured interviews notes were chosen over recording which increase the risk of missing out on information relevant for the research. When qualitative data is exclusively gathered there is also a risk that the researchers unwittingly influence the data. In order to avert the probability of low reliability the compiled empirics, in form of cases, was sent back to the respondents. The respondents were asked to comment and confirm their case to ensure accuracy and reliability.

In order to measure the accuracy and applicability of the market research, the thesis's analysis will include an evaluation of the research. It is of importance to evaluate the research strategy that aims to provide knowledge about potential customer's needs and behaviors since the sample population only consists of six interviews. The limited number of respondents does not generate data enough for general conclusions which must be considered. The market research empirics and analysis were therefore sent to representatives of Bramble AB's Swedish division for them to evaluate the content and increase the reliability of the research.

Using two methods for the market research would have contributed with increased reliability and validity due to the possibility of triangulation. To complement the qualitative method a quantitative method such as structured observations of business meetings would have been an alternative to observe predetermined variables. Due to limited time and the complexity for companies to let external researchers attend meetings without incentives, this method was not possible to perform.

2.7 MARKET RESEARCH PROCESS

The purpose of this thesis is to explore how external input from the customer can be utilized in the innovation process. The external input used in this case was generated through market research. The market research process in this thesis followed Armstrong and Kotler's (2009) model, see Figure 2.1, consisting of four steps; *defining problem and research objectives*, *developing a research plan*, *implementing the research plan* and finally *interpret and report the findings*.

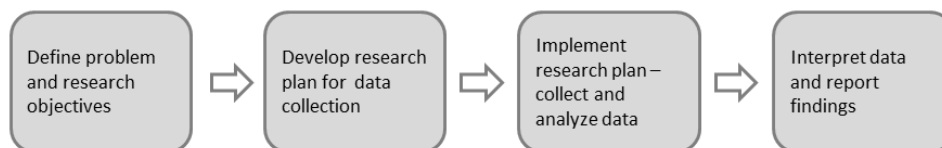


Figure 2.1 The market research process (Armstrong & Kotler, 2009, p.134)

This section presents how Armstrong and Kotler's market research process was used in this thesis.

2.7.1 Defining problem and research objectives

The market research process starts with defining the problem and the research objectives. According to Armstrong and Kotler (2009), this is often the hardest step of the process. The problem definition and research objectives will guide the entire market research process (Armstrong and Kotler, 2009, p.134). Thus, it is important to formulate them carefully.

2.7.1.1 Research problem definition

SFD has generated ideas and concepts for technological innovations in the domain of business meeting and productivity. However, a desire to gain more knowledge in the area has been recognized. The information currently used in the innovation process mainly comes from internal sources and may therefore run the risk of being biased in a way that might not reflect the larger market. To better align the innovations with the

market needs, external input from potential customers could be utilized as a complement to the information currently used.

2.7.1.2 *Research objectives*

Armstrong and Kotler (2009) argue that market research can have three different types of objectives; exploratory market research, descriptive market research and causal market research. The objective of exploratory market research is to gather information in order to further define problems and suggest hypotheses. Descriptive market research is used when there is a need to describe specific marketing problems, such as the market potential for a specific product. Causal market research is to test hypotheses of explicit cause-and-effect relationships.

The objectives of the market research conducted in this thesis were to (1) gain knowledge about customer needs and behaviors in the domain of business meetings and (2) test the hypotheses on which concepts and products created by SFD are based. Thus, the nature of the objectives is that of exploratory market research.

The scope of the market research was the domain of business meetings. This scope can be further defined by a number of high level research questions. Exploring how external input from potential customers relates to these research questions should provide a basis for gaining knowledge about the customer needs and behaviors. The research questions are presented below:

- RQ1. What defines a business meeting? This question refers to discovering what the prerequisites are for a human interaction situation in order for it to be defined as a business meeting. This includes aspects such as content, processes, level of formality, participants, equipment and physical location.
- RQ2. How are business meetings executed today? The execution of a business meeting can be divided into three phases; preparation, conducting the meeting and follow-up. This question refers to exploring what processes and tools are used by the target group in each of these phases.
- RQ3. What factors affect the productivity of a business meeting? This question refers to exploring what different problems are experienced by the target group in each of the aforementioned phases of business meeting execution. Furthermore, this question aims to explore what measures are taken, or suggestions about how to counteract these problems.
- RQ4. To what extent is the cost of business meetings taken into account? The execution of a business meeting involves multiple individuals taking time out of their day. This is time that would otherwise be used on another work related activities, thus there is a cost related to business meetings. This question relates to discovering whether companies in the target group are taking the cost of a business meeting into account and if so how the cost is calculated.

SFD's former and current projects within the domain of business meetings have thus far been based on a number of hypotheses. These hypotheses are previously un-tested. However, analyzing how the external input generated through the market research conforms to the hypotheses should provide a basis for validation. It is of importance to note that the hypotheses are not scientific hypotheses but assumptions on which projects are based on. The hypotheses are presented below:

- H1. A business meeting is not dependent on a formally determined
 - a. means of invitation.
 - b. time frame.
 - c. physical location.
- H2. The productivity of a business meeting is affected negatively when
 - a. multiple individuals are presenting material.
 - b. multiple types of technological tools are used for presentation purposes.
 - c. the meeting is attended by remote participants.
 - d. a participant arrives late to the meeting.
 - e. the meeting runs longer than scheduled.
- H3. Accessible documentation of content and outcome of a business meeting is
 - a. beneficial to the participants.
 - b. beneficial to the company.
 - c. time consuming to generate.

2.7.2 Research plan

The research plan specifies what information that should be gathered during the fieldwork and how it is to be obtained. This includes determining the sample, data collection method and what type of data that is to be gathered. (Armstrong and Kotler, 2009, p.135)

2.7.2.1 *Research data collection*

In order to understand how the respondents relate to the high level research questions and simultaneously provide a basis to validate the hypotheses it was essential to gather data with enough depth to understand the situation unique to each respondent. Thus, the desired data type of the market research was qualitative data, see 2.2.2.2. However, to enable analysis the data also needed to be comparable to a reasonable degree.

The method chosen for data collection in the market research was semi-structured personal interviews, see 2.3.1.2, which followed an interview guide. The same interview guide, see Appendix A.1, was used in all the interviews. It was designed with the intention of gathering comparable qualitative data, and consists of a number of interview questions categorized into different themes with no chronological requirement. During the interviews the interview guide was used to direct the subject of the discussion in a structured manner while the interviewee could still provide open answers and elaborate. Thus, the data gathered from each interviewee provided an understanding of their individual situations while still being comparable with each other.

2.7.2.2 *Research sample*

Armstrong and Kotler (2009) define the sample as the segment of the population selected for market research to represent the population as a whole. Designing the sample of market research requires determining three items; *target group*, *sample size* and *sampling procedure*. (Armstrong and Kotler, 2009, p.143)

The target group for the market research in this thesis was determined as small-to-medium office based enterprises with between ten and fifty employees. The specification of the target group was based on three assumptions:

1. Small-to-medium enterprises have less resources and thus have less room for resource waste through unproductive business meetings. This requires employees participating in business meetings to be conscious of factors that affect their meeting productivity. Thus, needs and problems will likely be more apparent to the employees in small-to-medium enterprises.
2. Office based enterprises are likely to hold more business meetings.
3. Several needs and problems that are apparent in business meetings in small-to-medium enterprises will be transferrable to business meetings in larger enterprises.

It was determined that the sample size should be between five and eight interview objects in order to gather enough information while still managing the limited time frame of the market research. Interview requests were sent via e-mail to companies in Malmö and Lund that fit the profile of the target group. Individuals from 43 companies were contacted, out of which six individuals from different companies agreed to an interview. Consequently, the sample size used in the market research of this thesis was six interview objects.

2.7.3 Implementing the research plan

The implementation of the research plan entails the collection, processing and analysis of the data (Armstrong and Kotler, 2009, p.145).

2.7.3.1 *Collecting the data*

Data was collected over a period of four weeks, during which time six semi-structured, face-to-face interviews were conducted with representatives from six companies that fit the target group. During the interviews, the researchers (the authors) took on predetermined responsibilities. One researcher had the main responsibility for communication with the interview object and the other was responsible for documenting the responses. The researcher with responsibility for communication was also in charge of reading the respondent's body language in order to observe changes in behavior and mood, and respond to this by making the respondent feel comfortable in the situation.

The interview guide was utilized to direct the subject of the discussion in a structured manner while the interviewee could still provide open answers and elaborate. Thus, the data gathered from each interviewee provided an understanding of their individual situations while still being comparable with each other. The guide was created in an internet based tool for creating forms which made it possible to use the questionnaire during the interviews for documentation. The researcher with responsibility for documentation, documented the conversation on a computer and the tool transferred the answers to a spreadsheet afterwards. Notes with pen and paper were also taken by the communication responsible researcher and a printed version of the interview guide was used for this.

The researcher responsible for documentation was also timekeeper. The interview objects were told that the interview should take between 45 and 60 minutes. In one of the cases the interview lasted for 70 minutes.

2.7.3.2 Processing the data

The research was qualitative and thus produced qualitative data. Qualitative research produces a large data material and contrary to quantitative research there are no widely established and acknowledged methods for processing and analyzing the data (Bryman and Bell, 2005, p.446). There are, however, guidelines to how the problem can be approached.

Lekvall and Wahlbin (2011) argue that the first steps of enabling analysis of qualitative data in a case study involves creating a coherent representation of each of the studied situations. The data collected from interviews was therefore processed and compiled into six cases describing the individual situations of the respondents, presented in 5.2.1. For further analysis of qualitative data the most common approach is grounded theory (Bryman and Bell, 2005, p.448). The six cases were coded according to grounded theory in order to provide structured overview. Coding is a way of labelling, differentiating, compiling and organizing data. Compared to quantitative data and coding which tend to be immutable and solid, using grounded theory, the data is processed through coding and continuous comparison. The coding process involves disassembling the data into components that can be sorted into classes based on recurring themes. For qualitative research the process is iterative as the coding can be subject to change and reevaluation (Bryman and Bell, 2005, p.450). Bryman and Bell (2005) describe three types of coding based on grounded theory:

- Open coding is a process where concepts are grouped and reformulated into categories through a procedure of breaking down, studying, and comparing, subsequently conceptualization, and categorization of data.
- Axial coding is based on procedures of connecting codes to context, consequences, and causalities in order to create new affiliations between categories from open coding data.
- Selective coding is a coding process where a specific category, a core category, is selected and acts the central issue to which the other categories are systematically compared and validated with.

2.7.3.3 Analyzing the data

Analysis of the market research was performed based on the cases, the coded data, and the theoretical framework. The intention with the analysis was to detect patterns and isolate important findings in order to distill customer needs and behaviors, but also to determine whether the hypotheses were to be rejected or not. The analysis of the market research is presented in 6.1.

2.7.4 Interpreting and reporting the findings

Analysis and interpretation of the market research data provided a basis to answer the high level research questions, see 2.6.1.2, and validate the hypotheses. The findings, presented in 6.1, serve to increase the pool of knowledge at SFD about the domain of business meetings. Furthermore, the findings and the method of market research is evaluated in terms of relevance, quality and reliability. The evaluation of the market

research is used to determine the degree to which the knowledge gained can be utilized in the different phases of the innovation process.

3 THEORETICAL FRAMEWORK

The theoretical framework describes the theories and models used for analysis of the gathered data. The chapter begins with a description of the five generations of innovation processes, followed by a presentation of the innovation value chain. The chapter also include explanation of the four dimensions of a company's market-oriented approach and the market intelligence continuum, followed by a section describing open innovation. The final section presents theory about productive meetings.

3.1 INNOVATION PROCESSES

Dodgson (2000) describes five generations of innovation processes which are based on the changing nature and sources of innovation.

The *first generation* is characterized by the science-push approach. The innovation process is regarded as a sequential linear process that starts with a scientific breakthrough. The discovery is followed by an invention phase, and subsequently an engineering phase. This science-push model ends with a manufacturing phase and a marketing phase. In this model the emphasis is exclusively on R&D. Due to lack of any form of feedback in this first generation innovation process model, the model can only be applied to simple forms of products or processes. (Dodgson, 2000, p.41)

The *second generation* of innovation processes is also a sequential linear process, with a demand-pull approach. This model begins with a perceived market demand that influences the direction and pace of the development process. Thus, the emphasis of this model is on marketing while R&D has a reactive role. (Dodgson, 2000, p.41)

The *third generation* is the coupling model, based on the integration of the supply-push and demand-pull models. The coupling model illustrates a logically sequential innovation process. However, because of continuous feedback loops and iterations between phases the process is not necessarily time linear. This creates an innovation process of separated but interactive phases. The combination of push and pull creates an integration of R&D and marketing. (Dodgson, 2000, p.42)

The *fourth generation* of innovation process models is referred to as the integrated model and constitutes of high level integration between different functions and elements of a company. The model is also characterized by coupling with front-edge customers, and integration between companies, thus horizontal collaboration. The coupling and integration with customers and other companies, as well as the interrelationships between R&D, marketing, manufacturing, and distribution, imply complex iterations and feedback processes. (Dodgson, 2000, p.42)

The *fifth generation* innovation process is called the systems integration and networking model (SIN) and is characterized by strategic and technological integration both within and between various organizations. In the model sequential development is replaced with fully integrated parallel development. Primary suppliers, leading-edge customers, and other companies are strategically integrated in co-developments of products, or horizontal collaborations. The organizational structure is process-based and there is emphasis on corporate flexibility and time-based strategies. The forefront

of the strategy is however customer focus which imply an increased focus on quality and other factors not related to price. The increased integration of technology is characterized by simulation modelling and expert systems in R&D. (Dodgson, 2000, p.43)

3.2 THE INNOVATION VALUE CHAIN

As a word of caution about applying innovation theories in practice Hansen and Birkinshaw (2007) write in an article:

“Rather than reflexively importing innovation best practices, managers should adopt a tailored, end-to-end approach to generating, converting and diffusing ideas”

There is no shortage of advice and theories to be found in recent academic work about what a company should do to improve their innovative capabilities. However, Hansen and Birkinshaw (2007) argue that applying these theories without regard to the situation can in practice be ineffective or even harmful. This stems from the fact that different companies face different challenges and no theory will work as a universal solution.

For a company to gain a clear understanding of their situation Hansen and Birkinshaw (2007) suggest looking at the innovation process as an integrated flow in order to identify in which part of the process there is room for improvement. One such way of modelling the innovation, presented as *The Innovation Value Chain* by Hansen and Birkinshaw (2007), is dividing the process in to three phases; idea generation, conversion and diffusion. Each phase is further subcategorized as presented below in Figure 3.1.

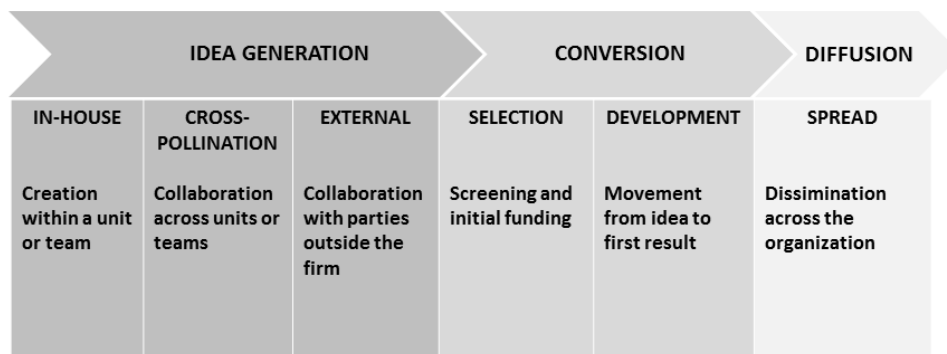


Figure 3.1 The Innovation Value Chain and its subcategories (Hansen & Birkinshaw, 2007)

Companies should assess their capability within each subcategory and aim to focus on improving the areas in which they are currently the weakest. (Hansen and Birkinshaw, 2007)

3.2.1 Idea generation

The first phase of the innovation value chain is idea generation. Hansen and Birkinshaw (2007) present three subcategories of idea generation to describe where ideas can come from; *in-house*, *cross-pollination* and *external*.

- In-house idea generation refers to ideas that originate from within a unit or a team. This is the most natural and straightforward method of generating ideas.
- Crosspollination refers to sharing ideas across units within the company with the purpose of sharing insights and knowledge in order to generate ideas of higher quality.
- External idea generation refers to ideas being sourced from collaboration with entities outside the company, such as customers, end users, competitors, suppliers and universities.

Hansen and Birkinshaw (2007) argue that each of the foregoing subcategories contribute to increased innovative productivity. Thus, companies should aim to include them all in the idea generation phase of the innovation process to increase both the quality and quantity of ideas.

According to Hansen and Birkinshaw (2007) companies that have problems in the idea generation phase should build external networks as well as internal cross-unit networks in order to improve their innovative capabilities.

3.2.2 Conversion

Generating a large quantity of high quality ideas offers no value to the company unless the correct ideas are converted into actual development. Consequently, the second phase in the innovation value chain is conversion. Hansen and Birkinshaw (2007) present two subcategories of conversion; *selection* and *development*.

- Selection refers to choosing ideas for further development. In order to effectively capture value from the generated ideas efficient screening and funding mechanisms are needed.
- Development refers to converting the selected ideas into potential revenue-generating products, services or products.

Hansen and Birkinshaw (2007) identify two opposite problems that can arise in the conversion phase of the Innovation Value Chain; too strict funding and too loose screening. Too strict funding can occur as a consequence of tight budgets, conventional thinking and strict funding criteria and will lead to most novel ideas being terminated in selection. On the other end of the spectrum, too loose screening will result in the organization overflowing with new projects, which might not uphold the desired standards of quality nor fit into the corporate strategy. Thus, companies need tailor their screening and funding mechanisms in order to fund the right projects.

As a remedy for companies with a weak conversion phase Hansen and Birkinshaw (2007) suggest two innovation practices; multichannel funding and safe havens.

3.2.3 Diffusion

Once a concept has gone through the first two phases of the Innovation Value Chain it needs to be spread and adopted not only by the market but by the company itself (Hansen and Birkinshaw, 2007). Thus, the third phase of the Innovation Chain is diffusion. Hansen and Birkinshaw (2007) present one subcategory of diffusion; *spread*.

- Spread refers disseminating concepts across the company in order to utilize the geographical locations, channels and customer groups available to the company.

In decentralized organizations diffusion of developed concepts can be challenging as managers in different divisions of the company have control of what to adopt to their specific division. Thus, individual managers need to be persuaded In order to achieve diffusion throughout the organization. (Hansen and Birkinshaw, 2007)

3.3 MARKET ORIENTATION

Companies that collect, share and use market information with the purpose of making strategic decisions are market oriented. This is especially relevant for high technology businesses since technological innovations have been proven to be more dependent of the market than less technological innovations. Being market oriented as a high technology company may also lead to increased creativity and better new product performance. (Mohr et al., 2010, p.104).

3.3.1 Dimensions of market orientation

A company's market orientation can be characterized by four chronological dimensions; intelligence generation, intelligence dissemination, intelligence integration, and coordinated action, see Figure 3.2.

