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Entrepreneurial learning

An Exploratory Study on the Learning Styles of Venture Insiders and Outsiders

Master of Science Thesis

in the Management and Economics of Innovation Programme

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Abstract

Behind every venture is a visionary with an idea of a product or service to provide value to its users. The process of developing that idea into a product and starting a new venture exposes the founder to great uncertainty, not knowing exactly who will experience the greatest benefits when using the product. In the search for a repeatable, and scalable business model different types of customer interaction are suggested. According to Blank and Dorf (2012), it is crucial that founders themselves “get out of the building” to validate hypotheses before settling on a specific path.

However, today many efforts are carried out in startup teams. Previous research on the entrepreneurial process and entrepreneurial learning mainly focuses on understanding the individual or an established organization (Wang & Chugh 2014), and therefore lacks appropriate understanding of how team efforts can be explained.

This research explores the process of learning within a startup team. This is done by examining the ways in which the team collaborates, and how different individuals each collect, interpret, and make use of new information. In order to analyze the differences between insider and outsider collection of new information, a demarcated study was conducted.

The results from the study suggest that, contrary to previous literature, startups may benefit from including external researchers in the early phases of the entrepreneurial process. It was shown that the insider used established perception of the situation and potential problems when asking questions and probing, therefore the approach applied by the person with domain expertise is likely to generate more narrow and focused information. Thus, the learnings of the expert were shown to generate more area specific and detailed information, as it was generated by expanding from the individual’s existing cognitive frames.

The outsider included more explorative input, resulting in greater variance in terms of what type of information is gathered from each respondent. However, the lack of heuristics to quickly develop follow-ups meant that instead of developing insights related to the product a novice’s information gathering resulted in insights on widely spanning opportunities, generated from exploration of the particular respondent’s context.

Startup team learning, seeking opportunities while allowing for radical changes to existing assumptions and refinement of the product, therefore includes reviewing individual as well as group level learning. As it is important that the startup’s learning is process of reviewing explorative and specific information gathered by multiple individuals, fruitful startup learning efforts can be explained by the extent to which diverse teams are active in the earliest stages of collecting information about the uncertain environment.

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Mathilda Lundqvist & Sofie Johansson Herou

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1 Introduction

In this chapter the background of the study is explained by introducing the concepts related to founding a company such as searching for a scalable business model under uncertain conditions. In addition, the entrepreneurial process and the tools available to the founder and/or startup team during that process are presented. Finally, the purpose of the research is developed, and the report structure is presented.

Behind every new venture is a visionary with an idea of a product or service that will be valuable to a consumer or an organization. Traditionally, the initiator behind the vision is portrayed to be a lone agent, a visionary who sets out to commercialize the discoveries and develop their ideas into a concept that is offered through a real company (Cooney, 2005; Allen, 2010, ch. 1). The opportunity-focused, innovative, and growth-oriented mindset is what characterizes entrepreneurship and the person driving the processes, the entrepreneur (Allen, 2010, ch. 1).

The entrepreneurial process exposes the founder to great uncertainty, not knowing exactly who will perceive the greatest benefits from using the product or exactly what about the product will generate the most customer satisfaction (McGrath & MacMillan, 2000). In order to deal with the uncertainty in the early phases of the startup history, different ways of collecting information can support decisions and reduce the costs involved in launching a new product (Lean Startup, 2014; Blank & Dorf, 2012, ch. 1; Furr & Ahlstrom, ch. 1).

A startup, or a startup company, is a temporary organization designed to search for a repeatable, and scalable business model (Blank & Dorf, 2012, intro XVII). In the case of developing products that differ greatly from existing products customer interaction is suggested to deal with uncertainties. Such uncertainties may involve e.g. what features of the product will customers value the most, what market segment will have the greatest demand etc . In order to cope with such uncertainties, different methods are suggested e.g. market analysis, lead-user studies, and other types of customer interaction (von Hippel, 1986, Ulrich & Eppinger, 2008, Ch. 4).

Many customer interaction processes to be implemented by entrepreneurs are inspired by the Lean Manufacturing method and includes Genchi Genbutsu which means to rely on the source for facts, which enables correct decision-making, building of consensus, and goal achievement (Wikipedia, 2014; McGrath & Macmillan, 2000, ch. 1). The processes are to be iterative in terms of turning customer interaction into some action or iteration of the existing product or startup organization. However, during the entrepreneurial process, being lean means both getting things done with very little resources, and about integrating learning processes into the startup from the very beginning (Lean Startup, 2014). If learning is integrated from the beginning the organization has built agility into its foundation and therefore is more likely to be able to adjust to necessary changes in the future.

When not knowing what customers may value it is suggested that entrepreneurs develop their plans in collaboration with people or organizations that they wish to have as customers. As the founder gets out and talks to potential customers the ability for the intended solution to solve important customer problems is identified, and preferably validated. This means that the founder can define the problem-solution fit, finding customers that place great value in the product or service. Thus, the entrepreneur needs to implement a structured process for investigating potential markets and customers segments in situations of uncertainty as well as tools to discard the parts that do not generate value for the customer (Lean Startup, 2014; McGrath & Macmillan, 2000, ch. 1).

According to Blank and Dorf (2012), it is crucial that founders themselves “get out of the building” (Blank & Dorf, 2012, p. 24) to validate hypotheses before settling on a specific path. In particular the founder’s involvement and ability to embrace feedback, and react to it is emphasized since only the founder holds the power to make decisions to change direction or key business model components (Blank & Dorf, 2012, ch. 2). However, many startup efforts are carried out in teams. This means that the startup learning processes may be a product of different individuals’ interpretations of studies that are carried out.

In order to determine how startup knowledge is created, it may be useful to study differences in individuals’ information gathering processes. If it is possible to thoroughly understand the learning processes of different individuals within the team, it may be possible to create more efficient ways to utilize that knowledge.

1.1 Empirical context

A startup assessing the opportunities for an online e-tendering solution was selected to investigate the matter. The startup ProposalsFactory, founded in 2012, was in the process of finding a scalable and profitable business model. In the beginning of 2013, ProposalsFactory was selected as one of ten startups to join the development program Born Global at Chalmers Business Innovation. The program supports Swedish startups with estimated big growth potential to create scalable business models following the Customer Development process by Steve Blank.

The founder’s vision was expressed as:

“To improve the way in which firms go about procurement, in order to ensure that the results of procurement processes are improved, and that costs for procuring are reduced.”

The idea behind the solution is the outcome of practical experience from tendering processes where the founder identified a need for procurement process support within procuring organizations to lower the total cost of ownership and increase return on investment. In addition, the CEO experienced as a sales manager that organizations purchase inferior products as a result of subtle bribes rather than superior match against vendor requirements, which would be eliminated by the use of the product that the founder is developing.

The solution aims to improve the tender process lifecycle by assigning roles and responsibilities and inviting suppliers to take part in the bid by responding to requirements straight into the tool. During the summer of 2013, the startup began implementing the Customer Development methodology in their search for a scalable business model (Blank & Dorf 2012). Thus, the startup was in the process of finding a scalable and profitable business model.

The researchers had limited experience in the field while the founder had extensive prior knowledge gathered from several years as a salesperson in a large multinational firm. The novices, on the other hand, gained their understanding from discussions with the founder as well as from initial scoping interviews. The figure below gives an overview of the different roles represented in the research team:

Founder	Researcher
Insider	Outsider
Expert	Novice

Figure 1 – The roles represented in the research team

The researchers are experienced in market analysis and business research. These two are considered outsiders to the startup team but during the initial phase they developed and shared their learnings with the founder resulting in a shared understanding of the possibilities of the founder's product vision. In addition, one of the outsiders had practical experience of purchasing from working within a purchasing department at a large multinational company.

1.2 Purpose

The purpose of the study is to examine how domain insiders and domain outsiders differ in their learning styles. The ways in which the individuals collect, interpret, and make use of new information are examined in order to understand how learnings of a startup team consisting of domain insider and domain outsider are generated.

1.3 Report structure

Literature related to entrepreneurship and learning processes is presented in order to develop a theoretical explanation to startup learning. Thereafter, the methodology chapter describes the initial exploratory study aiming to narrowing the research scope. In addition, the method used during the demarcated study is explained. Following the methodology chapter, the key findings from the empirical study are shown. The differences between the individuals that collected knowledge are then presented and analyzed with support from the theoretical findings. Finally, the findings are discussed and conclusions regarding learning styles are drawn to show how the objective of the research is fulfilled.

2 Theory

This chapter identifies relevant theoretical frameworks which are to be used to understand the differences in logic behind the results presented by the domain novice and the domain expert. First, previous research and literature on startups and entrepreneurial processes are presented, followed by dynamics of startup groups and research in teams. Thereafter, the processes behind fruitful entrepreneurial development processes and different types of learning are discussed in order to understand how and why entrepreneurs must establish a learning culture. It is however difficult to learn in an objective manner, and it is important to understand the inhibitors to objective learning. Therefore, potential barriers to learning and information gathering are reviewed.

2.1 Entrepreneurship and startup

A startup is a temporary organization designed to search for a repeatable, and scalable business model (Blank & Dorf, 2012, intro XVII). The initiator behind the startup is an entrepreneur with a vision to create something new that people and/or organizations will value. It is important to understand the differences between how to approach organizational planning for a new venture and approaches that are appropriate within existing line of business. Customer interaction is suggested when developing new products that differ greatly from existing products since it is uncertain what product features will be valued the highest and what customers will be willing to pay the most (McGrath & MacMillan, 2000, preface; Blank & Dorf, 2012, ch. 1; Furr & Ahlstrom, 2011, ch. 1).

The founder's passion for the vision is what supports entrepreneurs in times of resource constraint and uncertainty. The opportunity-focused, innovative, and growth-oriented mindset is what characterizes entrepreneurship and the person driving the processes, the entrepreneur (Allen, 2010, ch. 1). Traits such as opportunity-focus, and perseverance are therefore important during the discovery and development of opportunities (Sardana & Scott-Kemmis, 2010). However, the same passion and determination that characterizes entrepreneurs may be what causes the initiative to fail (Furr & Ahlstrom, 2011, ch. 1).

The individual entrepreneur's motivation to solve customers' problems is an important contributor to the development of the initial idea as it results in adoption of certain mechanisms to acquire new knowledge and stimulate learning (Young & Sexton, 2003). Examples of such important mechanisms are formal education and training, experience, and vicarious experience. The entrepreneur often acquires new knowledge from direct experience and from observing actions and behavior of others (Young & Sexton, 2003; Sardana & Scott-Kemmis, 2010).

The entrepreneur and the startup team must design the venture for systematic failure and learn from people and the environment in terms of what will work for the particular solution to exploit the opportunities initially perceived by the entrepreneur and to ensure success (Furr & Ahlstrom, 2011, ch. 1; Blank & Dorf, 2012, ch. 2; Berglund et al., 2007).

A study shows that around 32 % of all Swedish startups founded in 2008 had failed before the end of 2011 (Ekonomifakta, 2013) and one reason may be that entrepreneurs do not adapt and change their business model as new information is received. Entrepreneurs that embrace deviations from the original plan and are able to recognize what initially appears discomfoting would thus decrease the market risk and thereby increase the likelihood for success (Young & Sexton, 2003; Furr & Ahlstrom, 2011, ch. 1; Blank & Dorf, 2012, ch. 2; Berglund et al., 2007).

The entrepreneurial process consists of evaluation of environment, opportunities, acquisition of resources and designing the business model (Allen, 2010, ch. 1), in the search for a repeatable, scalable, and profitable business model (Blank & Dorf, 2012, intro XVI). Due to the uncertainty involved in starting a new venture, planning and processes differ from approaches applied in existing organizations. Within startups the discovery of new data must constantly be assessed in terms of what new insights were gained and what to incorporate into the evolving plan (McGrath & MacMillan, 1995).

However, successful entrepreneurs are action oriented and move fast, developing a strategy may present great challenges, particularly due to the conditions of uncertainty. Thus, there is a risk that startups move too quickly and as a result, settle down on a specific path (Furr & Ahlstrom, 2011, ch. 1; McGrath & MacMillan, 2000, ch. 1) which is why there is a need for structured framework and ensuring that the startup does not proceed and ignores important patterns presented by the environment.

2.2 The composition of the startup team

Researchers have suggested that entrepreneurs should look for partners with complementary and diverse skills in order to increase performance (Allen, 2010, ch. 8; Furr et al., 2012). Further, an effective startup team is characterized by individuals that share the vision for the new venture, are passionate about the business concept, are experienced within the industry, have contacts within the industry to be able to raise capital, have good credit ratings, are free to spend time, are able to handle financial constraints, and have expertise to cover marketing, finance, and operation (Allen, 2010, ch. 8).

However, Blank & Dorf (2012), mean that it is important to treat the startup differently in terms of what skills are required. Therefore, it may be that Allen's (2010) perspective is more applicable at later stages when the business model has been validated, and there is a need for marketing, finance, and operative skills. Although, should such skills and experiences be considered to lie outside of the product area, i.e. be an extra-domain skill, the ability of the startup team to make radical changes may be significantly enhanced (Furr et al., 2012).

During the early stages the initiator or founder, traditionally, is portrayed to be a lone agent, a visionary who sets out to commercialize the discoveries and develop their ideas into a concept that is offered through a real company (Allen, 2010, ch. 1; Cooney, 2005). In

addition, most research is focused toward individual founders or entrepreneurship within existing organizations. However, most startups consist of two or more individuals who embark on the journey of finding the scalable business model (Cooney, 2005; Wang & Chugh, 2014). The creation of a founding team may be accidental, where individuals meet and find that their visions correspond, or the formation of a team occurs through a structured process, where the inventor selects individuals that fulfill certain criteria (Allen, 2010, ch. 8).

Learning and decision-making are integrated processes in startups which demand joint development of the venture and the entrepreneur leading the efforts (Sardana & Scott-Kemmis, 2010). Since the founder will be the driver of the entrepreneurial process, he/she will influence the connection between the startup's resources and actions on the market or with customers. Although the startup team conducts research in collaboration, the founder may be the one to have the greatest impact on all components of the venture formation (Cope, 2003; Allen, 2010, ch. 1). It is therefore necessary to understand the different interests' subsequent impact on how research during the early stages is conducted. The following chapter discusses potential differences in how members of a startup team collect information during research efforts.

2.3 Collaborative research

Two contrasting scientific approaches dominate the guidance in organizational research, called "inquiry from the inside" and "inquiry from the outside" (Adler et al., 2004, ch. 5). Similarly, Louis & Bartunek (1992) refers to these scientific approaches by classifying researchers as either insider or outsider. During this study the founder is referred to as the insider, given that the vision of the product and organization mainly exist within the mind of the entrepreneur. Thus, all other members of the startup team are outsiders with less ability to directly impact decision-making.

An inside researcher is defined as a member in the organization who is concerned about the immediate situation and to uncover situationally relevant knowledge (Sardana & Scott-Kemmis, 2010). Insiders have a more interpretative approach and results are contextually embedded. The benefit of employing only domain insiders or experts could be improved ability to quickly make minor changes (Furr et al., 2012). In addition, deeper understanding of the context makes individuals better at exploitative research where new information results in linear learning (Furr et al., 2012).

Outside researchers have a tendency in gathering factual data and to form context-free meanings based on conclusions from logical reasoning (Adler et al., 2004, ch. 5; Louis & Bartunek, 1992). Further, outsiders are more detached from the setting and have interest in discovering findings that may be generalized. The ability of the outsider in bringing novel framing to the search for opportunities, are thus more likely than domain insiders to generate information that supports moderate changes during uncertain times (Furr et al., 2012). Considering the uncertainty of the early stages of venture formation, it may thereby be

concluded that a team that is prone to change initial assumptions and prepared to make major changes as new information emerges, is more likely to be successful.

In addition to research members' connection to the setting, the experience of each member further impacts the outcome of the study. The experiences regarding education, career path and previous work shape perspectives and interpretations and, in short, the more diverse experiences each member has in relation to the others, the more diverse are their views on the particular situation (Furr et al., 2012; Louis & Bartunek, 1992).

Looking for complementary skills in the early stages may be part of fruitful entrepreneurial processes. Startup teams where members have complementary skills would mean that there are a larger number of mental models and thus the likelihood of discovering novel opportunities may be higher. In addition, Furr et al. (2012) found that teams composed of domain insiders developed higher degree of inertia. Thus, teams consisting of both insiders and outsiders are more likely to generate greater heterogeneity due to the existence of interpretative and observational approaches in comparison to non-diverse teams (Louis & Bartunek, 1992).

The startup team approached potential customers in order to acquire knowledge during the entrepreneurial process. Next, approaches to structure the search and review opportunities are presented.

2.4 Exploring opportunities in uncertain environments

As previously mentioned, the entrepreneurial process benefits from implementation of a framework that ensures the process of evaluating opportunities is not rushed through. In addition, it is important that the founder and startup team are able to apply objectivity when searching for opportunities (Furr & Alstrom, 2011, ch. 1). Therefore, iterative processes for investigating market uncertainties and conducting user studies are suggested (McGrath & MacMillan, 2000, ch. 1; Blank & Dorf, 2012, ch.2).

An example of such a process is the Customer Development method (figure 1), which includes continuous interaction with customers and assessment of the startup's existing assumptions regarding their future business model (Blank & Dorf, 2012, ch. 1).

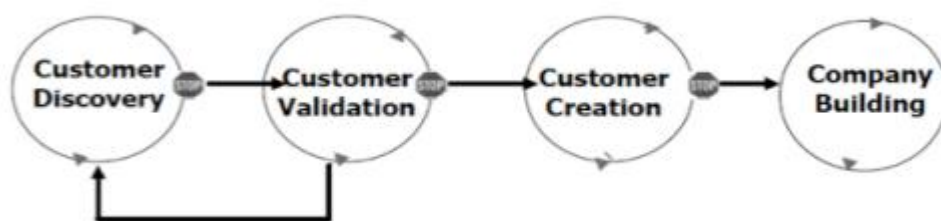


Figure 2 – Customer Development process (Blank & Dorf, 2012)

The customer development process is illustrated using circular tracks to make the person following the method aware that the process is iterative and will include failures (Blank & Dorf, 2012, ch. 2).

The customer discovery phase is similar to the discovery phase presented by the British Design Council (2005). The initial phase involves exposing oneself to high uncertainty as the discovery or inspiration to develop a new product is yet to be tested. Therefore, it is important to conduct market, and user research as well as determine how to manage information to and within the design research group (British Design Council, 2005; Blank & Dorf, 2012, ch. 3). Divergent thinking is suggested in order to go beyond traditional approaches and generate many ideas in the early stage. Applying convergent thinking in the early stages may limit the number of opportunities explored when approaching potential customers, although convergent thinking is required to assess the ideas generated in the initial phase (Sloan, 2012).

By approaching customers, the entrepreneur is first to test the customer's perception of the problem and if a solution to the problem is sought. When evaluating customer input during the first stage, the founders are to ask themselves "Is the problem important enough that the right product will drive significant numbers of customers to buy or engage with the product?" (Blank & Dorf, 2012, p. 25). Blank & Dorf (2012) present a structured approach to the search namely the customer development process. According to the authors, all that the founder has in the early stages of creating a venture is hypotheses about what the product should be and what customers to serve. Therefore, the customer development process should be designed for the entrepreneur to explore the hypotheses and discard of assumptions that prove to be wrong.

