



OULUN YLIOPISTO
UNIVERSITY of OULU

OULU BUSINESS SCHOOL

Eetu Ojala

**ADDRESSING INITIAL CUSTOMER INQUIRIES WITH A HYBRID TEAM USING
AGILE PROJECT MANAGEMENT METHODOLOGY**

Master's Thesis
Oulu Business School

12 / 2017

Unit Oulu Business School			
Author Ojala, Eetu		Supervisor Mainela, Tuija	
Title Addressing Initial Customer Inquiries with a Hybrid Team Using Agile Project Management Methodology			
Subject International Business Management	Type of the degree Master's Thesis	Time of publication 19.12.2017	Number of pages 77
<p>Abstract</p> <p>The paper is a case study with Patria Land (the Company) as a client. The phenomenon behind the research is the complexity of choosing the "right" customers for doing business with. This is the case with virtually every company, not just the client of this paper.</p> <p>The research problem in this research is "How can the Company develop a rigorous and unambiguous internal process for addressing the initial inquiries from potential customers?" To provide an answer to the set problem, there are two additional research questions, which are "What happens within the Company when an initial inquiry comes in?" and "What does creating an unambiguous process for addressing the initial inquiries from potential customers require from the Company?"</p> <p>Because of the complexity of the subject as well as the problem being quite company-specific, there were not any ready-made solutions or theories to be applied. Therefore, providing a solution for the research problem required combining different theories with each other. For the empirical nature of the problem, action research was chosen to be used as a method of conducting this research. The theoretical approach included comparing traditional project management procedures with agile ones and what are the reasons why agile project management should be used in providing an answer for the research problem in this research. In addition to this comparison, the communication aspect was determined as being one of the challenges of the Company. Thus, the concept of business communication is covered in this paper. Bringing the business communication of the Company up-to-date was chosen to be done with the help of mobile applications and a company called AppGyver is used as an example of such provider in this paper. Lastly, the process that is created in the paper is based on using the concept of a hybrid team and therefore it is covered in detail.</p> <p>Because of the empirical nature of the research problem, interviewing certain key employees of the Company was deemed as being the best method of gathering the empirical data. The interviews were qualitative, semi-structured by nature and were conducted as ethnographic interviews.</p> <p>The conclusions of the paper are that the Company did not have an unambiguous process for addressing the initial inquiries from potential customers and it was highly dependent on the person getting the inquiry how it was addressed. As for what does it require to create an unambiguous process for addressing the initial inquiries, it was determined that the Company needs to have a hybrid quotation team that uses specific mobile applications to improve things such as communication and operates according to the agile project management methodology. The actual process created for addressing the initial inquiries is based on forming the said hybrid quotation team. The process has five different stages that are: 1. Initial inquiry comes in, 2. The inquiry is directed to the hybrid quotation team and is evaluated by the team, 3. Deciding on whether to start the quotation process, 4. Quotation process and 5. Decision from the customer.</p>			
Keywords Action Research, Business Communication, Quotation Process, Mobile Applications			

CONTENTS

1	INTRODUCTION	5
1.1	Introduction to the Topic	5
1.2	Research Question and Objectives	7
1.3	The Structure of the Paper.....	8
2	RESEARCH METHOD AND EMPIRICAL PROBLEM SETTING.....	10
2.1	Research Method	10
2.1.1	Action Research.....	10
2.1.2	Qualitative, Semi-Structured Interviews	12
2.2	Empirical Problem Setting.....	16
2.2.1	Company and Industry Description	16
2.2.2	The Empirical Problem of the Company	17
2.3	Empirical Findings.....	18
2.3.1	Conducting the Interviews	18
2.3.2	Findings From the Interviews	19
3	PROJECT MANAGEMENT	29
3.1	What is Project Management?	29
3.1.1	Defining the Concept of a Project	29
3.1.2	History of Project Management.....	30
3.2	Traditional Project Management Versus Agile Project Management	31
3.2.1	Traditional Project Management	31
3.2.2	Agile Project Management	33
3.2.3	The Reasons for Choosing APM Over Classical Project Management.....	37
4	COMMUNICATION	38
4.1	Business Communication	38

4.1.1	Communication as a Concept	38
4.1.2	Business Communication Skills	38
4.2	Communication in a Hybrid Team	42
4.2.1	What is a Hybrid Team?	42
4.2.2	AppGyver as an Enabler of Improving Communication	46
5	CREATING AN UNAMBIGUOUS PROCESS FOR ADDRESSING INITIAL INQUIRIES BY FORMING A HYBRID TEAM.....	50
5.1	APM as an Answer for Creating an Unambiguous Process for Addressing the Initial Inquiries	50
5.1.1	Not Having a Specific Quotation Team.....	50
5.1.2	Forming a Specific Quotation Team.....	52
5.1.3	What Option Should the Company Choose?	53
5.2	Improving Communication Through Mobile Applications	54
5.3	A Hybrid Quotation Team	57
6	CONCLUSIONS.....	63
6.1	Conceptual Implications.....	63
6.2	Managerial Implications	65
6.3	Limitations.....	70
6.4	Directions for Future Research	70
	REFERENCES.....	72

FIGURES

Figure 1. The Structure of Patria Group (Patria 2 2017)	16
Figure 2. A bar chart based on Henry Gantt's original bar chart from the early 1900s. (Smartsheet 2017)	30
Figure 3. Areas the Company could improve with the help of AppGyver.	47
Figure 4. The features of a mobile application for the hybrid quotation team.....	55
Figure 5. Hybrid Quotation Team.	57
Figure 6. New process for handling initial inquiries.	60
Figure 7. A Summary of the Created Process	69

1 INTRODUCTION

1.1 Introduction to the Topic

It goes without saying that having a successful business requires customers. Not any customers but such that benefit you. As in all other things in life, it is virtually impossible to gain something without giving up something and that ultimately forms a relationship. The same is true in doing business as well, meaning that not only does the customer have to benefit you, you have to benefit the customer in some way as well for them to choose you over your competitors. The importance of this relationship is even more important in companies that are in project-based business, meaning that their business is based on projects that have a start and an ending. Ultimately this relates to the importance of choosing the “right” customers to do business with; in other words, which are the customers that being in a relationship with brings benefits to both parties. This is the case with all companies wanting to succeed no matter the industry they are in.

”Lots of good individual efforts, but not much coherence.” That is a direct quotation from one of the employees of Patria Land (the Company), the client behind this research. That quotation sums the purpose of this paper perfectly as it identifies the main problem of the Company right to the point. The Company has a problem in addressing initial inquiries from potential customers as they currently have no distinctive process for doing that which consequently led to conducting this research for creating that kind of process.

Because of the complexity of choosing the right customers and the fact that the research problem of this research is inspired by a concrete need of an individual company, there are not any ready-made solutions or theories to solve the problem. Instead, providing a solution for the Company requires combining different theories with each other as becomes evident in the following chapters.

Because of the nature of the problem it was necessary to get acquainted with the situation of the Company first-hand right at the beginning of the process. This kind

of approach meant that action research was the best way of conducting this research. This is because in action research after the initial planning phase that is a part of every research, there is an acting phase right after (Lewin 1946); interviewing the key employees and getting the hang of current situation of the Company in this case. Therefore, this paper also has the empirical findings gained from the qualitative, semi-structured interviews with key employees of the Company already in the second chapter, before the theoretical part of the paper.

The business of the Company is project-based which means that project management is an obvious point to start with in terms of the literature review. The Company's current use of one of the models of the traditional project management methodology called "waterfall" model (Baird & Riggins 2012), meant that the definitions and characteristics of traditional project management procedures was a starting point of the literature review. Based on the challenges that came up in the interviews, comparing the traditional approach with the agile project management procedures became necessary. Agile project management methods have certain features differentiating them from the traditional ones, the most evident being that the agile methods are designed as being iterative and therefore reducing risks (Mirzaei & Mabin 2017; Conforto et al. 2014) whereas project management is based on rigid and precisely planned phases that are not returned to once completed (Baird & Riggins 2012; McConnell 2010; Banica et al. 2017).

Communication was not only mentioned as one of the challenge of the Company in the interviews but is also an essential part of facilitating the use of agile project management methodologies (Dyba & Dingsoyr 2008). Instead of focusing the at least 126 different definitions for communication (Dance and Larson 1976), the focus in this research was on the concept of business communication. The different skills that are included in business communication (Boarcăs 2017; Waldeck et al. 2012) form a good base for the use of a hybrid team in addressing the initial inquiries from potential customers.

A team that uses virtual tools alongside the traditional face-to-face communication is called a hybrid team (Schroeder 2013) and this method was chosen to be used in this research to not only improve the communication of the Company as they already

have certain accelerators (Schroeder 2013) enabling the use of a hybrid team, but also to better incorporating the agile project management methodology in the process of addressing the initial inquiries from potential customers.

Using a hybrid team model means that there needs to be modern tools and ways for the members of the team to communicate with each other. Based on the interviews these tools are not up-to-date at the moment and therefore the mobile applications are introduced as a solution for this and a company called AppGyver as an example of the provider of those applications.

By combining all the concepts mentioned above, it was possible to come up with a solution to both research questions and the actual research problem introduced in the following chapter.

1.2 Research Question and Objectives

The research problem for the paper was defined by the Company. They have a clear need for a distinctive and unambiguous process for addressing the initial inquiries from potential customers who are looking varying information before the actual request for information. Therefore, the research problem as a whole for this research is the following:

"How can the Company develop a rigorous and unambiguous internal process for addressing the initial inquiries from potential customers?"

At the moment, the Company does not have a concrete process for addressing all the different inquiries they get from potential customers around the world. That is a problem since as was found in interviewing key personnel from the Company, there have been beneficial projects of which the Company has missed out on for the simple reason that an individual employee has decided that an inquiry should not cause any actions. That is why there needs to be an unambiguous and rigorous process through which all inquiries go through so that situations like that can be avoided. Another reason for the need of an unambiguous process is the scope of inquiries which ranges from a simple A4 sheet to a pile documents depicting very specific requirements.

The solution for the set research problem can be provided by answering the following two questions:

"What happens within the Company when an initial inquiry comes in?"

As was already mentioned, there is no distinctive process for an inquiry to go through the Company at the moment. For creating such unambiguous process, it is first essential to find out how an initial inquiry moves within the Company at the moment; in other words, how do the inquiries enter the Company and from where, what happens after that and who are responsible for all these different actions?

"What does creating an unambiguous process for addressing the initial inquiries from potential customers require from the Company?"

Although there is a clear need for an unambiguous process by the Company, it needs to be determined what the Company has to do differently for being able to implement the set process that is created in this research. These issues include things such as current project management methods and communication tools, for example.

Providing the answer for the two latter questions will enable solving the actual research problem.

1.3 The Structure of the Paper

The paper starts with an introduction chapter that is divided into three parts. The first part consists of introduction of the general problem of the Company as well as the theoretical concepts behind this paper. The second part depicts the actual research problem and the research questions aimed at helping provide a solution for the research problem. The third part describes the structure of this paper.

The second chapter depicts the actual research process. The chapter starts with describing action research that was chosen as the most suitable method for this kind of research. After that, it is explained why the interview style was chosen to be qualitative and semi-structured and also the theories behind these concepts. The

second part of the chapter revolves around the actual problem setting, meaning that the Company and the industry it operates in and also the problem they have that has been the inspiration behind this research are introduced.

Third chapter is the first of two theoretical chapters and is about defining the different concepts of project management and the history behind them. The chapter begins by explaining the concepts of a project and is followed up by describing the history of project management. The second part of the chapter is about describing and comparing the traditional project management and the concept of agile project management (APM) and why the Company should choose APM as their method on project management.

The fourth chapter, which is the latter of the two theoretical chapters, revolves around communication. The first part of the chapter defines the broad concept of communication as well as the concept of business communication. The latter part is about using modern tools of communication in a hybrid team, which is also being introduced in the chapter. Moreover, the chapter is concluded with introducing the mobile applications made with a company called AppGyver's development platform as an example for improving communication.

Fifth chapter is about answering the set research questions by combining the different theories and concepts introduced in previous chapters with the empirical findings. The chapter begins with comparing different ways of how the Company could begin to build an unambiguous process for addressing the initial inquiries in relation to whether they should have a specific quotation team or not. The second part of the chapter discusses the modern ways of improving communication. The last part of the chapter provides a solution for set research problem by introducing a novel hybrid quotation team based on the different concepts and the empirical findings discussed in previous chapters.

Lastly, the sixth chapter concludes this paper by analyzing what can be learned from this paper both conceptually and managerially, what are its limitations and discusses the directions for future research.

2 RESEARCH METHOD AND EMPIRICAL PROBLEM SETTING

2.1 Research Method

Action research was selected as the research method as it seemed to be most fitting because of the practicality of the problem as well as it being very company-specific thus requiring a practical aspect in doing research. Furthermore, qualitative, semi-structured interviews of key personnel of the Company were used to gain insight and knowledge for the purposes of this research.