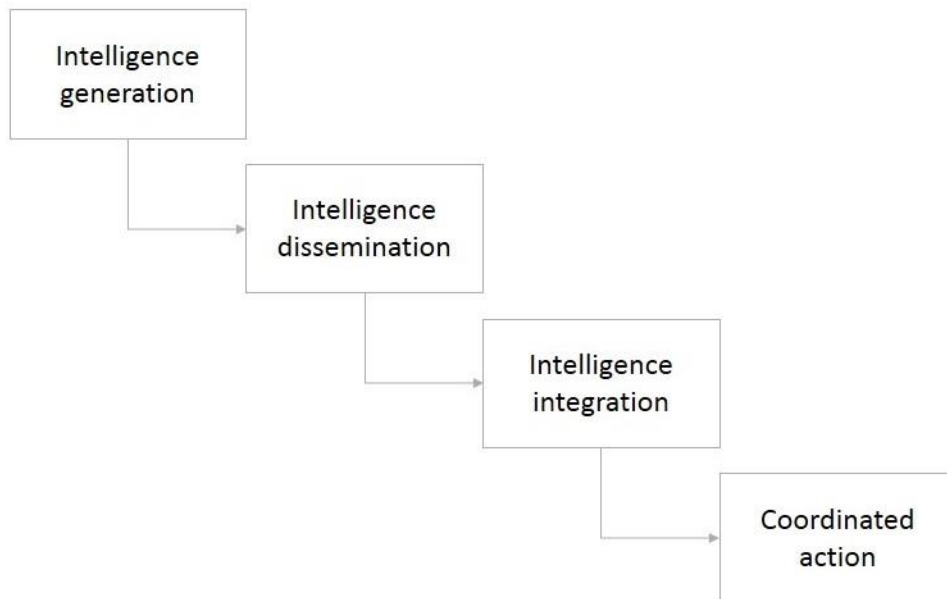


Figure 3.2 The four dimensions of market orientation (Mohr et al., 2010)

3.3.1.1 Intelligence generation

Generating intelligence about the market includes, according to Mohr et al. (2010), collecting useful information by appropriate methods about customers' expressed and latent needs, strategies and capabilities of competitors, and technologies that might emerge not only inside but outside the industry.

3.3.1.2 Intelligence dissemination

The intelligence acquired in the first dimension is only valuable for a company if it is disseminated effectively throughout the organization. If not shared, the knowledge is only of limited value since the company will not be able to actually use the gathered information in order to become market oriented. (Mohr et al., 2010, p.110)

3.3.1.3 Intelligence integration

Within the company different functions may look at the acquired intelligence from different perspectives, hence it is important to integrate the intelligence in order to achieve mutual understanding. By integrating the intelligence and reaching shared interpretation the company creates knowledge assets which can be used for effective decision making. (Mohr et al., 2010, p.111)

3.3.1.4 Coordinated action

For a company to be market oriented, the final act is to act on the gathered, disseminated and integrated intelligence by implementing decisions. The implementation should be performed through coordinated action, where all functions of the company respond to the needs of the market, not just the marketing function. (Mohr et al., 2010, p.112)

3.3.2 The intelligence continuum

A company can be either proactively or responsively market oriented depending on whether the company acts on intelligence about existing or anticipated customer needs and competitive threats. This is described as the intelligence continuum, illustrated in Figure 3.3.



Figure 3.3 The intelligence continuum (Mohr et al., 2010)

The figure shows that a company that acquires information on customer expressed needs and current competitive threats has a more responsive market orientation. By responding to current intelligence a company will have a foundation for delivering incremental innovations but not breakthrough innovations. Companies that focus on their existing products rather than focusing on the needs of the customer run the risk of failing to adjust to changing markets. (Mohr et al., 2010, p.107)

In order to deliver radical innovations, a company needs to gather information and knowledge about latent and future customer needs as well as anticipated competitive threats. Since latent and future customer needs are needs the customers are not yet aware of, they cannot articulate them and the company has to find methods in order to explore them. (Mohr et al., 2010, p.107)

3.4 OPEN INNOVATION

Open innovation is characterized as a system in which innovation is not performed solely within the company, but rather in collaboration with external entities, such as customers, users, suppliers and competitors (Piller and Ihl, 2009). The theory presented below has a focus on customers and users, as other forms of external collaboration are not within the frame of the thesis.

3.4.1 Customer focused organizational strategies

The success of many organizations is dependent on their ability to manage the value chain from the point of view of the customer. However, the customer cannot be regarded as a homogeneous group (Piller and Ihl, 2009). The individual needs differ greatly between customers often rendering “one-size-fits-all”-solutions ineffective. Thus, customers should be regarded as highly heterogeneous (Von Hippel, 2005). To accommodate the increased demand for product variety, a number of different organizational patterns have emerged that account for the heterogeneity of customers (Piller and Ihl, 2009). Piller and Ihl (2009) identify how the organizational patterns have evolved with an increasingly refined view of customer heterogeneity; from market orientation to open innovation.

The concept of market orientation introduced the idea not to view the market as a homogeneous group. Instead consumers are differentiated by segmentation of the market according to different variables, starting with socio-demographic variables, such as age, gender and income. Such segmentation results in product variety based on the needs of the different segments. Continuous refinement of the segmentation and increased attention to specific needs leads to the next stage of market orientation: customer orientation. (Piller and Ihl, 2009)

What separates a customer oriented organization from a traditionally market oriented organization is the emphasis on providing customer value in all functions of the organization rather than solely in the functions in direct relation to the customer. Furthermore, customer orientation challenges the notion of heterogeneity within segments by instead aiming to satisfy the needs and want of the individual consumer. Each customer is assessed individually and in the case where a standardized offer does not satisfy their need a customized solution can be offered (Piller and Ihl, 2009). Von Hippel (2005) argues that a standardized offer rarely can satisfy the specific need of the individual.

Combining a customer oriented perspective with the perspective of customer relation management results in in customer centricity. A customer centric organization makes customer relations the responsibility of the entire organization rather than only the marketing function. Thus, the organization needs to implement infrastructural systems which focus on aligning processes with the convenience of the customers, rather than the convenience of operations. Furthermore, as the customer centric organization uses the individual user as a starting point for all activities, customer centricity shifts the perspective of marketing management. Formerly, market management was viewed as demand management, however in a customer centric organization it can be viewed as supply management. (Piller and Ihl, 2009)

Open innovation with customers is a modern extension of the customer centric organizational strategy. This involves giving the customer a more active role in the

development process (Piller and Ihl, 2009). One emerging concept within this domain is customer co-creation, where customers are essential in the development of new products, sometimes with little help from the companies (O'Hern and Rindfleisch, 2008). O'Hern and Rindfleisch (2008) present four different types of customer co-creation which can be utilized in selection of ideas and development of products; submitting, tinkering, collaborating and co-designing. In this framework submitting and tinkering classify firm-led activities where the customer contributes to selection and development, whereas collaborating and co-designing classify customer-led activities (O'Hern and Rindfleisch, 2008). Von Hippel (2005) argues that finding and collaborating with so called 'lead users' is an important form of customer co-creation for the purpose of innovation. Lead users have two main characteristics; (1) they experiencing needs ahead of the general market and (2) they would attain personal gains from satisfying the need and thus have an incentive to innovate (Von Hippel, 2005). The main benefit of open innovation, according to Piller and Ihl (2009), is to expand the base of information that can be utilized in the innovation process. Thus, open innovation should be used as a supplement to the internal innovation processes and not as a substitute.

3.4.2 The need for external information

Innovation ventures are typically subject to technical, production, need and market uncertainties (Piller and Ihl, 2009). In order to manage and reduce the uncertainties information is needed. Piller and Ihl (2009) present a generic framework for firms' need for information. The framework consists of two main groups of information; need information and solution information.

- Need information refers to information about the customers' needs, preferences, motives, desires etc. Need information originates from the domain of the customers. Thus, firms need to capture this information through various methods of market research and transfer it into the domain of the innovators and manufacturers.
- Solution information refers to information about how technology can be applied to products that can fulfill customer needs. Solution information primarily, but not exclusively, originates from the domain of the manufacturer. Thus, firms need to make this information accessible to everyone involved in the innovation process.

Knowledge generated from both groups of information is needed in all innovations. Not only need information but also solution information can often be located externally. Thus, companies must transfer external information into the firm and into the innovation ventures, as a combination of the two information groups are required for successful innovation. (Piller and Ihl, 2009)

Including external need and solution information provides a larger base of information that can be utilized as creative input in the innovation process. It is, however, still common that companies adhere to more closed innovation processes where external information is not included in the base of information. In those cases creative input is solely based on the need and solution information which resides in the domain of the manufacturer. By simply increasing the information base using external information

these companies should be better equipped to manage the uncertainties and thus have the possibility for better results. (Piller and Ihl, 2009)

3.4.3 Modes of customer involvement

Piller and Ihl (2009) argue that different types of customer involvement are beneficial for different purposes in the innovation process. Thus, a differentiation can be made between the various roles that customers may take. In order to derive these different roles, Piller and Ihl (2009) present three modes of customer involvement; design for customer, design with customers and design by customers.

- Design for customers is the approach where companies use available information about the customer in order to design products on their behalf. This approach mainly allows for customer involvement in the early stages of the innovation process.
- Design with customers combines the data on customer preferences with gathering feedback on different concepts and solutions directly from the customer. This approach mainly allows customer involvement in the later stages of the innovation process.
- Design by customers allows customer to take an active role in the development phase of the innovation process, contrary to the previous modes which mainly allow customer involvement in the early and final stages of the innovation process. Design by customers is the definition of open innovation with customers.

Furthermore, Piller and Ihl (2009) categorize different methods of customer involvement according to the three modes, as presented in Table 3.1.

Design for customers	Design with customers	Design by customers
<ul style="list-style-type: none"> • Conventional market research • Quality function deployment • Kansei engineering • Conjoint analysis • Complaint management 	<ul style="list-style-type: none"> • Concept testing • Virtual concept testing • Beta testing • Consumer idealized design • Empathic design 	<ul style="list-style-type: none"> • Consumer opinion platforms • User idea contests • Collaborative prototyping • Lead user workshops • Mass customization toolkits • User innovation toolkits • Co-creation communities

Table 3.1 Different methods of customer involvement

For further description of the different methods of customer involvement, see Table A.4.1 in Appendix A.4.

3.4.4 Requirements for open innovation with customers

In order for a company to achieve successful open innovation with customers the involved parties require adequate and symmetric competences and motivation (Piller and Ihl, 2009). Piller and Ihl (2009) present a framework for successful open innovation with customers, as shown in Figure 3.4, in which the competences necessary of the customer and the company are identified and graded by relevance according to characteristics of the innovation process.

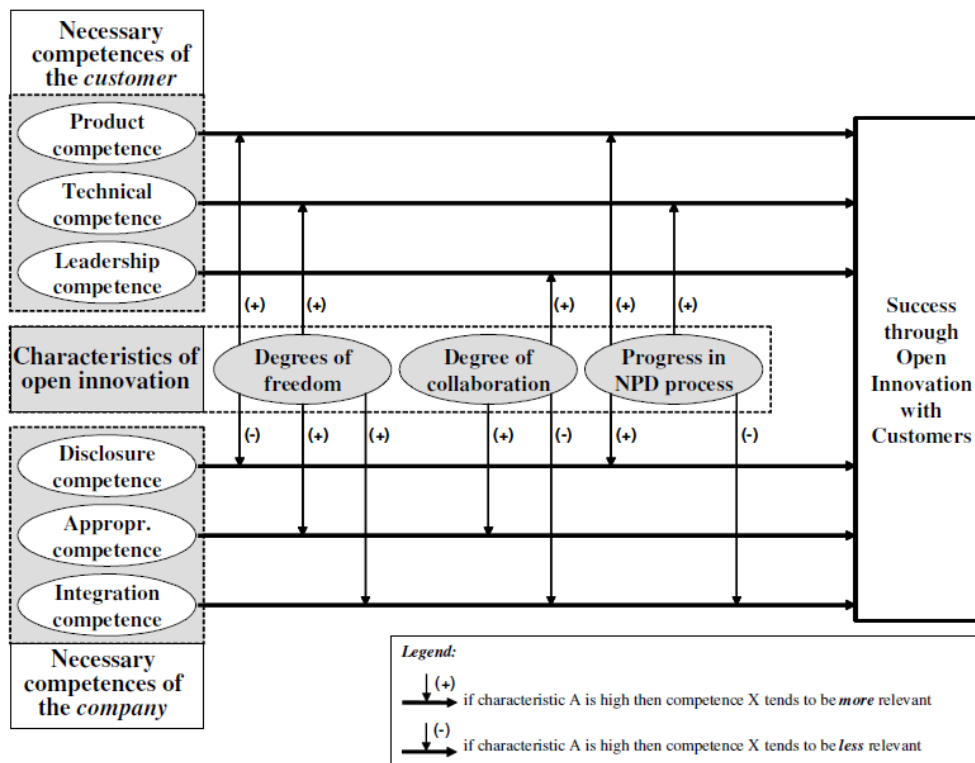


Figure 3.4 Relevant customer and firm competences depending on customer innovation type (Piller and Ihl, 2009)

The framework shows three competences required of the customer; product competence, technical competence and leadership competence. Furthermore, it shows three competences required of the company; disclosure competence, appropriation competence and integration competence. The competences are graded by relevance according to degree of freedom, degree of collaboration and progress in the innovation process.

3.4.4.1 Competences required of the customer

Product competence

A high amount of product competence is required in order for a customer to anticipate a need before the mainstream market (Piller and Ihl, 2009). Such customers can be an important source of innovation for companies (Von Hippel, 2005). Piller and Ihl (2009) divide product competence into *product related knowledge* and *use experience*. Product related knowledge refers to expertise about existing products, in terms of product architecture, material and technology. This is required in order for customers to articulate their needs and translate them into concrete solutions. Use experience refers to using existing products to systematically detect and analyze the potential problems they may cause (Piller and Ihl, 2009). Piller and Ihl (2009) argue that customers that possess high product competence should both be less costly to involve and have an increased likelihood of participation.

Technical competence

The ability of a customer to contribute to the development of new products is determined by technical competence. Technical competences that are helpful for innovation can originate from two forms of knowledge; *methodological knowledge* and

analogous market knowledge. Methodological knowledge refers to knowledge about the methods, tools and activities involved in the innovation process of a new product (Piller and Ihl, 2009). While such competence traditionally has been difficult for customers to attain recent technical advances, primarily the Internet, have allowed customers access to learning at low cost (O'Hern and Rindfleisch, 2008). Analogous market knowledge refers to expertise about a market that is similar to the target market with respect to customer needs and technology, but belongs to another industry. Such knowledge can provide the innovation process with a broader perspective, which in turn can lead to a wider array of alternative solutions (Piller and Ihl, 2009).

Leadership competence

Piller and Ihl (2009) argue that at least some of the customers involved in open innovation need to possess leadership competence. Open innovation with customers entails the integration of individual efforts into a common solution. Leadership by customers can facilitate this integration by providing *locomotion* and *cohesion*. When working toward a common goal locomotion refers to the coordination of tasks, while cohesion refers to motivating the group members. (Piller and Ihl, 2009)

3.4.4.2 Competences required of the company

Disclosure competence

In order to utilize customers for innovation companies need to be able to communicate ideas and problems related to the development of new products. Thus, necessary information needs to be disclosed to selected customers. However, the amount of information disclosure is a strategic decision, which can have a significant impact, positively or negatively, and consequently requires distinctive competence. (Piller and Ihl, 2009). Piller and Ihl (2009) present two common reasons why companies may be reluctant to do so; *secrecy concerns* and the *"not-invented-here"-syndrome*. Secrecy concerns refer to companies with traditionally closed innovation that are uncomfortable with the challenge of protecting intellectual property connected to voluntary information disclosure. Research has shown, however, that voluntary information to be profitable. The *"not-invented-here"-syndrome* can be defined as "the tendency of a stable project group to believe that it possesses a monopoly of knowledge in its field, which leads it to reject new ideas from outsiders to the detriment of its performance" (Piller and Ihl, 2009, originally Katz and Allen, 1982). Piller and Ihl (2009) argue that the resistance is likely greater towards new ideas and knowledge from customers than towards outside input from colleagues. Thus, companies must overcome the *"not-invented-here"-syndrome* in order to profit from open innovation with customers.

Appropriation competence

Appropriation competence entails the ability to *capture* knowledge from customers and *protect* it against outsiders. The property rights for innovations created in collaboration between a company and customers belong to the company. Thus, customers must be incentivized to share their ideas and knowledge and surrender the intellectual property rights in order for companies to capture the co-created knowledge. Incentives can come from compensation by the company, such as monetary payment or of special benefits (Piller and Ihl, 2009). However, Von Hippel

(2005) argues that users for various reasons often are willing to freely reveal their ideas and innovations. Once the co-created knowledge is captured companies must develop mechanisms for protecting it.

Integration competence

Companies need to be able to integrate co-created knowledge with the internal innovation processes (Piller and Ihl, 2009). According to Piller and Ihl (2009) integration contains two steps; (1) integrating multiple, heterogeneous inputs into a single solution and (2) integrating the external solution into the internal innovation process. Consequently, in order to successfully manage the two steps companies need the appropriate integration competence.

3.5 PRODUCTIVE MEETINGS

People in organizations spend a large amount of their time in meetings and too often these meetings are ineffective and without purpose. (Parker and Hoffman, 2006) In many cases meetings are seen as the primary channel for communication which is a time- and cost consuming option. By establishing some standard procedures organizations can achieve more effective and productive meetings. (Shore, 2013) A first step is to manage meetings based on a three-step approach; preparation, facilitation, and follow-up. Meetings that are planned, controlled, and evaluated, tend to be more effective and productive. (Caruth and Caruth, 2012)

3.5.1 Meeting preparation

Effective meetings begin with thorough planning and preparation. This might seem time consuming but will save time in the long run since unstructured meetings tend to overrun (Caruth and Caruth, 2012). The theory found regarding business meetings is unequivocally stating that the first question the person who convenes the meeting should ask him or herself is whether there is a need of a meeting. The same refers to the persons being convened to meetings, time needs to be well allocated and attending unnecessary meetings will only lead to less time for more important tasks (Saunders, 2013). In order to decide the necessity of the meeting the meeting's purpose should be stated and preferably sent with the meeting invitation and therefore enable potential participants to make an active decision whether to attend or not (Caruth and Caruth, 2012). Just as important is this invitation list. Only essential and relevant participants should attend in order to keep the meeting focused on the purpose. There is a difference between attendants and participants and a ground rule is to only include meeting participants who actually will contribute to the meeting (Shore, 2013). To quote Peter F. Drucker (2006, p.70); *to focus on contribution is to focus on effectiveness.*

Along with the meeting invitation an agenda for the meeting should be sent. Agendas will prepare the attendants which in turn will generate a more productive meeting. Furthermore, the disposition of the agenda is of importance and the most prioritized questions should come first (Hillvesson, 2013). By having a clear agenda the meeting will have a strategy how to achieve what needs to be achieved (MacLeod, 2011). Digression is a recurring problem during meetings and agendas can be a strategic tool to focus the discussion (Parker and Hoffman, 2006, p.175).

Planned meeting time should preferably not exceed ninety minutes in order to remain effective, longer meetings should include short breaks for the participants to stay

productive (Parker and Hoffman, 2006, p.53). Drucker (2006, p.48) argues that nothing of importance can be tackled in less than one and a half hour, and working on a topic for more than that will soon create repetition of the subject. Meetings are, however, often too long and too often dealing with irrelevant content that has little direct impact on the value of the company (Mankins, 2004). Parker and Hoffman (2006, p.173) believe there is potential to accomplish twice as much in half the time, thus there is a potential for companies to save money. Companies, however, tend to forget the cost aspect when it comes to meetings, generally because the cost is included in the salaries of the participants. By multiplying the time of meetings with salaries, companies can get an estimation of how much is spent on meetings (Shore, 2013). By tracking the cost and include a cost aspect, thus make participants aware of it, the productivity of meetings could be increased (Parker and Hoffman, 2006, p.174).