Hence, during the process of acquiring new knowledge and learning about customers' implicit and explicit needs, the entrepreneur will encounter information that goes against the existing plan regarding what product to develop and for whom. Such encounters are often difficult and result in discomfort, and will be experienced differently depending on the entrepreneur's underlying attitude. Reacting to the information that proves the startup's assumptions to be wrong are referred to as pivots within the customer development methodology (Blank & Dorf, 2012, ch. 2). Further, such an event means that the entrepreneur must eliminate the mental models which had lead them to pursue that opportunity (Young & Sexton, 2003). If the entrepreneur is able to discard existing mental models during moments of discomfort resulting from learning that your assumptions were wrong they may be able to respond in a way that will benefit the future of the new venture (Blank & Dorf, 2012, ch. 2; Young & Sexton, 2003).

To sum up, by implementing iterative learning strategies the entrepreneur will be better equipped to learn and develop an understanding of potential customers and the opportunities that exist in terms of commercializing their product or service. Thus, the entrepreneur will acquire new knowledge and understanding of potential customers and the existing opportunities when attempting to commercializing their product or service. To better

understand how such learning processes within a startup can be explained, the different types of learning are explained in the following chapter.

2.5 Knowledge acquisition in uncertain environments

Argyris (1976) defines learning as acquisition of knowledge or knowing that enables the individual to detect and correct features that make actions ineffective. The objective of a startup must be to become a learning organization, not a knowing one, in order to thoroughly understand the customers' needs (Furr & Ahlstrom, 2011, ch. 1; Blank & Dorf, 2012, ch. 1).

Since the entrepreneurial process is about finding novel entry into new or established markets, and exploiting new or existing products and services (Allen, 2010, ch.1) there is a need for path breaking discoveries resulting from thinking outside of the proverbial box. Learning during the entrepreneurial process can therefore not only be a linear process of acquiring new knowledge, making it important to understand how different types of learning may be developed. Berglund et al. (2007) explored the possibilities of including venture capitalists that expanded the scope of tested hypotheses, resulting in increased value of the venture to which investments were contributed.

Learning through testing of assumptions, such as the hypothesis testing approach suggested within the customer development framework, is constituted by discrete tests of hypotheses in order to determine what data fulfills predetermined criteria (Berglund et al., 2007). The hypothesis testing approach thereby corresponds to validating and rejecting hypotheses as described by Blank & Dorf (2012) as a part of the customer development process. When developing learning based on a previously known context the discoveries exploit current mental models and deepen the understanding of what is already known. Such learning may become linear and could be compared to lower-level or single-loop learning (Argyris, 1979; Cope, 2003). Exploitative learning processes and hypotheses testing may thus improve the understanding of a particular customer problem. In relation to developing a product exploitative learning will generate information that is beneficial in developing a specific product but is limited in exploring the possibilities of radical changes to the set of product features.

On the other side of the spectrum is explorative learning processes, where discoveries are generated through enactment and interpretation of results. Included in theories related to such processes are the hermeneutic perspective (Berglund et al., 2007), higher-level learning (Cope, 2003), and double-loop learning (Argyris, 1979). Data collected during exploratory processes are wide spanning and the value yielded may not be instantly visible (Wang & Chugh, 2014). Path breaking discoveries necessary during the innovation process often result from so called double-loop or higher-level learning (Argyris, 1976; Cope, 2003; Harrison & Leitch, 2005), which may be stimulated by e.g. critical examination of the individual's identity and life story (Argyris, 1976). The following section explores interviews as learning tools to apply during the entrepreneurial process.

2.6 Interviews as learning tools

Qualitative interviewing is a useful tool when seeking to acquire market and customer related information. However, there are several types of interviewing and categories of questions, some more appropriate than others given the research setting.

In interviewing, knowledge is constructed through dialogue between the interviewer and the respondent. The interviewer must make sure that the respondent feels comfortable despite the clear asymmetry of power in order for the respondent to talk freely about his or her experiences. The interviewer must be attentive and show interest, understanding, and respect both to what the respondent is saying and even not saying (Bryman & Bell, 2011, ch. 18; Kvale, 1996, ch.8). Thus, it lies within the ability of the interviewer to grasp the meaning of the answer and determine how the interview is to proceed. The ability is a function of the interviewer's knowledge and interest in the subject matter and the human interaction (Kvale, 1996, ch. 8).

2.6.1 Deciding on the type of interview

There are several types of interviewing, ranging from the structured interview to the unstructured interview, where the latter tends to be utilized in qualitative research. In qualitative interviewing, emphasis is on the respondent's own perspective and the purpose is to generate thick and detailed answers. A less structured interview is preferable when the researcher wants to obtain thorough understanding of the respondent, however, to enable comparison between interviewing styles some structure is required (Bryman & Bell, 2011, ch. 18; Kvale, 1996, ch. 8). Thus, it is key to let the respondent talk about problems from the respondent's point of view in order to gain a thorough understanding of the customer, which makes it appropriate to use the semi-structured interview.

The semi-structured interview allows the respondent to take off on interesting sidetracks. The interviewer is permitted to depart from the interview guide, change the order of questions, and add questions as the interview process unfolds. It is important that the researcher is familiar with the setting under study in order to understand the respondent's point of view before conducting the interviews (Bryman & Bell, 2011, ch. 18; Kvale, 1996, ch. 8). It is essential that the interviewer listens carefully without interrupting or prejudging respondent's answers, from a phenomenological perspective on qualitative interviewing (Kvale, 1996, ch. 8).

Further, the type and design of questions affects the quality and usability of the information that is gathered. Next, the characteristics of questions and their impact on the gathered information are explained.

2.6.2 Designing questions to explore the environment

Questions must be brief and simple for the respondent to comprehend the question, according to Kvale (1996, ch. 8). The interviewer will ask personal factual questions when demographic or personal information concerning e.g. age and education are of interest. This category of questions also includes questions about behaviour and e.g. length and frequency

of certain behaviours. The interviewer may also want to ask questions regarding the respondent's work position and certain attributes about the company, referred to as informant factual questions. Finally, the interviewer may be interested in asking questions considering the respondent's knowledge or attitudes in certain areas (Bryman & Bell, 2011, ch. 10).

There are nine main types of questions to be asked during semi-structured interviews. The first introducing questions let the respondent describe the main characteristics or dimensions of the phenomena from the respondent's point of view. Then, the interviewer is able to follow up on dimensions brought up by the respondent (Kvale, 1996, ch. 8).

Following up may include either probing questions or interpreting questions. Probing questions do not suggest upon what dimensions of the answer to elaborate on but it is up to the respondent to decide (Kvale, 1996, ch. 8). Further, reasons for asking probing questions are to find root causes to customer problems. By for example using the "five whys" technique, interviewers are able to uncover underlying meanings of responses (Ries, 2010). In addition, if an answer includes general or ambiguous terms the interviewer may ask specifying question to obtain specific data. Interpreting questions on the other hand may be used to clarify responses, the interviewer may e.g. rephrase the respondent's answer in order to have it confirmed (Kvale, 1996, ch. 8).

Later on in an interview, after the respondent has talked about the phenomena in her own words, the interviewer is allowed to ask more direct questions by introducing dimensions of the phenomena to the respondent. Indirect questions are used when the interviewer is interested in investigating how the respondent refers to e.g. attitudes or behaviours of others. As previously mentioned, it is the interviewer that steers the course of the interview, thus, if the respondent elaborates on an answer that is of no interest for the study, the interviewer may ask structuring questions to keep the interview on track. At the same time, the interviewer may chose to remain silent, which gives the respondent time to reflect. Finally, interpreting questions may be addressed to clarify responses, the interviewer may e.g. rephrase the respondent's answer in order to have it confirmed (Kvale, 1996, ch. 8).

Besides the type of question to ask, the interviewer must consider how questions are constructed. The following rules should be considered and borne in mind when conducting interviews (Bryman & Bell, 2011, ch. 10).

First, the interviewer should avoid using ambiguous terms, such as "often", which is interpreted differently dependent on respondent's frame of reference. In addition, common words, such as for exampe "quality" have different meanings for different people. To avoid such fallacies the interviewer may first ask the respondent to define certain words and concepts before they are used.

Second, the use of leading questions to steer the respondent's answer into particular areas should be avoided as it may result in the respondent feeling stressed to answer in certain ways and refrain from objecting even though opportunity is given by the interviewer (Bryman & Bell, 2011, ch. 10; Rowley, 2012).

Third, the interviewer should avoid negatives and double-barrelled questions, such as “how satisfied are you with pay and conditions in your job?” (Bryman & Bell, 2011, p. 256), which may lead to misconceptions (Bryman & Bell, 2011, ch. 10; Rowley, 2012).

Finally, the interviewer should avoid asking questions in the form “when did you last discuss your training needs with your supervisor?” (Bryman & Bell, 2011, p. 258) since it takes for granted that the respondent discusses training needs with the supervisor, which may not be the case. The interviewer should avoid questions that are too general since it may lead to diverse interpretations among respondents, which ultimately impacts on results (Bryman & Bell, 2011, ch. 10).

The quality of the interview conducted will impact the quality of the subsequent analysis, therefore, the interviewer should be aware of quality criteria to guide the interviews (Kvale, 1996, ch. 8). According to Kvale (1996, p. 145) the quality of an interview is dependent on:

1. The extent of spontaneous, rich, specific, and relevant answers from the respondent.
2. The shorter the interviewer’s questions and the longer the respondent’s answers, the better.
3. The degree to which the interviewer follows up and clarifies the meanings of the relevant aspects of the answers.
4. The ideal interview is to a large extent interpreted throughout the interview.
5. The interviewer attempts to verify his or her interpretations of the respondent’s answers in the course of the interview.
6. The interview is “self-communicating”, it is a story contained in itself that hardly requires much extra descriptions and explanations.

In sum, the interviewing technique enables researchers to learn about the respondent and its setting. By objectively searching for such opportunities and threats to the startup, the amount of resources dedicated may be decreased, building lean processes and learning into the organization from the very beginning (Blank & Dorf, 2012, ch. 2; Furr & Ahlstrom, 2011, ch. 1). However, the search presents challenges when integrating the individuals’ learnings as such learning can be limited in different ways. In the following chapter, the barriers to double-loop or higher-level learning, objective search and thus barriers to path breaking learning are presented.

2.7 Barriers to learning

The human intellectual capacity is limited in comparison with the complexity of problems facing an individual or organization, as a consequence, the human mind creates simplified models only including the main features of the problem (March & Simon, 1967, ch. 6). Thus, the founder, who wishes to validate assumptions rather than being wrong, may unintentionally present subjective stimuli during the data collection, thereby limiting the ability of objective search (Hellevik, 1996, ch. 5).

2.7.1 Individual level barriers to learning

Since individuals are not able to search and interpret information accurately (Simon et al., 2000), individuals reduce complexity of a situation or problem by simplifying, using so called heuristics (Kahneman et al., 1982, preface). Thus, by using heuristics the individual is able to speed up the process of getting acquainted with a new situation.

People tend to base beliefs of uncertain events on probabilities (Kahneman et al., 1982, ch. 1). Economical concepts of rationality only holds true for cases of certainty, however, in cases of uncertainty rationality is limited since definite probabilities cannot be assigned (Kahneman et al., 1982, ch. 1; March & Simon, 1967, ch. 6), as for example the uncertainty involved in start-up processes.

Existing models of rationality suggest that all alternatives of choice are given, all consequences attached to alternatives and, further, rules and principles for ordering those consequences are known. From a phenomenological viewpoint, humans behave rationally only relative to a frame of reference or some set of "given" characteristics, which define the situation as it appears to the actor (March & Simon, 1967, ch. 6). In times of uncertain events, people tend to rely on heuristics, or subjective assessment of probability when interpreting the information that is being received. The use of heuristics can lead to biases that hinder the ability to make accurate decisions (Kahneman et al., 1982, ch. 1).

Cognitive biases are common types of mental shortcuts to help individuals cope with their limited cognitive capacity when making judgements of uncertain events (Simon et al., 2000). Cognitive biases stem from three categories of heuristics, namely; representativeness, availability, and adjustment and anchoring, according to Kahneman et al. (1982, ch. 1).

Representativeness heuristic is explained by people making judgements based on how well a sample represents a stereotype, e.g. if A is similar to B, then the probability that B originates from A is considered to be high. Biases stemming from availability heuristic concern the degree to which the occurrences of an event can be brought to mind. In other words, people estimate probability based on the ease to recall a situation or an example. Finally, adjustment and anchoring heuristics occur due to people's tendency to rely on initial values or information, and as a result, estimates are biased toward the reference point. Then, by altering the starting point different estimates are obtained (Kahneman et al., 1982, ch. 1).

2.7.2 Different types of bias

Several biases can be connected to the heuristics presented previously in accordance with Kahneman et al. (1982). The confirmation bias occurs due to people's tendency in filtering information that confirms their own beliefs in favor of contradictory information (Furr & Ahlstrom, 2011, ch. 3; Lau, 2011, ch. 20). As a consequence, people fail to use information and evidence properly. People are in general more prone to stick to their beliefs, even though contrary evidence is presented, and to look for evidence that support their own beliefs in favor of searching for opposing information (Lau, 2011, ch. 20). As a result, it becomes

difficult for entrepreneurs to thoroughly understand their market and customers since contrary feedback is filtered out (Furr & Ahlstrom, 2011, ch. 3).

The overconfidence bias suggests experienced individuals are overconfident about their abilities (Furr & Ahlstrom, 2011, ch. 3; James & Barnes, 1984) or unaware about their own limits in knowledge (Simon et al., 2000). According to Lau (2011, ch. 20), people think they perform above average, e.g. research shows that more than 50 % of drivers think they drive better and safer than average. The overconfidence bias occurs due to individuals tendency to avoid adjusting initial data accurately after new information has emerged or because individuals are prone to base certainty on the ease to recall (Simon et al., 2000). Related to the overconfidence bias is the optimism bias suggesting individuals are overly optimistic about the outcome of future events (Lau, 2011, ch. 20) and further, also have the ability to control or predict future events (Simon et al., 2000). Further, the overconfidence bias is amplified in complex situations resulting in entrepreneurs that are less eager to learn and change their beliefs (Furr & Ahlstrom, 2011, ch. 3) and may ignore obstacles (Simon et al., 2000).

In addition, familiarity or capability bias suggests that organizations tend to rely on their competencies, which might result in a future lock-in. The implications for entrepreneurs might be the reuse of ideas from familiar settings into new, unfamiliar and inappropriate settings (Furr & Ahlstrom, 2011, ch. 3).

An individual's judgments are affected by how the problem is presented, thus estimates are manipulated by differing the point of reference (Kahneman et al., 1982, ch. 1; Lau, 2011, ch. 20). Research shows that when subjects were asked to estimate quantities and were given numbers in forehand by spinning a wheel of fortune, estimated quantities depended on the number given by the wheel of fortune. In short, a relatively high number on the wheel of fortune resulted in a higher estimation of quantity than an estimation followed by a low number in the wheel of fortune (Kahneman et al., 1982, ch. 1). The framing bias suggests that the formulation of a problem affects decision-making, i.e. people think differently regarding the same choice depending on how alternatives are described. In general, people tend to avoid losses over acquiring gains (Lau, 2011, ch. 20), which is explained by sunk costs theory suggesting people feel obligated to keep investing, otherwise previous investments will have been wasted (Furr & Ahlstrom, 2011, ch. 3). This is why people tend to assign more resources to a failing project rather than terminating it. Further, entrepreneurs often put their hope and reputation on a startup, which turns decision-making into a difficult matter when exposed to failure (Furr & Ahlstrom, 2011, ch. 3).

Individuals are prone to draw conclusions even from limited sample sizes suggesting that the sample is representative for the population from which it is drawn, referred as the "law of small numbers" (Kahneman et al., 1982, ch. 1; Simon et al., 2000). Individuals tend to base forecasts on a limited amount of positive information, consequently, if feedback from potential customers is limited due to the number of respondents it may lead the entrepreneur into fallacy. In addition, a small sample size increases the risk to only retrieve positive feedback, however, if feedback is gathered from a larger amount of potential customers it

would probably comprise negative feedback as well serving a better representation of the population (Simon et al., 2000).

The way that organizations evolve in terms of culture and potential action paths develops through historical events. Historical events are created in the early days of the new venture and therefore could include any action taken by the founder or the startup team. In the case the founder is a domain expert, with knowledge on prevailing practices within the industry, the likelihood for the venture taking a deviant approach may be limited due to the individual's existing mental models (Staber, 2005).

The cognitive biases may inhibit individuals from developing learning in an objective and explorative way. Further, Sydow et al. (2009) explain how self-reinforcing patterns result in certain emotional reactions, cognitive bias, and political processes. In organizational research the term path dependence is used to explain how past behavior may affect or force certain subsequent actions (Sydow et al., 2009). Thus, the biases of the individuals shaping the learning and decision-making processes within the startup may subsequently affect the design of the business model (Staber, 2005).

2.7.4 Overcoming barriers due to biases

In order to overcome cognitive bias, entrepreneurs must establish a learning culture that is able to seek and receive feedback, which is essential to discover real opportunities (Furr & Ahlstrom, 2011, ch. 3). Entrepreneurs must balance between confidence and distrust in what they know, be receptive to real-time feedback in order to stick to the reality as well as avoid overconfidence in assumptions. Since the individual's cognitive frameworks, routines and heuristics shape the processing of the input (Sardana & Scott-Kemmis, 2010), this could mean that entrepreneurial learning tends to be path dependent and thus that the path of the new venture may be largely affected by the characteristics of the entrepreneur.

An organization with strong dynamic capabilities is developed by ensuring that previously mentioned self-reinforcing patterns do not result in lock-in situations prohibiting organizational change. Such action is difficult to take, since the judgement of the individual is subjective. The behavior and actions of the founder and its team determine the firm's future ability to adapt to changing environment and its ability to survive (Sydow et al., 2009).

Further, decisions must be based on accurate data from potential customers and not on beliefs or gut feelings (Furr & Ahlstrom, 2011, ch.3). Such a balance is difficult to achieve, not only because the entrepreneurs are constrained by cognitive bias, but also that they do not embark on the journey alone, receiving input from various sources along the way (Staber, 2005). Sydow et al., (2009) suggest that path dependencies may be broken by taking a critical stance and reflecting on the drivers that made it happen, and by understanding the social mechanisms driving the path process.

Thus, understanding the ways in which individuals gather information and what that information includes, may unveil the drivers of decision and explain how different types of

learning are created during startup processes. By analysing the ways in which individuals within the startup team gathers information during interviews the understanding of how learning can be explained increases. In the following chapter, the methods used when collecting empirical data to develop the theoretical explanation are described.

3 Methodology

In this chapter the inductive research approach employed to develop theoretical explanations to the entrepreneurial learning phenomenon is explained. In addition, the research design, sampling, data collection methods, and quality criteria are described.