2.1.1 Action Research

As Reason and Bradbury (2001,1) state, “There is no ‘short answer to the question ‘What is action research?’” Even though the field of action research is varied, through their research Reason and Bradbury (2001, 1) are able to recognize five characteristics of action research that are broadly shared features between the different definitions. These features are human flourishing, practical issues, knowledge-in-action, participation and democracy and emergent developmental form. Moreover, action research revolves around practicality and participation in a way that it tries to offer concrete solutions to be tested out for the problem in question. Moreover, as McNiff (2017, 20) states, action research should not be used to draw comparisons, show statistical correlations or demonstrate a cause-and-effect relationship. That is because action research’s emphasis is on taking action to improve the things under research.

The origins of action research are usually traced back to social experiment of Kurt Lewin in the 1940s (Costello 2003, 7). However, action research takes influence from contemporary critique of positivist science and scientism, Marxist dictum, feminism and experimental learning and psychotherapy among others, meaning that it has no single place of origin to be pointed out (Reason & Bradbury 2001, 3). In addition to its diverse origins, the theoretical inspiration of action research itself has also influences from pragmatic philosophy, critical thinking, practice of democracy, liberationist thought, humanistic and transpersonal psychology, constructionist theory, systems thinking and more recently complexity theory (Reason & Bradbury

2001, 3). Reason and Bradbury (2001, 3) see this kind of refusal to adopt one theoretical perspective as an expression of a post-modern sentiment.

Based on these diverse origins and theoretical inspirations, it comes as no surprise that there are many different definitions for action research, some even contradicting each other. However, despite the multitude of different definitions, there are certain things in the research process that are mutual for all the different definitions. The most evident of these characteristics is the cyclical nature of the process and its pursuit to combine action and research. The basic model for action research was provided by Kurt Lewin (1946) and it consists of four stages:

1. Plan (Planning to implement an activity or activities)
2. Act (Implementing the planned activities)
3. Observe (Observing the outcomes of activities)
4. Reflect (Reflecting on what happened and planning further activities if necessary)

Dick (2002) took the definition one step further by arguing that action research is characterized by an action leading to critical reflection and then perhaps to further actions. Therefore, the cycle can have more than one level as the reflection stage might spur new plans to be tested and therefore the cycle starts over once again (Costello 2003, 3-8.)

As has already been noted previously, the reason why action research was deemed as the most suitable method for this particular research is because of the Company's concrete need for an unambiguous process for their operations. That means that there needs to be a theoretical background for the process (plan) which then has to be implemented (act) and seeing that does it work in practice (observe). After that, there needs to be discussion of whether the said process is usable or if there is something to be modified (reflect). Therefore, retelling the mentioned process, this research proceeded as follows:

- 1) The planning phase included the process of going through discussions with the contact persons of the Company for defining what the actual research

problem could be. Identifying the problem was followed by the process of figuring out the best way of providing a solution for the problem. This included choosing the appropriate research method as well as formulating the questions to be asked from the key employees of the Company chosen to give their views on matters regarding the research problem. The method of interviewing was qualitative and the interviews themselves were semi-structured by nature to get as comprehensive view on things as possible. This phase was done through the time period between January 2017 and April 2017.

- 2) Acting on the set plan began at the junction of April 2017 and May 2017. The biggest part of this phase was conducting the interviews planned in the previous phase. After conducting the seven interviews, began the process of littering and analyzing the answers. This process lasted until August 2017.
- 3) The findings from the interviews and the preliminary new process were introduced to the contact people from the Company in late August 2017. Because of time limitations it was not possible to both implement the process as such and observe it as well. That is why this phase was simply observing how the preliminary process was received by the contact people of the Company and what they thought of it.
- 4) In this research, the reflecting phase included discussing the created preliminary process with the contact people of the Company after presenting it to them and then taking these discussions into account in making necessary modifications to the process.

Method for collecting data was literature review for the theoretical background and as was mentioned during explaining the different phases of this research, qualitative, semi-structured interviews were used for getting the primary and most up-to-date empirical data of the Company's current situation and processes.

2.1.2 Qualitative, Semi-Structured Interviews

As Gubrium and Holstein (2001, 83) put it, qualitative interviewing is based on “conversation, with the emphasis on researchers asking questions and listening, and respondents answering”. In addition, in qualitative interviews the respondents are

seen as meaning makers who can offer their views and tell the background on things instead of just stating facts (Gubrium & Holstein 2001, 83) Gubrium and Holstein (2001, 86) go on to quote Kvale (1996, 4) by stating that a qualitative interview is open-ended in a way that the main focus on it is who the “journey” is being made with rather than having a set path to follow rigorously. In other words, it is more important to let the interviewees elaborate and focus on things they think as important while still having loose guidelines on the conversation. Bryman (2012, 470) brings up a number of ways a qualitative interview differs from a quantitative one:

- 1) The approach of a qualitative interview is a lot less structured than a quantitative one. This is because in quantitative research the structure is there to maximize the reliability and validity of the research whereas in qualitative research the emphasis is more on greater generality.
- 2) The interviewee’s point of view is much more emphasized in qualitative interviews whereas in quantitative interviews the emphasis is on the interviewer’s views.
- 3) “Rambling” and elaborating are things that are actually often encouraged in qualitative interviews whereas in quantitative ones they are usually avoided.
- 4) Qualitative interviews can depart from the schedule or a guide that is used in the interview based on the interviewee’s responses. In quantitative interviews, however, this can lead to jeopardizing the standardization of the interviewing process. Therefore, the qualitative interviews tend to be flexible as the focus can be shifted based on the answers of the interviewee. Moreover, the answers in a qualitative interview are expected to be rich and detailed whereas in quantitative ones the answers are supposed to be such that can be coded and processed quickly.
- 5) In qualitative interview, an interviewee can very well be interviewed multiple times if there is a need while in quantitative interview the interviewees are interviewed only once unless it is a longitudinal research in question.

For these reasons, qualitative interview was chosen as a method for collecting information in this research as the purpose of the research was finding out how things are currently and what could be done differently or improved. Therefore, it

was crucial to hear about the current situation from the key employees of the Company through their own words.

Kvale (1996, 88) suggests that an interview has seven different stages:

- 1) Thematizing
- 2) Designing
- 3) Interviewing
- 4) Transcribing
- 5) Analyzing
- 6) Verifying
- 7) Reporting

Thematizing refers to thinking about the interest of the topic to the researcher and how it fits with the interview method. Moreover, the aim of qualitative interview is to thematize the respondent's experience as well. In designing the interview, the researcher must consider the existing literature and other data on the subject to determine whether a new qualitative interview is necessary. Also, the researcher needs to take into account how much time they have to complete the research, what kind of access they have to the interviewees and also the financial as well as emotional costs for conducting the research. After this, there is the actual interviewing phase of the selected interviewees, transcribing and analyzing what was gotten from the interviewees as well as verifying and reporting the results afterwards (Gubrium & Holstein 2001, 86.)

There are many different types of qualitative interviews that can be chosen. The biggest difference maker in these different types is whether the interview is a structured or an unstructured one. A structured interview, such as a survey, has a pre-defined set of questions made by the interviewer and the purpose of the interview is to get answers from the interviewee on those particular questions. An unstructured interview, on the other hand, is one where the interviewer may have vaguely defined the topics they want to talk about during the interview, an "aide-mémoire" of sorts, but each interview on the same topic can differ significantly between the different interviewees. That is why an unstructured interview is many times very similar to a

normal conversation as the interviewer simply follows up points brought up in the answers that they think are worth following (Bryman 2012, 471.)

The method chosen for this research is called a semi-structured interview. What this means is that the interviews have a flexible and fluid structure and have only a general list of questions to be covered in each of the interviews, an interview guide in other words. Moreover, interview guide does not limit the interviewer to ask questions outside the list in occasions where the interviewee brings up an interesting point that needs to be followed up. However, although there is much freedom on the interviewer, the interview guide is still used so that every question is asked of every interviewee regardless of what things are brought up and therefore every topic is covered with each interviewee (Bryman 2012, 471.)

As will become evident in the following chapters, there were specific topics to be discussed with all of the interviewees but there was still always room for the interviewee to elaborate and focus on things they regarded as important. That was done in order to get as wide perspective as possible on the current processes and also the views and opinions of the interviewees on different things. As Lewis-Beck et al. (The SAGE Encyclopedia of Social Science Research Methods 2004) state, “the relatively open, flexible, and interactive approach to interview structure is generally intended to generate interviewees’ accounts of their own perspectives, perceptions, experiences, understandings, interpretations, and interactions”. Guiding questions are there, however, to ensure that all wanted topics are still covered to some extent in each interview.

According to Lewis-Beck et al. (The SAGE Encyclopedia of Social Science Research Methods 2004), there are three distinct semi-structured interview types to be recognized: ethnographic, psychoanalytic and life or oral history interviews. Ethnographic interviews are defined as usually being used as a part of a broader research. They are often conducted with ongoing relationships in the field and the data of various sorts is created both within and outside the interviews. In analyzing interview data, a large emphasis is put on the interviewees’ own interpretations and understandings. That is why in this research, the interviews were the ethnographic

type as the views and opinions of the interviewees on the Company's current processes were crucial factors for this research.

2.2 Empirical Problem Setting

2.2.1 Company and Industry Description

Patria Land is part of the Patria Group and operates in the defence and security field. (Patria 1) As a whole, the structure of the Patria Group is as follows:



Figure 1. The Structure of Patria Group (Patria 2 2017)

As can be seen, Land is just one part of the diverse operations of the Patria Group. Land's turnover was 50,3 million euros in 2015 and it employed 292 people (Fonecta 2017). Land specializes in high quality armored wheeled vehicles, mortar systems and related life cycle support services. As for the armored wheeled vehicles, Land's key product is the Patria AMV and Patria is widely considered as an undisputed market leader in the segment of modern armored wheeled 8x8 vehicles. (Patria 3 2017) In the segment of mortar systems, Land is also considered of being the global market leader with their core product Patria Nemo mortar system. (Patria 4 2017)

Land operates in the defence industry that has certain key features that makes it significantly different from many other fields of business. One is that the industry is highly regulated (at least for the companies based within the European Union countries). One example of these regulations is a thing that came up in the interviews

which was that before starting any of their projects, Land first needs to get an export permit from the Finnish government that they are able to do business with a customer of a specific country. Moreover, not only has the permit be requested before the start of the project, it also has to be valid still at the point of the actual beginning of the project, which could be several months after the granting of the initial permit. What this means is that it obviously limits the potential customers of Land, for example. Another feature affecting especially the initial inquiries is the nature of the relationship between the buyer and the supplier that differs significantly from the same relationships on many other industries. What this means in practice is that as became evident in the interviews, the supplier has to reveal much more information about themselves already in the quotation phase (even before making the quotation) for staying in competition than on most fields.

All in all, Land's client base consists of the armed forces of different countries around the world in an industry that is very different by nature in comparison to other fields of business.

2.2.2 The Empirical Problem of the Company

The main motivation for this research is a concrete need from the Company to research the subject at hand. They have an actual need for a process for addressing the initial inquiries from potential customers. That is because the inquiries differ a lot in the complexity of requirements from the potential customers and therefore the Company needs a rigorous and unambiguous process to, first and foremost, determine which inquiries are feasible and should be considered further. The complexity and quality of different inquiries has a lot to do with cultural differences between different countries the customers operate in, for example. This point came up during the interviews. What this means in practice is that there are different ways of doing inquiries in different countries which consequently makes the inquiries differ a lot from each other in terms of how specific they are in technical requirements, for example.

Therefore, this research is done to address an emerged problem for which there is no concrete and unambiguous process yet. Thus, creating this kind of process will help

the Company as they can save work hours when they are able to differentiate different inquiries right as they arrive and allocate sufficient resources to each. Consequently, the Company is able to make their operations more cost-efficient in this regard. Moreover, the Company states on their website that one of their values is that "Our operations are customer oriented" and continues to elaborate that this means that they want to deepen co-operation with their customers, to be a flexible partner, to keep their promises, to be open and learn from the feedback and know how to interact with people from different cultures. Therefore, providing the Company with a process to differentiate and address the initial inquiries in a better way enables them to fulfill this value even better (Patria 2017.)

2.3 Empirical Findings

2.3.1 Conducting the Interviews

As was mentioned in sub-chapter 2.1, semi-structured interviews were used in this research to gather primary data of the Company's current situation and how they currently do the things related to this research. There were seven interviews in total and all of them were conducted as individual face-to-face interviews with the interviewees. The persons to be interviewed were selected together with the two contact persons (also included in the seven interviewees) from the company and the selection was based on interviewing people from many different positions to get as wide and diverse picture of the current situation of the Company as possible. The interviews were recorded with the consent of interviewees and transcribed based on the records afterwards.

Below is a table of the interviewees with the date of the interview, the name of the interviewee and their respective title:

Date	Interviewee	Title
24.4.2017	Heikki Vilkuna	Sales Support Manager

25.4.2017	Markku Koivisto	Vice President, Key Accounts
9.5.2017	Kari Grön	Vice President, Vehicles Product Line
9.5.2017	Markus Louhivuori	Vice President, Marketing
10.5.2017	Antti Huuskonen	Director, Business Development
10.5.2017	Janne Kopra	Vice President, Key Accounts
10.5.2017	Pasi Niemi	Vice President, Industrialisation & Services

Table 1. The Interviewees.