3.5.2 Meeting facilitation

Through well-structured planning such as agenda, purpose, the right participants, and timeframe, meetings have a base for effective execution. During the meeting it is however important to remain control by following the agenda, stick to the purpose, and to avoid digression. It, however, starts with beginning the meeting on time. (Parker and Hoffman, 2006, p.55-58)

Caruth and Caruth (2012) recommend to always start the meeting on time and to not wait for late arrivals. This approach will send a message that such behavior is not accepted to those who frequently arrive late. It is therefore also important to not repeat what has been said when they join. When participants tend to arrive late companies must spread a mindset that meetings are work. Having a shared mindset companies will have a foundation for disciplined meetings (Parker and Hoffman, 2006, p.172). As well as meetings should start on time, meetings must end on time since participants most likely have other work commitments afterwards (MacLeod, 2011).

Meetings tend to be more productive when there are pre-defined meetings roles. To keep meetings focused a leader is vital. The leader is often the person who convenes the meeting and chooses the participants (Parker and Hoffman, 2006, p.17). Parker and Hoffman (2006) suggest besides having a team leader and participants, to also have a meeting facilitator and a scribe who takes notes. When a meeting includes a facilitator the team leader has the possibility to concentrate on providing relevant scientific, technical, and corporate information while the responsibility of keeping the group focused is transferred to the facilitator. Allocating areas of responsibility and rotating these can be an effective tool for productivity, especially for groups that regularly meet since variation is a good way to keep interest (Hillvesson, 2013).

3.5.3 Meeting follow-up

A meeting is not over when it is over. In order to move organizational agendas forward where participants act on action items, meeting follow-up and follow-through are important. (Francisco, 2007)

Parker and Hoffman (2006, p.176) argue that it is not too rare that nothing happens once meetings end. Decision are taken but are never converted into action because of confusion due to different views on what happened during the meeting and what is to happen afterwards. In order to avoid confusion and misunderstandings companies should focus on converting meetings to doing by creating shared documents for action.

If a scribe has been taking notes during the meeting these should be sent to the participants shortly afterwards and consequently diminish the risk of confusion. (Parker and Hoffman, 2006, p.47)

Meetings should also be evaluated in order to analyze the effectiveness. By evaluating, meetings can improve and become more productive. Additionally, the cost of the meeting should be calculated in order to measure whether the meeting was justified. (Caruth and Caruth, 2012)

4 COMPANY PRESENTATION

This chapter will provide a general company presentation of Bramble AB and Bramble AB's foresight division in Malmö, Sweden. This master thesis is written in collaboration with a division at the Malmö office, in this thesis referred to as SFD. In the end of the chapter the conceptual framework of SFD's innovation process, which has been developed in collaboration with the Swedish division, is described.

4.1 BRAMBLE AB

Bramble AB is a telecommunication and wireless equipment company. The company, then known as Rhyme, was founded in North America in 1984. During the eighties and nineties the company worked on developing pagers with two-way communication and wireless e-mail network. In 1999, Rhyme launched its first Bramble solution, a pager with the ability to receive push mail. (Bramble AB Planet Web Support, 2010)

One of the main focuses of the company was the possibility of receiving e-mails in mobile devices, which attracted business people. The first Bramble device therefore became the starting point for the company's enterprise orientation. For Rhyme to further appeal enterprises and differentiate themselves from other telecommunication companies they focused, and still focus, on security. (Bramble AB Planet Web Support, 2010)

The more commonly known Bramble phone was released in 2003 and supported text messaging, mobile telephone, push e-mail, web browsing and other wireless information services. The combination of security and productivity characterized the Bramble devices as business phones but soon the company began to aim for the consumer market as well. Rhyme expanded extensively and in 2010 the company reached 40 million subscribers. (Shaw Media Inc., 2014)

Because Rhyme exclusively had been producing Bramble devices since 1999 and was strongly associated with that name, Rhyme officially changed name and became Bramble AB in the end of January 2013. In December 2013 the company announced the outsourcing of its hardware production in order to focus on the core competences; design, security, enterprise mobility management, and software development (BBC, 2014).

4.2 THE SWEDISH FORESIGHT DIVISION

In 2003 a company developing user interfaces for mobile devices was founded in Malmö. The company's first customer was Sony Ericsson which was facing problems designing user interfaces when phones with color screens entered the market. With core competence in the symbiosis between design and technology, the company soon attracted large international telecommunication companies. The company grew extensively and the company's work can be seen in almost half a billion mobile devices around the world (Addskills AB, 2014).

In December 2010 the Swedish company was acquired by Rhyme and has since then exclusively been developing software solutions for Bramble devices. The Swedish division has played an important role in the design of the latest mobile operating

system of Bramble. Many of the ideas are generated based on the core focus of Bramble AB, enterprises, which permeate both current and future projects of the division.

The Malmö office is a user experiences division that works with both user interfaces and software development, involving designers and developers. Figure 4.1 illustrates the organizational structure in order to provide an understanding of the division's position.

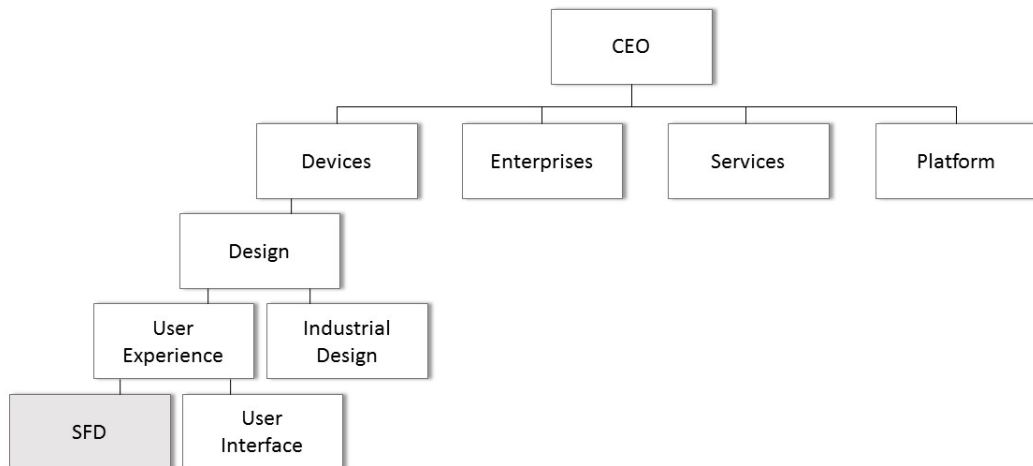


Figure 4.1 Organizational structure of Bramble AB (Henriksson, 2014)

The organizational structure of Bramble AB is divided into four divisions; devices, enterprises, services, and platform. The devices division refers to hardware, thus the Bramble smartphones and tablets. The design of the devices is divided into industrial design, which is the physical appearance of a product, and design of user experience. User experience refers to, as the division tells, what the users experience when using the device. This division is in turn divided into user interface, which is the design of the device's content, and the content in form of various software solutions. SFD represents the latter. (Henriksson, 2014)

4.3 THE INNOVATION PROCESS AT SFD

For the purpose of presentation and analysis in this thesis a conceptual framework has been developed (building on the framework of Hansen and Birkinshaw, 2007) in collaboration with Daniel Grip at the Swedish division to describe the innovation process at SFD. The innovation process is considered logically sequential, however not linearly time continuous as the process iterations back to previous phases frequently occur, see Figure 4.2.

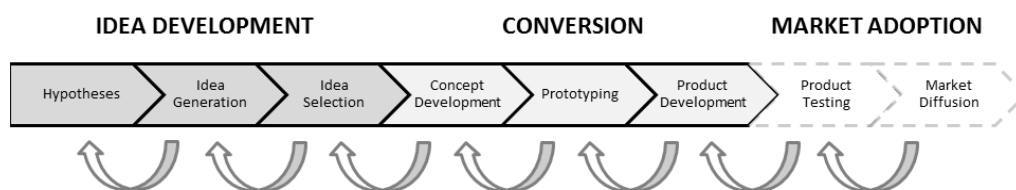


Figure 4.2 The innovation process at SFD

The phases are categorized into three main stages of innovation; *idea development*, *conversion* and *market adoption*. The focus of this thesis will be on the idea development and conversion stages, as SFD is not responsible for the market adoption stage.

4.3.1 Idea development

The first stage of the innovation process is idea development. In this stage ideas are formulated and refined to the point at which they can be converted into an innovation. Idea development consists of three phases; *hypotheses*, *idea generation* and *idea selection*.

- Hypotheses is not an active phase but rather refers to the underlying conceptions of the customer needs upon which ideas are generated.
- In the idea generation phase multiple ideas are generated. The quality of these ideas may vary but none are disregarded in this phase.
- Idea selection refers to prioritizing among multiple ideas generated in the previous phase, in order to choose the best ideas to convert into innovations.

4.3.2 Conversion

Once an idea has been selected the conversion stage of the innovation process initiated. In this stage the idea is converted into an innovation. Conversion consists of three phases; *concept development*, *prototyping* and *product development*.

- Concept development refers to aligning the visions of the team members through developing the selected idea into a concept that can be communicated.
- Prototyping refers to creating a sample of the not yet developed product in order to communicate the envisioned usability and features of the innovation.
- In the product development phase the product with its various features is developed.

4.3.3 Market adoption

The third stage of the innovation process is market adoption. The objective of this phase is for customers to adopt the innovation. Market adoption consists of two phases; *product testing* and *market diffusion*.

- In the product testing phase a select group of customers are chosen to use the innovation before it hits the market.
- Market diffusion refers to reaching as large a part of the market as possible through existing and new channels and customer groups.

5 EMPIRICS

The empirics presents the data used for analysis, divided into two sections. The first part describes the current innovation process at SFD using the conceptual framework developed for the purpose. The second section presents the data gathered during the market research process according to guidelines for analysis of qualitative data.

5.1 THE INNOVATION PROCESS AT SFD

This section presents the empirical findings from the internal research about the current innovation process and utilization of input at SFD of Bramble AB. The empirical findings are presented according to the description of the innovation process presented in 4.3 and derive from interviews with three key employees at SFD responsible for different projects, see Appendix A.3.

Figure 5.1 below illustrates how input is currently utilized in the different phases of the innovation process. As discussed in 4.3, SFD is only responsible for the first two stages of the innovation process; idea development and conversion. Thus, the empirics will only include the two first stages of the innovation process; idea development and conversion.

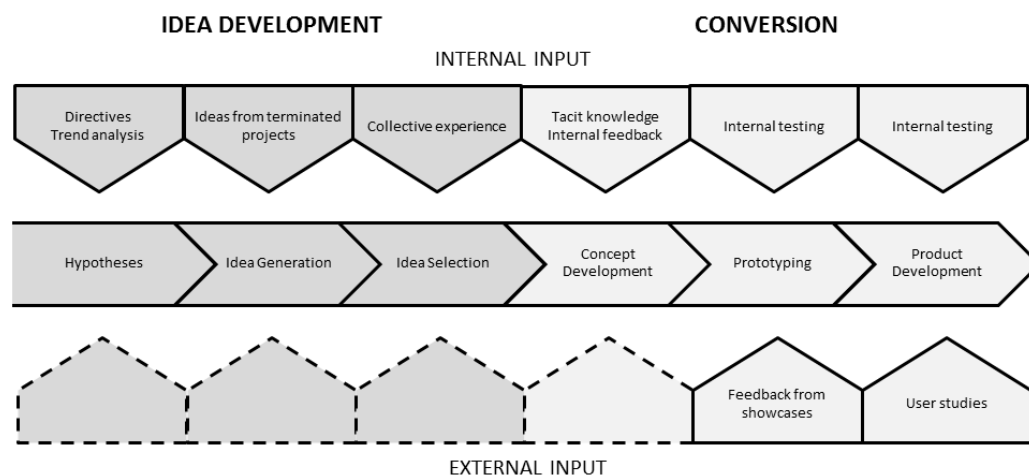


Figure 5.1 The utilization of input in the different phases of the innovation process

As the figure shows, the input utilized in the innovation process mainly derives from internal sources. Throughout the idea development phase the process is solely based on internal input. Later on in the process external input is utilized to some degree, however there is a consensus among the interviewed employees at SFD that additional external input could be beneficial to the speed and success of the innovation process.

5.1.1 Idea development

Idea development is comprised of three phases; *hypotheses*, *idea generation* and *idea selection*, see 4.3.1.

5.1.1.1 Hypotheses

Idea generation at SFD is based on various hypotheses about customer needs and wants, trends, user experiences, market potential, etc. Developing the hypotheses is

considered a quick process and is a natural part of the employees' way of thinking. Hypotheses can originate from different sources, such as literature, media, social media and internal trend reports. Additionally, the majority of the employees at SFD has extensive experience of technological innovation and feels confident in their intuition when developing hypotheses, especially when it comes to user experience, and basing ideas upon them (Daniel Grip, Interview, 2014). One basic hypothesis that is often applied is, according to Edvall, "solutions that would benefit us as a large enterprise would also benefit other large enterprises" (Christer Edvall, Interview, 2014).

To support the hypotheses phase, SFD is provided with internal input in the form of annual trend analyses developed by the marketing division located in North America. Furthermore, in order to provide guidelines upon which ideas can be generated SFD receive directives from the headquarters in North America. The directives are in some cases quite strict, such as specific priority areas or technologies to focus on. In other cases the directives are freer, such as the company vision and company mission. When applying the hypotheses to the idea generation phase the hypotheses have not been validated by external input (Daniel Grip, Interview, 2014). Thus, no external input is utilized in the hypotheses phase of the innovation process at SFD. Figure 5.2 below illustrates how input is utilized in the hypotheses phase of the innovation process at SFD.

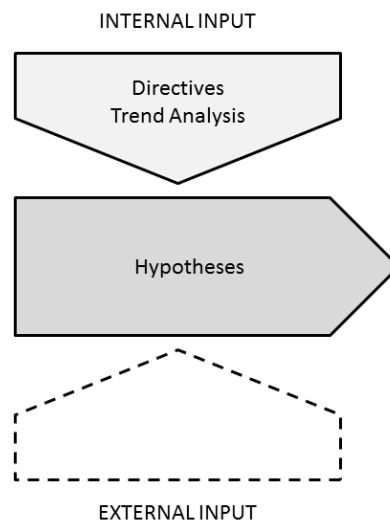


Figure 5.2 Input in the Hypotheses phase

5.1.1.2 Idea generation

Like the hypotheses phase, the idea generation phase is not time consuming at SFD. Idea generation is typically not performed according to specific processes, such as long, planned brainstorming sessions. Instead it is a continuous process where ideas can emerge at any time (Daniel Grip, Interview, 2014). Grip (Interview, 2014) argues that "ideas are cheap" and a large quantity of ideas is required in order to generate a few ideas of high quality. Grip (Interview, 2014) considers the employees at SFD to be adept at generating ideas, both in terms of quantity and quality. When an idea is generated he believes it is important to early expand upon it and view it from different perspectives in order to determine its quality.

Inspiration mainly derives from publicly accessible forums, such as literature, media and social media (e.g. technology forums and blogs). Other sources of inspiration are competing companies as well as products in analogous markets, for example computer games (Daniel Grip, Interview, 2014). Internally SFD has access to information from older terminated projects within the company (Christer Edvall, Interview, 2014). Edvall argues that various old projects may have failed because the ideas were put in the wrong context. However, bringing the ideas into new contexts can contribute to generating new ideas for other successful innovations (Christer Edvall, Interview, 2014). Access to external information about potential customers and markets is, however, very limited or nonexistent in this phase of the innovation process (Dan Grip, Interview, 2014). Figure 5.3 below illustrates how input is utilized in the idea generation phase of the innovation process at SFD.

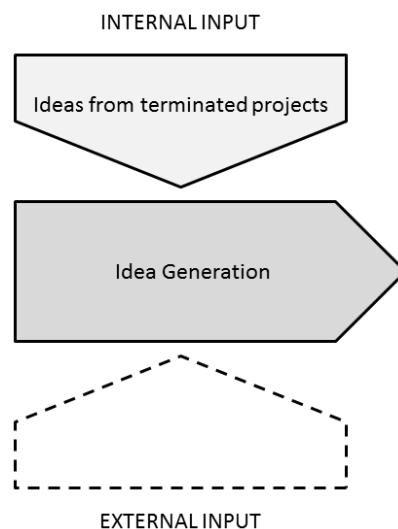


Figure 5.3 Input in the Idea Generation phase

5.1.1.3 Idea selection

The purpose of the idea selection phase at SFD is to identify the high quality ideas within the large quantity of generated ideas. Ideas are selected based on three criteria; expected user experience, technical feasibility and market potential. The collective expertise at SFD allows for accurate evaluation of ideas according to expected user experience and technical feasibility. However, external knowledge about the market potential is limited and such information is not introduced until a later stage of the innovation process, when a product manager has been assigned to the project. (Daniel Grip, Interview, 2014)

In addition to the aforementioned criteria, the selection of ideas is based on their alignment with finished or ongoing projects as well as the company strategy. According to Grip, the alignment of an idea can be determined by viewing every idea and innovation as a separate vector, thus realizing that ideas and innovations pointing in the same direction can amplify each other while they can nullify each other if they point in different directions. Furthermore, Grip believes that ideas should be evaluated in comparison with each other rather than individually in order to better prioritize.

Figure 5.4 below illustrates how input is utilized in the idea selection phase of the innovation process at SFD.

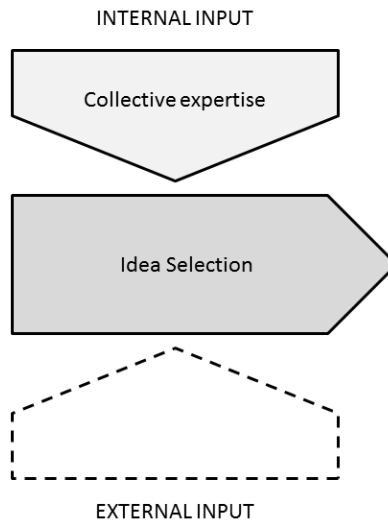


Figure 5.4 Input in the Idea Selection phase

5.1.2 Conversion

The conversion stage is comprised of three phases; *concept development*, *prototyping* and *product development*, as presented in 4.3.2.

5.1.2.1 Concept development

After an idea has been selected it is further developed into a concept. Concepts, contrary to ideas, have a large focus on communicability. Thus, the concept development phase at SFD is about transforming the original idea into a concept that can be easily communicated to anybody, including people without extensive technical expertise. In order to achieve the desired communicability the concept development at SFD is mainly focused on creating user stories where possible uses and applications of the innovation are presented. Typically a video, with employees at the SFD acting out the user story, is created in order to communicate a concept. The video is then used when pitching the concept internally within the company. The success of this pitch determines whether the concept will be further developed into an actual product. The video along with a blog post is uploaded to an internal blog forum, where concepts and ideas are shared, and feedback provided. (Daniel Grip, Interview, 2014)

Continuously throughout the concept development phase at SFD there is a prioritization of what features to include and communicate. In the early stages of the phase, the key features that define the vision of the innovation are prioritized. (Christer Edvall, Interview, 2014). As the concept development progresses additional features are included with the purpose of differentiating the innovation. A feature is often conscientiously included to appeal to potential early adopters, namely technologically interested individuals (Daniel Grip, Interview, 2014). Additionally, in some cases a more radical feature is included for the purpose of marketing the concept (Christer Edvall, Interview, 2014).

When developing concepts the employees at SFD picture themselves as potential users of the innovation and use their tacit knowledge and intuition to imagine the user stories. When the video is presented internally SFD receives feedback about the concept and its features (Daniel Grip, Interview, 2014). The concept is kept internal, however both Edvall and Grip believe that receiving external feedback in this phase

would be beneficial to prioritize features and determining how the use of the innovation would affect potential customers. Figure 5.5 below illustrates how input is utilized in the concept development phase of the innovation process at SFD.