3.1 The initial study

An initial study including exploratory interviews was carried out to get for the researchers familiar with the setting. In addition, it is essential to define a strict scope for what to include in the description of the phenomenon to enable comparison and to ensure that variations in collected information is a result of interviewer characteristics rather than differences in customer traits. Further, the initial study played an important part for the outsider researchers' understanding of the founder's product vision. The results from the initial study were then used to define the scope of the demarcated study.

During the initial phase, the founder first drew the business model consisting of hypotheses about the nine building blocks. In addition, the outsider team held several discussions with the founder to understand the underlying idea behind the solution and the product vision. The outsider team developed an interest in the idea as they saw great potential in the founder's vision.

Jointly the team set up an interview guide (Appendix B, Interview guide B1), consisting of 20 open questions seeking answer to how procurement activities are organized within firms of different size. The founder and the outsiders each conducted 7 semi-structured interviews (Appendix A, Interview list A1), reasons for selecting a semi-structured approach during interviewing is further explained in the theory section as learning tools are explained.

3.1.1 Results from the initial study

The results from the initial study indicated that there were differences in how the founder and the outsider research team gather new information during customer discovery. More specifically, patterns of varying depth and specificity of the information collected were indicated.

Information gathered by the insider interviewer included more detail and enabled validation of hypotheses to another extent than the outsiders due to the use of more specific questions. The outsiders on the other hand found a new area that appeared to present opportunities for a niche product that some customers were searching for. In order to investigate the differences further, a demarcated study was carried out, where the researchers were separated to ensure that there were no parts of the collaboration that affected the way in which information was gathered by the two individuals.

The results from the initial interviews were analyzed jointly, resulting in segmentation parameters to investigate the potential of developing a product that tends to particular needs

for improvement within procurement processes. Within procurement there are several processes and activities, potentially involving multiple stakeholders, internal and/or external. The hypotheses concerning what type of individuals to approach during the demarcated study are described below:

- Individuals managing procurement are potential customers as they will want to be able to capture all information and activities involved in the procurement process.
- Individuals in charge of cross-functional teams are potential customers.
- Purchasing and procurement managers at companies acting in industries where output requires product innovativeness are potential customers.
- Individuals in charge of many and large procurements are potential customers.

Certain parameters were found to affect the firms' need and willingness to develop their procurement activities, these are listed below:

- Complex organizations where stakeholders for a certain procurement may be found in several departments such as quality, R&D, and production.
- The firm's yearly turnover has been found a potential ground for segmentation as it affects the distance between individuals and departments. The strata therefore includes firms of more than 500 million SEK in revenue and a top limit of approximately 10 000 million SEK.
- Purchasing organizations faced with complex requirement definitions due to new task or modified rebuy situations which result in involvement of multiple internal stakeholders/cross-functional expertise.

Situations where problems may be solved using the tool were found to occur mostly in large, complex procurement projects, consulting the illustration below the demarcated study aimed to include firms that may be placed toward the second upper quadrant, i.e. "many and large", in the figure below.

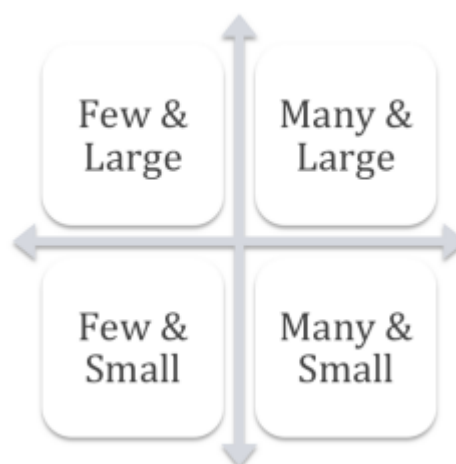


Figure 3 – Classification of types of procurement projects

In short, the results from the initial study indicated differences in information gathering between insider and outsider interviewer. Therefore, it was decided to conduct a demarcated study to further investigate the potential differences. The results from the initial interviews were analyzed jointly and then used to set the scope of the demarcated study.

3.2 The demarcated study

It is necessary to separate the interviewers over some time and let the founder and the outsider conduct interviews individually to identify differences in interviewing techniques and how the interviewer perceives the situation of the respondent. This is in accordance with the phenomenological approach, where the purpose is to describe humans' experiences related to a phenomenon (Berglund, 2007).

3.2.1 Research design

A comparative research design was used to examine differences in approaches between insider and outsider during interviewing. According to Bryman & Bell (2011, ch. 2), a comparative research design is equal to a multiple-case study research design when a qualitative research strategy is applied. However, in contrast to the initial study, the demarcated study was designed to allow comparison between interviewer approaches by examining two groups of interviews, i.e. interviews conducted by the insider against interviews conducted by the outsider, rather than examining respondents' answers, which was the purpose of the initial study to set the scope of the following research.

A comparative design was selected since social phenomena is easier understood when two or more contrasting cases are compared (Bryman & Bell, 2011, ch. 2). By using a replication logic, viewing all cases as series of experiments and then comparing relationships across cases, it is possible to validate the consistency in relationships and determine when those relationships hold. In other words, a relationship that is confirmed with another case adds validity to the findings (Eisenhardt, 1989).

3.2.2 Research methods

Identical research methods were used to enable comparison, in this case semi-structured interviews. Due to time restrictions considering transcribing and coding of audio recordings, eight semi-structured interviews was conducted in total (Appendix A, Interview list A2). The founder and the outsider team conducted 4 interviews each over a period of 30 working days. Reasons behind selecting a semi-structured approach during interviewing are further explained in the theory chapter.

3.2.2.1 Data sources

Respondents were selected based on the customer segment mapping performed after exploratory interviews had been conducted. In addition, discussions with the founder were held as the researchers developed an interview guide for the demarcated study (Appendix B, Interview guide B2). Since interviews were audio recorded, it was important to explain reasons for recording and how the collected data will be utilized before starting the interview (Bryman & Bell, 2011, ch. 18). In case the respondents refused to be recorded their responses were excluded since transcription of recordings was needed in order to conduct the analysis. Further, consideration was taken to overly short interviews without comprehensible answers as such responses indicate that there are motives for covering up.

3.2.2.2 Design of interview guide

The interview questions aimed at investigating customer problems related to procurement processes. It was highlighted that requirements management was the most difficult task to deal with during the initial set of interviews with purchasing managers. Therefore, the pains and pain relievers connected to requirements capture were further investigated by focusing on the founder's hypotheses regarding early involvement and requirements management, while building on the features that solve issues in those areas.

An interview guide (see Appendix A) with open-ended questions was compiled to examine customer pains and to validate and/or pivot value proposition hypothesis. The main questions were supplemented with probing questions in order to provide as comprehensible answers as possible. Extensive pretesting of the interview guide was undertaken by interviewing six individuals within the target customer segment to ensure that the questions were understood without explanations.

The value proposition hypotheses selected were derived from a thorough evaluation of the current business model, which is based upon the founders' perception of the company realisation, and insights from interviews. The value propositions as described by the founder and concretization of the problem are illustrated below:

1. Purchasing managers conducting large procurements (cost or time) need a tool where team members collaborate to capture requirements.
2. The purchasing manager lacks overview of ongoing procurement projects.
3. Purchasing managers need a tool with which he/she will be able to review all other relevant aspects of a procurement earlier in the process.
4. Purchasing managers lack access to details on each procurement conducted within the organization.
5. Requirements management is easier and more efficient by tying each individual to any number of roles and activities.
6. The purchasing manager is frustrated about members of the procurement team spending a lot of time searching through e-mails and documents.

The outsider research team let one person carry out the interviews during the demarcated study to ensure that the data from the insider/founder and the outsider could be compared. The data was collected over a time period of 30 working days and interviews were conducted over telephone.

The interviews were audio recorded and transcribed in order to allow analysis of how interviewer input is formulated and not solely on what the respondents say. The audio recording enabled the researchers to fully concentrate on what was being said in order to detect e.g. inconsistencies and nuances in language (Bryman & Bell, 2011, ch. 18). The transcription of interviews enabled both qualitative and quantitative analysis of the data. Thereby, it was possible to detect patterns and form categories within the interviewer's input. Since the research team consisted of two people, of which only one conducted interviews during the demarcated study, it was possible for the other researcher to transcribe the outsider's interviews directly as they were conducted, which is suggested by Bryman & Bell (2011, ch. 18). The researchers received the founder's recordings after the interviews were conducted. Thus, the transcribing of founder's interviews was carried out after all interviews had been conducted, ensuring that the founder did not affect the outsider interviewer.

3.2.3 Data analysis

The collected data from the interviews was reviewed in terms of qualitative and quantitative dimensions, illustrating differences from multiple perspectives. The ways in which data was reviewed and analyzed are presented below.

All transcripts from the interviews were first reviewed by the researchers individually in order to ensure that the perception of the interviewers' outputs did not differ between the person carrying out the interview and the researcher that had observed the interviews. Thereafter, the researchers analyzed one of the insider's interviews and one of the outsider's interviews to detect patterns in interviewer input. This process resulted in a set of categories that described the different types of interviewer input.

Descriptions of each input were generated to support the researchers in developing insights about the cases, allowing for unique patterns to emerge before developing a generalization,

by carrying out a thorough within-case analysis of each interview (Eisenhardt, 1989). The large number of descriptions of input was then analyzed within the research team, resulting in elimination of some descriptions that were similar and development of a set of micro-categories (see Table C1) that could be used to explain all input within the data. The micro-categories were then grouped together, forming main categories of input types and focuses to be analyzed.

Each of the interviewers' input was then assigned to one of the micro-categories in order to ensure that the researchers had the same perception of how to assign micro-categories in a cohesive manner. The qualitative analysis was conducted by analysing the categories to which input is assigned as well as comparing insider and outsider data.

Results from the interviews were developed by categorizing each interview input and comparing the extent to which they occur within the insider and the outsider interviews respectively. Thus, a quantitative assessment of the data was conducted as well by comparing the occurrence of categories between insider and outsider interviews. Further, a dynamic dimension, i.e. differences in category occurrence between the beginning toward the end of the interviews was added to complement the static dimension, which views interviews at large to detect differences throughout interviews.

3.3 Validity and reliability

The quality criteria presented by Yin (2009, ch. 2) and Bryman & Bell (2011, ch. 16) have guided the assessment to evaluate the quality of the research. Some researchers argue that same criteria for establishing quality in quantitative research can be applied to qualitative research, whereas others suggest the opposite due to the fundamental difference between qualitative and quantitative research (Bryman & Bell, 2011, ch. 16). In this research, the quality criteria as defined by Yin (2009, ch. 2) were applied since these are developed in particular for case studies.

3.3.1 Construct validity

The construct validity criterion is addressed to ensure that the observations represent what was supposed to be investigated. Researchers must find evidence from multiple sources and establish a chain of those evidences to meet these criteria (Yin, 2009, ch. 2). The categorization of input formed the basis of the qualitative analysis and was first carried out individually. A structure displaying interviewer characteristics, slowly started to appear by reviewing transcripts and categories multiple times in combination with reading relevant literature. The structure was compiled by discussing the framework of categories thoroughly as well as with an external supervisor. Construct validity is considered high due to the consistency of categories across interviews when conducting the analysis.

3.3.2 Internal validity

For this criterion to hold the researcher must establish a good match between relationships and explain how these relationships emerged (Yin, 2009, ch. 2). Further, inconsistent

explanations should be considered as well. Multiple sources from various authors were used to achieve a comprehensive understanding of the field to ensure internal validity. In addition, the demarcated study was conducted during a limited period of time to reduce the likelihood of rival explanations to the causal findings and to ensure that the individuals had a similar perspective concerning the offering. Finally, the research team did not conduct any bias literature study until data collection was finished to not affect the result.

3.3.3 External validity

The external validity deals with the degree findings can be generalized into other settings (Bryman & Bell, 2011, ch. 16). According to Yin (2009, ch. 2), external validity is the major concern when conducting case studies. Theory must be tested and findings replicated in another setting where the same results should occur to meet this criterion. This strategy of testing is referred to replication logic and was used to test findings from one interview to another. The research was concentrated around one single insider and outsider interviewer, thus, further research is required in order to validate connections between relationships and interviewer profiles even though there was consistency in relationships across interviews.

3.2.4 Reliability

The last criterion is reliability and refers to the replication of the study. This is also considered a difficult criterion to attain since the social setting in which the research takes place changes over time (Bryman & Bell, 2011, ch. 16). Therefore, researchers must document procedures to allow for repetition of findings (Yin, 2009, ch. 2). The replication of findings is considered high since the research focuses on the difference in learning styles, which is independent of the specific company setting or situation. Further, both teams let one person carry out the interviews during the demarcated study to avoid inter-interviewer variability to ensure internal reliability of the study. It was also decided to conduct all interviews over telephone to make the interviewing setting as similar possible across interviews.

3.4 Self-criticism

The limitations to the study in terms of how it has been carried out are treated as the subjects which may be disputed arise. There are however some general limitations which deserve to be mentioned here in order to clarify shortcomings of the results presented previously.

First, due to time limitations resulting from the fast moving startup environment, the interviewees that were studied only managed to conduct four interviews each within the customer segment that was selected for the demarcated study. After reviewing the results from the pre-study and finding a different customer segment, a major pivot was made. Since the demarcated study required extensive testing of interview guide and hypotheses to be tested by the interviewees there was no room for developing new material in order to increase the number of interviews from which insider/outsider data could be collected.

Second, we do not evaluate whether or not the information received from the respondents actually generate a larger number of opportunities, neither by generating specific information nor general information. Thus, it is not possible to draw conclusions regarding what information was more valuable, rather we have shown what type of learning was encouraged by the use of a particular category of interviewer input.

Third, due to the sample size and the amount of empirical data consequently means that no precise conclusions regarding the type of bias resulting in particular input could be drawn. We only touched upon the possibility of certain interviewer characteristics stemming from the interviewer's way of using input but were not able to categorize all input in terms of the bias causing them.

4 Findings

In this chapter the results of the insider and outsider interviews are presented in a quantitative respectively qualitative section. The quantitative section includes a calculation of the amount of words in order to determine the proportion of speech between insider and outsider interviewer in interviews and between phases. Further, the categories found by reviewing of transcripts are presented in a figure in the qualitative section. The categorization of the data is then presented in multiple formats in order to visualise differences in insider and outsider data. Tables that are not presented in the report are found in appendix.

Patterns regarding amount and characteristics of input were revealed as the transcripts were reviewed. Each interview was divided into five phases in order to determine if input was present in all phases of the interview, or if certain input was only used in particular phases. It thereby became useful to divide the presentation of findings into static and dynamic parameters within the quantitative and qualitative approaches respectively. The reason for dividing the interviews into five phases was to enable detection of differences across stages of the discussions. More phases would have made findings harder to review due to the low number of input in each phase, and fewer phases would not have displayed results as clearly.

A slight decrease in interviewer proportion of speech is possible to detect using five phases. A decrease in proportion of speech is important to detect as it may result from extensive respondent elaboration, and therefore does not contribute to explaining patterns in interviewing characteristics.

4.1 Quantitative

4.1.1 Results from static assessment

The collected data shows that the insider contributes a larger number of words, ranging between 33.0 % and 54.9 % of the total amount of input during the interview, compared to the outsider whose contribution ranges between 11.9 % and 29.1 %, which is seen in the table below.

Interestingly, the word count of the respondent does not differ when comparing insider and outsider respondents as seen in Table C2, thereby suggesting that the differences in interviewing characteristics will generate significantly different types of information and thereby result in different kinds of learning.

Quantitative static count	Total	Word count Respondent	Word count Interviewer	Percentage Interviewer
Insider(1)	3661	1652	2009	54,9%
Insider(2)	3671	1978	1693	46,1%
Insider(3)	3653	2448	1205	33,0%
Insider(4)	3787	2305	1482	39,1%
Outsider(1)	2041	1448	593	29,1%
Outsider(2)	3828	3374	454	11,9%
Outsider(3)	2362	1976	386	16,3%
Outsider(4)	2015	1577	438	21,7%
	Total	Word count Respondent	Word count Interviewer	Percentage Interviewer
Insider	14772	8383	6389	43,3%
Outsider	10246	8375	1871	18,3%

Table C2: Proportion of speech

4.1.2 Results from dynamic assessment

The table illustrates that in all interviews except the first one, the interviewer leaves more space for the respondent during one of the five phases. In interview two and three more space is allowed in phase four, and in interview number four, the respondent contributes 80 % of the total amount of words in phase 5 (Table C3).

The lower percentages, only occurring in one phase per interview are considered outliers, as they do not seem to represent the interviewer's general characteristics. Thus, the average insider interviewer contribution is evenly distributed over the phases. During the first phases the interviewer input is between 27.9 % and 51.5 %, and during the last two phases between 17.2 % and 60.7 % (Table C3). Further, by looking at the proportion of speech throughout the five phases, it is shown to vary between 37.4-48.7 % (Table C4).

The outsider interviewer inserts an average of 18.3 % of the total amount of words, ranging between 4.5 % in interview two and 37.9 % in interview one. In interview two and three the amount of input is kept under 22 % during the entire interview whereas in interview one and four the interviewer input exceeds 30 % in some cases. During interview one the interviewer is contributing more than 20 % in all phases, on the other hand, interview four reaches a percentage of 34.4 % in the final phase (Table C5). The proportion of speech varies between 15.1-22 % throughout the phases (Table C6).

The insider interviewer exceeds 30 % proportion of speech in the later stages of the interview in all but two instances, interview 3 phase 4, and interview 5 phase 5 (Table C3). The outsider interviewer also exceeds 30 % in the final phases of the interview, occurring two times in phase 5 (Table C5).

4.2 Qualitative

The following section includes the qualitative representation of the collected data. As presented in the quantitative section, the amount of input differs between insider and outsider due to differences in interview length, which consequently affects the amount of data to base conclusions. Furthermore, the observed patterns must be weighed against the sample size, i.e. conclusions are restricted to the size of the sample.

4.2.1 Categories

The collected data is divided into categories in order to observe differences in insider and outsider approaches during interviewing. The connections between focus, input type, and input nuance is illustrated in the figure below (Figure 4), and further described in the following passages.

Focus	Input type	Input nuances
Personal factual	New question	Neutral question
Informant factual		Ambiguous question
Problem exploring		Limiting question
Hypothesis verification		
	Follow-up question	Limiting follow-up question Explorative follow-up question
	Statement	Statement with space to confirm Statement without space to confirm
	Interjection	Limiting interjection Neutral interjection

Figure 4 – Categorization of inputs

4.2.2 Focus

The interviewer focused the questions toward different areas during the discussions. At some points, the interviewer explores contextual factors, either by asking personal factual questions, to understand the respondent's role and responsibilities, or informant factual, including characteristics of the organization in which they work. The interviewer also had the possibility of using problem exploring focus in the attempt of getting objective information about difficulties that the respondent experiences in daily work. In addition, since the interviewers had untested hypotheses regarding potential customers and their problems, at certain points during the interview it would be valuable to test such hypotheses in order to get confirmation or rejection from the respondent. Such focus is referred to as hypothesis verification, and includes confirmation of problems not yet stated by the respondent being interviewed, and matching against product/solution features.