The length of the interviews varied from approximately 24 minutes to as long as one hour and 11 minutes. The transcriptions from which the results in the next chapter are from, consisted of a total of approximately 50,5 pages.

2.3.2 Findings From the Interviews

First question for all the interviewees was: “How does an initial inquiry from a potential customer advance in the organization and how is it determined which inquiries are worth a more thorough look?” The interviewees all agreed upon the fact that there is not one particular place or person in the company where the inquiry is always going to come. Thus, the interviewees mentioned that an inquiry can come to a particular person in a company (a key account manager usually), as an email to the info mail of the Company, as a phone call to the Company’s switchboard or to the corporation from where it is then directed to some person in the company. However, even though ways of getting an inquiry are far and many, the interviewees did not see this as a problem because as they acknowledged, the Company cannot limit their potential customers to resort to just one method, and that one method only, for making the inquiries.

As for how the inquiry advances after coming in, the interviewees also agreed on the fact that the advancement depends largely of the case; meaning that there is not a particular process by which all of the inquiries go through but instead are heavily dependent on the person who gets the inquiry, for example. There have even been cases in which some person has gotten an inquiry and simply decided themselves that it is an inquiry that does not need any further action without even taking the inquiry forward to anyone else in the company. Few of the interviewees acknowledged situations like these and stated that sometimes there really are times where this kind of behavior is acceptable as some of the inquiries truly are of such nature that an experienced person knows that there is no need to bring that particular inquiry any further in the company because of some limitations of the inquiry, for example. However, they also mentioned that there have also been cases where the inquiry actually should have been brought forward in the company and should have been gone through with more people to decide whether its viable or not.

When an inquiry goes forward in the company, it “somehow finds its way to marketing and sales”, according to the interviewees. Responses to the inquiries and to even possible requests for information (RFI) are done in teams. Depending on the quality and size of the inquiry, a team responding to the inquiry includes key account manager, project manager, Systems Engineering Manager (SEM), acquisition manager and a person that is responsible for the quotation documentation. In practice, the process includes a number of phases.

First, the inquiry is investigated to determine if there is a possibility to offer something based on it. This phase involves product line managers for analyzing what kind of case is at hand and what could be the best product or products to offer based on the Company’s own offering. The case is also analyzed using PESTEL analysis, for example. After this the steps are as follows:

- 1) Preliminary evaluation of the project.
- 2) If the decision is made to start making a quotation, the requirements of the client are evaluated.
- 3) Decisions on what to offer are made, meaning that the offering is defined and documented.

4) Pricing of what is decided to offer.

Some customers demand that the Company has to come demonstrate the product or products so that customer can see it in action and possibly test it themselves. This requires arranging a demo session from the Company. However, as said, not all customers demand this so therefore this phase is optional in many cases. The cycle above is then repeated even two to three times based on the size of the project at hand. In this process as well, the level of how systematically the process proceeds is highly dependent on the person in charge of the project, according to the interviewees.

After it is decided that an inquiry is worth of further investigation, a project is formed. In this phase, the cycle mentioned in the previous paragraph start. During this phase, it is also necessary to make a decision on whether to make a quotation for the potential customer. These kinds of decisions are made with the help of a Waterfall model, which is one model of the traditional project management models (Baird & Riggins 2012), and according to the interviewees, the forum for these decisions is in the management group of sales and marketing department. In practice, the management group of sales and marketing discusses the projects in their monthly meetings and then makes decisions on which projects to pursue. Sometimes the cases are of the magnitude that they require the approval of the management of whole corporation. There are many things to take into consideration when making a decision on whether to make a quotation or not:

- 1) How well do the requirements of the potential customer fit the Company's own offering?
- 2) What kind of profit can be expected?
- 3) What kind of technology and systems are required?
- 4) Risk analysis, including the risks and benefits of local manufacturing partner, schedule demanded by the potential customer, the requirement of possible countertrades and other risks
- 5) Resource load regarding other ongoing projects
- 6) Does the potential customer have a real budget for the project and does an actual project even exist?

- 7) Export permit and the political factors affecting getting one
- 8) The size of the project in terms of whether it is possible to go in as a prime contractor
- 9) Possibilities for further trade
- 10) The competitiveness of own quotation in relation with the ones from competitors

As for the issue of who is in charge for the project, all interviewees agreed on that the key account manager is the one who is ultimately responsible for the project. Depending on the project, the key account manager could also have a SEM and/or a person responsible for the quotation documentation and/or people from different departments (acquisitions, after sales marketing) to help them. As the project turns into an execution project, the project manager takes a larger role in leading the project. That is because as one interviewee stated: "As the project formalizes, the abilities of a key account manager to handle the project start to run out." However, even though a project manager takes larger role at this point, it is still the key account manager who is ultimately responsible for the project.

The interviewees were also asked how decisions on what to offer are made if an inquiry lacks specific requirements, and where such decisions are made. Once again, some interviewees suggested that it is dependent on the key account manager that has gotten the inquiry and how that particular person decides to proceed the matter. No matter how the inquiry proceeds, a few interviewees told that the key account manager should in any case try to find out the real need of the potential customer. One of the interviewees also stressed the fact that it should be found out whether the person making the inquiry is an agent of some sort or actually a person that is somehow responsible for the upcoming RFI. The most usual route for this kind of inquiry is that the key account manager takes the matter to product line managers and together with them figures out what the best offering for that particular customer could be. That decision, according to one of the interviewees, is made based on the current offering of the company. If the current offering does not have just that product, it is necessary to consider whether it is worth to start making something fitting the case through research and development. Another thing to consider is the offering of competitors and comparing those to the Company's own. One of the

interviewees even talked about considering trade-offs in deciding what could be offered, meaning that the requirements of a potential customer might sometimes contradict each other; in other words, something must be given in order of getting something else. The interviewees mostly agreed on what is said of the process above, but one of them raised the issue of key account managers not always asking the product line managers what should be offered but instead make the decision themselves. One of the interviewees also mentioned that there is a “small mafia” inside the company that decides what to offer. This can be seen as an indication that the decision-making process might not be as transparent currently as it should be.

In relation to deciding what to offer, the interviewees were asked a question on how they decide how to offer, as in whether the company goes in as prime contractor, as a subcontractor or as a technology supplier. The decision is obviously highly dependent on what is the best decision in each case. Sometimes that decision can be postponed quite far along the line of the project’s lifeline while at other times it can and even must be made right away. One of the interviewees mentioned that there have also been cases in which the potential customer has informed already on their RFI who the prime contractor is thus making the decision easy for the Company. In those cases, the only thing left to do for the Company is to consider whether that prime is someone who the Company wants the project done with. In cases that the Company has the sole power to make the decision on how to offer, the matter is first brought to the meeting of management group of sales and marketing by the key account manager where it is discussed and finally decided at the steering group of the project that has board members of the company in it as well.

The interviewees were also asked a question about what things in the current process are working well and what are the things that need updating. The things that were working fine at the moment had a lot to do with competence and know-how. Most of the interviewees noted that there are competent people working in the Company who know what they are doing and do their job well. People working on technical aspects of things as well as around making quotations to potential customers were mentioned especially as being such individuals. Another thing many of the interviewees pointed out was that things are done rather quickly, meaning, for example, that when a key account manager has figured out the real need of a potential customer, the process of

investigating what to offer and making the quotation itself happens rapidly. Other good things mentioned were that solutions are highly customer tailored, networking has been done well, there is a lot of capacity available in the Company and that unofficial information flow within the Company works well.

When asking about what is not possibly being done so well currently, it was evident that there are many things that require improving. One of the interviewees mentioned that it would be beneficial if they had a specific quotation project team that is dedicated in answering RFIs and RFQs (Request For Quotation). At the moment people are chosen to answer these while also handling their main responsibilities, meaning that there are often problems in the beginning of preparing an answer with getting everyone up to speed and on the same page with everything. Having a dedicated team whose main responsibility is preparing the answers to inquiries, RFIs and RFQs would make the process much more efficient. The same interviewee also mentioned that it would be good to formalize sales projects somehow because at the moment, there is a lot of variation on how each project is handled as some are jumped right into without that much planning while others are planned meticulously. Furthermore, all projects should be lead the same way and have a concrete project management with deadlines and actual financial monitoring. Another thing brought up was that the quality of the quotation documentation varies too much currently. One thing affecting that is that the Company does not have a concrete template for the documentation meaning that they often copy some previous quotation documents which exposes them to making mistakes on prices or some other crucial information. Another thing the Company is lacking relating to this is that they do not have a list of references of previous cases or some kind of list of things that potential customers usually ask for. Creating a template that could be used as a base for making the documentation in each project would improve the situation in this regard.

As was mentioned previously in this chapter, product lines, their managers especially, take part in deciding what would be best to offer for a potential customer. One of the interviewees, however, made the notion that the role of product lines should be clarified as at the moment the company has a habit of “multi-roling everything” which results in projects not having a so-called summarizing force that would coordinate the big picture. That leads to situations where there are no early

stage meetings where the product line, for example, could better take part in the decision-making and especially on the technical aspects that should be in their hands.

Another problem that was brought up by one of the interviewees was that there is too much to do for an individual employee (sometimes employees even gather too much to do themselves) which leads to not creating and developing processes and things that could benefit the company and make activities more efficient. This can lead to situations described by another interviewee with a quote that was in the beginning of the paper as well: "Lots of good individual efforts, but not much coherence." In other words, the difference between a top-notch performance and an average performance is far too big. Another cause for this, according to the interviewee, is that there is no formalized way of doing things.

The big theme that came up with every interviewee was that the process for handling the inquiries coming in is incomplete and is largely dependent on the person handling the inquiry at the moment. What this basically means is that currently there might not even be any record of an inquiry if the person receiving it has decided just by themselves that it is not worth any further action. According to one of the interviewees this has resulted to situations where the Company has lost many smaller projects for the simple reason that the individual receiving the inquiry has not seen it as beneficial for some reason. Also, there have been situations where similar inquiries have come up again a few years later and since there is no concrete records of past inquiries, the Company addresses it all over again. By having a formalized process on how an inquiry should advance within the company, the Company could get replicability and thus make activities more efficient. Another thing that would make the early stage processes more efficient according to one of the interviewees would be to make an "info package" of sorts in which would be the rough estimate prices and information on the most common products the company makes. These prices would have been approved in the management already so that the most basic inquiries could be "fast-tracked", so to say, through the Company. The info package would also make answering the inquiries much faster and thus more efficient.

One of the interviewees recognized few particular questions that should always be asked from a person inquiring information:

1. Do they have a budget?
2. What are the requirements?
3. Is there a concrete project that actually exists?
4. When is the RFI coming out?
5. Who is the end-user?
6. If the person inquiring is a “free-rider” (only an agent representing the customer with no formal role in the customers company), what is the background of the company they represent and can they send some additional technical requirements?

If all these check out, the interviewee himself then would ask the person inquiring to take him to the customer to see things himself. If even this is fine, then the case is an acceptable one for the Company.

In addition to the above-mentioned issues, a number of other singular issues were brought up:

- 1) The Waterfall model behind the Gate decisions is too slow and unclear at the moment. Decisions require a lot of background material which slows down decision-making remarkably. That is why sales processes are often started even before the necessary Gate decisions are made. Also, there are no records of Gate decisions made so that they could easily be reviewed afterwards.
- 2) Key account managers should always figure out the actual need of a potential customer, especially when an inquiry is a vague one. Some of the key account managers do this but not all of them. They should also be able to have an influence on the potential customer even before the RFI so that the Company gets the requirements beneficial for them on the RFI making them more tempting than their competitors. This requires networking and having strong local networks in different countries.
- 3) When hiring new people, their current networks should be taken into account more and benefits of those for the Company should be emphasized.
- 4) The significance of networking should be emphasized by the Company.

- 5) The Company should develop their business intelligence, meaning that they should have insight on different countries' hardware situations, for example, even before there is an inquiry or an RFI. That is why the Company needs local agents in different countries to get this kind of information that would otherwise be mostly inaccessible.
- 6) The sales process should be developed so that Sales Director does not have to do the actual selling themselves but instead simply focus on helping the sales people do the best work possible and possibly just being a part of the biggest cases. Relating to this is also the fact that sales people as well have too much activities currently that are not the ones they get paid for. These include activities such as financial reporting and project reporting, for example.
- 7) There should be a few different ways of doing things based on how big a possible project is, where it is located, what kind of price range it is in and so on. This would bring unity between different projects.
- 8) There has been a lack of ability to take risks in recent years. This is because not trusting in one's own abilities because past failures in projects but also about the upper management where all the people do not necessarily have the required competence for their responsibilities. Thus, there should be more dynamics in the operations just for the simple fact that the owner base of the Company is strong.
- 9) The communication between different projects should be improved. Currently there is little to none communication between different projects which consequently results in doing similar things and solving same problems by themselves in individual projects.
- 10) The making of business plan is started too late or it is not done at all. That means that the plan of how things should be done is purely in the minds of individual persons which in turn results in many different problems. Currently there is always a team who is responsible of doing the business plan and the ultimate responsibility of this is on the key account manager. However, it is still not working at the moment.
- 11) There are about 20 different projects on the to-do list at the moment which brings a leadership problem as each project demands three to four competent people and the number of these people that exist is obviously limited.