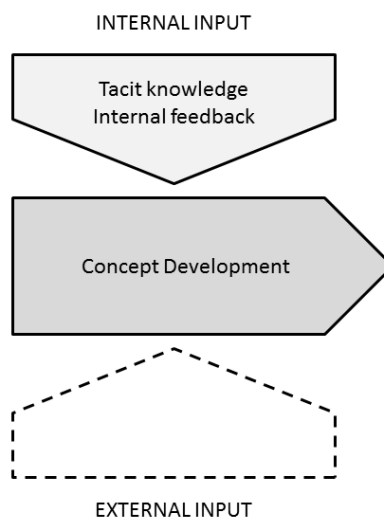


Figure 5.5 Input in the Concept Development phase

5.1.2.2 Prototyping

When a concept is developed to a point where the vision and included features are agreed upon, prototyping is used in order to provide a basis for initial testing of the user experience and for further tuning of the concept. Edvall believes that it is important to early test users' reactions to an innovation as the user experience in some cases can imply a change in behavior for the user. The prototype is designed differently depending on the innovation it is supposed to convey. In some cases the developed prototype solutions combine working software with hardware, whereas in other cases a well composed video can be enough to clearly convey the user experience. The prototypes are tested internally and by selective external users at larger technology congresses. (Daniel Grip, Interview, 2014)

Prototypes and early versions of products are made available within the company, thus providing the ability to generate plentiful internal feedback. In one of the projects at SFD a tool, exclusively developed to generate feedback about the use of features, was included when the early version of a software solution was made available within the company. The feedback tool generated valuable information which led to new insights and helped further prioritize features. (Hans Stenberg, Interview, 2014)

When prototypes are showcased at technology congresses individuals attending the events are given the opportunity to test them. This provides immediate external feedback about their user experience (Daniel Grip, Interview, 2014). Such external input is considered valuable which leads Grip to believe that SFD needs substantially more external input in order to gain knowledge about the behavior of potential customers and how they value different aspects of the user experience. Figure 5.6 below illustrates how input is utilized in the prototyping phase of the innovation process at SFD.

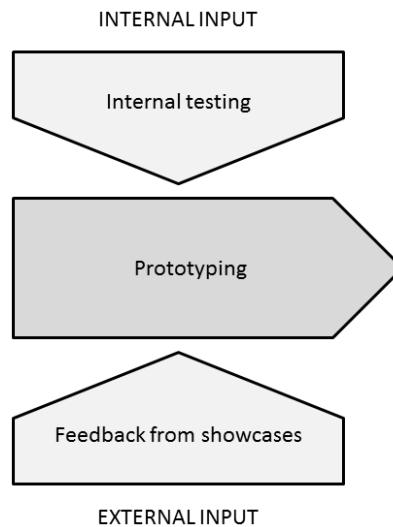


Figure 5.6 Input in the Prototyping phase

5.1.2.3 Product development

The addition of several developers to the former team of designers has allowed SFD to develop their concepts into finished products. Product development can be done entirely by SFD or in collaboration with foresight divisions in other regions, mainly in North America. However, regardless of whether the development is collaborative or not a product manager from the North American offices is typically assigned with the main responsibility of the development of the innovation (Daniel Grip, Interview, 2014). The product manager decides what is going to be developed, while SFD decides how it is developed (Christer Edvall, Interview, 2014).

Throughout the product development phase there is continuous evaluation, prioritization and reassessment of features. The prioritization is done in collaboration between SFD and the product manager in North America. SFD provide their recommendations as to which features are important and the product manager makes the final prioritization based on market information. The product manager's knowledge about the market is, however, mostly not communicated to SFD (Christer Edvall, Interview, 2014). The prioritization process is iterative and, according to Edvall (Interview, 2014), time consuming. He believes that having market information available at SFD would speed up the prioritization process.

Early versions of the product are tested internally, which provides feedback from within the company. However, as the feedback comes from a very homogenous group with a biased evaluation of the features it is not always useful when developing the product for the larger market (Christer Edvall, Interview, 2014). In some cases user research has been done in the product development phase, in collaboration with a marketing research representative within the company. For user research users are invited to test a certain product after which they perform an evaluation and are given the possibility to request missing features (Hans Stenberg, Interview, 2014). According to Stenberg, information gathered from such user studies has proven to be very useful as it has led to new and important insights. Figure 5.7 below illustrates how input is utilized in the product development phase of the innovation process at SFD.

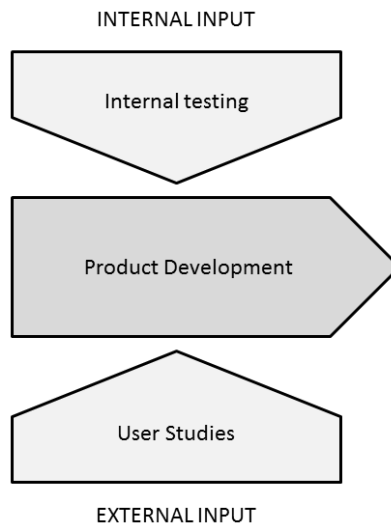


Figure 5.7 Input in the Product Development Phase

5.2 MARKET RESEARCH DATA

The data presented in this section derives from interviews with six individuals representing six companies from the target group of the market research. Adhering to the guidelines presented in 2.7.3, the data in this section is divided into two parts; individual cases and coded data.

5.2.1 Individual cases

The cases presented below derive from the notes that were taken during the interviews with representatives from the different companies. Furthermore, the cases have been controlled by respective interview object.

5.2.1.1 Case 1 – TerraNet AB

TerraNet was founded in Lund 2006 and offers a solution that allows mobile communication in areas where there for different reasons is no network infrastructure. The solution is a software package that creates mesh network between mobile devices and enables mobile communication for millions of people. (TerraNet AB, 2014)

The company is today run by CEO Pär-Olof Johannesson, who on average attends 15 meetings a week. He believes that meetings contribute to alignment in the company and are an important tool to make sure that everybody shares the same vision. The meetings at TerraNet, however, he describes as “chaotic”.

According to Johannesson the only things needed in order to have a business meeting are, except from the individual, high discipline and simple rules. A typical meeting starts with Johannesson receiving an SMS-message containing a location, a time and the purpose of the meeting. In order to have productive meetings it is important to disambiguate the purpose of the meetings directly from the start. Relevant participants are usually invited in the same way. The relevance of a participant is decided based on position and competence, and since it is a small company and the average amount of participants is three to four it is easy to make sure the right attendants are invited. For formal meetings, like board meetings where minutes are taken, agendas are sent with the invitation while project meetings that are less formal do not include any agendas.

Once at the meeting, the person who issued the invitation to the meeting typically has the role of the meeting leader. The leader is responsible for keeping the meeting within the time frame, although this is something that is easier said than done. This results in the meeting leader being of importance. At TerraNet meetings often run longer than the planned one hour, not only because people occasionally arrive late but because the conversation during meetings often loses its focus. Johannesson believes that the source to this problem is the lack of respect which makes people interrupt each other and talk about irrelevant things during the meetings. Apart from the human factors he can admit that the problem might be a result of the Swedish organizational structure which often is quite flat and in which there is a tradition to always “go around the table”. Hence, according to Johannesson, a successful business meeting at TerraNet is a meeting where everyone sticks to the point.

During meetings, often more than one participant holds a presentation and doing so with MS PowerPoint screened with a projector. Johannesson is, however, a bit reluctant to this method as he finds it time consuming to create presentations which too often include abundant information and that do not fulfil the purpose of conveying a clear message. With some experience in video presentations he believes a combination of different presentation tools could increase the possibility to communicate a clear message. Johannesson argues that the pedagogical element of presentations is important to transfer ideas and information. For pedagogical purposes he recommends using a whiteboard over MS PowerPoint as it is then easier to follow the logic. Sometimes such presentations on whiteboards are filmed and later presented at another meeting.

It is common within the company to include remote participants in meetings, and occasionally three part telephone conferences are held with China and the US. Johannesson believes that meetings with remote participants often are more efficient because language barriers create a stronger focus on the subject of the meeting. According to Johannesson video conferences are to prefer, such as using Skype, since it provides the possibility to look the other person in the eyes like in conventional meetings.

Since documentation means a lot of bureaucracy and seldom is used afterwards, meetings at TerraNet are rarely documented. Only the most important meetings, like project and board meetings, are and the documentation of these are used for clarifying what the meetings led to and where the company is heading. Johannesson points out that documentation of meetings should not be used for accountability; that no participant should be blamed for anything specific later on.

Once in a while unnecessary business meetings are held and according to Johannesson this occurs due to participants attending meetings with different incentives. This is most common for external meetings, which sometimes feel like waste of time. TerraNet does not take the cost of the meetings into account in any way when they are planned. Johannesson, however, believes a cost aspect of meetings to be of importance and hopes to see a change, especially when people are flown to the other parts of the world for business meetings.

5.2.1.2 Case 2 – Ideon AB

Ideon, located in Lund, was the first science park in Scandinavia 30 years ago and is today the largest with about 350 companies. The science park primarily houses science and high technology companies, most of them in the categories Information and Communication Technologies (ICT) and Life Science. The majority of the companies only have one to three employees. (Ideon AB, 2014)

Because meetings and interaction between companies are important parts of entrepreneurship Ideon Meeting was founded in order to facilitate networking. Liza Nydén works as operations manager at Ideon Meeting. She has extensive prior experience of turning meetings productive from running the consulting firm Meeting in Mind, where she helped companies with their internal meetings by providing meeting plans similar to business plans.

Nydén describes different meetings based on three levels. Weekly operative meetings are held in order to keep the organization running, while monthly meetings have the purpose of analyzing the progress. Strategic board meetings, which is the third level, provides an organizational overview and foundation.

Based on personal experience Nydén views meetings as an important tool for companies' development and believes the only thing required for a business meeting is the ability to assign a purpose to the meeting. She stresses that a clear purpose is the most important ingredient for a successful meeting. Furthermore, Nydén argues that both the mental and physical environment affect the productivity in a meeting. The mental environment refers to what is allowed during meetings according to the company culture while physical environment refers to location and how environmental change may affect the productivity. According to Nydén, the physical environment affects the productivity of a meeting positively if it accomplishes to emphasize the purpose.

However, Nydén rarely has the chance to implement her philosophy for successful meetings as she is usually called to meetings rather than convening them herself. She receives her invitation, including time and location, through MS Outlook, a system she is not fond of as the procedure of booking people's time can invoke the feeling of other people "stealing your time". Nydén would prefer more direct means of invitation, for example by using enterprise social networking and chat programs.

During a typical meeting, with varying amount of participants, at least one person holds a presentation. Video presentations are common while traditional presentation tools, such as MS PowerPoint, are rarely used. Nydén prefers video presentations since they can better communicate a feeling, which she finds particularly useful when pitching an idea. For smaller meetings Nydén prefers using whiteboards for presentations.

Nydén finds agendas to be a useful tool for keeping the focus on the purpose during a meeting. Unfortunately, few of the meetings she attends have formulated agendas and when they are used they are rarely sent out in advance. Nydén believes this to be a contributing factor to the fact that the subject of discussion in meetings often deviates from the purpose. In turn the appointed time, which usually varies, is rarely kept and it is common that meetings even feel unnecessary as it is difficult to see what was accomplished. According to Nydén, all meetings, even informal meetings, should have an agenda since, in her experience, the outcome tends to be significantly better and

the productivity increased. In addition to the agenda it is the responsibility of the meeting leader to keep the discussion focused.

Arriving late to meetings is common at Ideon Meeting, and is considered to be a problem. However, the meetings start on the scheduled time regardless and the content is not repeated when participants arrive late. It is regarded as every participant's responsibility to get updated on the information they missed, but since they tend to do this while at the meeting they cannot contribute fully.

It is common that one or two participants handle documentation during the meetings, and afterwards send the documentation to the rest of the attendants. Nydén, however, argues that such documentation is rarely even read. Only once in a while the documentation might be used to see what decisions were made at specific meetings.

Nydén believes that companies need to realize the cost of business meetings since they take up a large portion of the employees' time. She argues that educating companies about the cost of meetings would lead to more effective and productive meetings and it would become more natural to always consider the purpose of a meeting.

5.2.1.3 Case 3 – Crunchfish

Founded in Malmö 2010, Crunchfish provides a touch-less interaction software technology based on gestures for smartphones and tablets. With mobile phone manufacturers and application suppliers as potential customers the company signed its first large client in 2013, a Chinese mobile phone producer (Business Region Skåne, 2014). The company was also recently awarded as one of Europe's most innovative technology firms (Red Herring, 2014).

With about 20 employees the CEO Joakim Nydemark finds the internal meeting climate at Crunchfish efficient and believes there is a positive correlation between meetings and a productive company. Compared to other means of communication, such as e-mail and individual conversations, Nydemark prefers meetings as they can be more flexible, effective and in many cases even quicker. He attends on average 10-15 meetings a week, both internal board meetings and external client meetings which require more preparation.

Nydemark usually convenes the meetings himself and says the most important ingredient for a meeting is the individuals. Thus, the relevance of the invitees is of great importance and only the absolute necessary individuals are called to a meeting. For a typical one hour meeting Nydemark invites approximately four persons through Google Calendar by setting location and time.

At Crunchfish a meeting is never held just for the sake of having a meeting. Instead every meeting must have an explicit purpose. For this reason, Nydemark finds agendas very important. Meeting agendas are usually sent out in advance, typically with the invitation. When the meeting is later conducted the agenda is always kept visible in order to provide focus and structure. Nydemark is generally content with how the meetings work at Crunchfish. The main problem that may occur is when the participants do not agree with the agenda or the purpose of the meeting. Another problem which affects the productivity of the meetings is when the conversation digresses, either into parallel topics or into too much detail. When this happens, it is often due to participants' lack of knowledge within the specific topic and it is the

responsibility of the meeting leader to focus the meeting and to regain the productivity. However, these problems are rare at Crunchfish.

The meeting leader is also responsible for keeping the meeting within appointed time frame. With a clear agenda and focus among the participants this usually is not a problem. When the time does run out the group makes a joint decision whether to proceed or not. It is common that other meetings are planned right after, which makes it more important to keep meetings to appointed time. According to Nydemark a successful meeting is a meeting where the whole agenda is solved within the time frame.

There is one area in which Nydemark sees potential for improvement; participants sometimes tend to arrive late to meetings. Due to the busy schedule at Crunchfish these late arrivals are particularly time consuming as the meetings do not begin until the participants arrive.

Internal meetings are most commonly conducted to discuss operational questions or to plan the future work. During meetings the person who convened the meeting usually holds a presentation. Presentations are shown with personal laptops connected to a TV-screen or projector and technical problems are essentially non-existent. Beside technical tools every meeting room is equipped with whiteboards. According to Nydemark whiteboards are an excellent tool when something needs to be described, and post-it-notes work well on the board when information needs to be sorted. At least once a week remote participants attend meetings through conference telephone, something that works well and effectively according to Nydemark. Crunchfish avoids video conference tools, such as Skype, for distance calls due to the poor quality of the connection when for example calling their partners in China.

Meetings at Crunchfish are usually not formally documented since, according to Nydemark, no one reads the protocols afterwards anyway. However, when decisions are made during the meetings, it is the responsibility of the meeting leader to afterwards send the final decisions to the individuals who attended the meeting.

The cost of internal meetings is not followed-up at Crunchfish, either beforehand or afterwards. The only instance where the cost is accounted for is when outside consultants are attending. Nydemark says a cost aspect to meetings maybe could generate more effective meetings if it could bring participants to arrive in time, but since the meetings already are efficient he cannot see that more meeting efficiency would generate more company income.

5.2.1.4 Case 4 – LU Open

LU Open is a development department of Lund University working with open innovation trying to creating smart solutions for the future. Researchers and students collaborate with companies and the public sector in projects in order to solve problems and increase the innovative capacity in the Öresund region. (LU Open Innovation Center, 2014)

At LU Open works Josefin Ahlqvist, who has recently finished a bio refinery project in which she was project manager. She is currently involved in several projects and normally attends six to seven meetings per week, sometimes up to 10. Because of her involvement in different types of projects no meeting looks like the other but she always strives for job satisfaction and efficiency at the meetings. Unfortunately too

many meetings lack clear purpose which leads to inefficiency but also unnecessary meetings.

Ahlqvist, who usually convenes meetings, believes that the only thing needed in order to have a meeting is, except from energy, a clear purpose. At LU Open this is especially important since meetings often include different types of people with different mind sets. The most common reason for Ahlqvist to convene a meeting is to join researchers and organizations with the purpose to make things happen, and without a clear purpose that can be rather difficult. With a clear purpose it is also easier to see results after a meeting and be able to determine whether the meeting has been successful or not. For productive meetings Ahlqvist believes some sort of agenda is necessary in order to stay focused. It is however, according to her, important that the agenda acts like a suggestion with the possibility to change and add parts.

Internal meetings at LU Open are standing and for these an agenda is usually sent in advance. For external meetings with stakeholders the invitation differs, sometimes only a date is set. The number of participants varies and they are usually invited based on their relevance and competences regarding the subject of the meeting. Ahlqvist admits that occasionally attendants are invited just to feel included or to be prepared for upcoming meetings.

The internal meetings do not have an official end time, but the usual meeting time is normally two hours. However, Ahlqvist believes deciding an end time is important even though the time tends to overrun fifteen minutes on average. She sees it as every attendant's responsibility to stay within the time frame. The reason meetings run late is often due to the fact that participants deviate from the subject. There is, however, a small talk acceptance during meetings at LU Open, although Ahlqvist works actively to keep the conversation focused when she has the role as meeting leader. According to Ahlqvist, a bit of small talk brings energy to the meetings but some discussions have to be saved for later or for other meetings.

It is not only digression during meetings that is time consuming. Participants tend to arrive late and it is often the same individuals doing so. Normally, the meeting leader waits for these participants and if they have not arrived within five minutes the meeting begins and when the participants arrive a recap is held. As with the small talk acceptance late arrivals are not really regarded as a problem. According to Ahlqvist, late arrivals might occasionally be annoying but are generally accepted.

During meetings, often one or more participants present and the most common presentation tool is MS PowerPoint. Participants bring their own computers or USB sticks, and there are rarely any technical problems. The only problem Ahlqvist acknowledge is the researchers' MS PowerPoint creations which often tend to be rather extensive, something she sees as a common problem when using such presentation tools.

Meetings with remote participants are rare at LU Open, but when it happens telephone conference is preferred. Ahlqvist has experienced that Skype is not reliable because of technical problems. She has also seen a correlation between technical problems and having more than one remote attendant, and would have liked to see a technology that makes it easier to see and hear properly when there are several participants attending from distance.

Every meeting is documented with clear action notes where the main rule is clarity but not necessarily thoroughness. The protocols are afterwards shared with the participants.

With the purpose to see how much time she spends on meetings when she could do other work related things, Ahlqvist time declares every meeting. Because the work at LU Open mainly is project based the cost of meetings is important and something that is taken into consideration. The cost awareness has led LU Open to work on minimizing the number of internal meetings in order to be able to devote time for more prioritized meetings.

5.2.1.5 Case 5 - FlatFrog

FlatFrog was founded in 2007 with headquarter in Lund. The company offers an optical in-glass multi-touch technology for large displays. The technology enables multiple persons using the device simultaneously. As one of the investors behind FlatFrog stands Intel Capital. (FlatFrog Laboratories AB, 2013)

Jens Öhman works as lead strategic buyer at FlatFrog and attends about 12-13 meetings per week, both internal and external. FlatFrog is a company with a lot on its table and a high tempo and meetings are therefore mainly a tool to sync everyone involved and provide a shared view of short term and long term goals. Unfortunately there is a tendency at FlatFrog to, instead of just talking to each other, book meetings which is more time consuming. Öhman believes that the company culture is reflected in the company's meetings.