4.2.3 Input types and nuances

The input was also categorized by type: new question, follow-up question, statement, and interjection, to further define and understand the dynamics of different questions. The different types are described below and by using the input nuances and examples from those, further micro categories for each of the input types and nuances are found in appendix (Table C1).

Examples from the interviews are presented in the following passage. Insider and outsider interviewer are referred to as In(*n*), and Out(*n*) respectively, where *n* indicates in which of the interviews that the example was found. Respondents are consistently referred to as R.

New question input can further be divided into three categories: neutral question, ambiguous question and limiting question. A neutral question input is either an open question, a question from the interview guide or a slight adjustment to an interview guide question which keeps the interview guide question open and neutral.

Example of neutral new question input:

In(4): Yes, I see, I see. If I leave the subject and get us a little closer to the end [laughter] for not keeping you too long since you are busy. Eh, what would you say based on your, probably quite long experience in purchasing, what are the main parameters for a procurement to be successful in the end, if you'd say 3-4 things that are the most important parts?

Ambiguous questions contain e.g. use of jargon, undefined terminology, are long or in other ways complicate the interpretation of the response given by the respondent, or results in respondent's inability to understand the question to provide a useful contribution. Ambiguous questions include, but are not limited to, use of phrases such as 'early involvement' and 'procurement' without any definition being established.

Example of ambiguous new question input:

In(2): Yes, exactly

I am thinking, for example, I may just take an example of something that has come up. Sometimes you set requirements on something and then you wonder a year later why that requirement was important, once you are out there and about to do something about this with a contract, for example, or whatever it may be. And there is nobody really knowing who owned the requirement from the beginning and who is really behind it at all, such problems can easily arise afterwards if you do not have, somewhere, documented it. If there is some rotation of people and so on. Do you recognize yourself in this type of problem or you might not have that kind of challenge?

R: Yes, I recognize it in some way. But I can't say that I think it feels like there has been a problem because I don't recognize it.

The third and final type of new question input is limiting question, which involves leading phrases, giving alternatives or asking a closed question.

Example of limiting new question input:

In(3): Right

Does that mean that you're not involved that much in centralized purchasing but more in decentralized purchasing decisions and purchasing processes?

R: Well, we think that sometimes it's good to be big and sometimes it doesn't matter. [...]

Follow-up questions are used as the interviewer aims to further probe the respondent's previous answer. However, follow-up questions can be either limiting or exploring depending on how such an input is constructed. Limiting follow-ups are characterized by the interviewer asking to clarify particular areas of the previous response, whereas explorative follow-ups are neutral and includes asking how, why questions and the like. Below are examples of each type

Example of limiting follow-up question:

R: It could be both, for example a new product, or an existing product that we want to look at whether

Do we have the right price on this one, the right contract and so on, then one can start procuring.

Out(1): But when there is a new product [thinking] how do you proceed, you said it was the concept development where, uh, are you involved and set requirements?

Example of explorative follow-up question:

R: [thinking] The difficult part is collaboration, between stakeholders to really set a strategy, that the project is clearly defined and what it consists of and what the project should contain and what roles we will have in the project. And also to set goals, what is a successful project?

One really has to discuss the objective and that you have a number of

milestones in the project to see that it's right in both time and cost.

Out(3): And how do you do it? [laughter]

Statements are input that is either true or false and could therefore be used to test the respondent's willingness and ability to confirm or reject such an input. Therefore, statements are categorized based on the space given to confirm or reject.

Example of statement with space to confirm:

R: No, first there is a seller who says one thing and then a technical manager who says something else, and then there is someone who should pay for it at last. There are people working on the "floor", of course, who have a say regarding the work environment. As a large company, we have to behave in certain ways according to authority and not let out water and emissions, so there are a lot of things that must work in order for it to be good.

Out(2): Yes there are many people with various interests

R: Yes, in the case of a purchase of a machine, I will not say that it affects, it is not the right word but it will affect many people. After all, ultimately it is an operator that will run a machine, it should be safe and okay for the environment. We have an industry that generates a lot of heat [hesitates] so in energy terms, if we're talking heating and such things, our cheapest days are when it's minus 20 outside. Then we run at our cheapest, which requires cooling of our production and we need water for cooling and so on, of course we want to use municipal water to cool the production, it's very expensive [...]

Example of statement without space to confirm:

In(3): Exactly, and then naturally, it is managed from a purchasing perspective from start.

Are there also situations where slight larger procurements are initiated from the organization, erm, we have found, as a background to the question, an interesting little [hesitant] a challenge about where you, where the organization has pushed a specification quite far and then it comes to the purchasing department a little too late in the process. Is there anything that you are aware of or have addressed, or do you not see that as a problem at all?

R: No, we do not see that [sounds doubtful] I don't recognize it, no I don't.

Finally, the fourth category of input is interjections, i.e. short units that may or may not interfere with the prevailing information sharing. Thereby, interjections can also be limiting, which is in the case the interviewer gets excited or interrupts to steer the discussion toward a particular part of the response without actually asking a follow-up question. Then, attention must be paid to how the data is interpreted when including the interjection input in order to ensure that the analysis of the data does not render misleading conclusions.

Example of limiting interjection input:

R: Yes, that's exactly as you say, that the specification can be too directed against one supplier for example.
 Or that the requirement specification does not allow having as many options.
 In(1): Ah, and this is where it will be interesting, when the
 Because that's just, that's the view many
 But then, there are differences in what you do when you get into that situation. [laughter]
 If you reverse the tape, if you simply try to do the best given the timetable.

Neutral interjections on the other hand, may include interruption but without affecting the following response, or the input is simply added to confirm the response and encourage the respondent's continued elaboration.

Example of neutral interjection:

R: It may not always be, how should I put this, the one who has the need who sets the technical requirements. They are perhaps more interested in functions as such or that you get a really really good product at any cost.
 Out(2): Exactly
 R: We have a reality to relate to, in economical terms, so yes.
 But sometimes it's a bit [puff] it requires some decisions that we later on have to solve, I agree with that.

In the following chapters the categories are used to assess the data, first a static review is made, thereafter a review of when the particular input type occurs in the different phases.

4.2.4 Presentation of qualitative static assessment

The static part of the qualitative assessment of the results views insider and outsider data as two groups of interviews. Then, is it possible to compare the total of each group of interviews in order to detect differences on a general level by examining e.g. the use of different input types.

4.2.4.1 Focus of the input

Obviously, the focus of the input differs depending on what the interviewer seeks to explore. Investigating the amount of different focus input used by insider and outsider interviewer will reveal potential differences between interviewer profiles.

Focus	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	6,0%	2,2%	9,8%	6,9%	5,7%	9
Informant factual	52,7%	42,2%	46,3%	48,3%	77,1%	79
Hypothesis verification	14,0%	20,0%	9,8%	13,8%	11,4%	21
Problem exploring	27,3%	35,6%	34,1%	31,0%	5,7%	41
						150

Table C7: Insider, focus of the input in total

The data shows that the insider mainly has an informant factual focus in the interviews (52.7 % of all information-carrying input), followed by a problem exploring focus (27.3 %). The four interviews follows more or less the same structure regarding the focus, except from one case. In interview number 4, the informant factual focus amounts to 77.1 % of the input, which is high/much in contrast to the mean/average value of the three preceding interviews (45.6 %). As a result, the informant factual figure is slightly amplified, which leads to an unfair representation of the actual result. Further, the amount of problem exploring focus in the same interview only reaches 5.7 %, which in relation to the previous interviews with an average of 33.6 % in problem exploring focus, slightly impacts/decreases the total.

The insider's focus on hypothesis verification is 14 % in total and ranges from 9.8-20 %, thus, there is no significant variance/difference between interviews. Furthermore, the personal factual focus is 6 % in total and ranges from 2.2-9.8 % throughout the insider's interviews (Table B7).

Focus	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	8,6%	12,9%	11,1%	4,3%	4,2%	9
Informant factual	52,4%	48,4%	51,9%	56,5%	54,2%	55
Hypothesis verification	11,4%	12,9%	7,4%	8,7%	16,7%	12
Problem exploring	27,6%	25,8%	29,6%	30,4%	25,0%	29
						105

Table C8: Outsider, focus of the input in total

The distribution of focus in the outsider's interviews is similar to that of the insider. The informant factual focus (52.4 %) is also relatively high in relation to the other types of input focus. In contrast to the insider, the informant factual focus is more evenly distributed throughout the four interviews, ranging from 48.4-56.5 %. When looking at each interview separately, data shows that three out of four outsider interviews include a higher percentage of informant factual focus compared to the insider's interviews, i.e. the outsider's emphasis on informant factual concerns//issues is higher than that of the insider although the total indicates the opposite. The focus on problem exploring ranges from 25.0-30.4 % throughout the interviews, with a total in 27.6 %. Similar to the case of informant factual focus of the input, the problem exploring focused input is more evenly distributed in the interviews than it is for insider interviewer.

As for the insider, the outsider's focus on hypothesis verification (11.4 % in total) is kept on a relatively constant level throughout the interviews, ranging from 7.4-16.7 %. The same goes for the personal factual focus, ranging from 4.2-12.9 % and with a total of 8.6 %.

Thus, the main focus for both insider and outsider is on informant factual types of input and developing an understanding of the context in which the respondent works. The fact that the insider investigates contextual factors 58.7 % of the time, and the outsider does so 60.1 % of the time suggests that there are minor differences in terms of exploring the contextual setting

when comparing the entirety of the interview. In addition, similarities regarding the interviewers' inclination to explore problems compared to verifying hypothesis are shown. This indicates that both novices and experts understand the need to explore the situation given the implementation of the customer development methodology.

4.2.4.2 Input type

The most common input type used by the insider is interjections (38.5 %), followed by new question input (32.8 %). Following new question input at 17.2 % is statement input, and last follow-up questions which make up 11.5 % of the insider interviewer's input, ranging from 4.4-22.0 % (Table C9).

For the outsider interviewer, the percentage of new question input is 34.6 %, ranging between 28.9 % and 41.2 %. In the outsider interviewer data, new question input is followed by interjections 31.4 %. Further, follow-up questions represent 26.1 % of all input. Statements on the other hand are not used to a great extent, only 7.8 % of the time (Table C10).

New question input

In this qualitative assessment of interview data, interjections are not treated as an information-carrying unit in contrast to new question, follow-up question and statement. Since new questions is the most common information-carrying input in both cases, it is important to assess whether there is a difference between new questions asked. In order to be able to analyze the differences and the impact of different types of new question input, the focuses and nuances of the new questions are investigated.

Focus of new question input

In the case the insider interviewer asks a new question they are in 50.0 % of the cases informant factual questions exploring the respondent's context. Problem exploring make up 25.0 % of the new questions, followed by hypothesis verification, 16.3 %, and personal factual, 8.8 % (Table C11).

Similarly to the insider, the outsider interviewer focuses new questions toward exploring the context of the respondent, as 53.8 % of new questions are of the type informant factual, and 9.6 % is personal factual input. The amount of problem exploring and hypothesis verification new questions asked by the outsider is slightly lower than the insider, data shows that 21.2 % of the new questions are focused on problem exploring and 15.4 % on hypothesis verification (Table C12).

Nuances of new question input

The most common nuance within the insider interviewer data is limiting questions, which occur in 38.8 % of the cases that a new question is asked. As illustrated in Table C13, neutral questions make up 33.8 % of all new questions, followed by 27.5 % ambiguous questions. Thus, the distribution of new question input reveals that a majority of the questions asked are either ambiguous or limiting, namely 66.3 % of all new questions.

In contrast, the outsider interviewer data are almost exclusively made up of neutral new question input, 88.7 %, meaning that more than one out of ten new questions is limiting in some way, where 9.4 % are limiting questions and 1.9 % are ambiguous questions (Table C14).

Although above figures are percentages of the total, they represent the distribution of nuances within each of the interviewer's interviews, and is thus a proven pattern of the interviewing style.

Follow-up question

The use of follow-up questions is an important part of customer development in order to attain a deeper understanding of the response. Therefore, examining the amount of follow-up questions and what parameters the interviewer follows up on, reveals what areas of the response appears most interesting for the interviewer to further explore. In addition, dependent on the nuance of the follow-up question, i.e. natural, limiting or ambiguous, the respondent is given varying possibility to freely develop the response.

Nuances of follow-up question input

As illustrated in Table C15 and Table C16, both the insider and the outsider data include a higher number of limiting follow-up questions than explorative follow-up questions. The insider data, however, contain as much as 82.1 % compared to 54.5 % in the outsider data. The within case variance is greatest in the outsider data, the amount of explorative follow-ups ranging between 18.3 % and 75 %. Despite slight variations between interviews, the data show higher tendencies toward explorative follow-up questions in the case of an outsider interviewer.

Focus of follow-up question

In terms of input focus of follow-up questions asked by the insider interviewer, it is shown that limiting follow-up questions comprise almost equal parts of informant factual (34.8 %), problem exploring (34.8 %) and, hypothesis verification (30.8 %) input focus. The explorative follow-up questions have a problem exploring focus in 80 % of the cases and informant factual focus in 20 % (Table C17).

Regarding the focus of the outsider interviewer, data shows that limiting follow-up questions are most often, 66.7 % of the time, asked as contextual factors are explored. The explorative follow-up questions on the other hand, are predominantly focused on problem exploring (63.2 %), followed by exploration of informant factual information (31.6 %) (Table C18).

Statement

As previously indicated, the insider interviews include a larger amount of statements (42 in total) in comparison to the outsider interviews (11 in total). There is more input that could have been categorized as statements, however, as the emphasis of the input then included elements from other types of input they have been categorized as such. Further, the insider interviewer uses statements to validate information given by the respondent or to verify own interpretations. In order to validate a statement, the respondent must be given the chance to confirm, therefore, each statement is classified as either "Statement with space to confirm" respectively "Statement without space to confirm".

The insider interviewer is given the respondent space to confirm the statement in 76.2 % of the times. Consequently, in 23.8 % of the times, the respondent is not given time to either confirm or disconfirm the statement (Table C19). In comparison, the outsider is giving the respondent space to confirm the statement in 100 % of the cases (Table C20).

Interjection

Interjections are used to e.g. guide responses or to interrupt prevailing discussion. Since qualitative interviewing emphasizes the importance of letting the respondent talk freely without interruption or prejudgement, it is important to check to what extent the interviewer interjects the current discussion. In this section, interjections are categorized as either neutral or limiting.

According to the interviews conducted, the insider interviewer is more prone to interject in a less neutral way than the outsider. The percentage of limiting interjections amounts to 22.3 % for the insider (Table C21), versus 6.3 % for the outsider (Table C22).

4.2.5 Presentation of qualitative dynamic assessment

The dynamic characteristics of the interviews are also assessed using a qualitative approach in order to identify patterns regarding at what point in the interview certain topics are approached. By breaking down each interview into phases, it is possible to determine if a high interview percentage is a result of the interviewer focusing on a certain topic during a particular phase consistently or if it occurs once and therefore does not support development of interviewer characteristics.

4.2.5.1 Focus of the input

The personal factual questions are asked in the first phase throughout all insider interviews, moreover, all personal factual questions are asked in the first phase except from one case in interview 2. Throughout the five phases, focus on the contextual understanding, i.e. personal and informant factual focus, decreases 62 points in favor of emphasizing on problem exploring and hypothesis verification.

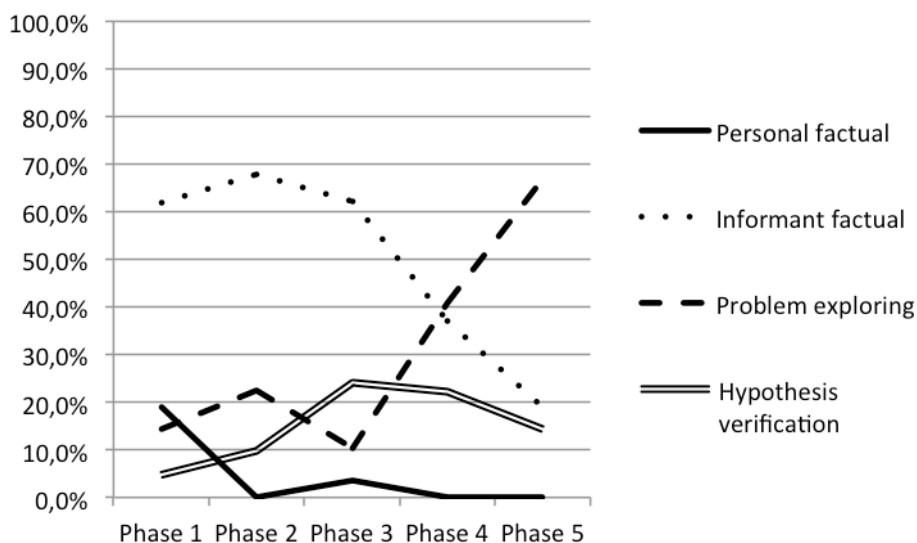


Figure 5 – Insider, focus of total input

Although the problem exploring focus is mainly present in the latter phases of the interviews, there are slight differences among the various interviews. The problem exploring focus is first presented in the early phases (1 and 2) for all interviews, except from interview 4 where it takes place in the third phase. The steep curve of problem exploring focus in the latter phases is partially due to the small amount of insider interviewer input in favor for respondent input. The first hypothesis verification occurs in phase 1 in one half of the interviews, respectively phase 2 for the other half of the interviews. In phase 3, the hypothesis verification focused input reaches its highest percentage (24.1 %) followed by a moderate decrease throughout the rest of the phases (Table C23).

The data from the outsider interviewer includes personal factual and informant factual input during the early phases (1 and 2), which is seen in the figure below. There is one exception, occurring in interview 1, where a hypothesis validating input is present. However, the fact that it occurs once as well as it being the last input in phase 2 and one of the main questions from the interview guide this does not add to the explanation of the behavior of the outsider interviewer in the early phases.

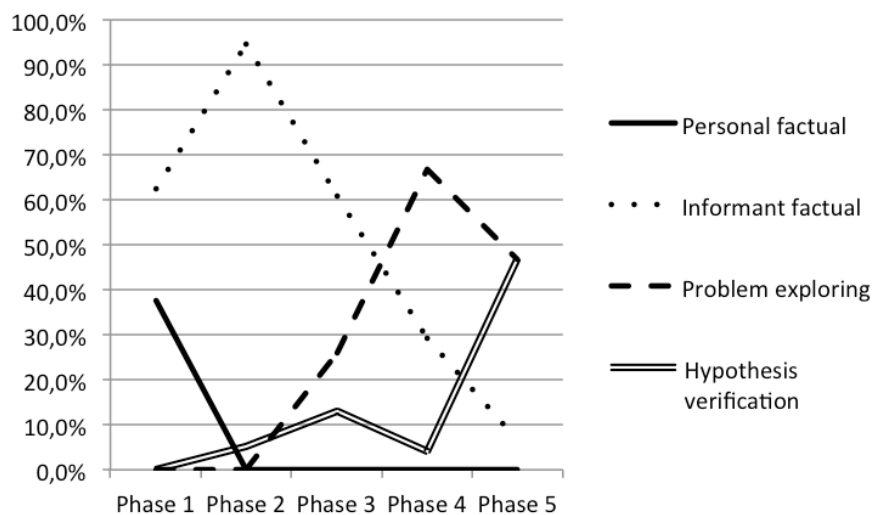


Figure 6 – Outsider, focus of total input

The outsider interviewer begins problem exploring in phase 3, and is thereafter continued throughout the interview in interview 1, 2, and 3. Further, hypothesis verification occur mainly over phases 3-5 with the exception of interview 1. In interview 1 hypothesis verification is added to phase 2. Being in the form of a question from the interview guide is a likely explanation to the absence of hypothesis verification in phase 3. The outsider interviewer's hypothesis verification mainly come in the form of a main question from the interview guide. In all four interviews the two hypothesis verification interview guide questions were asked, one in late phase 2 or phase 3 and the other in phase 4 and 5. Apart from that, 4 other hypothesis validating input was made, built up as follow-up question using solution features, statement based on what the respondent said earlier in the interview, or statement and follow-up using external experience (Table C24).