12) Currently after each project a “lessons learned- document” is done, but these documents are never revisited so the benefits do not shift into upcoming projects.

Based on these findings, it can be said that the main problems for the Company relate to not having unambiguous processes and having challenges in communication. Therefore, the following chapters aim at bringing answers to these problems.

3 PROJECT MANAGEMENT

3.1 What is Project Management?

3.1.1 Defining the Concept of a Project

Project is a concept that has multiple definitions. The Project Management Institute defines it as "a temporary endeavor undertaken to create a unique product or service. Temporary means that every project has a definite end. Unique means that the product or service is different in some distinguishing way from all similar products or services". (Duncan 1996, 2) Another definition made by Rodney Turner (2000, 4) defines a project as "a temporary organization to which resources are assigned to do work to deliver beneficial change". As can be seen, the unifying factor in the definitions is that a project is temporary by its nature. What this means is that a project has certain key features that include: (Duncan 1996, 2-3)

- 1) A start and a finish
- 2) A life-cycle, meaning that there is a start and a finish with varying number of distinctive phases in between them
- 3) A specific budget
- 4) Some activities that are unique and non-repetitive
- 5) Use of resources from possibly different departments and therefore there is need for coordination
- 6) A single point of responsibility; a project manager, for example
- 7) Team which has roles and relationships subject to change that need to be developed, defined and established

In addition to these features, a project always has a purpose of fulfilling the needs and expectations of different stakeholders. (Duncan 1996, 3) Finding out the different stakeholders, besides the client or clients, and their needs and expectations is vital for the project manager in terms of having a successful project.

Project management is an important concept regarding the Company as their business revolves strongly around defined projects with different customers. The

following sub-chapters define what is meant by project management and what kind of history it has.

3.1.2 History of Project Management

The origins of project management are often traced back as far as the construction of the Egyptian Pyramids and the Great Wall of China even if there is no documented evidence of this to be found, however. As for the modern-day project management, Henry Gantt's bar chart (Gantt chart) below from the early 1900s is often regarded as the basis for the modern-day project management (Burke 1999, 11-12.)

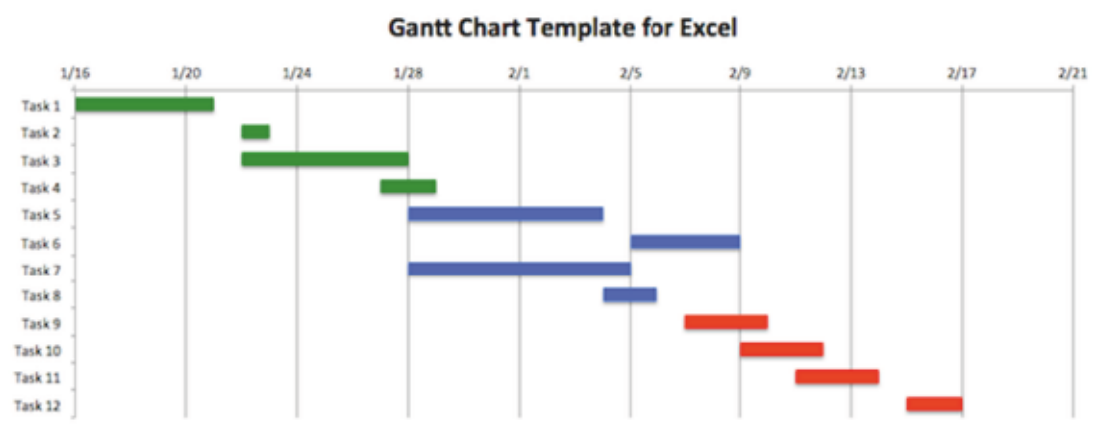


Figure 2. A bar chart based on Henry Gantt's original bar chart from the early 1900s. (Smartsheet 2017)

The chart was originally designed as a visual aid for planning and controlling Gantt's shipbuilding projects. As can be seen from the figure above, the chart distinguishes different tasks of a project making it easier to see what has already been done as well as what is still ahead. As simple as it is, the Gantt chart is still widely used in today's world. (Burke 1999, 12)

As said, the Gantt chart is regarded as the basis for the modern-day project management but most of the techniques used today have their origins in the 1950s and 1960s and were almost completely developed by the US defence-aerospace industry; Department of Defence and NASA in other words. These techniques include program evaluation and review technique (PERT), earned value,

configuration management, value engineering and work breakdown structures (WBS) while also contributing to the development of the critical path method (CPM) and the precedence diagram method (PDM) (Burke 1999, 13.)

Today there can be seen a distinction between a so-called traditional project management and agile project management and the following sub-chapter focuses on defining each and what differentiates them from each other.

3.2 Traditional Project Management Versus Agile Project Management

3.2.1 Traditional Project Management

As was mentioned in the previous sub-chapter, the roots of project management are in the midpoint of the 20th century when companies were trying to find ways to organize and structure their work more efficiently (McConnell 2010). The definition of traditional project management methodology has since been modified many times and nowadays, the definition is as follows, according to McConnell (2010):

Project Management Methodology is a strictly defined combination of logically related practices, methods and processes that determine how best to plan, develop, control and deliver a project throughout the continuous implementation process until successful completion and termination. It is a scientifically-proven, systematic and disciplined approach to project design, execution and completion.

As said, traditional project management methodology aims at enabling the manager to control the big picture by providing a rigorous framework of what needs to be done and at what point (McConnell 2010).

Banica et al. (2017) make reference to Project Management Body of Knowledge by introducing the five stages of traditional project management:

1) Initiation

Initiation stage includes considering the general requirements of the project and whether there is an opportunity to start the project based on a feasibility study.

2) Planning

If deemed worth taking on, the project moves on to the planning stage that is also the most important stage of the project in traditional project management. In this stage a rigorous plan for different activities, resources, deadlines and delivery times is created. Moreover, the roles and responsibilities of different team members are clearly defined at this stage.

3) Execution

Execution stage obviously refers to carrying out the project according to the set plans. It also overlaps with the next phase as the execution needs to be monitored and controlled to ensure the set objectives, quality and budget are met.

4) Performance/monitoring

The performance and monitoring stage is crucial for the success of the project since as was stated in the execution stage, it ensures that the project meets the set objectives, quality and budget. Doing this periodically helps the manager notice possible deviations and thus bring the project back on track, so to say.

5) Project closure

The closure stage means that the project has come to an end and the results along with possible failures in the project are assessed by the project manager and the customer representatives, if there are such. Moreover, the budget of the project is also finalized.

McConnell (2010) has the same first three stages but the next two are control and integration and validation before the closure stage. Nevertheless, the point being in both cases that in traditional project management, there are clearly defined stages that follow each other consequently and rigorously. Moreover, models based on traditional approach assume that once a phase is done, it is not returned to; hence the often-used name “waterfall” approach (Baird & Riggins 2012). The Gate decisions

mentioned by the interviewees refer to just that approach as the term Gate is the notion of not going back to the previous stage.

To answer the criticism that the traditional project management has received for its rigidity (Banica et al. 2017) and that linear methods are well-known for often becoming risky and thus costly as the project progresses if the requirements of the project change (Krutchen 2001), agile project management was developed.

3.2.2 Agile Project Management

Agile project management (APM) as a concept became known as some of the methods developed specifically for the software industry (such as Scrum, Lean Software and others) disseminated. The methods were called "lightweight" or "agile" and the people behind them drew up a manifesto in the beginning of the 21st century called "Manifesto for Agile Software Development" that is considered as the first step in expanding the APM (Conforto et al. 2014.) This fact makes it evident why the focus of APM application has mainly been on the software industry.

Conforto et al. (2014) define APM as "an approach based on a set of principles, whose goal is to render the process of project management simpler, more flexible and iterative in order to achieve better performance (cost, time and quality), with less management effort and higher levels of innovation and added value for the customer". Another definition is provided by Mirzaei and Mabin (2017) who suggest that APM is a concept that bears a number of project development methodologies that are based on iterative development. Moreover, the different APM methodologies are often considered of being used to mitigate risks, thus reducing the probability of failure of the project especially if carried out in a fast-changing environment (Walczak & Kuchta 2013). The unifying factor between different definitions seems to be that APM is mainly used as a solution for dealing with uncertainty and therefore mitigating risks (Mirzaei & Mabin 2017). The APM methods include the same stages as the traditional methods but the difference comes from the fact that these stages are repeated in "cycles" whereas in traditional methods once a phase is passed, it is not returned to (Baird & Riggins 2012).

For making use of APM successful, Conforto et al. (2014) introduce certain practices and tools to be used:

- 1) Product vision
- 2) Simple project plan communication tools and processes
- 3) Iterative planning
- 4) Developing activities using self-managed and self-directed teams in the project plan
- 5) Using self-managed and self-directed teams in the project monitoring and updating activities
- 6) Frequently apply project plan monitoring and updating processes

The practices mentioned above are defined by Conforto et al. (2014) as “a specific type of “management action” that contributes to the execution of a process and that may employ one or more techniques and tools”. In practice, product vision refers to the use of visual tools like visual boards, sticky-notes and figures or drawings, for example. The aim is to provide a simple picture of the general design and it requires active collaboration and communication from the team members. Iterative planning differentiates from traditional project planning in a sense that instead of having a single plan for the entire project, there is a plan that is constantly revised and improved stage by stage throughout the project cycle. Being able to improve and update the project plan requires developing activities using self-managed and self-directed teams to ensure their commitment and involvement in improving the project plan. This is vital for the fact that having a committed team updating and improving the project plan helps monitoring the progress of the project (Conforto et al. 2014.)

In addition to the practices, Conforto et al. (2014) identifies ten most common enablers for the use of APM. These ten enablers are:

- 1) Organizational structure type
- 2) Multidisciplinary project teams (various competences)
- 3) New product development process formalization level
- 4) Customer/stakeholder involvement in the product development process
- 5) Supplier or partner involvement in the product development process

- 6) Project team members' experience (in years)
- 7) Project manager experience (in years)
- 8) Project team size (number of project team members)
- 9) Project team dedication (time dedicated exclusively for the project)
- 10) Project team location

In their research Conforto et al. (2014) aimed to figure out what kind of companies were most suited for APM implementation. Through their research they discovered that in general, the project team as well as the project manager individually has an experience of two years or more on projects. In addition to the experience of team members, they also need to be able to work both together as well as alone. This is because of the uncertainties regarding agile projects where the team members might be working simultaneously on many different things doing something together and something on their own and having to change between different actions on short notice. (Chin 2004, 93)

Also, the companies most apt to APM implementation have small project teams in size and have a tendency to employ multidisciplinary project teams which bring together competencies from key departments of the company. The benefits of having a small team is also confirmed by Lewis (2012) who states that a high performing team usually consists of a small group of people that have complimentary skills and are committed to common goal or goals and have similar working approach. Moreover, according to Chin (2004, 94-95), from the skills perspective it is more important to have "soft skills" such as flexibility and adaptability than having purely technical expertise. This is because the nature of agile projects where things are bound to change rather quickly, meaning that people need to be able to these changes quickly as well. (Chin 2004, 94-95)

As for the challenges of APM implementation, Conforto et al. (2014) mention the co-location and team dedication. In other words, only a small percentage of the companies in the research had team members working in a single location and even less had team members working full time on their projects. Conforto et al. (2014) provide a number of reasons why companies should change just these factors for successful APM implementation. They make reference to studies done of size and

location from 1990s onwards by (Smith & Reinertsen, 1992; Zirger & Hartley, 1996; Verganti, 1999). These authors have provided evidence that innovative projects require the use of small teams, meaning teams up to 15 people, that are co-located and fully allocated. This notion is supported also by Dyba and Dingsoyr (2008) who state that APM methods work best with skilled people in small to medium sized teams in environments that facilitate communication. In addition, having people focus on single project at a time is strongly recommended by some APM authors as this allows for “greater concentration on the work, focus and commitment, creativity and interaction among team members, supported by a shared and holistic vision of the project’s challenges and goals” as Conforto et al. (2014) state. The importance of co-location is highlighted by Carbonell and Rodriguez (2006) who argue that for some companies the most important factor of APM implementation is the ease of access to data which enables fast decision-making and having a co-location for a team ensures just that. As for the involvement of customers and stakeholders, Conforto et al. (2014) suggest that active involvement has many positive aspects including increased speed of innovation, avoiding excessive costs of features not wanted by the customers, reduced time and costs of product development, reduced number of errors related to business requirements, higher product quality through better understanding of customers’ needs and a better ability to negotiate customers’ expectations. Involvement of the supplier in product development is said to help reduce cycle time and avoid delays.

For the aspect of what kind of organizational structure is most suitable for APM implementation, the literature does not give an unambiguous answer. (Conforto et al. 2014) However, Conforto et al. (2014) make reference to Highsmith (2004), Cohn (2005), Chow and Cao (2008) and Chen, Damanpour and Reilly (2010) who state that the need for full dedication from the project team means that having a project-oriented structure with fully dedicated project teams could be the best. This is because this kind of structure could provide autonomy in decision-making for the project manager as well as the whole project team. Lastly, as for the aspect of product development process formalization, Conforto et al. (2014) suggest that “partially formalized process could contribute toward a better adaptation to different types of projects, with a higher or lower degree of innovation”.