Two times out of three Öhman is convened to meetings and due to the often short deadlines the purpose is usually to solve a pressing problem. In order to have a meeting and to know when the meeting actually is over, Öhman consider a clear purpose the most crucial requirement. When all participants can agree on a purpose, the productivity is increased as everyone knows what has to be accomplished.

When Öhman is invited to a meeting he receives a notification in MS Outlook with a time, location, and a short description of the purpose. Sometimes he also receives an agenda. MS Outlook is used because the program enables employees to see when other employees are available for meetings. Some meetings are standing and to these the same group of people always participates. Meetings with the purpose to solve specific problems only include concerned people. The number of attendants is on average five participants. Some meetings tend to include attendants who do not need to participate, but who are invited just in case their specific knowledge could be of use. Including unnecessary attendants may be the source to the main problem at FlatFrog; when participants have different ideas of why the meeting is held the purpose is rarely accomplished, and the participants leave the meeting with different opinions regarding what to prioritize.

At FlatFrog, agendas are seen as an effective tool to bring structure to the meetings and are therefore commonly used. According to Öhman, the company has a Swedish meeting mentality. This implies that every participant should add their opinion to any subject during meetings, which can become time consuming. This can in turn lead to the subject digressing by one starting to drift away from the subject and the rest following. In these cases it is important that the meeting leader manage to focus the

conversation again. Fortunately, agendas also tend to diminish this phenomenon and therefore help keep meetings more productive. However, Öhman is personally not too fond of agendas but can see the functionality, particularly when the agendas are planned in such a way that participants may attend the parts of meetings with relevance to them and then leave.

The standard time for meetings at FlatFrog is one hour, but Öhman believes that more or less every meeting could be shortened to just 20 minutes. Participants always arrive on time and they often reach a solution early. Unfortunately, they feel the need to use the whole hour anyway. In some cases meetings take more time than the planned hour, but this is only accepted if there are good reasons to continue the meeting. New questions that arise during meetings are often postponed to another meeting, unless they can be immediately resolved.

During meetings at FlatFrog remote participants are relatively common and telephone conference is the most commonly used tool. However, according to Öhman the technology is of inferior quality especially when the meeting is attended by multiple remote participants. He argues that it is too often difficult to hear who is speaking and what the person says. In some cases they use MS Lync for video conferences and Öhman would like to be able to increase the number of video conference calls since he believes it could increase the quality of this remote meetings.

Every meeting includes at least one MS PowerPoint presentation and during meetings with the purpose to sync several participants usually presents. The meeting rooms contain everything needed to connect computers to projectors, and technical problems are rare. Lately the company has started to document meetings to a larger extent. The documentation is distributed afterwards by the meeting leader and especially project managers use the data and minutes for further work.

FlatFrog does not take any cost aspects into account when meetings are planned. Many of the employees have earlier worked at larger companies where the cost of meetings does not matter and that mentality remains even though they know work at a smaller company with short deadlines. Öhman does, however, believe that a cost aspect could make a difference and positively affect the company.

5.2.1.6 Case 6 – Medicon Village

The science park Medicon Village, located in Lund, cooperates with researchers, clinics, innovators, entrepreneurs, and companies to increase human health. The science park houses more than 950 work places and creates a community for ideation and growth. The community also provides the small companies benefits of a large scale company. (Medicon Village, 2014)

Marjana Andersson works at Medicon Village as business development manager which means that she works half the time with market and business development and half the time with facility management. With a background as chemist she knows what sorts of facilities are necessary for new science companies. Therefore, she finds herself participating in meetings more frequently when new companies are moving in, but usually she attends about five to seven meetings per week. Most of the meetings are internal, many of them with the purpose of sharing information. However, some are external and usually involve moving-in projects or events.

Medicon Village is a relatively young organization and according to Andersson it is just recently that meetings have started to find structure. The members of the community are often full of ideas. This tends to imply unstructured brainstorm meetings that are often rather ineffective and sometimes even unnecessary. In order to handle these types of meetings Andersson believes it is important for the participants to have a large portion of discipline. Discipline is also what Andersson believes is needed in order to increase the productivity of meetings in general.

When Andersson is convened to a meeting she receives an invitation through MS Outlook with time and location. The invitation, which on average reaches six participants, usually includes an agenda as well. For standing meetings that regularly occur, the group uses a standing agenda. For other meetings, participants are invited based on whether they possess the required competence for the meeting. The relevance of the participants is considered important and in the cases where Andersson invites to a meeting she tries not to include unnecessary attendants.

The meetings are usually between 30 to 90 minutes and in order to be able to focus on the purpose during the whole meeting and to not forget anything of importance, Andersson believes it is important to use agendas. The agendas for the meetings Andersson attends typically handle the most relevant topics in the beginning of the meetings in order to make it possible for participants to leave earlier. Agendas in combination with skilled meeting leaders cause meetings to typically stay within the time frame at Medicon Village.

In some meetings questions arise which are off the agenda or planned subject. In these cases it is matter of prioritization whether new questions should be discussed at the current meeting or at a later meeting. Such questions can emerge due to digression. Digression is rather common, even at meetings with agendas and can in some cases lead to meetings running past the scheduled time. Participants generally tend to digress at the end of meetings when they begin to lose focus, but the majority of time Andersson finds this more amusing than irritating, particularly at internal meetings. According to Andersson, Medicon Village does not take any cost aspects into consideration, except when consultants are involved. She believes, however, that if they would think of their colleagues as consultants and thus creating a cost awareness, meetings could become more effective.

In some meeting constellations Andersson sees a pattern of late arrivals, and it tends to always be the same participants. However, late arrivals do not always depend on ignorance and habits but the fact that the science park is large and it may take some time to physically move from one meeting to another. So, when smaller groups gather for a meeting they wait for late participants, while larger meetings do not. Depending on the relevance of the person who is late, repetition of what have been said is held. As the meetings at Medicon Village have become more structured, Andersson can see a change in behavior. Participants do not arrive late as frequently as they used to.

During meetings it is common that at least one person hold a MS PowerPoint or MS Excel presentation. When more than one person has planned a presentation, the presentations are transferred to one computer in advance to make the change of presentations easy. Otherwise it tends to take some extra time connecting different computers to the projector.

From time to time, meetings include remote participants who attend through speaker phone on iPhone. Generally Andersson thinks this method works well even though some connecting disturbances tend to occur. Through experience of prior work at larger companies, Andersson knows video conference meetings can work as well as ordinary meetings, particularly when the participants have met before and when the technology functions correctly. However, this is not the case at Medicion Village as they have tried using video conference tools such as Skype with little success.

According to Andersson, some meetings are documented and this is usually done with notes linked to the agenda. In some cases Excel is used as a follow-up tool in order to categorize meetings and delegate responsibilities between different participants. Andersson also considers documentation beneficial when follow-up meetings are planned and participants wish to see what was decided in previous meetings, typically when there has been some time since the first meeting.

5.2.2 Coded data

For the purpose of analysis, the data gathered from interviews, presented in 5.2.1, is coded to recurring themes (classes) based on the high level research questions, see 2.7.1.1.

Table 5.1 below presents the coding classes in relation to the research questions and the key questions that can be answered in the analysis of the data.

Research question	Coding classes	Key questions
RQ1 Meeting definition	<ul style="list-style-type: none"> • Contribution of meetings • Prerequisites • Types of meetings 	<ul style="list-style-type: none"> • How do business meetings contribute to the company as a whole? • What are the prerequisites required for a business meeting? • What different types of meetings are conducted?
RQ2 Meeting execution	<ul style="list-style-type: none"> • Preparation <ul style="list-style-type: none"> ○ Processes ○ Tools • Facilitation <ul style="list-style-type: none"> ○ Processes ○ Tools • Follow-up <ul style="list-style-type: none"> ○ Processes ○ Tools 	<ul style="list-style-type: none"> • What is the standard procedure for executing each phase of a business meeting and why? • What technological tools are used in each phase of a business meeting and why?
RQ3 Meeting productivity	<ul style="list-style-type: none"> • Factors that decrease productivity • Factors that increase productivity 	<ul style="list-style-type: none"> • What factors negatively affect the productivity of a business meeting? • What factors positively affect the productivity of a business meeting?
RQ4 Meeting cost	<ul style="list-style-type: none"> • Practices • Measurements 	<ul style="list-style-type: none"> • How are the costs of business meetings taken into account? • What are the main cost bearers of a business meeting? • What measurement is used to calculate the cost of a meeting?

Table 5.1 Coding classes in relation to the research questions

5.2.2.1 Meeting definition

By using open coding (Bryman and Bell, 2005, p.450) presented in 2.7.3.2, data classes recurring in all cases can be coded into categories that fall under meeting definition. Table 5.2 below presents the coded data for meeting definition.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Contribution of meetings	Alignment and shared vision	Tool for progress of a company	Tool for increased productivity	-	Alignment and shared vision	Tool for sharing of information
Prerequisites for meetings	The individual, high discipline and simple rules	A clear purpose	The participants and an agenda	A clear purpose	A clear purpose	Discipline
Different types of meetings	Formal and informal	Operative, analyzing, and strategic	External and internal	External and internal	External and internal	External and internal

Table 5.2 Coded data for meeting definition

In case 1 and case 5, meetings are considered to contribute with alignment and a shared vision within the company. Since meetings can be more effective than extensive e-mail conversations, the company in case 3 prefers meetings as a tool to increase productivity. In case 2, meetings are regarded as an important tool for the progress of a company, while in case 6 the contribution of meetings is mainly to share information. Case 4 does not include a definition of business meeting contribution.

The prerequisites for business meetings differ to some extent between the cases. In three of the cases a clear purpose is considered the most important and only requirement, while two of the cases highlight disciplined participants. In both case 1 and case 3 the individual, or participant, is an important factor along with additional requirements. In case 3, agendas are considered as prerequisite for a meeting, while the company in case 1 considers simple rules along with high discipline as important.

Beside from all cases separating external meetings from internal meetings, the cases define various types of meetings differently. Case 2 is the only case that does not mention external meetings. The company in case 1 divides its meetings into formal and informal meetings where formal meetings usually are board meetings while project meetings are considered informal. In case 2, different types of meetings are categorized into three levels; weekly, operative meetings to keep the organization running; monthly meetings to analyze the progress of the company; and board meetings which are strategic with the purpose of providing an organizational overview. The company in case 3, only separates external meetings from internal meetings and points out that external meetings with clients require a great deal more preparation. No meeting in case 4 is the other alike, however meetings are separated between external and internal meetings. The external meetings in case 4 are usually with researchers and companies within different projects while the internal meetings always are set. The internal meetings of case 5 are defined as sync meetings for alignment and the internal

meetings in case 6 concern market and business development as well as facility management. External meetings of case 6 involve moving-in projects and events.

5.2.2.2 Meeting execution

Using selective coding (Bryman and Bell, 2005, p.450), presented in 2.7.3.2, components of the data related to the core category 'meeting execution' can be coded into classes representing three phases of business meetings; preparation, facilitation and follow-up. Within each class processes and tools used can be identified and compared. Table 5.3 below presents the coded data for meeting execution. The data is based on the information presented in 5.2.1 and complemented with raw data from the interviews.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Preparation						
Invitation content	Time, location, purpose	Time, location	Time, location, agenda	Time, location, (agenda)	Time, location, purpose, (agenda)	Time, location, (agenda)
Invitation tools	SMS, e-mail	MS Outlook	Google Calendar	Varies	MS Outlook	MS Outlook
Relevance of participants	Actively considered	-	Actively considered	Sometimes considered	Sometimes considered	Actively considered
Facilitation						
Average meeting time	60 minutes	Varies	60 minutes	120 minutes	60 minutes	30-90 minutes
Average number of participants	3-4 persons	Varies	4 persons	Varies	5 persons	6 persons
Presentations in meetings	Multiple	At least one	At least one	At least one	At least one	At least one
Presentation tools	MS PowerPoint, whiteboard, video	Whiteboard, video	Screen mirroring, whiteboard	MS PowerPoint	MS PowerPoint	MS PowerPoint, MS Excel
Remote participants	Common	Never	Common	Uncommon	Common	Uncommon
Tools for remote meetings	Conference telephone, Skype	-	Conference telephone	Conference telephone	Conference telephone, MS	Mobile phone
Follow-up						
Documentation of meetings	Usually no documentation	Commonly documented	Usually no documentation	Always documented	Commonly documented	Commonly documented
Use of documentation	Rarely used	Rarely used	Never used	Distributed to participants	Used by project leaders	Sometimes used

Table 5.3 Coded data for meeting execution

As shown in Table 5.3, the preparation phase of business meetings is comparatively similar across the six cases, with a number of variances. The invitation contains at least a time and a location in all cases. In all of the cases, except from case 2, additional information like agenda and purpose is usually also included. Case 1 and case 5 always include a purpose with the invitation while case 3 always attach an agenda with the invitation. Case 4, case 5 and case 6 occasionally send or receive invitations containing agendas, sometimes depending on the type of meeting. The means by which the invitation is sent varies between the cases. In three out of six cases the companies use MS Outlook, while in two cases tools such as Google Calendar, e-mail and SMS are used. Case 4 has standing invitation for set meetings and varying ways of booking external meetings. In three cases it is found that participants are invited based on their relevance to the purpose of the meeting. In case 4 and case 5, the relevance and competences of participants are considered but occasionally attendants with less relevance are invited in order to be included. Case 2 lack information regarding this question.

Comparison of the facilitation phases in the six cases shows that the average business meeting time varies from 30 to 120 minutes, but is in most cases set for one hour. The average number of participant varies between the cases, and even if some meetings hold significantly larger number of attendants the usual amount varies between three and six participants. In all six cases at least one presentation is held during more or less every meeting, while the presentation tools used varies. MS PowerPoint is the tool most commonly used, with companies in four cases using it in more or less every meeting. Additionally, alternative presentation tools, such as whiteboards and video presentations, occur in three of the cases. Only in case 6 MS Excel is used as an alternative presentation tool. The rate of attendance of remote participants varies between the cases. In three of the cases remote participants are common in business meetings, while it is less common in case 4 and case 6 and never happens in case 2. When a meeting is attended by one or several remote participants the most commonly used tool in all of the cases is conference telephone. In a majority of the cases there is however a resistance towards video conference tool due to technical problems and often poor quality for intercontinental calls. It is only the company in case 1 that prefers using video conference tools like Skype. Case 5 occasionally uses MS Lync for the purpose. The only company of all cases using an alternative tool for remote participants is case 6, where the speaker phone on iPhones is used.

Data components that can be sorted into the follow-up phase concerns the documentation of business meetings. Documentation differs significantly between the six cases, with regards to frequency of use and manner of documentation. In three of the cases documentation of meetings is common, while only the company in case 4 always document. In case 1 and case 3 documentation depends on the formality of the meetings, where more formal meetings require documentation. The company in case 3 is however the company that documents the least and that also never uses the documentation afterwards. In three of the cases documentation is rarely or sometimes used afterwards for different reasons. The companies in case 4 and case 5 are the only ones that actively distribute and use the documentation after more or less every meeting. In case 5 the documentation is specifically seen as helpful for project leaders.

5.2.2.3 Meeting productivity

Recurrently across the six cases data components are found describing factors that affect the productivity of business meetings, negatively or positively. The data components can be coded using open coding (Bryman and Bell, 2005, p. 450) by categorizing and comparing them. In Table 5.4 below, data components are categorized into factors that affect business meetings negatively and compared by occurrence.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Meetings sometimes lack a clear purpose		X		X		X
Participants arrive late	X	X	X	(X)		X
Meetings run longer than planned	X	X		X		X
Conversations tend to digress	X	X	X	(X)	X	(X)
Meetings are sometimes considered unnecessary	X	X		X		X
Participants have different incentives	X				X	
The organizational culture	X				X	
Technical issues connected to remote participants			X	X	X	
Irrelevant participants attend the meeting				X	X	

Table 5.4 Factors that negatively affect business meetings compared by occurrence

In Table 5.4 above, the letter 'X' indicates the occurrence of a factor that negatively affects business meetings in the corresponding case and company. '(X)' indicates that the factor occurs, however it is not considered to affect the business meetings negatively.

As shown in Table 5.4, the most commonly occurring factor negatively affecting business meetings across the six cases is when conversations digress during meetings. The factor manifests itself in all the cases and is considered to be a considerable problem in all cases except case 4 and case 6 where digression is sometimes accepted. Throughout the cases, the occurrence of the problem is attributed to various reasons, such as lack of clear purpose or agenda, incompetent meeting leaders, participants lacking specific knowledge, lack of respect, and the organizational culture. Throughout the cases two main measures are mentioned to limit the occurrence of digression; using an agenda and having a skilled meeting leader. Furthermore, the interview object in

case 3 believes keeping the agenda visible during the entire meeting is important in order to keep focus.

Another common factor that negatively affects business meetings is participants arriving late, which occurs and is considered to be a problem in four cases. While it does not occur in case 5, it is not considered a problem in case 4 even though participants frequently arrive after appointed start time.

Meetings are also likely to run over schedule in four of the cases, which in every instance is considered to be a problem. In case 3 and case 5 this problem is avoided by actively pointing out when the time overrun since participants of these meetings usually have other meetings to attend. As with digression two measures were mentioned in the cases to keep meetings from exceeding the scheduled time; using an agenda and having a skilled meeting leader.

In four cases it is reported that business meetings sometimes are considered unnecessary. According to the representatives from the companies in case 2 and case 4, this problem is a far too common occurrence in their business meetings. In the cases the problem is usually correlated with other problems, such as unclear purpose, participants attending with different incentives and digression of conversation.

The problem of business meetings not having a clear purpose is experienced in three of the cases and is considered to lead to reduced meeting productivity. The companies in the remaining three cases are aware of the problem and thus make a point of actively assigning a clear purpose to meetings.

Technical issues related to remote participants are regarded as problematic in three of the cases. In case 3 this problem is solved by avoiding video conferences even though it is seen as an effective meeting tool. It is noted, however, that besides connectivity issues related to remote participants technical disturbances are so rare in all cases that they are not considered a problem.

In case 4 and case 5 it is considered a problem that participants without relevance to the purpose of meeting often are invited. This is because the contribution of these participants is minimal.

It has been noted in case 1 and case 5 that meeting productivity is negatively affected when participants have different incentives or personal agendas. In the same cases it is found that organizational cultures that champion the practice of “making every voice heard” during meetings negatively affect business meetings. In both cases the problem is thought to be correlated with the Swedish culture as it is referred to as “the Swedish organizational culture”.

5.2.2.4 Meeting costs

One of the high level research questions aims to explore whether the cost aspect of meetings is considered in companies. Thus, data components from the cases are coded according to this particular core category using selective coding (Bryman and Bell, 2005, p.450). Table 5.5 below presents the data coded to meeting costs.

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
The costs of meetings are taken into account in any way			(X)	X		(X)
Actively including a cost aspect has been considered		X		X		
A cost aspect is believed to positively affect meeting productivity	X	X		X	X	X

Table 5.5 Coded data for meeting costs

In Table 5.5 above, the letter 'X' indicates the occurrence of a factor. '(X)' indicates that the factor occurs to some extent.

As seen in Table 5.5, the costs of meetings are currently not taken into account in any way in three of the six cases. In the cases where the cost is taken into account the consideration is often circumstantial and mainly addresses direct costs, such as consultant fees, refreshments and rent costs. However, in case 4 indirect costs, such as time spent in meetings is time not spent on other work, are taken into account to a certain degree. To add or develop consideration of the cost of business meetings has been considered in the companies in case 2 and case 4. Although cost of meetings are currently not taken into account in most cases, it is believed in all of the cases, except in case 3, that actively and comprehensively including cost aspects in all phases of business meetings would positively affect the productivity of business meetings.