4.2.5.2 Input type

Overall, the distribution of insider input types is even throughout the phases with regard to some exceptions. In interview number 2 the percentage of new question input drops to 7.1 % in phase 4, in favor of follow-up questions. In interview number 3 (phase 3) and interview number 4 (phase 5) the amount of new questions drops in favor of interjections (Table C25).

For the outsider, new question input dominates the first phases, thereafter statements and in particular, follow-up questions contribute to a more even distribution between input types. Although, new question input continue to dominate or remain relatively high throughout the phases (Table C26).

New question

Figures show that the insider interviewer includes limiting and ambiguous new questions to a greater extent than the outsider interviewer. In fact, the insider asks limiting and/or ambiguous questions in 19 out of 20 phases in total. Further, limiting and ambiguous new questions amounts for 50 % or more of all new questions asked in 17 out of 20 phases. In comparison, the outsider interviewer asks limiting and ambiguous new questions in 4 out of 20 phases and the amount of limiting and ambiguous new questions amounts for 50 % or more in 1 out of 20 phases in total.

Focus of new question input during different phases

In terms of focus of new question input during the phases, the diagram below indicates that the insider interviewer input of informant factual focus is following a steep downward curve, from 65.5 % in phase 1 to 0 % in phase 5.

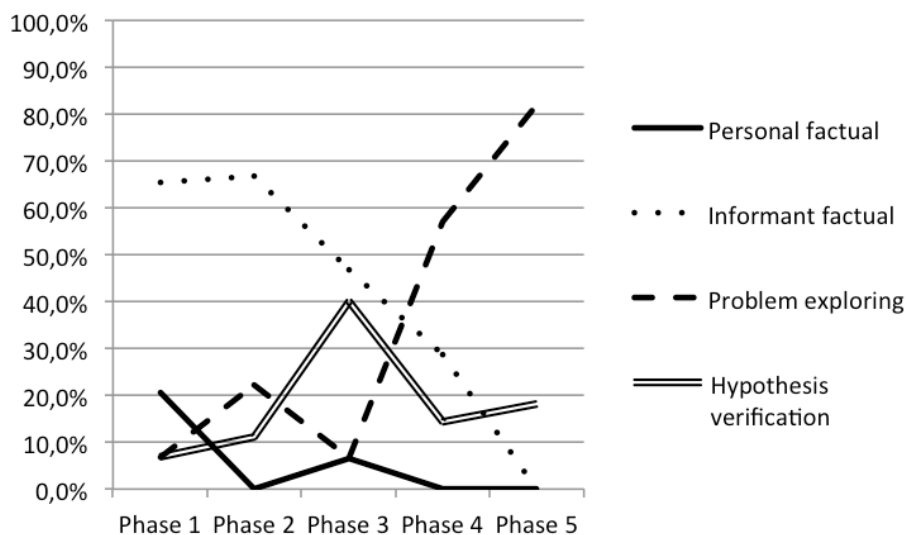


Figure 7 – Insider, focus of new question input during different stages

Problem exploring new questions occur in all phases, however in phase 3 it takes off substantially to its highest percentage, which is 81.8 % in phase 5. The insider interviewer’s focus on hypothesis verification begins in phase 1 and increases incrementally from 6.9 % in phase 1 to 11.2 % in phase 2. A significant increase of 29 points (from 11 % to 40 %) occurs

in phase 3 , although, in phase 4 it levels off to 14.3 % and then ends in phase 5 at 18.2 %. Finally, the personal factual focus reaches 20.7 % in phase 1 and 6.7 % in phase 3, no new questions with a personal factual focus are asked in the other phases (Table C27).

As for the outsider, the interviewer’s focus on informant factual information follows a downward curve after reaching its highest percentage, 90.9 % in phase 2. Problem exploring first occurs in phase 3 and continues through the rest of the phases, reaching its highest in phase 4 (75 %), which is seen in the figure 8.

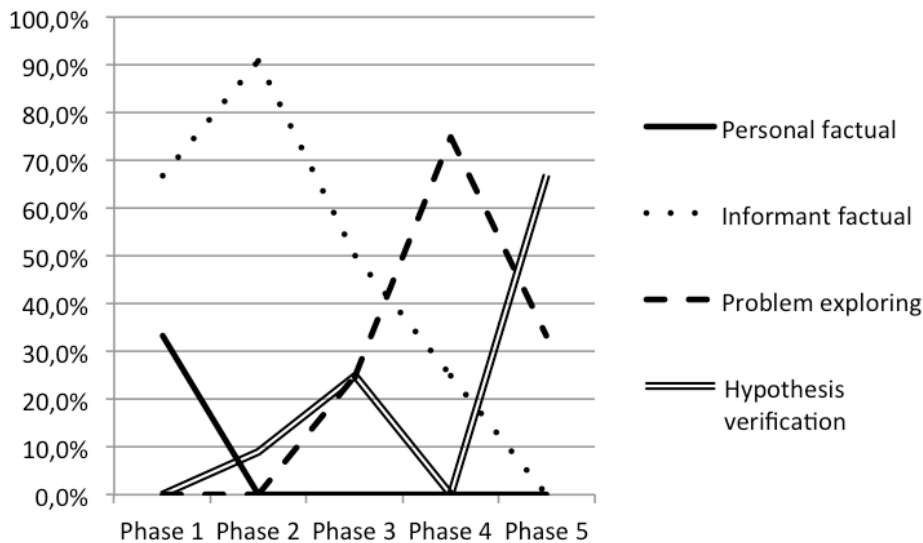


Figure 8 – Outsider, focus of new question input during different stages

Hypothesis verification on the other hand, begins at the earliest in phase 2 and varies significantly, however, such input only involves use of main questions from the interview guide. As seen in the diagram above, hypothesis verifying new question input occur in 3 of 5 phases. Further, new questions with a personal factual focus are only asked in the first phase (Table C28).

Distribution of new question input nuances over different phases

Concerning the nuances of new questions over phases, the data show that a majority of the insider’s ambiguous and/or limiting new questions are asked in the first three phases. In fact, 19 out of 53 limiting and/or ambiguous questions are asked in the first phase, which corresponds to 35.8 % of all limiting and ambiguous questions asked in the interviews. In addition, phase 2 and 3 include an equal amount (11 in each phase) of limiting and/or ambiguous questions, followed by 5 respectively 7 limiting and/or ambiguous questions in phase 4 and 5 (Table C29).

The outsider’s interviews include 6 limiting and/or ambiguous new questions in total of which 4 are asked in phase 1. The last two limiting and/or ambiguous questions are asked in phase 2 and 4 (Table C30).

Distribution of follow-up question input nuances over different phases

The use of follow-up questions is most widely used by the outsider interviewer. In accordance to previously presented theory in qualitative interviewing, interviewers should let the respondent bring up the dimensions of the phenomena themselves. Then, as the interview proceeds, the interviewer is allowed to ask more direct and limited questions. Therefore, the amount of limiting follow-up questions in the early and more critical phases is investigated by looking at the distribution of follow-up questions nuances throughout the phases.

The amount of limiting follow-up questions is not evenly distributed between phases or interviews. The insider interviewer asks 12 follow-up questions in total, out of which 11 are limiting follow-up questions during phase 1-3 (Table C31). On the other hand, the outsider asks twice the amount of follow-up questions in phases 1-3, whereof 16 out of 24 are limited follow-up questions (Table C32).

Statement

The insider data shows that the amount of statements without space to confirm (10 in total) is almost equally distributed throughout the phases. Regarding the insider interviewer, no statements without space to confirm were noted (Table C33). However, the numbers of statements with space to confirm and statements without space to confirm are too few to say anything about their occurrence throughout the different phases, both in the case of the insider and the outsider interviewer (Table C34).

Interjection

The largest amount of limiting interjections occurs in phase 2 for the insider interviewer, which corresponds to 42.9 % of all interjections in phase 2 (Table C35). For the outsider interviewer, the highest percentage of limiting interjections is 14.6 % and occurs in phase 2 (Table C36). Other than that, there are no particular patterns detected by reviewing the collected data.

5 Analysis

The results presented in the previous chapter are further analyzed during this chapter. In addition, the implications of certain results are elaborated on using the theoretical frame of reference presented in chapter 2.

5.1 Proportion of speech

The insider interviewer has a higher word count, suggesting a potential risk to affect the observed system to a greater extent in relation to the outsider interviewer. Allowing the respondent to decide the route of the discussion is an important part of customer development as the founder wants to gather as thick and detailed information possible about potential customers' pains. By meddling in the discussion and steering the respondent, the information collected from customers could be ineffective since the information is affected by the phrasing of the questions that generated it. A high word count could indicate that the rules for qualitative interviewing stated by Kvale (1996, ch. 8), such as listening carefully and avoiding interruption, may have been violated.

The outsider interviewer's word count is significantly lower as questions are more general and explorative, creating space for the respondent to guide the discussion toward their own area of interest. Although questions are short, the respondent could be affected through the language used and the focus of the question (Bryman & Bell, 2011, ch. 10), making it important to analyze input qualitatively as well to detect patterns of how each interviewer influences the direction of the discussion. As the interviewers' strategy for constructing input is revealed the quantitative data supports assessment of underlying patterns in interviewer characteristics.

The insider interviewer's tendency in asking long questions was also found an explanation for high word count. Since the interview guide was pre-tested extensively to assure its quality, there would be little need for additional explanations unless included in the interviewing style. Arguably, the high amount of input in early phases is due to the ability of the insider to access a perceived understanding of the context at an earlier point than for the outsider. The input could then be the driver of the discussion that leads to higher advancement rate in terms of accessing specific data.

Long questions or language that guide the respondent toward particular areas therefore indicate characteristics of the interviewer's previous experience and may suggest interviewer bias, depending on how such an input is constructed. This is particularly prominent in the later phases of the insider's interviews where the input becomes fewer in number although the proportion of speech remains unchanged.

Further, a significant difference between the insider and the outsider interviewer is that the outsider is less active throughout all phases and interviews. The outsider interviewer tends to ask questions and listen rather than engaging in a discussion with the respondent. Such an approach is suggested in order to develop an in-depth understanding and ensure that the

respondent feels safe to open up during the discussion (Bryman & Bell, 2011, ch. 18; Kvale, 1996, ch. 8). As previously mentioned, a high word count may imply that the interviewer affects the interview setting to a greater extent. This in turn, could impact the way in which the respondents' problems are discussed as the respondents themselves have not been given the space to decide what the discussion is to focus on. At the same time, low amount of interviewer input and less eagerness to involve in discussion may limit the ability to connect with the respondent, and ultimately reduce the respondent's willingness to share their most important problems.

5.2 Initiating new topics during the interview

The interviewers use similar focus when asking new questions, exploring problems and seeking informant factual information to the same extent. Both the insider and outsider seem to explore the context while initiating a new question, as 58.8% of the insider's respectively 63.5% of the outsider's new questions are informant factual and personal factual input. This suggests that both interviewers put the respondent's focus toward elaborating on firm specific events and problems, thus both interviewer profiles act as researchers during the discussion. However, the outsider interviewer continues to use new question input to explore the context throughout the interviews, whereas the insider gradually abandons informant factual and personal factual questions and rather asks hypothesis verifying new questions as a response to an interesting answer.

The outsider's new question input is dominated by neutral questions, in contrast to the insider who adds limiting questions that restrict the possible scope of the response (Bryman & Bell, 2011, ch. 10; Kvale, 1996, ch. 8), in total 53 limiting or ambiguous questions compared to the outsider's 6. In accordance to the framing bias (Lau, 2011, ch. 20), respondents interpret the message of a question and respond differently depending on how the interviewer decides to vary the formulation. Hence, if questions are leading by steering questions into certain areas, then certain responses are closer at hand than others, limiting the scope of the answer. In addition, 35.8% of the insider's limiting and ambiguous questions were asked in phase 1 which not only limits the potential scope of the response (Kvale, 1996, ch. 8) but could lead to the discussion being limited to particular areas too early in the interview. Thus, if the discussion is concentrated to certain areas already in phase 1, potential areas of interest are left out or neglected.

The use of undefined terminology by the respondents is particularly prominent in the insider data. This may occur as the domain expertise, i.e. familiarity with the context, allows for use of ambiguous questions to a greater extent. The literature review conducted and the empirical data collected during the initial study indicate that certain concepts are defined differently among professionals, e.g. the word "procurement" was found to carry different meaning. Therefore, use of such terminology limits the information that is gathered by making it ambiguous and/or difficult to interpret. The outsider interviewer uses undefined terminology as well, however, the use is limited to the first phase of the interview and restricted to the words "procurement" and "early involvement". On the insider's part, the use

of ambiguous and limiting words is recurrent and evenly distributed throughout all phases of the interviews.

The interviewer may ignore to examine potential differences contrary to that of his own due to heuristics. As a result, the use of undefined terminology may in turn complicate interpretation of responses and lead to conclusions being based on incorrect assumptions. Then, a response that is complicated to interpret may continue to affect following input, as the interviewer draws conclusions from a response that is unclear. If the interviewer uses existing mental models to interpret the message in an unclear response, patterns that are not representative for the respondent may be selected as the mind makes mental shortcuts.

The outsider interviewer uses more neutral question input when initiating new subjects in comparison to the insider, who predominantly uses limiting or ambiguous new question input. Such pattern further supports the observation that the insider appears to be more concrete in discussions rather than using new question input to objectively search for information related to different areas.

5.3 Following up on responses

A significant difference in terms of static analysis of input type was that the insider interviewer was less prone to use questions from the interview guide, favoring building questions and statements based on what the respondent previously stated in combination with own experiences and the product vision. The outsider asked more follow-up questions rather than using the respondent's input to develop and articulate statements, which may indicate a greater ability on the part of the insider to match information against previous knowledge within the field.

The insider tends to ask more concrete questions that aim to verify product features when the insider finds an interesting area to dig deeper into. Individuals tend to recall occurrences to the degree they can be brought to mind (Kahneman et al., 1982, ch. 1) and since the insider already has a perception of the product appearance, hence, the insider tries to verify existing hypothesis in favor of exploring new areas. Thus, the insider interviewer follows up on parts of the response that can be connected to the product rather than exploring the entirety of the response.

In addition, the insider interviewer uses more statements in comparison to the outsider interviewer. Potentially, the insider interviewer's tendency of adding statements may be a way to ensure that the interviewer is perceived as a person with knowledge within the field, which build confidence. Since the insider indirectly wants to sell the product to the respondent, the interviewer may fear that displaying a lack of knowledge will make the respondent perceive the interviewer as unprofessional, unable to solve customer problems.

Further, it is important to understand whether or not space is left for the respondent to confirm or reject the statement. Particularly since statements are built up using the

interviewers existing knowledge space and require cognitive processes in order to be constructed. Thus, statements alone can not develop higher-level or disruptive learning experiences. However, the interviewer may develop double-loop or higher-level learning in the case statements are rejected, which was discussed by Cope (2003) and Argyris (1979). Rejection of a statement, thereby, could have the potential to disrupt the development of erroneous conceptions if used to expose the interviewer's existing mental models at a point in the interview when the respondent is comfortable enough to object to an incorrect statement. This study does not explore the matter of whether or not statements are confirmed or not, but rather if opportunity for rejection is given in order to determine the potential for higher-level learning created by the interviewer. Thus, it is important to note if the respondent has overcome, or ignored, the power asymmetry present in order to reject a statement in the case that it is incorrect or to ask for clarifying questions.

The outsider interviewer does not use statements to the same extent as the insider, however, the respondent is given space to confirm or reject in all instances. The insider interviewer on the other hand draws conclusions that are followed by a question that does not elaborate on the statement added to the initial part of the input, decreasing the usability of statements to develop learning outside of the existing knowledge span. Possibly, due to overconfidence bias, the insider might not be aware of the use of ambiguous terminology and therefore believes that space for responding to the statement is otiose.

5.4 Use of statements and interjections

The fact that the outsider interviewer refrains from use of statements in favor of neutral interjections and explorative follow-up questions may indicate that cognitive biases are discarded, resulting in a higher level of objectivity. However, the outsider interviewer uses general follow-up questions, which could have a negative effect on the results if answers are also general and allow for different possible interpretations (Bryman & Bell, 2011, ch. 10). Although, the negative consequences of using general questions are avoided as those are used as follow-up questions, thereby reducing the risk of diverse interpretations in the case the terminology used in the question has been defined at an earlier stage of the interview.

The insider input is dominated by interjections of which the possibility to determine the nuance is limited. Therefore, input that can be analyzed in-depth consists of new question, which does not differ from the dominant input used by the outsider. The type and nuances however have been shown to provide guidance for constructing the characteristics of each interviewer approach.

5.5 Tendencies to formulate explorative input

The insider exerts a higher number of limiting follow-up questions, suggesting limited need or willingness to explore the depths of particular responses. Although asking follow-up questions, such as "why is that a problem?", is an important part of the customer development process, it may display certain lack of knowledge. Rather, the insider initiates a new question which aims to verify a hypothesis when identifying an interesting topic. This

diverges significantly from the characteristics of the outsider who uses four times as many explorative follow-up questions even though the total amount of outsider input during the discussions is significantly lower.

Although both parties agreed upon the structure of the interview guide, consisting of mostly open and explorative questions, it is evident that the insider interviewer changes the approach from exploring to selling. The founder is more focused on sales and sees that as the core activity to be conducted in contrast to the outsider interviewer. Therefore, explorative questions are few in favor of more concrete questions and follow-ups to move faster toward closing a deal or getting the respondent to commit to testing the beta version. This could result from the sunk cost bias (Furr & Ahlstrom, 2011, ch. 3), as the founder has invested both time and money in developing the vision and approaching customers in comparison to the outsider interviewer.

Another reason could be the cognitive inflexibility resulting from mental shortcuts instilled in the founder's approach, which makes the person believe that certain hypotheses are validated due to heuristics being used while interpreting responses. The insider possesses more heuristics during interviews than the outsider, who acts outside of the startup setting and thereby not possesses the same or as many heuristics while interpreting responses.