3.2.3 The Reasons for Choosing APM Over Classical Project Management

Previous sub-chapter introduced the concept of APM and the factors that make a company suitable for implementing it. Maybe the biggest factors for reasoning the use of APM were having small project teams and the tendency of employing multidisciplinary teams. In the Company's case, the projects require a lot of expertise on many different things. These include things relating to the products themselves (the specification of the vehicle and weapon systems, for example) as well as the actual process of preparing a possible quotation (costs, profits and legal requirements, for example). Furthermore, it became evident in the interviews that one of the Company's biggest strengths is having skilled people in the projects, meaning that the teams are relatively small which fits straight into one of the enablers of APM of having a small project team (up to 15 members). Other enablers mentioned to make a company apt to APM were the co-location of the project team and being fully allocated on the project, meaning that they have no other duty than focusing on the project. Moreover, having a team focusing on a single project was suggested of being even more beneficial.

Besides the enablers, another thing supporting the choosing of APM is that empirical data gathered from a range of different industries indicates that the use of APM has a positive impact on a project's success, no matter the complexity of the project (Serrador & Pinto 2015). Therefore, the fifth chapter introduces the model that is based on these notions. In addition to these facts, the communication needs to improve and the next chapter brings answers to this.

4 COMMUNICATION

4.1 Business Communication

4.1.1 Communication as a Concept

Communication was a theme that came up in most of the interviews and it became evident time and time again that there are clear challenges regarding communication and by solving those challenges, the standardization of processes becomes a lot easier.

Communication has a multitude of different definitions. According to Eisend (2016), who makes reference to Dance and Larson (1976), there are at least 126 different definitions listed of human communication. Most of these agree on the idea that communication is "processing, conveying, sharing, or negotiating meaning between at least two entities through the use of mutually understood signs, such as language or pictures". (Eisend 2016) The Collins English Dictionary defines the verb communicate as "to impart (knowledge) or exchange (thoughts, feelings, or ideas) by speech, writing, gestures, etc.; to allow (a feeling, emotion, etc.) to be sensed (by) willingly or unwillingly; transmit (to) and to have a sympathetic mutual understanding". (Boarcăs 2017) Moreover, Hosseini (2017) makes reference to Tourish and Hargie (2009) in stating that more recent definitions of communication have emphasized the information and idea exchange as part of communication.

4.1.2 Business Communication Skills

The term business communication skills refers to being able to express yourself in a way that other people understand you (Boarcăs 2017). Boarcăs (2017) explains by making reference to Longman Dictionary of Contemporary English (1995) that the benefits of having good business communication skills bring commercial benefits to a company by, for example, making collaboration between members of the company more productive. (Andrews 2017) Having good business communication skills is not tied to some particular industry or industries but instead apply to every company, no

matter the industry. (Waldeck et al. 2012) Business communication skills can be categorized in three basic categories: (Boarcăs 2017)

1) Organizational communication skills

Organizational communication skills include skills the organization uses to communicate with all internal and external stakeholders. This enables coordination among people as well as organized behavior. In practice, organizational communication skills include the ability of initiating open discussion, resolving conflict, creating information networks, teaching important skills, using information technology, providing performance feedback, negotiating, writing business correspondence and making convincing presentations.

2) Leadership communication skills

Whereas the organizational communication skills concern the whole organization, leadership communication skills instead are skills for the managers to effectively communicate with employees and key external stakeholders. The methods for doing this include stories, informality, metaphors, openness and strategic dialogue. These are used to create trusting and supportive relationships among colleagues and staff (Boarcăs 2017.) Therefore, actual leadership communication skills include arousing enthusiasm, being a change catalyst, creating group synergy, building team bonds, expressing encouragement, providing motivation, being persuasive and building optimism.

3) Interpersonal communication skills

The last category of the three revolves around personal communication between individual members of the organization. What this means in practice is that the individuals communicate with different internal and external stakeholders in regards with exchanging thoughts in verbal and non-verbal contexts by sharing information with each other or just simply maintaining social relationships in personal one-on-one situations (Boarcăs 2017.) Practical examples of these skills include skills such

as active listening, building rapport, demonstrating emotion self-control, building trust and relating to people of diverse backgrounds.

In addition to the different categories of business communication skills mentioned above, the communication can furthermore be defined either as internal or external. Internal business communication refers to the communication that takes place between two or more parties within the organization whereas the external communication refers to the transfer of information and knowledge between the members of the organization and some stakeholders outside the organization (Boarcăs 2017)

Becoming a successful professional, an individual needs to master the above-mentioned skills as the communication element is a vital part of any organization (Boarcăs 2017) and a central part in the success of an individual and the organization as a whole. (Waldeck et al. 2012)

In addition to the skills above, Waldeck et al. (2012) have researched the contemporary business communication as a subject and concluded that there are six important business communication skills in today's world:

1) Relationship and interpersonal communication

These include skills that help individuals in initiating maintaining or disengaging different work-related relationships whether they are internal (co-workers and superiors, for example) or external (clients, for example).

2) Mediated communication

Mediated communication is about an individual's ability to use different communication technologies appropriately and also effectively.

3) Intergroup communication

Intergroup communication includes skills that relate to communicating within and across different groups. A prime example of this is competent communication between people from different generations.

- 4) The ability to communicate enthusiasm, creativity and an entrepreneurial spirit

This appears, for example, in engaging others to embrace new ideas.

- 5) Nonverbal communication

Nonverbal communication in business communication terms includes things such as being on time, dressing properly and writing clearly and accurately, for example.

- 6) Speaking and listening

Not only listening, but actively listening, meaning that the person truly lets the other know that they are truly heard, for example.

Obviously, the rapid technological advancements in recent decades have had an effect on business communication skills as well. Most clearly this can be seen as the increased role of the Internet in business communication (Boarcăs 2017). What this basically means is that while the role of Internet in business communication is "very complex, varied and of great importance", the Internet is a way to increase effective communication both internally and externally by making it easier to connect with others quickly and more often and usually no matter the physical place of different individuals. (Boarcăs 2017) The technological advancements have made it so that even though the human relationships are still the key to business success, it is crucial for a company to take these advancements into account and respond to them if they wish to stay in business. (Boarcăs 2017) In addition to the technological advancements and changes, there are also changes in the society as a whole, as well as in how business is made and these will consequently have their own effects on business communication and how it evolves and changes. (Waldeck et al. 2012)

The next sub-chapter covers the hybrid team that is built around the benefits of these technological advancements and how the different business communication skills mentioned above are taken into account in it.

4.2 Communication in a Hybrid Team

4.2.1 What is a Hybrid Team?

Schroeder (2013) suggests that a hybrid team is a team where there is "some face-to-face interaction along with a healthy dose of virtual interaction". The concept of hybrid team has its roots in the research of global teams.

When trying to define a global team, you first need to determine what a team is. According to Schroeder (2013), many authors begin the process by making a distinction between a group and a team. Schroeder (2013) makes reference to Klimoski and Mohammed (1994) that in a group the tenure between the people and the responsibilities can vary a lot whereas in a team the members are differentiated and interdependent. The concept of a global team builds on these factors while also adding the geographic distance and technology-supported communication, for example, to the mix. Therefore, as an example of a definition for a global team, Maznevski and Chudoba (2000) define it the following way:

Global virtual teams are groups that (a) are identified by their organization(s) and members as a team; (b) are responsible for making and/or implementing decisions important to the organization's global strategy; (c) use technology-supported communication substantially more than face-to-face communication; and (d) work and live in different countries.

As can be seen from the quote, Maznevski and Chudoba (2000) talk about global virtual teams which, according to Schroeder (2013), is an implication of how global teams were almost always discussed as a subcategory to virtual teams when first introduced. Chinowsky and Rojas (2003) offer another definition that is designed specifically in defining a virtual team by stating that "a virtual team is a group of people with complementary competencies executing simultaneous, collaborative work processes through electronic media without regard to geographic location".

Having described the global team, there are two different possibilities of a global team:

- 1) An entirely virtual team that never meets face-to-face during the team's existence (as was defined above by Chinowsky and Rojas (2003))
- 2) A hybrid team that has a mix of some face-to-face interaction with the heavy dose of virtual interactions in-between.

The concept of hybrid team stems from the fact that it is becoming harder and harder to find purely virtual or purely collocated teams in contemporary organizations and thus teams in today's organizations should be characterized as more or less virtual. (Workman 2007; Hosseini & Chileshe 2013; Hosseini et al. 2016)

As Schroeder (2013) states, the different technological advancements have provided teams different kinds of opportunities to communicate with each other even over long distances and that without these advancements, virtual and hybrid teams would not exist. The use of these different advancements proved to be virtually non-existent in the Company based on the interviews and thus one possible solution for improving the situation is introduced in the following sub-chapter.

Schroeder (2013) also demonstrates different accelerators and decelerators relating to choosing the hybrid team model. The accelerators and decelerators were researched in relation to aspects of strategy, structure, systems, shared values, leadership style, skills staff and global working. In relation to strategy, Schroeder (2013) suggests that the accelerators are:

- 1) Senior leadership communicates clearly to the team and the team is aligned around their objective.
- 2) The team uses a face-to-face meeting to formulate and align their strategy right from the get-go.
- 3) The team develops, uses and revisits a team charter and team strategy map.
- 4) Different key functions in the organization's value chain start communicating early on with each other.

- 5) The task team is appointed to is regarded as important and difficult and thus the team is given appropriate support.

The first four decelerators are the opposites of the first four accelerators. In addition, one other decelerator is that the project is not of a high-priority meaning that team members are moved off and keep changing throughout the project.

As for the structure aspect, the Schroeder (2013) finds just one accelerator which is that the core team and the extended team structures work well, meaning that the communication goes seamlessly back and forth. The only decelerator, on the other hand, relates to some members not being a part of the global team and thus feeling left out.

In the systems perspective, the only accelerator is having systems that work well regardless of differences in geographies. Because of this, team members are able to save time and effort by not doing overlapping activities, according to Schroeder (2013). Consequently, not having these kinds of systems but instead different systems in different geographies, is seen as one of two decelerators. The other decelerator is not having “all standard operating procedures up to date as global standard operating procedures”. (Schroeder 2013)

All three of the accelerators regarding the shared values aspect are quite similar. These three are that all team members are committed to the outcome, the team forms team spirit/chemistry and that everyone on the team has a say on things and is thus able to voice their opinions. The two decelerators are that the shared values are overshadowed by the dysfunctions in team dynamics and that one or more team members value their own expertise and opinions so much that they do not value others' inputs and ideas.

The first of leadership style accelerators is related to the whole team as in that the team is empowered to making decisions. The other three, however, are focused on the actual team leader. These three are that first of all, the leader is effective and the second being that the leader respects each and every one of the members of the team and shares information instead of imposing. Lastly, the leader is able to facilitate the

movement from open and rich dialogue to decision-making stage as well. As for the decelerators, the first one is having a team that is not empowered to make decisions. The other three are that the leader lacks strong team leadership, the leader is too authoritarian and does not use enough dialogue and coaching on the team and that the leader is not able to convert the open and diverse discussions into actual decision-making.

From the skills perspective, there are numerous accelerators to be found according to Schroeder (2013). First is that team is able to not only make decisions but also to stick with those decisions. Besides this, there are four interrelated accelerators which relate to the communication of the team. These are that the members of the team communicate well with each other, they engage in open and rich conversations, they respect each other's opinions and expertise and also have healthy conflict. Lastly, an important accelerator is that the members build a cohesive team. The decelerators include lack of communication or even poor skills in communicating with the global colleagues, "over-talking" issues without actual decisions, having a team where the members do not respect each other's opinions and expertise and ultimately that the team members do not function well together.

In relation to staff, the only accelerator identified is that there is flexibility in having the right people at the team at the right time. In other words, the members of the team are carefully selected and there is no hesitation in making changes in personnel when there is a need. The decelerators in this regard are that the roles between colleagues are vague and that there is little to none influence on the team leader on who is assigned to the team.

Lastly, there are three different accelerators to be identified relating to global working. First is that face-to-face meetings have a positive impact on the team's effectiveness by, for example, enabling the team members to see each other's facial expressions and body language thus making you get to know the persons better. Another upside of the face-to-face meetings is the second accelerator that is that the face-to-face meetings lead to better virtual team work after these meetings. The third accelerator is that the members of the team have good "global working" skills, meaning that the members truly have a global mindset in doing their work. The

decelerators, on the other hand, include the lack of face-to-face meetings that has a negative effect on the team's effectiveness. Also, it impacts the virtual work negatively afterwards which is considered the second decelerator according to Schroeder (2013). The third decelerator is that team members do not possess the global working skills.

Improving the communication in the hybrid team requires some updating on the communication tools of the Company and the following sub-chapter offers one solution for this in terms of mobile applications.