6 ANALYSIS

The analysis chapter is divided into two sections; analysis of market research, and analysis of innovation process at SFD.

6.1 ANALYSIS OF MARKET RESEARCH

The two first sections of the analysis of market research is based on the research questions and the predefined assumptions, presented in 2.7.1.2. The third section evaluate the performed market research.

6.1.1 Defining business meetings

The first research question considers the definition of business meetings. Hence, this section will analyze business meetings contribution to companies, the prerequisites for meetings, and different types of meetings based on the empirics.

6.1.1.1 *The contribution of business meetings to the company*

The idea of what meetings can contribute with to a company varies between the company representatives in the studied cases. Two representatives consider meetings a tool for alignment and shared vision within the company, while one regards meetings as an effective tool for information sharing. Compared to distributing extensive documents containing the information the representative in this case believes meetings make it easier for individuals to absorb the information and hence is a less time consuming and more effective alternative. Information sharing can to some degree also be considered as alignment, suggesting that alignment is an important part of the contribution of business meetings to the company.

Only one representative believes meetings to be a tool for directly increasing productivity within the company. According to this company representative, productivity within the company can be impeded if the company is having extensive e-mail conversations instead of convening meetings. Meetings in many companies are regarded as time consuming (Parker and Hoffman, 2006), but compared extensive e-mail conversations, meetings tend to be more effective in order to reach a solution according to this representative.

6.1.1.2 *Prerequisites required for a business meeting*

Two main prerequisites for a business meeting were found in the data; a clear purpose and the right individuals. Three of the studied cases state that a clear purpose is a prerequisite to hold a meeting as the lack thereof can lead to decreased productivity or even render the meetings unnecessary. When a meeting can be assigned a purpose there is most likely a need for having the meeting and invited persons have the possibility to decide whether the subject of the meeting relates to them or not (Caruth and Caruth, 2012). Additionally, a clear purpose is also considered to be a factor for effective and productive meetings (Parker and Hoffman, 2006).

Furthermore, the individual is considered have a large impact on business meetings throughout the cases. In more than one case it is believed that discipline is a required attribute for individuals in order to hold an effective meeting. The relevance of the individual participant with regards to the purpose of the meeting is also considered important. According to Shore (2013), relevant participants increase the likelihood of

an effective and focused meeting. Relevant participants have the ability to better contribute to the purpose of the meeting.

Apart from the aforementioned prerequisites, no other requirements for meetings were expressed. This suggests that meetings can be held anywhere, regardless of special equipment and formal procedures as long as it has a clear purpose and the “right” individuals are attending.

6.1.1.3 Different types of business meetings

Broadly, meetings are divided into two main categories throughout the cases; internal and external meetings. External meetings are defined as meetings with clients or other external functions. They are further divided into different types of external meetings based on the general purpose and the type of external entity involved. Due to the difference between the studies companies external meetings are divided differently.

Internal meetings are also described differently throughout the cases. In one of the companies, internal meetings are divided into synchronization meetings and decision meetings. Resembling this, another company divides internal meetings into information meetings, operational meetings and strategic meetings. Other ways internal meetings are categorized in the studied companies are by formality and by specific work functions such as market and business development, and facility management. For one of the companies in the cases, no meeting is the other meeting alike because of the project based work form of the company.

6.1.2 Execution of business meetings

The second research question considers the execution of business meetings. Hence, this section will analyze the different phases of meetings; preparation, facilitation, and follow-up.

6.1.2.1 Preparation

According to Caruth and Caruth (2013), preparation is of great importance in order to have productive meetings. The participants, or attendants, are invited differently according to the studied cases, but the means of invitation used in three of the cases is MS Outlook. There is no explanation as to why the companies prefer to use this tool. However, there are complaints about the tool since it allows the persons convening meetings to “steal” time from the invitees’ calendars, thus not make meetings a choice. The other companies use varying types of invitation tools. As presented in 5.2.2.2, Google Calendar is a tool used by one of the companies, while two of the other companies vary between for example SMS and e-mail.

Common for all the companies is to include location and time in the invitation. Only in two of the cases a purpose is also included. In one of four companies an agenda is always attached to the invitation, while the remaining three companies occasionally attach an agenda depending on the meeting. Agenda and purpose should preferably be sent together with the invitation so that the participants can prepare before the meeting (Hillvesson, 2013). Furthermore, having an agenda makes it easier to dispose the time and relevance of questions, and the meetings will have some sort of strategy for execution (MacLeod, 2011).

The relevance of participants is according to the representatives actively considered in three of the companies where the relevance mainly depends on the competences of

the invitees. In two other companies the representatives claim that the relevance is sometimes considered when inviting participants. In these last cases the representatives, however, point out that irrelevant participants, or attendants, often cause ineffective meetings but due to the company culture attendants are invited anyway. To avoid digression during the meetings and increase the productivity, only relevant people should be invited since they will contribute during the meetings. A ground rule should be to only invite participants and not attendants since relevant participants participate and focus on contribution (Shore, 2013) which in turn, according to Drucker (2006), is to focus on effectiveness.

6.1.2.2 Facilitation

Drucker (2006) claims that a meeting should not be longer than 90 minutes and for important meetings it should not either be held for less than that time. Parker and Hoffman (2006) agree on not having meetings for longer than one and a half hour, preferably for less time. Among the companies in the studied cases the meeting time varies between 30 to 120 minutes. Only one company representative considers two hours a normal time for meetings while most of the companies have approximately one hour meetings. This is the planned meeting time which occasionally overruns, but at one company most of the scheduled one hour meetings have the possibility to be shortened to 20 minutes, according to the representative. Instead of ending the meetings when the group has come to a conclusion after 20 minutes, the whole hour is used for further discussion about the purpose.

The number of participants at the meetings varies among the companies. While two of the company representatives state that the number varies among their own meetings, the other four companies' meetings usually include between three to six participants.

While five of the companies have at least one presentation during each meeting, one representative claims to have multiple presentations each occasion and thus having several participants presenting. In order to present, the companies use various kinds of technological tools. Most common is MS PowerPoint, which is used in four of the cases and exclusively at two of the companies. The other two companies combine this tool with either whiteboard and video, or MS Excel. The remaining companies prefer using whiteboard, video, or mirroring the computer screen according to their representatives. Some of the companies using MS PowerPoint, however, express a resistance towards the tool due to often extensive presentations, hence often find video presentations or using whiteboards more pedagogical.

Remote participants during meetings are common in three companies and the tool used for these, according to all of the three cases, is conference telephone. In two of these three companies video conferences are sometimes held, and for these conferences Skype or MS Lync are used. The latter tool is however rarely used. Of the remaining studied cases, one company representative claims they never include remote participants and for the other two companies, remote participants is an uncommon occurrence. In the occurrence of participants attending on distance, these studied cases use conference telephone or mobile phone. As presented in 5.2.2.2, this consequently shows that conference telephone is the most common tool for remote participants even though some of the representatives would prefer video conferences in order to see the participants when talking to them.

6.1.2.3 *Follow-up*

According to Parker and Hoffman (2006), documentation is a useful tool for diminishing confusion and increasing the likelihood of action after meetings. It is not unusual that there is lack of action afterwards even when decisions have been made in order to perform something. As presented in 5.2.2.2, two of the companies have usually no documentation at all, only exception is formal meetings, such as board meetings, which require documentation. Only one of the companies in the studied cases always documents meetings and distributes the documentation to the participants afterwards. In the other three companies documentation is common but not necessarily used when the meetings are over. According to the company representative in one of the cases, project leaders find documentation useful after meetings, whereas in the other two companies the documentation is rarely or sometimes used. In the case where documentation sometimes is used, the representative claims that the documentation is usually performed in MS Excel. For this case, participants can find delegation of different responsibilities in the MS Excel files. The companies that rarely use documentation afterwards claim that when it happens it is in order to, for example, remind what decisions have been made.

6.1.3 Meeting productivity

The third research question considers meetings productivity. Therefore, this section will analyze factors that impact the productivity during meetings.

There is a consensus among the company representatives in the cases, presented in 5.2.2.3, that achieving productive meetings should be a priority within their company. However, the studied cases suggest that most companies have long ways to go and there is a need for improvement. Parker and Hoffman (2006) argue that there is a potential for companies to cut cost significantly by making meetings more efficient. In every case the respondent had to some extent given active thought to the productivity of business meetings in the respective company and could identify various factors that are currently affecting the productivity of their meetings. The representatives in all cases could identify at least one problem and in many cases several problems related to business meeting within their companies. However, potential solutions to the problems or factors that positively affect business meetings were not as frequently identified, suggesting that problems may be apparent to the individuals attending business meetings although the solutions may not be obvious. This may indicate a potential for innovation within the area.

According the data presented in 5.2.2.3, companies individually experience multiple factors that negatively affect business meetings. Additionally, the experienced problems are similar between companies in several cases. Furthermore, negative factors are in many cases thought to be correlated.

As discussed in 5.2.2.3, companies in every case experienced that conversations tend to digress during meetings. According to Parker and Hoffman (2006) this is generally a common problem with different causes which can prove costly to companies. Current solutions to the problem correspond between the studied cases and the theoretical framework. The solutions involve using an agenda and having a competent meeting leader with the ability to direct the subject in a way as to be focused on the agenda and nothing else. An additional solution suggested by Parker and Hoffman (2006) is to use a third party facilitator to direct the subject. However, there are three main reasons

why the problem is possibly difficult to address directly, save from a skilled meeting coordinator. Firstly, the data suggests that the problem in many cases can be the result of other, underlying problems. Underlying problems presented in the empirics are meetings that lack a clear purpose, redundant attendants and that the company's organizational culture can promote behavior which can cause digression. Secondly, in the cases where the aforementioned problems are not apparent digression seems to be related to human factors. In more than one case it is reported that the cause of digression is mainly attributed to the behavior of certain individuals attending the meetings and a general lack of respect. Lastly, whether digression during meetings is considered as a problem varies between companies. Thus, instead of directly focusing on the digression itself the underlying problems should be addressed.

Empirics, presented in 5.2.2.3, suggests that when meetings do not have a clear purpose other problems arise as a consequence. The companies where meetings sometimes lack a clear purpose experience that meetings can sometimes be considered wasteful or unnecessary. Additionally, the absence of a clear purpose or the failure to communicate is in the cases thought to contribute to the subject of discussion digressing, which in turn leads to both longer and less productive meetings. In the case where the company takes active measures to ensure that every meeting is assigned a purpose the correlated problems are not experienced as a result. Thus, failing to assign a purpose to meetings can be considered an underlying problem that can result in decreased meeting productivity. Furthermore, it may be reasonable that assigning a clear purpose to meetings in some cases can help resolve the problem of participants attending meetings with different incentives.

In two cases attendants are occasionally invited to meetings without possessing relevant competence or the ability to contribute effectively. This is thought to be a contributing factor to the conversation in meetings digressing. Shore (2013) argues that only essential participants should be invited to business meetings in order to keep them focused on the purpose. The fact that redundant attendants' contribution is minimal on top of which their participation can lead to digression suggests a potential for companies to save resources by actively and effectively determining the relevance of participants before issuing an invitation to a meeting.

To accommodate participants for other commitments meetings should always end on time (MacLeod, 2011). However, in a majority of the studied cases meetings frequently tend to run longer than planned. The problem is correlated with other underlying problems, such as digression during the meetings or meetings starting late due to participants arriving late. Caruth and Caruth (2012) recommend not waiting for eventual late arrivals and always start the meeting on time regardless of everybody not being present. To avoid meetings running late Caruth and Caruth (2012) argue that time should not be taken out of a meeting for repetitions of material covered.

Technical issues experienced in the cases exclusively relate to the attendance of remote participants. The main problem is connectivity issues when video conferencing across continents. Other technical problems occur so rarely that they are not considered to have an effect on business meetings over all.

6.1.4 Meeting costs

The fourth research question considers the cost of meetings, hence this section will analyze practices and measurements regarding the subject.

Parker and Hoffman (2006) claim that meeting productivity can be increased by including cost aspects for meetings. Unfortunately, companies tend to overlook the cost of meetings since it is an indirect cost embedded in the salaries of participants. In the three studied cases where cost of meetings is taken into account, these costs mainly address consultant fees, refreshments and rent costs. Only one of the company representatives considers time spent in meetings as time not spent on other work. The company in this case, therefore, works on minimizing the internal meetings in order to make time for more prioritized meetings. Thus, this studied case takes indirect costs of meetings into account to a certain degree. It is however not stated whether the company measures the meeting time in order to calculate the cost.

The latter company actively works on developing the cost aspect of meetings in the organization, something that one other company representative considers as well. By educating companies about meeting costs the productivity in meetings can be increased, according to this representative. Additionally, clear purposes would in turn become a more natural part of meetings.

Despite only one company of the studied cases to some degree actively takes a cost aspect for meetings into account, the representatives of five of the cases believe a cost aspect to have positive effect on meeting productivity. Hence, it may be possible to assume that the companies share a need for a simple way to calculate the cost of meetings and to involve a cost aspect when meetings are planned. According to Shore (2013), an estimation of the meeting cost is easily calculated by multiplying participants' salaries with the consumed time.

6.1.5 Initial testing of hypotheses

The former and current projects within the domain of business meetings at SFD have been based on a number of un-tested predefined assumptions, also called hypotheses, see 2.7.1.2. It is important for the reader to note that the hypotheses are not of scientific type. Based on analysis of the data gathered through market research initial testing of the hypotheses is done. However, while the data can suggest the validity of the hypotheses it does not necessarily provide definitive answers that can be generalized. As the data is qualitative it provides the testing with additional information and the hypotheses are not only rejected or verified. Thus, further research is needed in order to fully validate the hypotheses. Table 6.1 below presents the results of the initial testing of hypotheses.

	H1	H2	H3
A	Y	N	I
B	N	N	I
C	Y	I	I
D		Y	
E		Y	

Table 6.1 Initial testing of hypotheses

In Table 6.1 above 'Y' indicates the data suggests that the hypothesis holds, 'N' indicates the data suggests the hypothesis does not hold and 'I' indicates the data is insufficient to suggest whether the hypothesis holds.

H1. A business meeting is not dependent on a formally determined

- d. means of invitation.
- e. time frame.
- f. physical location.

Some sort of formal invitation for meetings is sent in all of the cases and includes, for all of them, predefined time and location. The means of invitation vary between the cases, but three out of six cases use MS Outlook. Other invitation tools used are Google Calendar, SMS, and e-mail. In some cases one tool is used exclusively and in other cases multiple tools are used. However, meetings are not considered dependent on a specific means of invitation, but rather the content of the invitation. Thus, the data collected suggests that H1a holds.

While the average time for meetings varied between companies in the cases, there was a consensus that meetings do require a predetermined time frame. In the cases where meetings run longer than the planned time frame, it was considered as a problem. Thus, the data collected suggests that H1b. does not hold.

The empirics indicate that a location is always specified in the invitation to a meeting. In all cases at least one presentation is held every meeting, often with the help of various presentation tools. However, aside from locations requiring certain presentation tools, the data does not indicate that meetings are dependent on specific physical locations, suggesting that H1c holds.

H2. The productivity of a business meeting is affected negatively when

- a. multiple individuals are presenting material.
- b. multiple types of technological tools are used for presentation purposes.
- c. the meeting is attended by remote participants.
- d. a participant arrives late to the meeting.
- e. the meeting runs longer than scheduled.

In every case, at least one presentation is held at any given meeting. In no case as multiple presenters associated with either lowered productivity or technical issues. Thus, the data suggests that H2a does not hold.

Across the cases MS PowerPoint is the most commonly used presentation tool. However, in most cases complementary presentation tools, such as whiteboards are used for certain presentation types. No association was made between the use of multiple tools and decreased productivity. Instead it was in a number of cases encouraged to use different presentation tools for different purposes, thus suggesting that H2b does not hold.

The only technical problems experienced in the cases are related to the attendance of remote participants and mainly have to do with connectivity issues. In five of the cases it is found that having multiple remote participants does not negatively affect the productivity of business meetings and in two of them it is associated with increased productivity. However, in one case problems are experienced in connection to multiple remote participants. Thus, the data does not imply whether H2c holds.

Attendants arriving late to meetings is a common occurrence in five of the case and in four of them it is considered a problem. Late arrivals are found to be one of the underlying problems causing meetings to run longer than planned. This suggests that H2d holds.

Meetings running longer than planned is a common occurrence and considered a problem in four of the cases. A main underlying problem for meetings running late is digression which is a problem that is strongly related to decreased productivity, suggesting that H2e holds.

H3. Accessible documentation of content and outcome of a business meeting is

- a. beneficial to the participants.
- b. beneficial to the company.
- c. time consuming to generate.

While theory argues the importance of documentation of meetings only one of the cases always documents business meetings and shares the documentation with the participants afterwards. Depending on the formality of meetings two of the cases occasionally documents, but usually not. In the cases where meetings are documented the documentation is however not necessarily used after the meetings. In one case the documentation is used by project leaders within the company. Another case exemplified the usage of shared MS Excel files where participants can find their areas of responsibilities when action is to be taken after meetings. One of the cases claims that documentation implies extensive bureaucracy, and thus is time consuming. Since the documentation is not used afterwards the respondent in this case does not see any reason to document. In two cases accessible documentation of the content and outcome of meetings seems to be beneficial for the participants. Whether it in turn benefits the company is not possible to determine. Theory however argues that documentation of meetings diminish confusion since the content and outcome of the meeting are stated, hence the likelihood of action after meetings increases.

While the empirics can provide some insight into how documentation is used, it contains insufficient data about the implications of documentation to validate H3. Thus, the testing of H3a-c is inconclusive.

6.1.6 Evaluation market research

The market research was performed in order to provide an example of implementation of external input to the innovation process at SFD. In order to determine whether conventional market research is an effective method for generating external input, the relevance and accuracy of the market research performed in this thesis is evaluated.

The market research consisted of six semi-structured interviews, which generated qualitative data. While qualitative research typically involves fewer respondents, the accuracy of this research would likely have been increased by increasing the number of interviews. Complementing the qualitative data generated in the market research with quantitative data would increase the validity. Furthermore, the information gathered from interviews mainly led to insights concerning the expressed needs of customers. Had the market research also involved other methods of data collection, such as observations, the potential for identifying latent and future needs would have increased.

Even though the interview objects were encouraged to elaborate and associate freely during the interviews, the problem areas identified corresponded rather closely to the interview questions and only a few unexpected areas were discovered. Presumably a more experienced market researcher could have the ability to direct the interview objects to more effectively uncover needs and problems beyond the interview guide.

The empirical findings of the market research identified a number of problem areas as well as rudimentary information about the underlying causes. Performing follow-up research into specific identified areas would likely provide a deeper understanding of the underlying reasons for needs and problems, which in turn could be utilized in the development of new products.

Parts of the coded data and the analysis of the empirical findings are considered to be useful as creative input to the innovation process of current and future projects. However in order for SFD to fully utilize the findings in a market research report, they need to be communicated in a condensed but comprehensible manner (Daniel Grip, 2014).

6.2 ANALYSIS OF THE INNOVATION PROCESS AT SFD

The analysis of the innovation process at SFD is divided into five sections; SFD's degree of market orientation, determination of the generation of the innovation process at SFD, the need for external information, customer involvement in the innovation process at SFD, and requirements for SFD to achieve successful customer involvement.

6.2.1 SFD's degree of market orientation

The degree of market orientation is determined by how well Bramble AB and SFD generate, disseminate, and integrate market intelligence and, additionally, act coordinated on the information. Based on the intelligence SFD acts on, it is possible to analyze whether the market orientation is responsive or proactive.