5.6 Tendencies to explore context versus testing assumptions

The interviews involved investigating the context, the respondent's problem and verifying hypotheses related to the solution. Then, in terms of the qualitative assessment, differences in interviewing approaches emerged by examining how the interviewers decided to focus their questions.

The fact that the insider interviewer spends less time exploring solely informant factual parameters, uses more statements and less follow-up questions suggests employment of mental shortcuts. Since the interviewing situation could be considered an uncertain situation where the interviewer can not expect certain responses, March and Simon's (1967, ch. 6) work suggests that the individual will use existing mental models against which responses are assessed. This allows for more concrete and focused discussion as well as increases the ability to draw conclusions as confirmation bias can be active and fill in the blanks if information is scarce. However, by doing so the interviewer risks confirming cognitive frames that are only partly accurate.

Although the focus on hypothesis verification and use of neutral questions are relatively equal when comparing insider and outsider interviews, it is somewhat misleading due to the fact that the outsider interviewer uses much more predetermined questions from the interview guide. In particular, it appears as if both parties engage in hypothesis verification to much the same extent. When assessing within case data for the outsider interviewer variations in terms of when a hypothesis verification is included tends to vary depending on the interview.

Thus, data indicates that the outsider interviewer does not possess previously shaped mental models to the same extent and therefore appear more prone to building an understanding of the particular context over the course of the discussion.

5.7 Tendencies to adapt to the information received during interviews

The results from the interviews show that both insider and outsider interviewer focus mainly on understanding of the context in which the respondent works during the initial phase. The focus on personal and informant factual concerns decreases throughout the phases in favor of problem and hypothesis verification.

However, there are differences in when the interviewer tends to start problem exploring and verifying hypotheses regarding the solution. The insider interviewer commences more specific discussions around problems and hypotheses related to founder's vision in phase one of the interviews. Further, the insider, assuming an appropriate understanding of the contextual factors at an early state, does not require as much time as the outsider interviewer to develop comprehension of the setting and to start problem exploring. Possibly, the insider interviewer, acting as a domain expert, is not as prone to ask contextual embedded questions since the insider already has, or thinks he has, the right perception of the setting in hand.

The reason could also be that the insider interviewer wants to start connecting to the problem and solution at an earlier point in order for the discussion to become interesting from his point of view. Also there is a greater need for the insider to quickly turn the discussion into a sales opportunity, particularly given the sunk costs. The outsider not being inclined to implement such behavior to the same extent is able to concentrate fully on exploring and finding opportunities that could be of interest to the startup.

Refraining from immersing in questions related to the respondent's context may be due to the insider's ability to speed up information processing as a result from being more familiar with the setting and to match new information with already acquired knowledge. It could be that the insider's fear of having to reject hypotheses firmly established within the mind, subconsciously limits the ability to refrain from hypothesis verification in the early phases.

The ability to develop a solution that solves customer pains in a radically new manner may be seen as a function of the ability to acquire thorough understanding of customer problems in its setting and to translate that understanding into a real product. Therefore, as the insider is limited in acquiring broad knowledge on contextual factors the entrepreneurial process during product development may suffer from narrowly focused opportunity exploration.

As observed, the use of hypothesis verification focused input occurs in both insider and outsider interviews. However, hypothesis verification questions asked by the outsider are predetermined questions from the interview guide (Appendix B, Interview guide B2),

whereas the hypothesis verification questions from the insider are asked spontaneously whenever the insider sees an opportunity. Further, data shows that when the respondent enters certain topics, or sometimes even particular words, the insider literally gets excited and takes the floor and tries to verify hypotheses. Again, the fact that the insider is prone to verify already existing hypothesis regarding solution features and customer problems, may result in failure to capture new and potentially valuable dimensions of the phenomena.

The fact that the insider interviewer begins hypothesis verification and problem exploring earlier than the outsider interviewer may indicate that the insider interviewer does not avoid mental shortcuts. The interviewer assesses the information received resulting in perceived understanding of the setting as connections are made in relation to what is already known by that individual. The conclusions drawn early rise from filtering the received information as limiting questions have been asked in the initial phase, meaning that the scope of the response is limited to certain areas or problems. Thereby, the characteristics of an insider interviewer implementing the customer development process is that the person is eager to filter the received information to suit existing beliefs, i.e. affected by confirmation bias.

Toward the end of the interview the insider interviewer still uses many new question input, during the final stages those are used to verify hypotheses and explore problems. Contrary to the outsider, the amount of follow-up question input does not tend to increase toward the end as rather new questions are used when the interviewer moves from one topic to another. This suggests a stronger tendency to stay in charge of the topics that are treated during the discussions.

The outsider tends to increase the proportion of speech during the last phase of the discussion which is due to the interviewer explaining how the startup aims to solve the respondent's problems. This is a significant difference to the characteristics of the insider interviewer whose size and type of input does not change greatly over the different phases, except for eliminating contextual focus toward the final phases.

To sum up the dynamics of input, the insider interviewer remains rather constant in the way that the discussion is approached throughout the different stages as the existing mental models are active from the very beginning. Using previous knowledge means that information gathering, rather than exploring, occurs within already established cognitive frames, and suggests that familiarity bias affects the collected material. However, this allows for early problem exploration and hypothesis verification related to the product scope but lowers the possibility of finding opportunities outside what is already known, and thus results in incremental innovative processes.

The founder has background in sales and experience from investigating the needs of customers to already established firms. In addition, at the time of the study the startup did not have any paying customers. Searching for customer's problems and trying to make them understand that they have certain needs is fundamentally different from the customer development approach where the startup does not have either an existing customer base, nor is a product to be offered established.

The outsider applies a more dynamic approach, using the contextual parameters that are presented during the discussion rather than previous experience to build questions and follow up on what the respondent has said. Although, this person has experience both from purchasing and business research, the existing mental models are not applied during the studies. Thus, it is likely that the lack of investment in the startup is necessary in order to force a more exploratory approach during the early stages of the entrepreneurial process.

5.8 Summary

The most significant differences between the insider and outsider interviewer are presented in the figure below

Insider	Outsider
<ul style="list-style-type: none">• Word count (43.3 %)• Starts hypothesis verification early• More limiting & ambiguous input• Less follow-up, in favor of statements	<ul style="list-style-type: none">• Word count (18.3 %)• Continuing contextual & problem exploring• Neutral input• More follow-up & explorative input

Figure 9 – The most significant differences between insider and outsider interviewer

The outsider has been shown to change interviewing approach over the different phases, contrary to the insider whose approach remains consistent throughout the interview.

The insider's amount of input is higher than the outsider's throughout all phases of the interviews. Further, as the insider uses fewer follow-ups and explorative questions, the information becomes more detailed and focused toward particular problems or parts of problems.

The fact that the outsider interviewer only increases proportion of speech in the final phase and refrains from hypothesis verification during the initial phase explains the more general and broad information collected. The insider on the other hand, remaining a relatively constant proportion of speech throughout the interviews, originates from the own perspective and existing framing which generates more information on particular topics. However, by only investigating topics that are interesting to the founder's initial vision of the product, eliminates some of the benefits of asking customers about their problems. This because the product then will only be able to offer an incremental way of solving customer problems.

Although, the outsider exhibits higher degree of adaptability during the interviews, using different amounts of follow-ups and statements depending on the phase. The insider builds input based on the specific input that the respondent delivers, e.g. focusing on an area that is interesting to the founder after it being swiftly mentioned by the respondent. Such behavior can be explained by sunk cost bias, since the person with highest degree of investment in the

startup most likely will not want to eliminate or change product features due to the increased costs resulting from such decisions. In addition, the behaviour could also be a result of domain expertise, and active familiarity bias, as such an individual will use existing mental shortcuts to de-code and categorize the information received from the respondent.

Another problem, resulting from differences in information gathering and learning experiences of the individuals, is diverging views regarding what action to take next. The insider's established mental models are more likely to have been cemented due to interpretations of cues in the responses. Whereas for the outsider, it is necessary that the information is much clearer and requires no extra interpretation in order to be useful during future development of the product.

If the mental models surrounding the vision are too firmly established, then the information gathered will not allow for a sufficient number of opportunities for disruptive learning. As a result, the startup may reduce the ability of altering the existing product to better suit the needs of lead users, and increase the likelihood of failure or future lock-in situations. Further, the reason for such patterns stem from the inability to appropriately learn about the origin of the customer pains, and means that the opportunity for developing breakthrough innovation in accordance with the lean startup methods/customer development is reduced.

This may happen as the founder perceives that the main objective of the process is selling the product rather than changing it. In such a situation, the entrepreneurial process is limited and path dependent from the very beginning, as the founder does not set out to explore potential paths, but rather to develop a business model around an already decided product. The difficulty in changing the ways in which decisions are made by a more experienced individual thus appears not only to be related to the unconscious cognitive biases but also conscious behavioral and managerial practices.

6 Discussion

In this chapter the findings presented in chapter four are reviewed and related to how previous research suggests that learning during the entrepreneurial process is approached. By discussing the findings their importance to future entrepreneurial learning is shown. Finally, the necessity of further research to establish appropriate practices for startup teams and suggestions for how to further expand on our findings are presented.

By reviewing the ways in which a person develops input and builds up certain dynamics during a discussion, the study indicates that an insider and an outsider employ different approaches. Although the insider provides richer explanations to questions and ends up with more specific and detailed information, the amount of data that the outsider collects is equal (Table C1). This suggests that the amount of learning opportunity should be equal, but that, due to the differences in characteristics of the collected data, the outcome of the learning process differs. During the entrepreneurial process both learning and connecting various types of information will play an important role in finding the path to success.

6.1 Key differences between insiders and outsiders

The differences between the insider and the outsider approach during interviewing were found in the use of input type, the design of the input, the amount of input, and at what point in the interview an input was made.

The insider, being an expert, used more statements and included a higher amount of input than the outsider. This indicates that the outsider's lack of experience within the field results in more follow-up questions and exploring the particular context, which in turn generates more general knowledge rather than learnings directly related to the current product vision.

The entrepreneurial process is about learning, but the individual's cognitive frameworks, heuristics and biases, which will shape the startup team members' approaches during the learning processes, have been shown to potentially limit opportunities for learning in different ways. Thus, the findings show that it is difficult to eliminate the ways in which the individual's background reduces objectivity in learning processes during conditions of uncertainty.

The limitations occur as the person develops input using existing knowledge instead of objectively exploring the context at hand and allow for new influences to dictate what information is gathered. Hence, the use of collected information differs depending on the background and perception of the individual, turning decision-making and development of the startup into a process that is driven by the cognitive frames of the individuals involved in the early stages of venture formation.

It appears that the ability to learn in an objective manner, or to be able to unlearn and change initial assumptions as new information emerge, is difficult since individuals are not aware of or possibly cannot discard mental models and heuristics leading to cognitive biases, that

hinders learning. Even though a founder is aware of the fact that failure and unlearning is important, individuals tend to seek confirmation to what they know, and subconsciously detect patterns and move discussions in certain directions, ultimately limiting the possibility to unlearn.

In addition, the findings show that the founder may be more prone to implement rational thinking in situations of uncertainty, attempting to categorize the respondent and the information received during the discussion by relating to what is already known. The rational thinking appears to be stimulated both by existing knowledge that dictates how information should be assessed, but another possibility is the fact that sunk costs have occurred, forcing the insider to make use of what is already paid for. Although the customer development methodology suggests refraining from using external funding in order to not limit the directions in which the startup is allowed to develop, it is also possible that the founder is affected by sunk cost bias due to the time and engagement already invested during the early stages of the entrepreneurial process. The fact that the insider applies rational thinking and connects the data collected during the interview to the startup and its intended product can have unwanted effects such as resulting in an enforced trajectory path and limited future opportunities.

A domain expert attempting to quickly get into a field in which the product is intended to be applied, may ignore opportunities outside the initial scope. A narrow focus during the early stages may explain why a startup fails to develop radical or break-through innovations as a consequence from being hindered by focus on hypothesis validating or bringing product related issues into the discussion at an early stage. Then, supposedly, lack of thorough understanding of the setting in which the customer operates, may lead to critical dimensions of the phenomena being left out as an effect of rapid information processing.

The novice has a more explorative approach, building general and widely spanning information which means that many follow-ups are used, generating a thicker description of the particular respondent's context rather than increased understanding of a particular area. The search thereby becomes wider since the domain novice does not have as firmly established pre-understanding or assumptions of what the customer may be needing. Moreover, the outsider is not restricted by certain cognitive biases as a result from being less attached to the startup.

6.2 Group level learning of the startup

Learning during the entrepreneurial process is affected by the person's prior knowledge and hence, existing cognitive frames will affect the founder that is out to learn from customers to define the future business model. To be able to be open and engage in learning, entrepreneurs must challenge existing mental models by involving people who lack domain knowledge or have another set of mental models. In order to accomplish innovative efforts, there is a need for both single-loop and double-loop learning, mainly by reducing the influence of existing cognitive frames which risk inhibiting the startup from learning.

Developing a product within a startup that consists of more than one person, means combining different approaches to information gathering. Our findings show that by combining the insights gathered from the insider and the outsider, both general and specific information will contribute to the development of the product.

The expert's increased knowledge of the field in which the product is to be applied supports in developing and reducing components of no great value to the customers. The specific information that is gathered, by a domain expert, will benefit the startup and ensure lean product development processes. In parallel, the novice's general learnings may contribute to a wider understanding of the context, ensuring that the startup is aware of future opportunities and threats to the product at an early stage. In accordance with McGrath & MacMillan (2000, ch. 3), who suggest that the entrepreneur builds a kind of library of opportunities for use when the timing is right, it is important that the entrepreneur gathers information even if the learnings related to such information cannot be utilized immediately. The novice's learnings thus may increase the ability of making the right decisions at the right time.

Thus, in order not to limit learning, applying different approaches during interviews could contribute to developing both general and specific information. We have found that there are significant benefits to including additional perspectives during the earliest stage of the startup's learning process in order to prevent future lock-in situations.

Particularly since the ability of one individual to do so is restricted by unconscious cognitive processes which is why including multiple individuals during iterative learning processes is preferable. In which case the outsider's information can be valuable as it may force reviewing opportunities outside of what the founder may be able to see. It could be argued that the outsider's tendency to generate more opportunities will prevent the startup from settling on a specific path by extending the number of possibilities. If viewed in isolation, this may very well hold true if the outsider does not have a clearly established vision against which identified opportunities can be analyzed.

The findings thereby show that the early phases of the entrepreneurial process should not be limited to work of the founder with domain expertise but that additional perspectives should be reviewed in order to prevent the venture from becoming locked-in to a predetermined path, but ensure that it remains flexible and able to cope with changes in the external environment. Hence, the point Blank & Dorf (2012, p.32) made about founders having to

conduct the research in order to be able to react to it, is only partly correct. Our findings show that it is important to include perspectives of individuals that have some understanding of the vision but are not greatly invested in the future success in order to fully explore the conditions facing the startup.

By combining the findings regarding how information gathering differs depending on the individual, and increasing the understanding of how teams develop knowledge, future efforts may be improved. In the following chapter we elaborate on how to develop a better understanding of information gathering and learning processes within the own startup.

6.3 Implications for future entrepreneurial efforts

In the past chapters it has been shown that the entrepreneurial learning process was limited by the individual's background and existing mental models. Therefore, it is suggested to review and extend the methods applied when searching for information and developing the vision held by the founder in order to achieve more fruitful entrepreneurial efforts. The understanding of the different interviewing approaches employed by the members of the startup developed through such activities could form a better understanding of the cognitive processes held by each member.

Better understanding of the individuals' decision-making processes and ways of interpreting information could lead to more efficient communication patterns are being identified. Hence, by understanding the characteristics of questions and the dynamics of how questions are asked the cognitive frames surrounding the startup are revealed. In addition, by reviewing other interviewing strategies the individuals can learn in what ways their ability to objectively search for information is limited.

A way to stimulate learning and objectivity in the early phases of the entrepreneurial process could be by including outside researchers to add additional perspectives. The use of external researchers may bring attention to the cognitive biases employed by the individuals of the startup team during opportunity search. As a result, the use of outsider researchers may lower the risk that the startup becomes locked in to a specific path.

It could be argued that the sole entrepreneur should or may be able to apply different approaches during different interviews or generate both single- and double-loop learning. It is possible to apply a more general approach in the beginning, turning the discussion more focused and verify hypotheses toward the end, however, our findings have shown that the ability to apply such an approach thoroughly can be limited by both expertise or lack thereof.

However, it is possible that the approach that is applied in the early stages will greatly influence the remainder of it. We argue that applying a much too general approach initially resulting in more general answers may occur due to the fact that the respondent perceives

the interviewer as a novice. Further, we mean that the particular interview situation too can be path dependent and hinder development of both single- and double-loop learning.

Thus, there are benefits to reviewing information that has been gathered by other individuals in order to identify potential biases and limitations to learning. By reviewing information from multiple individuals, the knowledge base of the founder may expand, resulting in improved abilities to make decisions. In addition, the risk of making decisions in the early stages that result in a future lock-in may be reduced if the number of available options increases.

6.4 Summary

Including outsider researchers expands the cognitive frames employed by the startup team, since cognitive frames are not easily detected on their own. A diverse team may result in a more efficient customer studies, generating a richer body of opportunities. Even though it is important that the founder gets out and learns from customers, important insights may be stimulated by involvement of individuals who are not as quick to concretize a discussion around particular subjects, thereby generating a larger number of insights. In addition, involvement of domain novices may result in a deeper understanding of the customer segment as questions are concentrated around informant factual and problem exploring concerns to a greater extent.

As previously mentioned, it is possible that the founder is pressured to continue in a particular direction due to the time and engagement already invested. In such a case, the outsider's information can force reviewing opportunities outside of what the founder may be able to see, given the biases that sets up barriers to detecting such opportunities. Thereby, the future possibilities are limited by the background of the founder or founding team if it is not possible to remain completely objective during the assessment of opportunities.

In addition, the results from our study suggest that when involving additional perspectives in the startup, it may not be necessary to get them greatly invested in the future of the startup, but rather that the lack of involvement may enable them to generate more general information, thus, be of greater value to the startup.

The use of collected information differs depending on the background and perception of the individual, turning decision-making and development of the startup a process that is driven by the cognitive frames of entrepreneurs involved in the early stages of venture formation.

Chapter 2.2 and 2.3 illustrated the importance of changing course by iterating and pivoting during the process of new venture formation. A team or an individual changes course as a result of acquisition and use of knowledge that diverges from what is already known. Thus, the fewer questions that have the potential of generating higher-level learning, the less likely it is that the startup will engage in such learning. Therefore, including the interpretations of multiple interviews and individuals may provide a better understanding of the context and

not only concrete patterns. For example, the novice can focus on detecting areas outside the product-scope that will become increasingly important to deal with in the future.

Thus, by ensuring that both general and specific information results from the iterative learning processes, individuals from different backgrounds are to be involved. This may increase the number of opportunities to be assessed as well as improve the product development efforts undertaken in conditions of uncertainty. However, including multiple perspectives has been shown to provide an efficient way of triggering higher-level learning which is crucial for the startup to iterate and pivot their way to success.