4.2.2 AppGyver as an Enabler of Improving Communication

The mobile phone industry, smartphones especially, have seen major advancements especially in the 21st century. The number of smartphone users in 2017 was 2,32 billion and is still rising. (Statista 2017) This means that one of the best ways to improve communication and formalize processes would be the use of mobile applications. Creating these kinds of mobile applications can be done through, for example, a Finnish company called AppGyver. AppGyver was chosen to be used as an example in this research as they are virtually the only provider on the Finnish market with this kind of solution at the moment. They describe themselves as follows:

“AppGyver is the leading provider of innovative app development tools suitable for novice and seasoned developers alike. Founded in 2010 and with offices in San Fransisco, U.S.A and Helsinki, Finland, AppGyver has earned the trust of over 150,00 developers and top Fortune 500 companies worldwide. In 2014 AppGyver was a winner of The Red Herring Europe 100 award.” (AppGyver 2017)

The actual product is a visual development platform for “creating and publishing apps around data, with focus on improving business processes”. These applications can be built visually and much faster than with other solutions and the applications can be related to workflow, data collection, IoT, business management and offline-to-online, for example (AppGyver 2017.)

There are multiple reasons for the Company to choose AppGyver specifically:

- 1) The visual development platform AppGyver has for creating mobile applications requires no programming skills from the person using it. They only need to have basic knowledge of creating applications.
- 2) AppGyver is a Finnish company so being in contact in the case of possible problems, for example, is supposedly fast and easy.
- 3) The information in the application does not go to a cloud or to AppGyver's storage of some sort, for example. Instead, the information is kept only in the Company's hands. This is a highly important factor for the Company as they are operating in defence industry and deal with confidential information on a constant basis.
- 4) As was mentioned in one of the previous paragraphs, the creation of applications with AppGyver's platform is much faster than with other solutions, meaning that not only are the applications created fast but they can also be modified and developed easily as well.

In the Company's case, there are multiple areas that a mobile application could benefit:

Business Processes	•Document reviews, automatic follow-ups
Business Management	•Mobile checklists, work order management
Collaboration	•Progress tracking, file library, ideas inbox, chat
Business Intelligence	•Salesforce dashboard
Intranet	•Activity stream, centralized file storage, knowledge base

Figure 3. Areas the Company could improve with the help of AppGyver.

For the business processes, the platform can help the Company to automate a lot of things done by hand at the moment. What this basically means is that the application has some functions that have an automation rule, meaning that there is some kind of

trigger condition for completing a specific task, for example, and completing that task triggers some kind of action, a push notification, for example. As for the business processes for the Company, the application could, for example, include the document review possibility that would make the work of the quotation team more efficient as they could see all the documents related to the quotation through the application and all of them could easily make the necessary modifications directly through the application without having to download and send different versions through email, for example. There is also a possibility to add a feature that sends a push notification to a specific person right when their input is needed on something as well as creating automatic task creation to easily see who has done what and who has still something to do (AppGyver 1 2017.)

In terms of business management, the platform can be used in creating a “mini-ERP (Enterprise Resource Planning)” or “mini-CRM (Customer Relationship Management)” that can be tailored to the Company’s needs and essentially makes the management of different things easier and more efficient. In practice, the Company could have an application that has a mobile checklist which could, for example, depict the different phases of the quotation process so that everyone can see the point where the project is going and also that each and every step is completed (AppGyver 2 2017.)

Collaboration refers to the application bringing employees closer to each other in terms of communicating and information sharing by enabling them communicating directly through the application. From the collaboration point of view the application could have functionalities such as chat for the members of a particular quotation team lessening the need of emails and formal meetings, a file library for storing all project-related materials in one place, ideas inbox for discussing what to offer for a particular potential customer and also a progress tracker specific for a particular project so that everybody is on the same page on what is done and what is not (AppGyver 3 2017.)

Developing the Company’s business intelligence was an aspect that came up in the interviews. From the application standpoint, this could be improved as data can be aggregated from multiple sources which makes decision-making faster and easier as

the necessary data and information can all be found in one place. Maybe the most useful functionality for business intelligence for the Company would be a salesforce dashboard. This would bring all the key metrics and information together in a simple form especially for the upper management making the decisions so that they save time from going through different sources of information to get every piece of information necessary for making decisions. This would be beneficial especially in regards the different Gate decisions the management makes as it became evident in many of the interviews that the decision-making at the moment is too slow and it is mostly unclear how much and what information is needed in making which decisions (AppGyver 4 2017.)

It did not explicitly come up during the interviews whether the Company has an intranet of some kind or not but even so, it appeared as if a lot of communicating is done through emails and in the corridors of the building. Therefore, the application could help in this regard by collecting data from employees and storing it in one place and this in order makes internal processes flow faster as all the information is centralized in one place where it can easily be accessed by any employee in need of the information thus saving employees a lot of time looking through different sources of information to find the information they need. In practice this could mean functionalities such as the already mentioned centralized file storage, a knowledge base to store information about current and previous projects to be referenced in future and an activity stream to keep people working in different projects (if there are multiple quotation teams, for example) on the same map on what stage each project in the Company currently is (AppGyver 5 2017.)

Combining the different concepts introduced in this and in the previous chapters enables the creating an unambiguous model that is introduced in the following chapter.

5 CREATING AN UNAMBIGUOUS PROCESS FOR ADDRESSING INITIAL INQUIRIES BY FORMING A HYBRID TEAM

5.1 APM as an Answer for Creating an Unambiguous Process for Addressing the Initial Inquiries

As has become evident many times in this paper, the Company lacks an unambiguous process for handling the initial inquiries coming from potential customers. With the help of APM methodology, the process could be constructed in one of two ways. This is dependent on whether the Company decides to form a quotation team whose main responsibility is simply making quotations on different projects.

5.1.1 Not Having a Specific Quotation Team

If the Company for some reason decides that there is no need for a specific quotation team, the process could consist of five stages:

- 1) The initial inquiry comes inside the Company through one of many channels

As became evident in the interviews, there are a number of ways an initial inquiry can come in the Company. These ways include the Patria corporation, fairs, project seminars, defence attachés, partner networks and industrial partners as well as through various procurement notice portals. However, this is not seen as a bad thing as all interviewees mentioned that they simply cannot limit potential customers to some preset ways of contacting the Company.

- 2) The initial inquiry is evaluated by the person receiving it

One of the biggest problems for the Company regarding the initial inquiries is that there are many inquiries that leave no trace of their existence, meaning that there are cases where the person receiving an initial inquiry simply makes an individual decision that certain inquiry deserves no further action, for example. Many of the interviewees mentioned that there are indeed inquiries that a skillful employee can

dismiss right away simply based on its structure or some “red flags”. These “red flags” can be that, for example, the country from which the inquiry comes from is on the list of European Union’s non-export countries. However, even these inquiries should still leave some kind of paper-trail somewhere so that it is known what kind of inquiries the Company is getting and it is ensured that all the inquiries that are dismissed are done so for the appropriate reasons. To improve the process of which inquiries to move forward, a list of things to ask from a person making the inquiry should be standardized. This list could be based on the things one of the interviewee said they are using themselves at the moment. These things were:

1. Is there a concrete project actually behind the inquiry?
2. Does the potential customer have a real budget for the project and how big it is?
3. What are the requirements of the potential customer?
4. When is the Request for Information coming out?
5. Who is the end user?
6. If the inquiry comes from a “free rider” that represents some company, what is the background of the company they represent, what is the need of the company and are there some specific requirements they could send?

If all the above check out, the person evaluating the inquiry could then ask from the inquirer whether they can visit the company or country in question to see the project themselves. If even this can be arranged, it is a clear sign that there is a real project and the inquiry is something that can be put forward.

3) Inquiry is evaluated as a good one

When the inquiry is determined to be a good one, it is at this point at the latest directed to the appropriate key account manager. This is if the inquiry had not initially come to the key account manager directly.

4) Adding the project in the mobile application and gathering a team for it

After getting an inquiry that is evaluated as a good one, the account manager adds it to the mobile application and contacts the line managers and the person responsible for quotation documentation to start gathering a team for the project. These people form the initial team for the project and will also arrange a meeting where they can form guidelines for the project.

5) Gathering the project team

During the meeting with the key account manager, line managers and the person responsible for quotation documentation, they together form the guidelines for the project and eventually round up all the people needed in that particular project. All of these people are given the rights for the project in the mobile application.

Having these five steps ensures that each inquiry is handled the same way.

5.1.2 Forming a Specific Quotation Team

As came up in one of the interviews, forming a quotation team that specializes in the quotation process and making the necessary quotation documents would make the process more efficient in many ways:

- 1) There would be a specific team already in place to start the quotation process as soon as possible which makes starting the process quicker.
- 2) As the quotation process is the main responsibility of the members in the team, there could be information and experiences from many different quotation processes which lessens the need to gather additional information from different sources as the knowledge and information is already within the team.
- 3) Having a specific quotation team could make addressing an inquiry more efficient in a way that when the person receiving the inquiry has evaluated it as a good one based on the factors mentioned earlier, they could then simply direct the inquiry to the quotation team saving time from forming the team and having different meetings based on what kind of team should be selected.

As with when there is no specific quotation team, the first three steps are the same also when there is a quotation team. After that, there would be only one step which is that the account manager adds the project in the mobile application and directs the inquiry to the quotation team. The key account manager is obviously the main person responsible for the whole project even if there is a quotation team but now there is no need to spend time in gathering the team from many different people.

For the Company, the most essential thing is to differentiate potential customers based on how complex requirements they have in their inquiries. This is because being able to do this enables a better allocation of resources which improves the efficiency of the Company's operations and frees up resources to be used where they are needed the most.

Based on the interviews made, the biggest challenges for the company are communication and standardization of processes. It came up in most of the interviews that the main method of communicating these kinds of project-related things is email. Another thing that rose from the interviews was that the Company wants to "multi-role" people which means that there's not much spare time for an individual employee and thus sending emails can be a time-consuming and inefficient way of communicating. That leads the discussion towards the question of which option should the Company choose.

5.1.3 What Option Should the Company Choose?

As was explained in the third chapter, the Company has many characteristics that support using APM. Therefore, they should also consider having a dedicated team whose members are fully dedicated both on the process of evaluating the initial inquiries and also afterwards on the actual quotation process itself. In an ideal world, the team would have just one project to work on at a time but then again, it might be impossible as the Company's business is based on projects and therefore they have multiple projects simultaneously all the time and having different teams for each project would prove to be difficult to carry out.

When forming the team to focus on the evaluation of the initial inquiries and the quotation process that follows, some key aspects should be kept in mind in accordance with APM:

- 1) The team should consist of 15 people at most. As became evident, one of the main strengths of the company is wide and thorough knowledge throughout the organization and therefore this should be highly feasible.
- 2) The team should have people with diverse knowledge on different things. In the Company's case that means having people that know the technical specifications of different products that can be produced, people that have expertise on the quotation process itself, people that are experts in legal factors and people that have knowledge of different kinds of customers.
- 3) The main responsibility of the members of the team should be focusing on the evaluation of inquiries and the possible quotation process that follows. The interviews revealed that at the moment the situation is such that the people that are responsible for different parts of the quotation process are doing it alongside with their main responsibilities, whatever those may be.

The main challenges the Company needs to figure out when forming a team of this kind is that what modifications do they have to make on their operations as a whole, so that they can "tie" certain people to the newly created team to focus solely on the evaluation of initial inquiries and the possible quotation process that follows. Basically, they have two options: to hire people to the new team that is formed or to hire people to replace those people that are moved from their current responsibilities to being only in the team that is formed. Considering that one of the main strengths of the Company is having skillful people with vast knowledge on different parts of these kinds of projects, it would be beneficial to choose the latter option so that the Company could use that expertise and knowledge that already is in-house the most efficient way possible.

5.2 Improving Communication Through Mobile Applications

As was stated previously in this paper, the advancements in the smartphone industry have been dramatic and a large number of people have one nowadays (Statista 2017).

Therefore, what better way to enhance the communication than creating a mobile application for it? The visual mobile application development platform of AppGyver was introduced as an example for creating one in the chapter 4.2.2. When created for the hybrid quotation team that is introduced in the following sub-chapter, the mobile application could have the following features:



Figure 4. The features of a mobile application for the hybrid quotation team.

Mobile checklists mean that every team member knows the stages of evaluating an initial inquiry and the possible quotation project after that and at what stage is a particular project at any given time. In practice, this means that every team member has certain tasks to be completed and has a specific checklist to help keep track of all these tasks. Obviously, this makes it easier for not only an individual team member but the team as a whole to comprehend the situation of the project and that everything that is needed to be done actually gets done.

Progress tracking is closely related to the mobile checklists as it shows the overall progress of the project which consequently helps the management of the project, for example, in that they have a clearer picture of the situation of the project as a whole.

Centralized file storage enables the team to store all the necessary information in the application itself. Obviously, the Company already has some storages in place but having the possibility to have them in the mobile application as well would be very beneficial as a team member could access it virtually anywhere with a couple of clicks on their smartphone.

Knowledge base could provide a solution for one of the problems of the Company that rose during the interviews. That is the fact that they have a lot of knowledge on the quotation projects in-house and write a “lessons learned” document after each project as well, but the problem is that these resources are barely used. Having a knowledge base could enable storing not only the lessons learned documents but also the implicit knowledge gained through trial-and-error so that the processes could improve over time. Also, having the knowledge base in a mobile application would improve the accessibility and thus possibly making the knowledge something that is actually used on a constant basis.