6.2.1.1 *Intelligence generation*

Generating knowledge about customers' expressed and latent needs as well as competitors' strategies and capabilities is the first step for a company to be market oriented (Mohr et al., 2010). As described in 5.1 SFD acquires information about the market through the different phases of the innovation process. Trend reports are generated by marketing research representatives in North America and product managers gather information through contact with customers and operators.

At SFD market intelligence is generated through literature and social media such as technology forums and blogs. The observation of competitors can seem as unavoidable due to the competitive market the company acts within, but provides the division with some information about the progress of the competitors. The division also look at analogous markets for inspiration.

To a certain degree intelligence is also generated through user researches, and prototype tests at, for example, technology congresses. Thus, Bramble AB and SFD do have a degree of intelligence generation. The mode of generation is however not fully developed, hence there is potential for further development in order to become more market oriented.

6.2.1.2 *Intelligence dissemination*

The second step for a company to be market oriented is to share the acquired intelligence throughout the organization (Mohr et al., 2010). SFD is provided with market trend analyses from the marketing division in North America. However, product managers situated in North America tend to be restrictive with the sharing of their generated customer and market intelligence. As with the company's intelligence acquisition the dissemination has potential for improvement.

6.2.1.3 *Intelligence integration*

Disseminated intelligence needs to be, as the third step towards market orientation, integrated throughout the organization in order to reach mutual understanding (Mohr et al., 2010). Problematic for SFD is that reports regarding markets and customers often tend to be extensive which makes it time consuming and difficult to absorb the information. A more effective method is when market research representatives present the essentials of reports. Hence, the integration of knowledge has potential for development in order to enable shared understanding throughout the organization.

6.2.1.4 *Coordinated action*

The final step for a company to be market oriented is to take coordinated action on the acquired, shared, and integrated market intelligence, by implementing decisions (Mohr et al., 2010). In the case of SFD coordinated action can be performed if the three earlier steps are performed to a certain degree. For SFD to effectively take coordinated action the knowledge integration needs to be further improved so that different functions of the organization has a mutual foundation to respond to market needs.

6.2.1.5 *Intelligence continuum*

As Mohr et al. (2010) describes, the level of responsiveness or reactivity is determined by the type of intelligence the company acts on. Information on expressed needs or current competitive threats equals responsive market orientation, while a company that search for information on latent and future needs, and anticipated

threats is proactive (Mohr et al., 2010). One can argue that SFD, thus Bramble AB, as a telecommunication company needs to have focus on developing radical innovations due to the competitive market the company acts on. As Mohr et al. (2010) argues, in order to do so the company needs to have proactive market orientation.

Trend reports provide SFD with information about current and upcoming market trends, thus knowledge that can be interpreted as proactive since it may provide a basis for analysis of customers' future needs. Additionally, the trend reports make it possible to analyze the progress of competitors. The market knowledge SFD acquire themselves through literature and social media can both be customer and competitor oriented, and provide a foundation for analysis regarding future needs and threats as well. However, this is not explicitly articulated by SFD.

As seen in 5.1, prototypes are in some cases introduced to the market at, for example, technology congresses. Individuals are given the chance to test the prototypes and provide feedback which is a way of acquiring knowledge about what the market possibly wants. Additionally, during the product development phase, user research is in some cases performed which provides SFD with tangible feedback on customers expressed needs.

Based on empirics, SFD has a rather responsive market orientation since the information gathered mostly focus on current needs and threats. There are attempts to be proactive but in order to discover latent and future needs of customers as well as anticipated competitive threats, SFD and Bramble AB need to develop appropriate methods for intelligence generation.

6.2.2 Determining the generation of the innovation process at SFD

The innovation process at SFD, described in 4.3, is logically sequential, however not time linear. The phases are separate but interactive and throughout the process iterations based on feedback commonly occur. This suggests that the innovation process at SFD is of the third generation of innovation processes as described by Dodgson (2000).

Central throughout the phases of the innovation process at SFD is the user experience. Ideas, development and prioritization are based in the objective of creating innovations that can provide high value for the user. Thus, innovation at SFD is largely based in the perceived needs of the customer, which indicates a demand-pull orientation. However, due to limited external input in the innovation process the needs, on which innovations are based, are not articulated directly by the customer, but rather derive from assumptions generated at SFD. Consequently, the development of new products has a significant focus on the internal R&D, indicating that the innovation process also has a supply-push orientation. The integration of supply-push and demand pull orientation furthers the argument for the innovation process at SFD being of the third generation of innovation processes.

While the SFD can take advantage of mechanisms for acquiring substantial amounts of internal feedback, a high integration between SFD other functions, such as the marketing and distribution functions has not yet been achieved. Furthermore, customers are not yet integrated in the innovation process. Thus, the fourth generation of innovation process has not been reached. The categorization of SFD's innovation

process as a third generation innovation process implies an opportunity for improvement, both in terms of internal and external integration. By achieving horizontal collaboration and integrating co-developments in the innovation process, the innovation process at SFD may advance to the fourth and fifth generation.

6.2.3 The need for external information

Piller and Ihl (2009) discuss the need for external information in order to manage and reduce uncertainties during innovation ventures. Such information can be divided into two groups; need and solution information. Through customer involvement companies have the possibility to gain more creative input to the innovation process in form of both need and solution information. As stated in 1.2, SFD has explicitly expressed the need for further need information in the form of external input.

SFD has extensive solution information since the division possesses competences and knowledge to develop products that can solve problems. Piller and Ihl (2009), however, describe that solution information does not only originate from the domain of the manufacturer but also from the domain of the customer. Thus, by involving customers with relevant competences and knowledge through open innovation, customers can provide complementary solution information to current innovation processes.

Due to limited external input in the current innovation processes of SFD, the base of need information is limited. According to Piller and Ihl (2009), the need information mainly resides in the domain of the customer. By involving customers in the innovation processes SFD can extract the need information from the domain of the customer and thus increase the base of need information as creative input in the innovation process. Since SFD works towards radical innovations it is particularly important for the division to gather information about future and latent needs.

By applying various methods for customer involvement to the current innovation process the creative input has potential to generate competitive innovations. A large base of need and solution information will help SFD to handle uncertainties during innovation ventures, hence increase the opportunity for better results. Additionally, managing to acquire appropriate need information including information about future and latent needs can increase the opportunity to produce radical innovations.

6.2.4 Customer involvement in the phases of the innovation process at SFD

As presented in the empirical findings, there is a low degree of customer involvement throughout all the phases of the innovation process at SFD. In the initial four phases the customer is not involved to any extent, while customer involvement in the last two phases is limited to feedback from showcases and occasional user research. Thus, there is a potential to significantly increase the customer involvement in the innovation process.

According to Piller and Ihl (2009), customer involvement can have three modes, see 3.4.3. The three modes produce different kinds of co-created knowledge that are useful in different stages of the innovation process. Methods that can be categorized into the mode *design for customers* revolve around gathering information about customer needs. This leads to co-created knowledge produced in the *design for customers*-mode being optimally utilized in the early stages of the innovation process. Methods that can be categorized into the mode *design with customers mainly* involve gathering feedback

on solutions and concepts. Consequently, knowledge co-created in the *designs with customers*-mode can be utilized in the early or later stages of the innovation process. In order to gain useful knowledge co-created in the development phase of the innovation process methods that can be categorized into the mode *design by customers* are required. Since there is a variation in potential utilization between knowledge generated by the three modes, the mode of customer involvement has to be considered when introducing customer involvement to specific phases of the innovation process. Figure 6.1 below illustrates how the customer involvement can be introduced to the different phases of the innovation process at SFD, by describing suitable modes and methods of customer involvement.

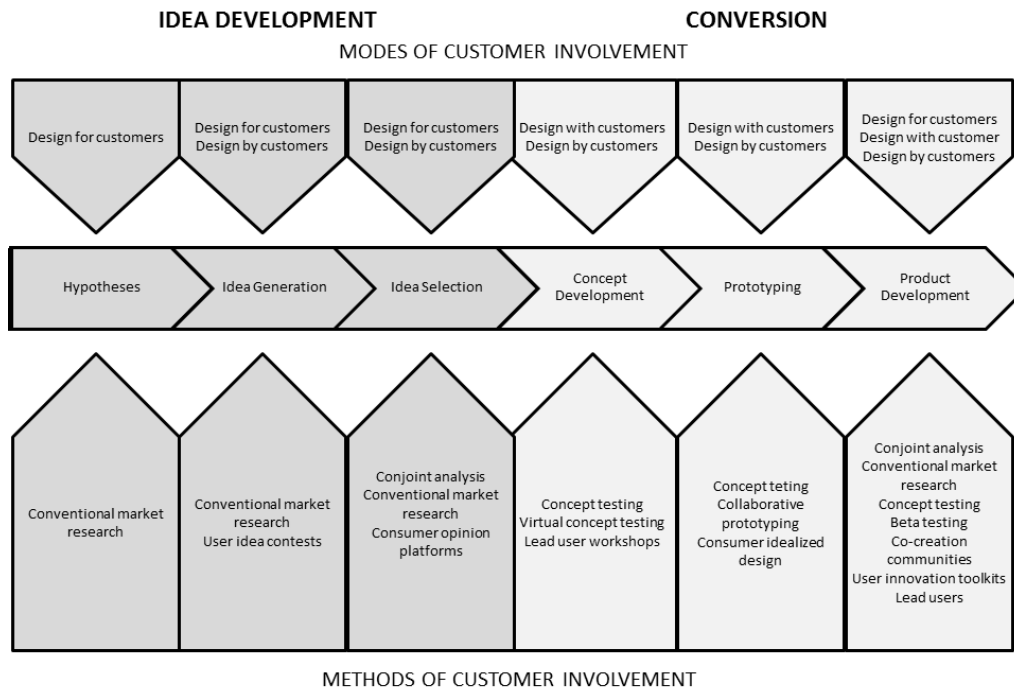


Figure 6.1 Suitable modes and methods of customer involvement in the innovation process at SFD

As shown in Figure 6.1, there is a potential to introduce customer involvement in every phase of the innovation process at SFD. However, different modes of customer involvement are suitable for each phase of the innovation process. Consequently, different methods of customer involvement are suitable for each phase of the innovation process. For further description of the different methods of customer involvement, see Table A.4.1 in Appendix A.4.

Detailed analysis of customer involvement in the individual phases is presented below.

6.2.4.1 Customer involvement in hypotheses phase

At SFD hypotheses are developed about need and wants, trends, user experiences and market potential. These are then used as a basis for decisions in subsequent phases of the innovation process. However, the hypotheses are based on information gathered from various publicly available forums as well as from personal experience and conjecture, meaning the customer is not involved in the process. Furthermore, the hypotheses are at no time tested by information about the customer. Successful customer involvement in the hypotheses phase would increase the amount of available

information about the customer and thus help develop more accurate hypotheses. Customers could also be utilized to validate the hypotheses.

As the main intention of customer involvement in the hypotheses phase would be gathering information about the customer, methods that can be categorized into *design for customers* could be effective. Conventional market research, such as the one performed in this thesis, could potentially be used to increase the accuracy as well as to validate the hypotheses. Figure 6.2 below illustrates what mode of customer involvement is suitable to introduce to the hypotheses phase of the innovation process at SFD, as well as appropriate methods.

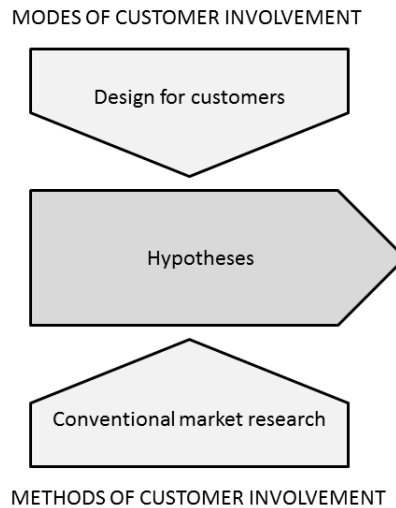


Figure 6.2 Customer involvement in the hypotheses phase

6.2.4.2 Customer involvement in idea generation phase

Currently, the idea generation phase of the innovation process at SFD typically does not involve specific process, but is rather done continuously by individuals. Like the hypotheses, ideas are mostly inspired by information from publicly accessible forums and the customer is not involved in the idea generation phase. Successful customer involvement in this phase would increase the pool of information that can be utilized to generate ideas. Furthermore, a large quantity of ideas is considered important at SFD in order to find the few ideas of high quality. Giving customers an active role in the idea generation phase by allowing them submit ideas would effectively increase the quantity of ideas and thus increase the likelihood of finding the high quality ideas.

Customer involvement can aid the idea generation phase by providing information or by submitting ideas. Thus, methods from *design for customers* and *design by customers* can reasonably be applied. Conventional market research, such as the one performed in this thesis, would increase the pool of information. Methods like user idea contests can serve as a platform for customers submitting ideas. Figure 6.3 below illustrates what modes of customer involvement are suitable to introduce to the idea generation phase of the innovation process at SFD, as well as appropriate methods.

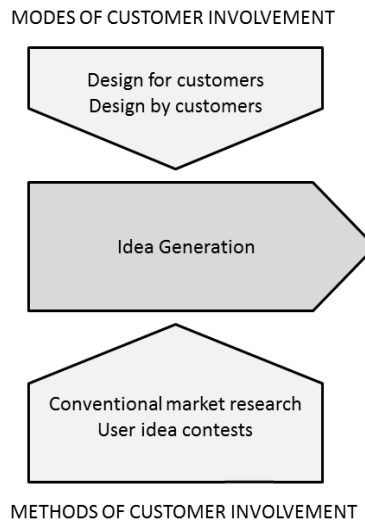


Figure 6.3 Customer involvement in the idea generation phase

6.2.4.3 Customer involvement in idea selection phase

The main three aspects of an idea that are evaluated in the selection phase of the innovation process at SFD are: expected user experience, technical feasibility and market potential. However, SFD do not have access to sufficient knowledge about the market to properly evaluate the market potential of an idea. Thus, introducing such knowledge through successful customer involvement would provide a better basis for selection of ideas. Furthermore, customers could potentially aid the selection of ideas by taking on an active role and providing their opinion on ideas in collaboration ventures with SFD. However, this would imply challenges concerning secrecy.

The main reason for customer involvement in the idea selection phase is gathering information that can indicate the market potential of various ideas, which suggests the use of methods that can be categorized into the *mode design for customers*. However, customers could also serve as active collaborators in the selection of ideas by evaluating ideas and providing their opinions about them. Such collaborative customer involvement can be introduced using methods that can be categorized into the *mode design by customers*. Conventional market research, such as the one performed in this thesis, could be utilized to gain knowledge about the market potential. Conjoint analysis could provide quantitative information about how customers prioritize between ideas. The customer can be more actively involved in the selection of ideas by the use of methods such as establishing consumer opinion platforms, where customers are allowed to provide their opinions about either underlying factors to ideas or ideas themselves. Figure 6.4 below illustrates what modes of customer involvement are suitable to introduce to the idea selection phase of the innovation process at SFD, as well as appropriate methods.

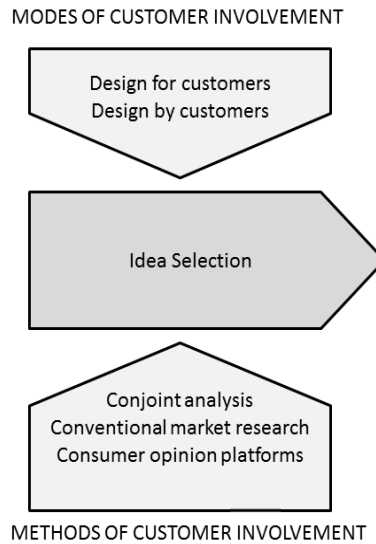


Figure 6.4 Customer involvement in the idea selection phase

6.2.4.4 Customer involvement in concept development phase

Concept development is an important part of the innovation process at SFD. The purpose of this phase is to develop an idea or combine several ideas into a concept that can be communicated. The concepts are typically communicated internally, resulting in feedback from internal sources. However, it has been expressed that feedback from external sources would be useful by aiding the prioritization between features as well as providing a way of gauging the customers' reaction to the innovation before it is fully developed. Thus, involving customers by allowing them to respond to concepts and provide feedback would benefit the concept development phase of the innovation process at SFD. Additionally, customer involvement can be utilized in the development of the concepts and provide additional alternative concepts from ideas by giving the customer a more active role in the process.

The concept development phase can benefit from external feedback about the developed concepts. Such feedback can be acquired by using methods that can be categorized into the *design with customers*-mode of customer involvement. Customer involvement could also be utilized by collaborating with customers when developing concepts, using methods that can be categorized into the mode *design by customers*. Concept testing and virtual concept testing are methods that can be used to gather external feedback on videos and other forms of communication of concepts. Concepts can be developed in collaboration with customers by using open innovation methods such as lead user workshops. Lead users can also be used in the subsequent phases to further develop the concept into an innovation. Figure 6.5 below illustrates what modes of customer involvement are suitable to introduce to the idea selection phase of the innovation process at SFD, as well as appropriate methods.

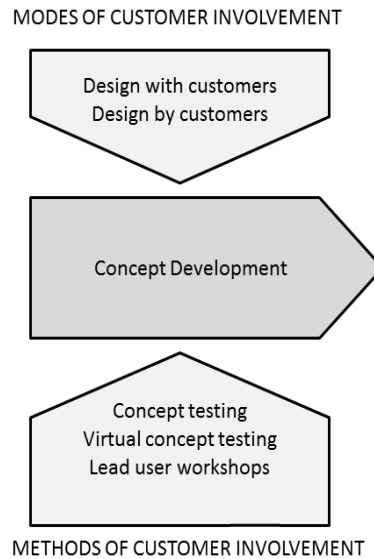


Figure 6.5 Customer involvement in the concept development phase

6.2.4.5 Customer involvement in prototyping phase

At SFD prototypes are used for initial testing of the user experience. The testing is mainly done internally through various channels which can provide large amounts of internal feedback. However, in some cases prototypes are also used to gather external feedback by showcasing them at conventions and monitoring the users' response. External feedback on prototypes and early versions of products are considered valuable at SFD and there is an expressed need for additional external input about user experiences and how innovations may affect or be affected by the behavior of customers. Utilizing customers to a larger extent by involving them in the prototyping phase could help in satisfying this need. Furthermore, customers with appropriate competences could take on an active role in the development of prototype solutions.

Depending on whether the goal of customer involvement in the prototyping phase is to gather feedback or to collaborate in the development of prototypes, methods that can be categorized into either the *design with customers*- or *design by customers*-mode can be used. For gathering feedback concept testing can be used by allowing customers to test the prototype and evaluate the experience. Collaborative prototyping and consumer idealized design can be used to utilize customers' solution knowledge, by allowing them to help design the prototype itself. Figure 6.6 below illustrates what modes of customer involvement are suitable to introduce to the prototyping phase of the innovation process at SFD, as well as appropriate methods.

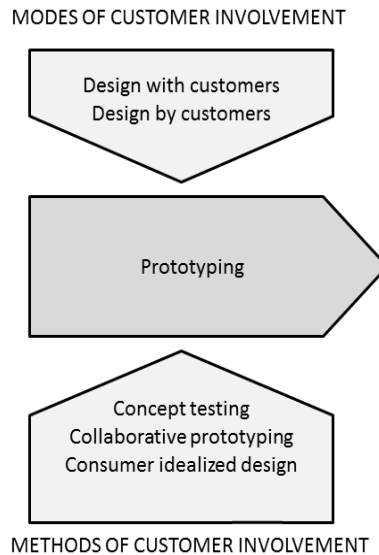


Figure 6.6 Customer involvement in the prototyping phase

6.2.4.6 Customer involvement in product development phase

Product development at SFD is either done solely in the division or in collaboration with foresight divisions in other regions. Continuously throughout the product development phase there is a prioritization of what features to include and when they should be developed. SFD provides their recommendations based on their knowledge and the decision about the prioritization is made by the product manager based on market information. Currently, SFD typically do not have access to the market information used to make the decisions. However, there is a belief that market information could help SFD provide better recommendations and understand the reasons behind decisions made by the product manager. Thus, the speed of the currently time consuming prioritization process could potentially be increased.