6.6 Further studies

This study has shown that there are differences between the learnings of a founder and that of other people within the startup team and that there are benefits to including multiple perspectives. However, the exploratory nature of the study has rendered multiple opportunities for further research on the topic of entrepreneurial learning in teams.

First, as previously explained, this study was not limited to studying the most important potential users, which meant that all respondents were not able to contribute valuable information to be used in future product development efforts. This means that the ability for the interviewer to generate useful information was limited. Further studies are suggested to investigate the interviewers as they conduct discussion only with lead-user respondents in order to get a better understanding of how detailed and general information is collected when interacting with potential first customers. Thus, limiting the scope to cover only how information from lead-users is gathered most efficiently in order to develop a further understanding of how the most critical information is gathered during iterative learning processes.

Second, we suggest expanding on the ways in which interviews as learning tools are used by testing different approaches and study the implications of different interviewing styles. The possibility that one interviewer gathers various types of information is explored by conducting tests with multiple interview guides to study how respondents react to changes in interviewer approaches over the course of the interview.

Third, it is valuable to further test different interviewing styles in order to determine suitable approaches for generating higher-level/double-loop learning. Such a study would require a much larger data set but could result in refinement of the startup team's approach to be applied at different stages of researching uncertainties.

Finally, the tools to be applied when using multiple perspectives to generate learning during iterative startup processes must be developed. We therefore suggest further research to study the ways in which individuals select opportunities to pursue. In addition, we suggest that

important insights may be gained from in-depth studies of the information transfer between startup team members.

7 Conclusion

The previous chapters have illustrated a number of characteristics typical for each of the insider and outsider which can be related to their level of expertise. In this final chapter, conclusions regarding how learning during the early stages of the entrepreneurial process can be explained to establish that the purpose of the study has been fulfilled.

The work of explaining learning during the early phases of the entrepreneurial process has resulted in the conclusion that contrary to previous literature startups can benefit from including external researchers. The learning can therefore be explained by reviewing the insights provided by both domain experts and domain novices.

In this case, the insider did not change approach during the interview as much as the outsider who adapted to the respondent's input and let the received information influence how future input is to be constructed. Moreover, the insider used established perception of the situation and potential problems when asking questions and probing. Therefore the approach applied by the person with domain expertise is likely to generate more narrow and focused information. Thus, the learnings of the expert were shown to generate more area specific and detailed information, as it was generated by expanding from the individual's existing cognitive frames.

The outsider included more explorative input, resulting in greater variance in terms of what type of information is gathered from each respondent. However, the lack of heuristics to quickly develop follow-ups meant that instead of developing insights related to the product a novice's information gathering resulted in insights on widely spanning opportunities, generated from exploration of the particular respondent's context.

Startup team learning, seeking opportunities while allowing for radical changes to existing assumptions and refinement of the product, therefore includes reviewing individual as well as group level learning. As it is important that the startup's learning is process of reviewing explorative and specific information gathered by multiple individuals, fruitful startup learning efforts can be explained by the extent to which diverse teams are active in the earliest stages of collecting information about an uncertain environment.

To sum up, in order to explain the process of learning within a startup, the individuals included in learning efforts need to be better understood. In addition, the ability for each individual to influence decisions needs to be assessed to determine the level to which a particular perspective will contribute to learning.

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Appendix A

Interview list A1: Initial study

Interviewee code	Date of the interview	Interviewer	Function
1	2013-06-20	Insider	Purchase director
2	2013-06-20	Insider	Purchase director
3	2013-06-20	Insider	CIO
4	2013-06-24	Insider	Project team member
5	2013-06-25	Insider	CCO
6	2013-06-26	Insider	Purchase director
7	2013-06-27	Insider	Local Purchase director
8	2013-06-29	Insider	IT sourcing director
9	2013-09-09	Insider	Acting head ITIS
10	2013-09-10	Insider	Purchase director
11	2013-09-10	Outsider	Strategic purchaser
12	2013-09-10	Outsider	Purchasing manager
13	2013-09-10	Outsider	Purchasing manager/Sourcing manager
14	2013-09-12	Outsider	Purchasing Manager, Nordic
15	2013-09-12	Outsider	COO
16	2013-09-17	Insider	Region manager
17	2013-09-18	Outsider	Purchasing director
18	2013-09-20	Outsider	Global Purchasing manager
19	2013-09-23	Insider	Business Architect
20	2013-09-30	Insider	Purchase director BU Support Solutions
21	2013-09-30	Insider	Purchase director
22	2013-10-08	Insider	Head of Purchasing
23	2013-10-08	Insider	-
24	2013-10-08	Insider	Business Analyst
25	2013-10-21	Outsider	Purchasing manager
26	2013-10-22	Outsider	Purchasing manager
27	2013-10-23	Insider	Partner
28	2013-10-28	Outsider	Purchaser
29	2013-10-28	Outsider	Purchasing manager
30	2013-10-29	Insider	-
31	2013-10-29	Outsider	Purchasing manager
32	2013-10-30	Outsider	Purchasing manager
33	2013-10-31	Insider	Purchase director
34	2013-11-01	Insider	Head of IT Business Management
35	2013-11-11	Outsider	Purchasing manager
36	2013-11-14	Outsider	Purchasing manager
37	2013-11-15	Outsider	Purchasing manager assistant

Interview list A2: Demarcated study

Interviewee code	Date of the interview	Interviewer	Function
Out(1)	2013-11-04	Outsider	Supply chain/Purchasing manager
Out(2)	2013-11-08	Outsider	Purchasing manager
Out(3)	2013-11-12	Outsider	Purchasing manager
In(1)	2013-11-19	Insider	Purchasing manager
Out(4)	2013-11-26	Outsider	Purchasing director
In(2)	2013-12-04	Insider	Purchasing manager
In(3)	2013-12-11	Insider	Group purchasing manager
In(4)	2013-12-13	Insider	Director of global sourcing

Appendix B

Interview guide B1: Initial study

Intervjuare:

Bolag:

Datum:

Kontaktperson:

Vad heter du och vad är din befattning?	
Vill du berätta om senaste gången du var inblandad i en upphandlingsprocess?	
Har ni en inköpsavdelning och någon som ansvarar för inköp? Om ja, Hur är denna organiserad? Om nej, vilka har rätt att genomföra upphandlingar hos er?	
Har ni IT-stöd för inköpsprocessen idag? Om ni har, vad utgörs detta stöd av?	
Kan du beskriva kort hur inköpsprocessen ser ut? Finns det en dokumenterad process för hur upphandlingar ska bedrivas? Följer alla upphandlingar denna process? Varför/Varför inte? Vilken del av inköpsprocessen är mest tidskrävande? Vad är mest frustrerande för dig personligen? Vilka begränsningar finns det för dig när det gäller att lösa sådana problem?	
Vem brukar leda upphandlings och inköps projekt?	
Hur delas information inom inköpsavdelningen?	
Hur sker kommunikation och informationsdelning med andra avdelningar?	
Hur leds processen/upphandlingen framåt? Hur hålls översikt över projektets arbetsgång?	

Vilka är de 3 enskilt största problem ni ser i er upphandlingsprocess?	
Vilka begränsningar finns det för dig att lösa dessa problem?	
Vilka svårigheter ser ni i att hantera flera upphandlingsprocesser samtidigt? Vilka svårigheter ser ni i att flera personer är inblandade i en upphandling?	
Om du fritt kunde skapa en lösning som löste dina största problem, hur skulle den se ut då?	
Finns det någonting annat jag borde ha frågat dig för att kunna förstå era processer för upphandling och inköp bättre?	
Finns det någon annan på företaget som du kan rekommendera mig att prata med för att lära mig mer om inköpsprocessen?	
Kan du introducera mig till en eller två vänner som jobbar på ditt företag eller inom någon annan organisation för en liknande intervju?	
Kanske: Då du verkar intresserad, skulle det vara OK om en av kollegorna här på X kontaktar dig för en vidare diskussion?	

Interview guide B2: Demarcated study

Intervjuare:

Bolag:

Datum:

Kontaktperson:

Main questions	Follow-up questions
1. Vad heter du och vad är din befattning?	<ul style="list-style-type: none"> • Vad har du för roll i upphandlingar?
4. 2. Hur går ni tillväga vid inköp av varor och tjänster?	<ul style="list-style-type: none"> • Vem initierar upphandlingar? • Hur sätts tidsplan för projektet?
3. 3. Ungefär hur många nya eller modifierade inköp gör ni per år? (inköp av nya komponenter etc.)	<ul style="list-style-type: none"> • Vilka olika typer av inköp/upphandling görs inom er organisation? (direkt/indirekt material) • Utav dessa upphandlingar, hur många klassas som större projekt som involverar flera funktioner/stakeholders? (antal eller procent)
4. Hur är inköpsfunktionen strukturerad i er organisation?	<ul style="list-style-type: none"> • Hur många individer är involverade i en upphandling? • Hur samverkar den med övriga verksamheten?
5. Hur går ni tillväga när ni formulerar och sätter upp krav för vad köpet ska innefatta?	<ul style="list-style-type: none"> • När och hur involveras inköp? • Vilka personer/funktioner är inblandade i detta arbete? • Vilka är ansvariga/har befogenhet att specificera krav?
6. Vem leder arbetet med att samla upp krav och sammanställa dem?	<ul style="list-style-type: none"> • Är det samma person som leder resten av upphandlingsprocessen?
7. Många av de vi pratat med tidigare menar att det är svårt att hantera samarbetet mellan de som sätter krav och de som upphandlar, hur löser ni det?	<ul style="list-style-type: none"> • Skulle du påstå att det är kravhanteringsbiten i en upphandling som är svårast att samordna?
8. Hur sammanställer och dokumenterar ni alla de mail och dokument som tillhör upphandling?	<ul style="list-style-type: none"> • Hur mycket tid tar detta arbete?
9. Vad har ni för IT-stöd vid upphandlings- och investeringsprojekt?	<ul style="list-style-type: none"> • Vad är bra med de lösningar ni använder? På vilket sätt förenklar den ditt/ert arbete? • Hur fattades beslut om att investera i de lösningar ni har? • På vilket sätt minskar era nuvarande IT-lösningar grad av manuellt arbete?
10. Vilka är de viktigaste parametrarna för att en upphandling ska bli lyckad?	<ul style="list-style-type: none"> • Hur säkerställer du att dessa parametrarna finns med i alla

	upphandlingar?
11. Vilka är de 3 största utmaningarna med upphandling/inköp? Vad är det svåraste med att genomföra en upphandling?	<ul style="list-style-type: none"> • Varför är detta ett problem? • Hur arbetar du för att lösa sådana problem?
12. Vi håller på att ta fram ett verktyg som gör det lättare att samarbeta, hantera och strukturera arbetet kring kravformulering och elektronisk upphandling, vad är din spontana tanke om detta?	
Vid tillfälle: Då du verkar intresserad, skulle det vara OK om en av kollegorna här på X kontaktar dig för en vidare diskussion?	

Appendix C

Table C1: Table of input categories

Focus	Input type	Input nuances	Micro-categories
Personal factual	New question	Neutral question	Main question from interview guide
Informant factual			Predetermined probe question from interview guide
Problem exploring			Slight departure from interview guide
Hypothesis verification			Open question not included in the interview guide
		Ambiguous question	Taking for granted
			Using jargon or technical terms
			Using undefined terminology
			Double barreled
			Including negatives
			Asking two questions within one input instance
			Asking long question that confuses the respondent
		Limiting question	Leading: Limiting the response by adding an explanation
			Alternatives: Limiting the response by adding alternatives to relate to
			Closed: Limiting the response by asking yes/no question
	Follow-up question	Limiting follow-up question	Leading: Limiting follow-up by adding an explanation
			Alternatives: Limiting follow-up by adding alternatives to relate to
			Closed: Limiting follow-up by asking yes/no question
			Using external experience
			Drawing on what the respondent has said earlier
			Asking the respondent for precise information
		Explorative follow-up question	Asking respondent to clarify
			Asking how/why/what/when question
	Statement	Statement with space to confirm	Based on external experience
			Drawing on what the respondent has said earlier
		Statement without space to confirm	Based on external experience
			Drawing on what the respondent has said earlier
	Interjection	Limiting interjection	Gets excited and takes the floor
			Conscious and significant interruption to change subject
			Guiding interjection steering toward a particular part of the response
		Neutral interjection	Attempting to interrupt
			Confirming the response and encourage elaboration

Table C2: Proportion of speech

Quantitative static count	Total	Word count Respondent	Word count Interviewer	Percentage Interviewer
Insider(1)	3661	1652	2009	54,9%
Insider(2)	3671	1978	1693	46,1%
Insider(3)	3653	2448	1205	33,0%
Insider(4)	3787	2305	1482	39,1%
Outsider(1)	2041	1448	593	29,1%
Outsider(2)	3828	3374	454	11,9%
Outsider(3)	2362	1976	386	16,3%
Outsider(4)	2015	1577	438	21,7%
	Total	Word count Respondent	Word count Interviewer	Percentage Interviewer
Insider	14772	8383	6389	43,3%
Outsider	10246	8375	1871	18,3%

Table C3: Proportion of speech per interview, insider interviewer

	Insider interview 1	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	36 min 47 sec	1	670	309	46.1%	53.9%
Start of interview	4 min 30 sec	2	747	345	46.2%	53.8%
Length of interview (s)	1800	3	785	501	63.8%	36.2%
Seconds per unit	360	4	734	414	56.4%	43.6%
Length of each phase	6 min 0 sec	5	725	440	60.7%	39.3%
		Total	3661			
	Insider interview 2	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	30 min 11 sec	1	725	373	51.5%	48.5%
Start of interview	1 min 2 sec	2	753	338	44.9%	55.1%
Length of interview (s)	1811	3	731	361	49.4%	50.6%
Seconds per unit	326	4	805	279	34.7%	65.3%
Length of each phase	5 min 26 sec	5	657	342	52.1%	47.9%
		Total	3671			
	Insider interview 3	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	31 min 12 sec	1	793	221	27.9%	72.1%
Start of interview	3 min 15 sec	2	735	296	40.3%	59.7%
Length of interview (s)	1872	3	742	284	38.3%	61.7%
Seconds per unit	328	4	716	123	17.2%	82.8%
Length of each phase	5 min 28 sec	5	667	281	42.1%	57.9%
		Total	3653			
	Insider interview 4	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	33 min 0 sec	1	767	298	38.9%	61.1%
Start of interview	2 min 10 sec	2	804	418	52.0%	48.0%
Length of interview (s)	1850	3	723	306	42.3%	57.7%
Seconds per unit	370	4	775	317	40.9%	59.1%
Length of each phase	6 min 10 sec	5	718	143	19.9%	80.1%
		Total	3787			

Table C4: Distribution of words over different phases, insider interviewer

Number of words over different phases	Total	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Total number of words	14772	2955	3039	2981	3030	2767
Interviewer	6389	1201	1397	1452	1133	1206
Percentage interviewer input	43.3%	40.6%	46.0%	48.7%	37.4%	43.6%

Table C5: Proportion of speech per interview, outsider interviewer

	Outsider interview 1	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	18 min 15 sec	1	395	104	26.3%	73.7%
Start of interview	1 min 14 sec	2	408	146	35.8%	64.2%
Length of interview (s)	1095	3	419	94	22.4%	77.6%
Seconds per unit	199	4	434	103	23.7%	76.3%
Length of each phase	3 min 19 sec	5	385	146	37.9%	62.1%
		Total	2041			
	Outsider interview 2	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	31 min 24 sec	1	763	92	12.1%	87.9%
Start of interview	3 min 50 sec	2	717	32	4.5%	95.5%
Length of interview (s)	1884	3	830	139	16.8%	83.2%
Seconds per unit	328	4	726	104	14.3%	85.7%
Length of each phase	5 min 28 sec	5	792	87	11.0%	89.0%
		Total	3828			
	Outsider interview 3	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	18 min 55 sec	1	460	60	13.0%	87.0%
Start of interview	2 min 20 sec	2	475	54	11.4%	88.6%
Length of interview (s)	1135	3	479	104	21.7%	78.3%
Seconds per unit	187.6	4	464	87	18.8%	81.2%
Length of each phase	3 min 8 sec	5	484	81	16.7%	83.3%
		Total	2362			
	Outsider interview 4	Phase	Number of words during phase n	Number of words interviewer	Interviewer percentage of speech	Respondent percentage of speech
Length of interview	15 min 56 sec	1	340	45	13.2%	86.8%
Start of interview	0 min 10 sec	2	393	68	17.3%	82.7%
Length of interview (s)	806	3	475	125	26.3%	73.7%
Seconds per unit	186	4	397	59	14.9%	85.1%
Length of each phase	3 min 6 sec	5	410	141	34.4%	65.6%
		Total	2015			

Table C6: Distribution of words over different phases, outsider interviewer

Number of words over different phases	Total	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Total number of words	10246	1958	1993	2203	2021	2071
Interviewer	1871	301	300	462	353	455
Percentage interviewer input	18,3%	15,4%	15,1%	21,0%	17,5%	22,0%

Table C7: Distribution of input focus, insider interviewer

Focus	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	6,0%	2,2%	9,8%	6,9%	5,7%	9
Informant factual	52,7%	42,2%	46,3%	48,3%	77,1%	79
Hypothesis verification	14,0%	20,0%	9,8%	13,8%	11,4%	21
Problem exploring	27,3%	35,6%	34,1%	31,0%	5,7%	41
						150

Table C8: Distribution of input focus, outsider interviewer

Focus	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	8,6%	12,9%	11,1%	4,3%	4,2%	9
Informant factual	52,4%	48,4%	51,9%	56,5%	54,2%	55
Hypothesis verification	11,4%	12,9%	7,4%	8,7%	16,7%	12
Problem exploring	27,6%	25,8%	29,6%	30,4%	25,0%	29
						105

Table C9: Distribution of input type, insider interviewer

Distribution of input	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
New question	32,8%	34,8%	37,3%	23,5%	33,8%	80
Follow-up question	11,5%	13,6%	22,0%	5,9%	4,4%	28
Statement	17,2%	19,7%	10,2%	27,5%	13,2%	42
Interjection	38,5%	31,8%	30,5%	43,1%	48,5%	94
						244

Table C10: Distribution of input type, outsider interviewer

Distribution of input	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
New question	34,6%	28,9%	32,6%	41,2%	38,7%	53
Follow-up question	26,1%	28,9%	23,3%	17,6%	35,5%	40
Statement	7,8%	11,1%	7,0%	8,8%	3,2%	12
Interjection	31,4%	31,1%	37,2%	32,4%	22,6%	48
						153

Table C11: Focus of new question input, insider interviewer

Focus new question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	8,8%	1	3	1	2	7
Informant factual	50,0%	10	10	4	16	40
Problem exploring	25,0%	7	6	5	2	20
Hypothesis verification	16,3%	5	3	2	3	13
						80

Table C12: Focus of new question input, outsider interviewer

Focus new question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	9,6%	1	2	1	1	5
Informant factual	53,8%	8	6	8	6	28
Problem exploring	21,2%	2	3	3	3	11
Hypothesis verification	15,4%	2	2	2	2	8
						52