Having a project-related chat function in the application would surely improve communication. First of all, having a chat would simplify the communication outside formal face-to-face meetings as it would be much simpler than sending numerous emails. Secondly, the need for calling a number of different people by phone or arranging a formal meeting to inform the team would lessen and that will surely make the team much more efficient in its activities.

As was mentioned in chapter 4.1.2, business communication can be categorized to three basic categories: organizational communication skills, leadership communication skills and interpersonal communication skills. In terms of organizational communication skills, the mobile applications could improve the communication by, most obviously, enabling the use of information technology. Moreover, initiating open discussion becomes easier as people can communicate no matter the place and time and each member is sure to have their voices heard. Also, resolving conflicts becomes faster as it is possible to intervene much faster than waiting for the next face-to-face meeting and also the negotiating between team members is exercised a lot more than doing it just in the face-to-face meetings.

As for the leadership communication skills, the benefits of the application are largely dependent on how the team leader uses it. The leadership communication skills are basically different forms of encouraging the team members and unifying the team. Therefore, it is up to the team leader whether they take the time to praise the individual members for performing specific tasks, for example, or by making sure that everyone’s voices and opinions are heard and that the team feels like they are a

team and not just a group of individuals. The concrete features to do this include the chat option and being aware of the checklists and progress tracking so that the leader is able to acknowledge good performances as well as those that need intervening.

For the interpersonal communication skills, the main things the application can help the team with is building trust and rapport. The main feature for this is the progress tracker where each member can clearly see what each of them has already done for the project. That is a big factor in building an individual member's trust on other members of the team and confidence that the other members are doing their part as well.

5.3 A Hybrid Quotation Team

As was mentioned in chapter 5.1.3., the Company should form a specific quotation team. This team could be constructed of people with responsibility of the following areas:



Figure 5. Hybrid Quotation Team.

The team should have people with five different aspects of knowledge so that there is knowledge of the legal things, the quotation process and necessary documents

relating to it, customers, specifications of own products and also a person or persons responsible for the project as a whole. There could be more than five people but the main point is that all the above-mentioned things are covered.

The person or persons that represent legal and regulatory knowledge are responsible for making sure that the quotation process is carried out according to different laws and regulations while also keeping in mind different contractual aspects. What this means in practice is that there needs to be knowledge of the appropriate laws that affect the quotation process and the possible project that follows in all countries that are somehow involved. In addition, they need to make sure that contracts related to the process are fair and just and done correctly. An industry-specific task is to make sure that the export permit can be obtained to the country where the potential customer operates in and that it is granted on time.

Knowledge of the quotation process and documents means that there needs to be a person or persons who are aware what needs to be done and when while also keeping track of the numerous documents related to the quotation process and making sure that all necessary documents are being produced. In other words, these people are responsible for making sure that the necessary documents are the way they should be and are delivered to the potential customer on time.

Customer knowledge refers to the knowledge relating to the potential customer, meaning the customer itself, their wants and needs and also understanding the environment (and country as a whole) they operate in, for example. This kind of knowledge enables the team to make an even better quotation to differentiate the Company positively from its competitors.

Knowledge of product specifications refers to people who have the best knowledge of what the Company can and should offer and what it cannot and should not do. It became evident during the interviews that the different product line managers are the people with this kind of knowledge. Having this knowledge in the team means that the team does not offer potential customers something they cannot or should not do and thus they are able to operate more efficiently.

Every team needs management and that is the case in the hybrid quotation team as well. With all the people having the above-mentioned skillsets, there needs to be a person or persons responsible for the whole team so that everything gets done and that everything is done on time.

By having a hybrid quotation team that is specifically designed to focus on quotations, multiple benefits are achieved:

- 1) There is much less need to organize different things as the team is already familiar with each other and stays the same from project to project. That was one of the problems in the current situation that came up during the interviews and having a specific team where every member's main responsibility is related to the different quotation processes would mitigate that problem significantly. Also, the learning curve is steep and the information and experiences that are gained can be transferred between projects effortlessly.
- 2) By having a specific hybrid quotation team, not only does it benefit the Company but obviously the potential customers of the Company benefit as well. That is because the team is better aware of the project as a whole when the quotation process is the main responsibility of each member and they are also able to learn from previous projects and transfer what was learned into the new projects. That way the quality of quotations gets better and better over time meaning added value for the potential customers as well.
- 3) Having a team that is hybrid by its nature means that there is not that much of a need to have as much formal or unformal face-to-face meetings as in a traditional team. What this enables is that people can work more efficiently as they can communicate in multiple ways while also keeping track of what stage things are at. Obviously, for the team to be hybrid there needs to be the tools and ways for the members to keep in touch and being aware of the project and that is why the company AppGyver was introduced as an example of a provider of one solution for this.

The new process for addressing initial inquiries from potential customers with a hybrid quotation team could be as follows:

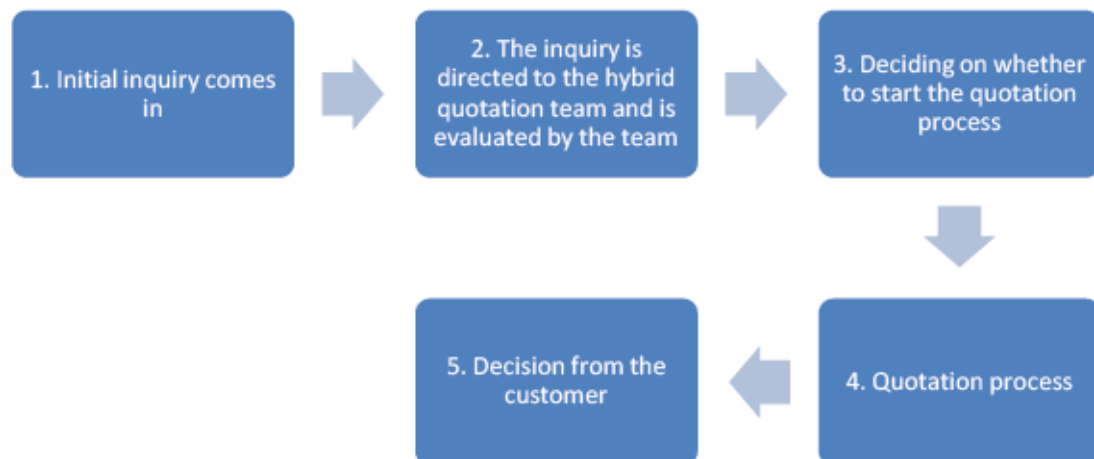


Figure 6. New process for handling initial inquiries.

As can be seen from the figure, there are five different phases:

1) Initial inquiry comes in

It does not really matter to where or whom the initial inquiry comes to. What matters is that the person getting the inquiry knows what needs to be done with it. That is that the person should forward the inquiry to the leader of the hybrid quotation team. To “smooth” the process even further, the Company could create a list of “must-have” qualifications (not being on the European Union’s non-export list, for example) that need to be fulfilled in order to even forwarding the inquiry to the team. Obviously, these qualifications then need to be taught to each member of the Company that might get these inquiries.

2) The inquiry is directed to the hybrid quotation team and is evaluated by the team

If the inquiry is not something that a person receiving it can directly dismiss, it is forwarded to the quotation team to be evaluated further. If the team comes to a conclusion that the inquiry is an appropriate one, they then start working on it

further. The evaluation process should include at least the following things that came up in one of the interviews:

1. Does the potential customer have a (real) budget?
2. What are the requirements of the customer?
3. Is there a concrete project that actually exists?
4. When is the RFI coming out?
5. Who is the end-user?
6. If the person inquiring is a “free-rider”, what is the background of the firm or country they represent and can he send some additional technical requirements?

3) Deciding on whether to start the quotation process

This phase includes not only the decision on whether the project would be beneficial for the Company but also presenting the potential project to the management of the Company. This is done (especially in the big cases) to get the needed approval from the management to move forward with the actual quotation process.

4) Quotation process

If all the previous phases check out, it is time to start the actual quotation process. In the quotation phase the use of the mobile applications becomes even more important as the number of things needed to be done increases significantly meaning that the importance of project management is emphasized even more and the features such as mobile checklists, progress tracking, centralized file storage, knowledge base and chat in the mobile applications prove their worth in doing just that. Furthermore, as has been stated that when there is a specific quotation team that also uses the mobile applications, the quality of quotation processes has the possibility of improving and developing over time as the team is able to learn from past successes and mistakes.

5) Decision from the customer

The last phase is obviously largely dependent on the customer. In either case, the quotation project as such ends and the quotation team can focus on other projects on their table. Obviously, the best-case scenario is that the customer approves the quotation and the quotation team can then forward the project to the person responsible for the execution project where the products in the quotation are actually delivered to the customer.

6 CONCLUSIONS

6.1 Conceptual Implications

The research was done so that the Company could get a solution to their problem which was the lack of an unambiguous process for addressing initial inquiries from potential customers. To answer the set research questions, there was a need to find appropriate theories and concepts to be used and then to define them. As was mentioned in the introduction, the subject of this research was of the nature that there were not any ready-made theories to be applied. What this meant was that there was a need to combine and adapt theories for the purposes of this particular research.

The Company's business is highly project-based meaning that project management is a vital concept to cover and discuss. The definitions of Duncan (1996, 2) and Turner (2000, 4) suggested that the main feature of a project is that it is temporary by its nature and has certain other key features that Duncan (1996, 2-3) identified. Furthermore, as Duncan (1996, 3) states, the main goal of any given project is fulfilling the needs and expectations of different stakeholders. Therefore, successfully managing a project requires that the person in charge is conscious of these features and goals.

Defining what is meant with the concept of a project makes it possible to talk about project management itself. Traditional project management methodology is based on making rigorous plans and having clearly defined stages follow one another (McConnell 2010), hence the often-used name "waterfall" approach (Baird & Riggins 2012). Today's projects, however, are often carried out in rapidly changing environments which means that there is a need for methodologies that can reduce the risk on these kinds of projects (Walczak & Kuchta 2013) and as Kurtchen (2001) suggests, Waterfall methods become increasingly risky in environments where project requirements are likely to change; the uncertainty of getting an export permit being a good example of just that in the Company's case. Examining the literature on traditional project management also revealed that the Gate decisions the Company is currently using are virtually the different stages of a Waterfall model.

APM was designed to mitigate the risks emerging in using the traditional project management methods as it is based on iterative development and the idea that project management should be flexible so that there is less management effort and more innovation which leads to added value for the customer (Mirzaei & Mabin 2017; Conforto et al. 2014). In the Company's case, the use of APM is justifiable as the projects are different from each other and there are factors such as the export permits, for example, that create a lot of uncertainty regarding the projects. Therefore, using APM brings a lot of benefits for the Company as becomes evident in the next sub-chapter. Also, in addition to the benefits described in the following chapter, the empirical data gathered from a range of different industries indicates that the use of APM has a positive impact on a project's success, no matter the complexity of the project (Serrador & Pinto 2015). As has become evident in this research, APM should not be tied to some particular industries as it has use in all companies dealing with projects; especially with projects that have high likelihood of having changes in environment and requirements from the customer, for example.

Using APM requires that the project team communicates actively and well with each other (Conforto et al. 2014.), so therefore it is essential to cover the concept of communication as well. When talking about communication, it is vital to clearly define what kind of communication is in question because as Dance and Larson (1976) point out, there are at least 126 different definitions for communication. For the purposes of this research, business communication was deemed as most appropriate. Boarcăs (2017) introduced business communication as being able to express yourself in a way that other people understand you and that it can be divided into three different categories (organizational communication skills, leadership communication skills and interpersonal communication skills) which all have their own unique characteristics. The importance of business communication becomes evident in Boarcăs' (2017) suggestion that to become a successful professional, an individual needs to master the business communication skills as the communication element is a vital part of any organization. Therefore, as communication was deemed as one of the problems for the Company through the interviews, it was vital to put an emphasis on the business communication aspect with the help of the mobile application, for example. The idea of using mobile applications to improve communication used in this paper is rather new and is therefore worth more research

on other industries and companies as well and is a good example how communication can be improved with the different tools of modern day.

At the moment, there is not a specific team for addressing the initial inquiries from potential customers and the idea of maybe having one was originally raised during the interviews with the key employees of the Company. By refining this idea a bit further, it started to seem that it would actually be an idea worth considering. When examining the theories behind different kinds of teams, the theory about hybrid teams rose above all else because of its virtual aspect. As Schroeder (2013) described, a hybrid team is a team that has the traditional face-to-face activities but in addition has the virtual aspect as part of its activities as well. What this means in practice is that in addition to the face-to-face meetings the team has different technological tools and methods of keeping in touch. Examples of these are different video conference tools and applications, computers and also mobile applications. The concept of a hybrid team was chosen to be used in this case especially from the communication perspective. That is because in a hybrid team, the communication is not just the traditional face-to-face, email or phone but instead the team members have ways of communicating through chat and mobile checklists, for example, from any place and in any time. That modernizes the Company's communication in a great way. The research on hybrid teams has previously revolved around global teams. Therefore, the concept of having a team that is co-located but still a hybrid one, as is suggested in this paper, is something that has not received attention previously. Having a co-located hybrid team makes the idea of a hybrid team easier to accomplish as the possibility of meeting face-to-face is a lot more easy to arrange when all the people are already at the same campus than if they are around the world.