Early versions and of developed products are made available for testing in the company. This provides extensive internal feedback and feature requests, which can be utilized for prioritization and further development. Occasionally early versions of products are tested by users in user studies conducted by marketing representatives. The feedback generated from such studies is considered to be very useful for developing better products. Thus, involving customers to a greater extent in would be beneficial to the product development phase by providing feedback. Furthermore, for certain projects involvement of customers with appropriate competence has the potential to be collaborative and take advantage of the solution knowledge residing in the domain of the customer.

The product development phase of the innovation process can benefit from knowledge created using methods from all the three modes of customer involvement. Information about customer needs and preferences used for the prioritization process with the product manager can be generated from methods that can be categorized into the mode *design for customers*. Methods that can be categorized into the mode *design with customers* can be used in order to gather feedback about early versions of the product. The customer can take on a more active role in the development of new products through methods that can be categorized into the mode *design by customers*. Conventional market research, such as the one performed in this thesis, can be used to

gather information about customer needs and wants, while conjoint analysis can gather qualitative data about customer preferences. Concept testing and beta testing can be used to gather feedback on the product as it develops from an early version to a beta version. Customers can be involved collaboratively or develop and share their own solutions by the establishment of co-creation communities and user innovation toolkits. Furthermore, lead users can be involved to provide additional need and solution information. Figure 6.7 below illustrates what modes of customer involvement are suitable to introduce to the product development phase of the innovation process at SFD, as well as appropriate methods.

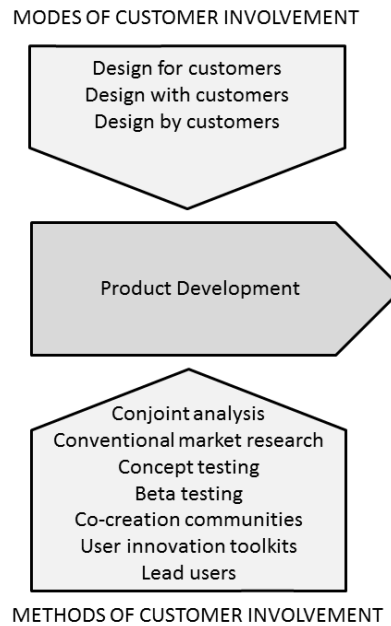


Figure 6.7 Customer involvement in the product development phase

6.2.5 Requirements for SFD to achieve successful customer involvement

In order to achieve successful customer involvement, there are certain requirements SFD need to fulfill. Piller and Ihl (2009) discuss the importance of involved parties having adequate and symmetric competences and motivation for successful collaboration. According to the framework by Piller and Ihl (2009), SFD need to consider its level of disclosure, appropriation, and integration competences while also carefully select customers with the right competences for collaboration.

6.2.5.1 Disclosure competence

SFD needs to have the ability to share company information with involved customers in order to be able to fully utilize them in the innovation process. To do so, SFD and Bramble AB need to make strategic decisions about how and to what extent information is to be disclosed. As Piller and Ihl (2009) discuss, the amount of information revealed impacts the quality of the customer involvement. Consequently, SFD needs disclosure competence to effectively communicate information about ideas and problems.

Employees at SFD have great confidence in their own ability to innovate and create successful solutions. This mindset may result in an inherent reluctance of involving customers closely in the innovation process at SFD, resembling the “not-invented-here”-syndrome. Thus, SFD may need to alter their mindset and open up to the

possibility of customer input and knowledge being beneficial as a complement to their internal innovation process in order to achieve successful customer involvement.

6.2.5.2 Appropriation competence

It is important for SFD to have the necessary competence to effectively capture the knowledge generated from customers. Furthermore, SFD needs to be able to protect the knowledge, which will require the competence necessary to develop mechanisms to do so. In order for involved customers to feel motivated to share ideas and knowledge SFD may need to incentivize them with some sort of compensation. However, according to Von Hippel (2005), customers are often willingly to share their ideas and knowledge without incentives from the company.

6.2.5.3 Integration competence

Once co-created knowledge and ideas has been generated and captured SFD will need to integrate it with the current innovation process in order to be able to benefit from it.

6.2.5.4 Competences required of customers

Piller and Ihl (2009) present competences required of customers in the open innovation process which SFD needs to consider when involving customers. In order to get the most out of the collaboration the product, technical, and leadership competences of the customer should be considered. Different customer competences are required for different types of collaborations based on degrees of freedom, degree of collaboration and progress in the innovation process, as presented in 3.4.4.

7 CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions considering involvement of customers in the innovation process at SFD, and the application of conventional market research. Lastly, according to the third purpose, recommendations to SFD are presented.

7.1 INVOLVING CUSTOMERS IN THE INNOVATION PROCESS

SFD adhere to a Dodgson (2000) third generation innovation process, which combines a supply-push and demand-pull approach and includes feedback loops and iterations of phases. New products and solutions are developed with a focus on the customer. However, external input from the customer is currently limited throughout the innovation process. Through the integration of knowledge from the domain of the customer SFD's innovation process may progress to the fourth and fifth generation of innovation processes

Analysis of the empirical findings concerning the current innovation process revealed the need for different types of knowledge, generated from external input, in the different phases of the innovation process. Through application of the theoretical framework different modes and methods of customer involvement were identified that generate the different types of knowledge. As a result, suitable modes and methods of customer involvement could be assigned to the phases of the innovation process at SFD. Methods where customers take a passive role are suitable for the early phases of the innovation process. As the process progresses the customer may take on a more active role, as presented in Table 7.1 below.

	Design for Customers	Design with Customers	Design by Customers
Hypotheses	<ul style="list-style-type: none"> Conventional market research 		
Idea Generation	<ul style="list-style-type: none"> Conventional market research 		<ul style="list-style-type: none"> User idea contests
Idea Selection	<ul style="list-style-type: none"> Conjoint analysis Conventional market research 		<ul style="list-style-type: none"> Consumer opinion platforms
Concept Development		<ul style="list-style-type: none"> Concept testing Virtual concept testing 	<ul style="list-style-type: none"> Lead user workshops
Prototyping		<ul style="list-style-type: none"> Concept testing Consumer idealized design 	<ul style="list-style-type: none"> Collaborative prototyping
Product Development	<ul style="list-style-type: none"> Conjoint analysis Conventional market research 	<ul style="list-style-type: none"> Concept testing Beta testing 	<ul style="list-style-type: none"> Co-creation communities User innovation toolkits Lead users

Table 7.1 Suitable methods of customer involvement in the phases of the innovation process at SFD

For further description of the different methods of customer involvement, see Table A.4.1 in Appendix A.4

7.2 THE APPLICATION OF MARKET RESEARCH

Market research about the domain of business meetings was conducted as part of this thesis. The result of the market research served as an implementation of external input to the innovation process of current projects. The main implication of the research was identifying problem areas and trends. By further investigating these areas in the future, a deeper understanding of customers' underlying needs can be gained.

As a method of customer involvement conventional market research, such as the one in this thesis, mainly contributes to the innovation process by expanding the base of information that can be utilized when developing hypotheses, generating and selecting ideas and prioritizing features.

7.2.1 Summary of market research results

The research was exploratory and was based on qualitative data gathered through semi-structured interviews with representatives from six small-to-medium sized companies in Lund and Malmö. Based on the empirical findings the research questions could be answered.

It was found that the main contribution of business meetings is to share information or a broader vision, in other words alignment. Companies should strive to have productive meetings and avoid holding meetings unless necessary. In order to achieve productive meetings a clear meeting purpose is important. Furthermore, every individual attending the meeting has an impact on the quality of a meeting and thus the invited participants should be selected with care.

There are several factors that may negatively affect business meetings. In the study, the most commonly experienced factor was digression, which in turn could also lead to other negative factors. Another problem at the studied companies was meetings lacking a clear purpose. Additionally it was found that technical issues, other than connectivity issues related to remote meetings, are so rare that they are not considered a problem.

The cost of business meetings is not taken into account in any of the studied cases, however there is a general conception among the respondents that implementing a cost aspect would in fact help increase the productivity of business meetings overall.

7.3 RECOMMENDATIONS TO SFD

We recommend that SFD aspire to involve the customer in the innovation process to a significantly greater extent than they currently are. Customer involvement should, however, not be viewed as a substitute to the current innovation process, but rather as a supplement. Neither should SFD implement customer involvement indiscriminately. Instead we recommend that SFD continuously evaluate how the customer can be utilized throughout the innovation process and adapt the type of customer involvement accordingly.

Intelligence about the market is generated, however it is not sufficiently disseminated and integrated in the SFD innovation process. An improvement in this area would come from internal efforts and thus would not incite barriers concerning secrecy. As such, the first step for SFD and Bramble AB should be to increase the level of intelligence integration. Once processes and mechanisms for effective intelligence integration are in place, SFD would have the conditions for involving the customer with a more active role in the innovation process.

Lastly, many methods of customer co-creation, where customers actively contribute to the development of new products, are specifically designed for software development. As SFD innovates in exactly this domain, there is a great potential to utilize the massive pool of knowledge and ideas held by the customers, through effective collaboration.

8 REFLECTIONS

This chapter summarizes additional reflections regarding the introduction of customer involvement at SFD. The chapter ends with reflections of the academic contribution of the thesis.

8.1 INTRODUCING CUSTOMER INVOLVEMENT AT SFD

The market, in which SFD innovates, is subject to a fast pace of change. In order to keep up and adapt or even be a part of driving the change, SFD needs better conditions for producing successful innovations. This means sufficient access to knowledge about the customer and multiple sources of inspiration about solutions. Customer involvement in the innovation process could be one component in establishing the appropriate conditions.

Introducing customer involvement will, however, not be an uncomplicated endeavor. In order for SFD to successfully involve customers in the innovation process support from the company is needed. Thus, the approach needs to also be incorporated into the overarching corporate strategy. Additionally, SFD will need to adapt. For example, there is currently a slight tendency toward the “not-invented-here”-syndrome at SFD that needs to be overcome. On the other hand, there is already a mindset of putting the user in the focus for all innovations, suggesting that customer involvement quickly could be integrated as a natural extension of the innovation process if given the chance.

8.2 ACADEMIC CONTRIBUTION

The main contribution of the thesis is the introduction of the approach of adapting the mode and method of customer involvement to each individual phase of the innovation process. As a part of the approach, a framework for how to describe an innovation process as a logically sequential process is developed, based on the integration of Hansen and Birkinshaw’s innovation value chain (2007) and Dodgson’s third generation innovation process (2000). This framework is used further in the thesis to describe how input is utilized and suggest modes and methods of customer involvement (Piller and Ihl, 2009). It is conceivable that the framework can be easily modified to be applied to other situations and companies, rendering the framework generically applicable.

Furthermore, the process followed in the market research conducted in this thesis is described in detail. The process provides a concrete example of how market research can be structured and executed.

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Henriksson, Mårten, Managing Director, Bramble AB, 25 April

Stenberg, Hans, Lead Developer, Bramble AB, 24 April 2014

APPENDIX

A.1 INTERVIEW GUIDE MARKET RESEARCH (TRANSLATED VERSION)

Category 1 – Introduction

- Company
- Respondent's name
- What is your position in the company?
 - o Area of responsibility

- How many meetings do you attend per week?

- Describe a typical meeting

- Are there various types of meetings?
 - o What separates them?
 - o What type do you prefer?

- What is the most common reason for you to be convened/convene a meeting?

- How many persons attend a meeting on average?

- What is required in order to have a meeting?

- What do you think affect the productivity in a meeting?

- What do you think is the general contribution of meetings for a company?

- What do you think determine whether a meeting has been successful?

- Does a meeting ever being considered unnecessary?

- What do you consider being the main problems that emerge during a meeting?

Category 2 – Preparations

Invitation

- How is attendants typically invited to a meeting?
 - o Means of invitation
 - o Formality

- What does an invitation usually include?
 - o Time, agenda, participants, location

Participants

- What determine whether a participant is invited to a meeting?

Agenda

- Do you normally use a meeting agenda?
- What is most important with a meeting agenda?

Category 3 – Facilitation

Time

- How long is a meeting normally?
- Is planned meeting time normally kept?
 - o How much does a meeting normally overrun?
 - o Is it considered serious to overrun?
- How does planned meeting time being kept?
- What determine when a meeting is finished?

Remote participants

- Is it common with one or several remote participants?
- What tools are used when a meeting includes remote participants?
- How does it work when a meeting include more than one remote participant?
- Do remote participants impact a meeting?
 - o Quality, length, technical issues

Late arrivals

- Are late arrivals to a meeting common?
- How does late arrivals being handled?
 - o Repetitions of what have been said?
- How does late arrivals impact a meeting?

Focus

- Is it common that conversations digress during a meeting?
- How is a meeting impacted by digression?
- How is digression avoided during a meeting?

Technical tools

- How common is it that someone holds a presentation during a meeting?
- What are the most common tools for presentations during a meeting?
 - o Why are the tools used?
 - o What are the benefits using these tools?
 - o What are the most common problem correlated to these tools?
- How does it work when more than one participants present during a meeting?
 - o Are there any problems using different types of tools?
- How is a meeting impacted when more than one participant present during a meeting?

Items on the agenda

- What happens when a meeting is ended without all of the items on the agenda being solved?
- What is the reason for not all items on the agenda being solved?

Category 4 – Follow-up

Documentation

- How is a meeting documented?
- How is the documentation of a meeting used?

Costs

- Is cost of meetings taken into consideration when a meeting is planned?
- Do you think a cost aspect would impact the productivity of a meeting?

A.2 INTERVIEW GUIDE MARKET RESEARCH (ORIGINAL VERSION)

Kategori 1 – Inledande frågor

- Företag
- Respondentens namn
- Vad är din arbetsuppgift i företaget?
 - o Titel, ansvarsområde etc

- Hur många möten deltar du i genomsnitt i per vecka?

- Beskriv ett typiskt möte

- Finns det olika typer av möten?
 - o Vad skiljer dem åt?
 - o Vilken typ föredrar du?

- Vilken är den vanligaste anledningen till att du blir kallad/kallar till möte?

- Hur många personer medverkar i genomsnitt i ett möte?

- Vad krävs för att hålla ett möte?

- Vad tror du påverkar produktiviteten i ett möte?

- Vad tror du möten rent generellt bidrar med i ett företag?

- Vad tror du avgör huruvida ett möte har varit framgångsrikt?

- Vad anser du vara de främsta problemen som uppstår i samband med möten?

Kategori 2 – Förberedelser

Inbjudan

- Hur sker typiskt en inbjudan till ett möte?
 - o Vilka verktyg används?
 - o Alltid formell inbjudan?

- Vad brukar ingå i en mötesinbjudan?
 - o Tid, agenda, deltagare, plats?

Deltagare

- Vad avgör huruvida en deltagare bli inbjuden till ett möte?

Agenda

- Brukar ni använda er av en mötesagenda?
- Vad är det viktigaste med en agenda?

Kategori 3 – Mötet

Tid

- Hur långa brukar möten normalt vara?
- Brukar den planerade mötestiden hållas?
 - o Om tiden överskrids, med hur mycket?
 - o Anses det allvarligt att tiden överskrids?
- Hur ser man till att mötestiden hålls?
- Vad är det som avgör när ett möte avslutas?

Distansdeltagare

- Hur vanligt är det att någon/några deltar i möten på distans?
- Vilka verktyg används när mötet har distansdeltagare?
- Hur fungerar det om mer än en person deltar på distans?
- Har distansdeltagare någon påverkan på mötet?
 - o Kvalitet, längd, tekniska problem

Sena ankomster

- Är det vanligt att deltagare anländer sent till möten?
- Hur hanteras sena ankomster?
 - o Hålls repetitioner av det som sagts?
- Hur påverkas mötet av sena ankomster?

Fokus

- Är det vanligt att samtalen under mötet avviker från mötets syfte?
- Hur påverkas mötet av avvikande samtal?
- Hur ser man till att samtalet hålls fokuserat på mötets syfte?

Tekniska verktyg

- Hur vanligt är det att deltagare håller en presentation under ett möte?

- Vilka är de vanligaste tekniska verktygen för presentationer som används vid ett möte?
 - o Varför används dessa verktyg?
 - o Vilka fördelar finns med verktyg?
 - o Vilka är de vanligaste problemen?
- Hur går det till när flera deltagare presenterar under ett möte?
 - o Uppstår det problem i att använda flera olika typer av verktyg?
- Hur påverkas mötet då flera deltagare presenterar under ett möte?

Mötespunkter

- Vad händer då mötet avslutas och alla frågor inte har upplärats?
 - o Hur vanligt är detta?
- Vad är vanligaste anledningen till att mötespunkter inte hinns med?

Kategori 4 – Uppföljning

Dokumentation

- Hur dokumenteras ett möte?
- Hur används dokumentationen av ett möte?

Kostnader

- Tas det någon hänsyn till kostnaden av möten då de planeras?
 - o Hur beräknas kostnaden?
- Hur tror du att en kostnadsaspekt skulle kunna påverka mötesproduktiviteten?

A.3 INTERVIEW GUIDE INNOVATION PROCESS RESEARCH

- Name
- Position or area of responsibility

- Tell us about the innovation process in your project.

- What input have you received during the project?
 - o External/internal input
 - o During which phases?

- Do you consider that you would have needed more input during the project?
 - o What sort of input?
 - o During which phases?

- Other information

A.4 METHODS FOR CUSTOMER INVOLVEMENT

	Method	Description	Reference
Design for Customers	Conventional market research	A general description of traditionally used methods of marketing, such as surveys, interviews and focus groups	Armstrong and Kotler, 2009
	Quality function deployment	A method to transform customer needs into quantitative parameters	Akao, 1994
	Kansei engineering	A method to translate customers' psychological needs into product design	Nagamachi, 2010
	Conjoint analysis	A method to statistically determine customers value individual features of a product	Green et al., 1987
	Complaint management	A systematic approach to utilizing customer complaints in the development of new products	Armstrong and Kotler, 2009
Design with Customers	Concept testing	Methods of evaluating customers' response to a product idea before it is introduced on the market	Acito and Hustad, 1981
	Virtual concept testing	Methods of evaluating customers' responses to virtual concepts and prototypes	Dahan and Srinivasan, 2000
	Beta testing	Methods of evaluating customers' response to beta versions of a product	Dolan and Matthews, 1993
	Consumer idealized design	A process for involving the customer in the design of a product	Ciccantelli and Magidson, 1993
	Empathic design	A user centric design method that pays	Leonard and Rayport, 1997

		attention to the user's feelings toward a product	
Design by Customers	Consumer opinion platforms	Web-based platforms where customers may share their opinions and experiences of products	Hennig-Thurau et al., 2004
	User idea contests	Toolkits allowing customers to compete with ideas	Piller and Walcher, 2006
	Collaborative prototyping	A method where customers and manufacturers simultaneously develop prototypes for a solution, based on their separate knowledge	Loch and Terwiesch, 2004
	Lead user workshops	Workshops together with lead users	Von Hippel, 2005
	Mass customization toolkits	Toolkits allowing customers to extensively individualize products	Piller, 2004
	User innovation toolkits	A method of integrating customers into new product development, by allowing them to create their own solutions	Franke and Piller, 2004
	Co-creation communities	A method for crowdsourcing innovation	Franke et al., 2013

Table A.4.1 Methods for customer involvement