Table C13: Nuances of new question input, insider interviewer

New question nuance	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Neutral question	33,8%	30,4%	31,8%	41,7%	34,8%	27
Ambiguous question	27,5%	30,4%	27,3%	16,7%	30,4%	22
Limiting question	38,8%	39,1%	40,9%	41,7%	34,8%	31
						80

Table C14: Nuances of new question input, outsider interviewer

New question nuance	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Neutral question	88,7%	76,9%	92,3%	92,9%	92,3%	47
Ambiguous question	1,9%	7,7%	0,0%	0,0%	0,0%	1
Limiting question	9,4%	15,4%	7,7%	7,1%	7,7%	5
						53

Table C15: Nuances of follow-up question input, insider interviewer

Input nuance	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Limiting follow-up questions	82,1%	88,9%	69,2%	100,0%	100,0%	23
Explorative follow-up questions	17,9%	11,1%	30,8%	0,0%	0,0%	5
						28

Table C16: Nuances of follow-up question input, outsider interviewer

Input nuance	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Limiting follow-up questions	54,5%	61,5%	41,7%	25,0%	81,8%	2
Explorative follow-up questions	45,5%	38,5%	58,3%	75,0%	18,2%	2
						4

Table C17: Focus of follow-up question, insider interviewer

Focus of limiting follow-up question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	0,0%	0	0	0	0	0
Informant factual	34,8%	0	6	0	2	8
Hypothesis verification	30,4%	4	0	2	1	7
Problem exploring	34,8%	4	3	1	0	8
						23
Focus of exploring follow-up question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	0,0%	0	0	0	0	0
Informant factual	20,0%	0	1	0	0	1
Hypothesis verification	0,0%	0	0	0	0	0
Problem exploring	80,0%	1	3	0	0	4
						5

Table C18: Focus of follow-up question, outsider interviewer

Focus of limiting follow-up question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	16,7%	4	0	0	0	4
Informant factual	66,7%	4	5	1	6	16
Problem exploring	12,5%	1	0	0	2	3
Hypothesis validating	4,2%	0	0	0	1	1
						24
Focus of explorative follow-up question	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Personal factual	5,3%	1	0	0	0	1
Informant factual	31,6%	2	3	0	1	6
Problem exploring	63,2%	2	4	5	1	12
Hypothesis validating	0,0%	0	0	0	0	0
						19

Table C19: Distribution of statement nuances, insider interviewer

Statement	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Statement with space to confirm	76,2%	69,2%	100,0%	71,4%	77,8%	32
Statement without space to confirm	23,8%	30,8%	0,0%	28,6%	22,2%	10
						42

Table C20: Distribution of statement nuances, outsider interviewer

Statement	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Statement with space to confirm	100%	100,0%	100,0%	100,0%	100,0%	11
Statement without space to confirm	0,0%	0,0%	0,0%	0,0%	0,0%	0
						11

Table C21: Distribution of interjection nuances, insider interviewer

Interjection	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Neutral interjection	77,7%	71,4%	88,9%	81,8%	72,7%	73
Limiting interjection	22,3%	28,6%	11,1%	18,2%	27,3%	21
						94

Table C22: Distribution of interjection nuances, outsider interviewer

Interjection	Total	Interview 1	Interview 2	Interview 3	Interview 4	Number of input
Neutral interjection	93,8%	92,9%	93,8%	90,9%	100,0%	45
Limiting interjection	6,3%	7,1%	6,3%	9,1%	0,0%	3
						48

Table C23: Distribution of input focus during phases, insider interviewer

Interview 1	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	1	0	0	0	0
Informant factual	7	0	8	4	0
Hypothesis verification	1	0	1	4	3
Problem exploring	2	6	1	2	5
Total	11	6	10	10	8
Contextual focus during phases	72,7%	0,0%	80,0%	40,0%	0,0%

Interview 2	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	3	0	1	0	0
Informant factual	6	8	0	3	2
Hypothesis verification	0	1	3	0	0
Problem exploring	4	0	1	6	3
Total	13	9	5	9	5
Contextual focus during phases	69,2%	88,9%	20,0%	33,3%	40,0%

Interview 3	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	2	0	0	0	0
Informant factual	6	3	4	0	1
Hypothesis verification	0	2	1	1	0
Problem exploring	0	1	1	2	5
Total	8	6	6	3	6
Contextual focus during phases	100,0%	50,0%	66,7%	0,0%	16,7%

Interview 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	2	0	0	0	0
Informant factual	7	10	6	3	1
Hypothesis verification	1	0	2	1	0
Problem exploring	0	0	0	1	1
Total	10	10	8	5	2
Contextual focus during phases	90,0%	100,0%	75,0%	60,0%	50,0%
Total Contextual focus during phases	81,0%	67,7%	65,5%	37,0%	19,0%

Table C24: Distribution of input focus during phases, outsider interviewer

Interview 1	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	4	0	0	0	0
Informant factual	4	6	4	1	0
Hypothesis verification	0	1	0	1	2
Problem exploring	0	0	2	4	2
Total	8	7	6	6	4
Contextual focus during phases	100,0%	85,7%	66,7%	16,7%	0,0%

Interview 2	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	3	0	0	0	0
Informant factual	4	3	5	2	0
Hypothesis verification	0	0	1	0	1
Problem exploring	0	0	1	3	4
Total	7	3	7	5	5
Contextual focus during phases	100,0%	100,0%	71,4%	40,0%	0,0%

Interview 3	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	1	0	0	0	0
Informant factual	4	3	3	2	1
Hypothesis verification	0	0	1	0	1
Problem exploring	0	0	2	4	1
Total	5	3	6	6	3
Contextual focus during phases	100,0%	100,0%	50,0%	33,3%	33,3%

Interview 4	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Personal factual	1	0	0	0	0
Informant factual	3	6	2	2	0
Hypothesis verification	0	0	1	0	3
Problem exploring	0	0	1	5	0
Total	4	6	4	7	3
Contextual focus during phases	100,0%	100,0%	50,0%	28,6%	0,0%
Total Contextual focus during phases	100,0%	94,7%	60,9%	29,2%	6,7%

Table C25: Distribution of input type during phases, insider interviewer

Interview 1	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	7	43,8%	3	30,0%	5	45,5%	3	17,6%	5	41,7%
Follow-up question	2	12,5%	2	12,5%	0	0,0%	4	23,5%	1	8,3%
Statement	2	12,5%	1	6,3%	5	45,5%	3	17,6%	2	16,7%
Interjection	5	31,3%	4	25,0%	1	9,1%	7	41,2%	4	33,3%
Total	16		10		11		17		12	

Interview 2	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	10	71,4%	5	50,0%	4	44,4%	1	7,1%	2	16,7%
Follow-up question	2	14,3%	3	30,0%	0	0,0%	7	50,0%	1	8,3%
Statement	1	7,1%	1	10,0%	1	11,1%	1	7,1%	2	16,7%
Interjection	1	7,1%	1	10,0%	4	44,4%	5	35,7%	7	58,3%
Total	14		10		9		14		12	

Interview 3	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	3	21,4%	4	33,3%	1	8,3%	1	25,0%	3	33,3%
Follow-up question	0	0,0%	1	8,3%	1	8,3%	1	25,0%	0	0,0%
Statement	5	35,7%	1	8,3%	4	33,3%	1	25,0%	3	33,3%
Interjection	6	42,9%	6	50,0%	6	50,0%	1	25,0%	3	33,3%
Total	14		12		12		4		9	

Interview 4	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	9	75,0%	6	30,0%	5	29,4%	2	28,6%	1	8,3%
Follow-up question	0	0,0%	0	0,0%	1	5,9%	2	28,6%	0	0,0%
Statement	1	8,3%	4	20,0%	2	11,8%	1	14,3%	1	8,3%
Interjection	2	16,7%	10	50,0%	9	52,9%	2	28,6%	10	83,3%
Total	12		20		17		7		12	

Table C26: Distribution of input type during phases, outsider interviewer

Interview 1	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	5	31,3%	2	22,2%	3	37,5%	2	25,0%	1	25,0%
Follow-up question	3	18,8%	5	55,6%	2	25,0%	2	25,0%	1	25,0%
Statement	0	0,0%	0	0,0%	1	12,5%	2	25,0%	2	50,0%
Interjection	8	50,0%	2	22,2%	2	25,0%	2	25,0%	0	0,0%
Total	16		9		8		8		4	

Interview 2	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	5	50,0%	2	50,0%	3	25,0%	2	28,6%	2	20,0%
Follow-up question	1	10,0%	1	25,0%	4	33,3%	2	28,6%	2	20,0%
Statement	1	10,0%	0	0,0%	0	0,0%	1	14,3%	1	10,0%
Interjection	3	30,0%	1	25,0%	5	41,7%	2	28,6%	5	50,0%
Total	10		4		12		7		10	

Interview 3	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	3	37,5%	3	42,9%	4	50,0%	2	33,3%	2	40,0%
Follow-up question	0	0,0%	0	0,0%	2	25,0%	4	66,7%	0	0,0%
Statement	2	25,0%	0	0,0%	0	0,0%	0	0,0%	1	20,0%
Interjection	3	37,5%	4	57,1%	2	25,0%	0	0,0%	2	40,0%
Total	8		7		8		6		5	

Interview 4	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
New question	2	40,0%	4	66,7%	2	28,6%	3	33,3%	1	25,0%
Follow-up question	2	40,0%	2	33,3%	2	28,6%	4	44,4%	1	25,0%
Statement	0	0,0%	0	0,0%	0	0,0%	0	0,0%	1	25,0%
Interjection	1	20,0%	0	0,0%	3	42,9%	2	22,2%	1	25,0%
Total	5		6		7		9		4	

Table C27: Focus of new question input during different phases, insider interviewer

Focus input	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
Personal factual	6	20,7%	0	0,0%	1	6,7%	0	0,0%	0	0,0%
Informant factual	19	65,5%	12	66,7%	7	46,7%	2	28,6%	0	0,0%
Problem exploring	2	6,9%	4	22,2%	1	6,7%	4	57,1%	9	81,8%
Hypothesis verification	2	6,9%	2	11,1%	6	40,0%	1	14,3%	2	18,2%
Total	29		18		15		7		11	

Table C28: Focus of new question input during different phases, outsider interviewer

Focus input	Phase 1		Phase 2		Phase 3		Phase 4		Phase 5	
Personal factual	5	33,3%	0	0,0%	0	0,0%	0	0,0%	0	0,0%
Informant factual	10	66,7%	10	90,9%	6	50,0%	2	25,0%	0	0,0%
Problem exploring	0	0,0%	0	0,0%	3	25,0%	6	75,0%	2	33,3%
Hypothesis verification	0	0,0%	1	9,1%	3	25,0%	0	0,0%	4	66,7%
Total	15		11		12		8		6	

Table C29: Distribution of new question input nuances over different phases, insider interviewer

Interview 1	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	3	0	1	0	3
	Ambiguous question	2	2	0	2	1
	Limiting question	2	1	4	1	1
	Total	7	3	5	3	5
	Percentage Ambiguous and Limiting questions	57,1%	100,0%	80,0%	100,0%	40,0%
Interview 2	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	3	2	2	0	0
	Ambiguous question	2	1	2	0	1
	Limiting question	5	2	0	1	1
	Total	10	5	4	1	2
	Percentage Ambiguous and Limiting questions	70,0%	60,0%	50,0%	100,0%	100,0%
Interview 3	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	2	2	0	1	0
	Ambiguous question	0	1	0	0	1
	Limiting question	1	1	1	0	2
	Total	3	4	1	1	3
	Percentage Ambiguous and Limiting questions	33,3%	50,0%	100,0%	0,0%	100,0%
Interview 4	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	2	3	1	1	1
	Ambiguous question	3	2	2	0	0
	Limiting question	4	1	2	1	0
	Total	9	6	5	2	1
	Percentage Ambiguous and Limiting questions	77,8%	50,0%	80,0%	50,0%	0,0%
	Total Percentage Ambiguous and Limiting questions	65,5%	61,1%	73,3%	71,4%	63,6%

Table C30: Distribution of new question input nuances over different phases, outsider interviewer

Interview 1	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	2	2	3	2	1
	Ambiguous question	1	0	0	0	0
	Limiting question	2	0	0	0	0
	Total	5	2	3	2	1
	Percentage Ambiguous and Limiting questions	60,0%	0,0%	0,0%	0,0%	0,0%
Interview 2	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	4	2	3	1	2
	Ambiguous question	0	0	0	0	0
	Limiting question	1	0	0	0	0
	Total	5	2	3	1	2
	Percentage Ambiguous and Limiting questions	20,0%	0,0%	0,0%	0,0%	0,0%
Interview 3	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	3	2	4	2	2
	Ambiguous question	0	0	0	0	0
	Limiting question	0	1	0	0	0
	Total	3	3	4	2	2
	Percentage Ambiguous and Limiting questions	0,0%	33,3%	0,0%	0,0%	0,0%
Interview 4	Input nuances of New question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral question	2	4	3	2	1
	Ambiguous question	0	0	0	0	0
	Limiting question	0	0	0	1	0
	Total	2	4	3	3	1
	Percentage Ambiguous and Limiting questions	0,0%	0,0%	0,0%	33,3%	0,0%
	Total Percentage Ambiguous and Limiting questions	26,7%	9,1%	0,0%	12,5%	0,0%

Table C31: Distribution of follow-up question input nuances over different phases, insider interviewer

Interview 1	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up questions	2	2	0	3	1
	Explorative follow-up questions	0	0	0	1	0
	Total	2	2	0	4	1
	Percentage Limiting follow-up questions	100,0%	100,0%	-	75,0%	100,0%
Interview 2	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up questions	2	2	0	4	1
	Explorative follow-up questions	0	1	0	3	0
	Total	2	3	0	7	1
	Percentage Limiting follow-up questions	100,0%	66,7%	-	57,1%	100,0%
Interview 3	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up questions	0	1	1	1	0
	Explorative follow-up questions	0	0	0	0	0
	Total	0	1	1	1	0
	Percentage Limiting follow-up questions	-	100,0%	100,0%	100,0%	-
Interview 4	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up questions	0	0	1	2	0
	Explorative follow-up questions	0	0	0	0	0
	Total	0	0	1	2	0
	Percentage Limiting follow-up questions	-	-	100,0%	100,0%	-

Table C32: Distribution of follow-up question input nuances over different phases, outsider interviewer

Interview 1	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up question	2	3	2	1	0
	Explorative follow-up question	1	2	0	1	1
	Total	3	5	2	2	1
	Percentage Limiting follow-up questions	66,7%	60,0%	100,0%	50,0%	0,0%
Interview 2	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up question	0	1	3	1	0
	Explorative follow-up question	1	0	1	3	2
	Total	1	1	4	4	2
	Percentage Limiting follow-up questions	0,0%	100,0%	75,0%	25,0%	0,0%
Interview 3	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up question	0	0	0	1	0
	Explorative follow-up question	0	0	2	3	0
	Total	0	0	2	4	0
	Percentage Limiting follow-up questions	-	-	0,0%	25,0%	-
Interview 4	Input nuances of Follow-up question	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Limiting follow-up question	2	1	2	3	1
	Explorative follow-up question	0	1	0	1	0
	Total	2	2	2	4	1
	Percentage Limiting follow-up questions	100,0%	50,0%	100,0%	75,0%	100,0%

Table C33: Distribution of statement nuances over different phases, insider interviewer

Interview 1	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	1	1	3	3	1
	Statement without space to confirm	1	0	2	0	1
	Total	2	1	5	3	2
	Percentage Statement without space to confirm	50,0%	0,0%	40,0%	0,0%	50,0%
Interview 2	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	1	1	1	1	2
	Statement without space to confirm	0	0	0	0	0
	Total	1	1	1	1	2
	Percentage Statement without space to confirm	0,0%	0,0%	0,0%	0,0%	0,0%
Interview 3	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	5	0	4	0	1
	Statement without space to confirm	0	1	0	1	2
	Total	5	1	4	1	3
	Percentage Statement without space to confirm	0,0%	100,0%	0,0%	100,0%	66,7%
Interview 4	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	0	3	2	1	1
	Statement without space to confirm	1	1	0	0	0
	Total	1	4	2	1	1
	Percentage Statement without space to confirm	100,0%	25,0%	0,0%	0,0%	0,0%

Table C34: Distribution of statement nuances over different phases, outsider interviewer

Interview 1	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	0	0	1	2	2
	Statement without space to confirm	0	0	0	0	0
	Total	0	0	1	2	2
	Percentage Statement without space to confirm	-	-	0,0%	0,0%	0,0%
Interview 2	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	1	0	0	0	1
	Statement without space to confirm	0	0	0	0	0
	Total	1	0	0	0	1
	Percentage Statement without space to confirm	0,0%	-	-	-	0,0%
Interview 3	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	2	0	0	0	1
	Statement without space to confirm	0	0	0	0	0
	Total	2	0	0	0	1
	Percentage Statement without space to confirm	0,0%	-	-	-	0,0%
Interview 4	Statement	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Statement with space to confirm	0	0	0	0	1
	Statement without space to confirm	0	0	0	0	0
	Total	0	0	0	0	1
	Percentage Statement without space to confirm	-	-	-	-	0,0%

Table C35: Distribution of interjection nuances over different phases, insider interviewer

Interview 1	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	5	1	0	6	3
	Limiting interjection	0	3	1	1	1
	Total	5	4	1	7	4
	Percentage Limiting interjection	0,0%	75,0%	100,0%	14,3%	25,0%
Interview 2	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	1	1	4	5	5
	Limiting interjection	0	0	0	0	2
	Total	1	1	4	5	7
	Percentage Limiting interjection	0,0%	0,0%	0,0%	0,0%	28,6%
Interview 3	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	6	5	6	1	0
	Limiting interjection	0	1	0	0	3
	Total	6	6	6	1	3
	Percentage Limiting interjection	0,0%	16,7%	0,0%	0,0%	100,0%
Interview 4	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	1	5	7	2	9
	Limiting interjection	1	5	2	0	1
	Total	2	10	9	2	10
	Percentage Limiting interjection	50,0%	50,0%	22,2%	0,0%	10,0%

Table C36: Distribution of interjection nuances over different phases, outsider interviewer

Interview 1	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	8	2	1	2	0
	Limiting interjection	0	0	1	0	0
	Total	8	2	2	2	0
	Percentage Limiting interjection	0,0%	0,0%	50,0%	0,0%	-
Interview 2	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	3	1	5	1	5
	Limiting interjection	0	0	0	1	0
	Total	3	1	5	2	5
	Percentage Limiting interjection	0,0%	0,0%	0,0%	50,0%	0,0%
Interview 3	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	3	3	2	0	2
	Limiting interjection	0	1	0	0	0
	Total	3	4	2	0	2
	Percentage Limiting interjection	0,0%	25,0%	0,0%	-	0,0%
Interview 4	Interjection	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Neutral interjection	1	0	3	2	1
	Limiting interjection	0	0	0	0	0
	Total	1	0	3	2	1
	Percentage Limiting interjection	0,0%	-	0,0%	0,0%	0,0%