By combining all these concepts, it was possible to formulate a process introduced in chapter 5.3 that would provide a solution for the set research problem.

6.2 Managerial Implications

As was stated in the second chapter, the research problem of this research was very practical; creating a process for evaluating and addressing the initial inquiries from potential customers. The interviews were a great help in discovering the two main

challenges the Company was facing regarding the subject: not having an unambiguous process and not having as good communication throughout the organization as they should have. Moreover, the interviews were a great source of providing an answer to one of the research questions which was:

"What happens within the Company when an initial inquiry comes in?"

The interviews revealed that the initial inquiry has a number of different ways it can come within the Company and that this is not seen as problem by the employees of the Company. Not only was the way in an ambiguous one, but so was the inquiry's route within the Company as well. Some inquiries were said to have been acknowledged simply by the person receiving it and that person has made an independent decision what to do with it. When in the house, there was a process of sort to be distinguished based on the interviews on how the inquiry goes forward:

- 1) Preliminary evaluation of the project.
- 2) If the decision is made to start making a quotation, the requirements of the client are evaluated.
- 3) Decisions on what to offer are made, meaning that the offering is defined and documented.
- 4) Pricing of what is decided to offer.

This cycle was said to be gone through a couple of times. However, there were still mentions that regardless of this, there is still variation on this process depending on the people responsible for it. The process introduced in chapter 5.3 brings a solution for this particular research question through the first two phases of it.

The second research question of the paper was:

"What does creating an unambiguous process for addressing the initial inquiries from potential customers require from the Company?"

The interviews revealed two main problems: lack of organizing regarding project management and challenges in communication. By examining theories relating to these issues, some appropriate theories rose up quite quickly.

In terms of the Company's business that is mainly project-based, it was beneficial to study theories regarding project management. Although it became evident in the interviews that the company has some kind of methods regarding project management, (Waterfall, for example) it was still clear that there was a clear need for an unambiguous process especially for handling the initial inquiries from potential customers. After examining different theories, it seemed that APM would be the best solution for the Company. There are a number of reasons for this conclusion:

- 1) The Company is already using people with different skillsets and expertise in the quotation process. Therefore, it can be said that the current teams are multidisciplinary which was also mentioned as one of the enablers of using APM.
- 2) The interviews revealed that the different quotation teams are rather small in size which is in line with one of the enablers of APM as having a team of under 15 people.
- 3) The interviews also revealed that one of the main strengths of the Company is having people with much experience and know-how. This fact fulfills two of the enablers of the APM which were the experience of both members of the team as well as the project manager's.
- 4) Last but not least is that the current quotation teams are co-located at the headquarters of the Company which was also one of the enablers of using APM.

As can be seen, the Company has a number of enablers already in place for using the APM. Possibly the biggest factor hindering the creation of an unambiguous process is not having a specific quotation team and therefore having the people on the team focus on the quotation process side-by-side with their main responsibilities, whatever those may be. Having a specific quotation team would also enable one more of the enablers of using APM which was that every member of the team would be working

on the quotation processes full-time. To create a solution for this, the hybrid quotation team was introduced.

The selection of the hybrid team model was encouraged by the fact that communication in the Company is currently not at the level it should be. It became evident through the interviews that communication methods in the Company are very “old school” at the moment, meaning that communication is mainly done through face-to-face meetings, coffee table discussions and through phone calls and emails. It became clear quite quickly in the research process that there are a number of different possible methods of communication that are inspired by the technological advancements in the recent decades. The method chosen for this case was mobile applications and a Finnish company called AppGyver was chosen as an example provider of those. There were a couple of concrete reasons why mobile applications specifically could improve the Company’s communication:

- 1) The use of appropriate mobile applications lessens the need for formal face-to-face meetings which consequently makes communication more efficient as the people can communicate wherever they are at a particular moment.
- 2) Using mobile applications unifies communication and also makes it simpler when comparing to sending emails, for example. Sending different versions of some document, for example, through email is not only time-consuming but some emails might even get lost in the flood of different messages many people get throughout their days. A mobile application therefore makes it easier to communicate and share information when there is a specific channel for it.
- 3) Things relating to project management become much more efficient and easier as people are, for example, able to update their progress with a simple push of a button.

Enhancing communication with mobile applications sparked the idea of applying the hybrid team model. As was introduced in chapter 4.2.1, hybrid team is something that has traditionally been used in global settings, meaning that the team has member from different parts of the world. The reason why it was still chosen to use in this particular case was that certain aspects of it would be very beneficial for the

Company. First, having a team that is not purely dependent on the face-to-face meetings makes operating more efficient. Second, having a specific team to work specifically in different quotation processes enables better learning from past successes and failures which consequently makes future quotation processes better and more efficient. Lastly, having a hybrid quotation team would make the creation of a unified and unambiguous process on handling initial inquiries from potential customers much easier. Therefore, being able to create an unambiguous process for addressing the initial inquiries from potential customers requires forming a hybrid quotation team that is led according to APM and that uses mobile applications as a tool for improving communication and project management. After that, it is possible to answer the main research problem of this paper, which was:

"How can the Company develop a rigorous and unambiguous internal process for addressing the initial inquiries from potential customers?"

The solution for this is the process introduced in chapter 5.3 and can be seen as a recap in the figure below:

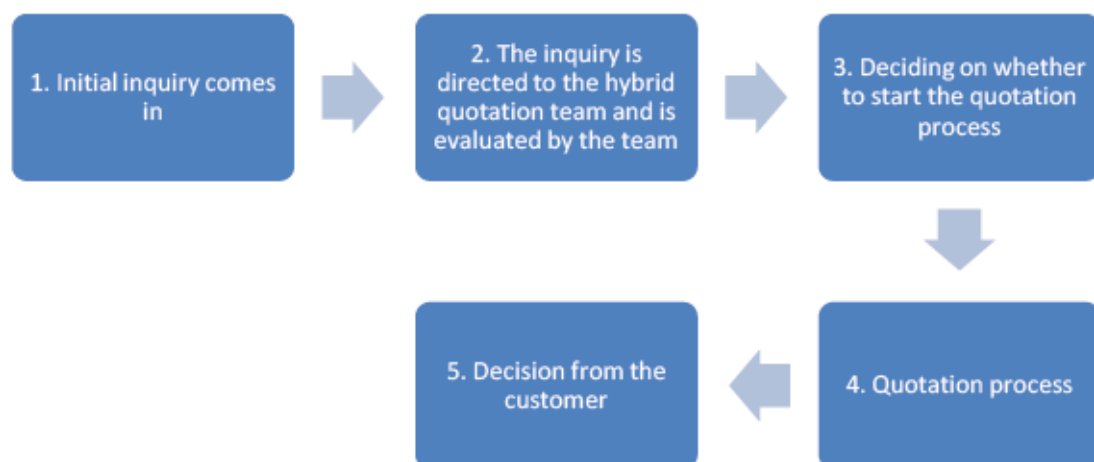


Figure 7. A Summary of the Created Process

By forming a hybrid quotation team that operates according to this process, the Company could get much-needed assertiveness for addressing the initial inquiries. Not only does the process provide a solution for the Company, but it is also something that provides a framework to be used by other companies on the same industry or similar companies on other industries dealing with similar problems as well. As has been stated in this paper, the complexity of choosing the right customers is true for virtually every company no matter the industry. Therefore, having a process such as this to be used as a framework would be highly beneficial for many similar companies.

6.3 Limitations

The main limitation of this research is that the empirical part is purely based on the interviews of a number of key employees of the Company regarding this topic. In other words, there was not an observation period, for example, to see first-hand the current situation of different current processes and ways of doing things regarding the topic. This was because of limitations on time and other resources for carrying out this research. Another limitation that was caused by the limited time period was that it was not possible to implement the created process and also observe and evaluate its performance as it would have taken a lot more time than it was able to be spent on this research.

The theoretical background used in this research is based on general findings from many different fields and it is therefore questionable how well they suit the defence industry the Company represents. This is because the defence industry has certain unique key features absent from other industries. Also, the process created in this research is largely based on the interviews of the key employees of the Company, meaning that it is highly case-specific and therefore would require more research to be transferred as such to another company.

6.4 Directions for Future Research

In this research, the most obvious topic for future research would be to investigate how well the process created in this research has worked for the Company and

whether there has been some modifications or additions needed to be made. Moreover, it would be interesting to see whether the created process could be transferrable to other companies as well.

Also, the theories used in this research were designed to and researched on other industries, so doing a research of applying these theories on the defence industry where the Company operates in would be beneficial. The APM procedures especially have received quite little attention in research on other than the software industry which also played a part in limitations of this research as was mentioned in the previous sub-chapter. Also, as was stated in chapter 6.1, the concept of using mobile applications to improve communication is something that should be researched more in the future.

From the Company's perspective it would be beneficial to use the principles of action research in evaluating the process created in this research to scrutinize the effectiveness of the process and being able to make necessary modifications to it at regular intervals.

REFERENCES

Articles:

- Anderson, E. W., Fornell, C. & Lehmann, D. R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*. 58 (3), 53–66.
- Andrews, D. C. (2017). A Space for Place in Business Communication Research. *International Journal of Business Communication*. 54(3), 325–336.
- Baird, A. & Riggins, F. J. (2012). Planning and Sprinting: Use of a Hybrid Project Management Methodology within a CIS Capstone Course. *Journal of Information Systems Education*. 23(3), 243-257.
- Banica, L., Radulescu, M., Rosca, D. & Hagi, A. (2017). Is DevOps another Project Management Methodology? *Informatica Economică*. 21(3), 39-51.
- Bhatnagar, N., Maryott, K. & Bejou, D. (2008). Customer Selection and Prioritization: The Optimal Resource Allocation Approach to Maximizing Customer Value. *Journal of Relationship Management*. 6(3/4), 117-130.
- Boarcă, C. (2017). Business Communication In The Internet Age. *Economics, Management, and Financial Markets*. 12(2), 201-213.
- Carbonell, P. & Rodriguez, A. I. (2006). Designing teams for speedy product development: The moderating effect of technological complexity. *Journal of Business Research*. 59(2), 225-232.
- Chen, J., Damanpour, F. & Reilly, R. R. (2010). Understanding antecedents of new product development speed: A meta-analysis. *Journal of Operations Management*. 28(1), 17-33.
- Chinowsky, P. S. & Rojas, E. M. (2003). Virtual teams: guide to successful implementation. *Journal of Management In Engineering*. 19(3), 98-106.
- Chow, T. & Cao, D. B. (2008). A survey of critical success factors in agile software projects. *The Journal of Systems and Software*. 81(6), 961-971.
- Conforto, E. C., Salum, F., Amaral, D. C., da Silva, S. L. & de Almeida, L. F. M. (2014). Can Agile Project Management Be Adopted by Industries Other than Software Development? *Project Management Journal*. 45(3), 21-34.
- Dyba, T. & Dingsoyr, T. (2008). Empirical Studies of Agile Software Development: A Systematic Review. *Information and Software Technology*. 50(9-10), 833-859.
- Eisend, M. (2016). Comment: Advertising, Communication, and Brands. *Journal of Advertising*. 45(3), 353–355.

- Homberg, C., Droll, M. & Totzek, D. (2008). Customer Prioritization: Does It Pay Off, and How Should It Be Implemented? *Journal of Marketing*. 72(5), 110-130.
- Hosseini, M. R., Zavadskas, E. K., Xia, B., Chileshe N. & Mills, A. (2017). Communications in Hybrid Arrangements: Case of Australian Construction Project Teams. *Inzinerine Ekonomika-Engineering Economics*. 28(3), 290-300.
- Hosseini, M. R., Chileshe, N., Baroudi, B., Zuo, J. & Mills, A. (2016). Factors affecting perceived level of virtuality in hybrid construction project teams (HCPTs): A qualitative study. *Construction Innovation*. 16(4), 460-482.
- Hosseini, M. R. & Chileshe, N. (2013). Global virtual engineering teams (GVETs): a fertile ground for research in Australian construction projects context. *International Journal of Project Management*. 31(8), 1101-1117.
- Klimoski, R. J. & Mohammed, S. (1994). Team mental model: Construct or metaphor? *Journal of Management*. 20(2), 403-437.
- Krutchén, P. (2001). From Waterfall to Iterative Development - A Challenging Transition for Project Managers. *Rational Edge, Rational Software*. 1-13.
- Lewin, K. (1946). Action Research and Minority Problems. *Social Issues*. 2(4), 34-46.
- Maznevski, M. L. & Chudoba, K. M. (2000). Bridging space over time: Global virtual team dynamics and effectiveness. *Organization Science*. 11(5), 473-492.
- Mirzaei, M. & Mabin, V. (2017). Agile Project Management and Public Policy Development Projects: A case study from New Zealand. *New Zealand Journal of Applied Business Research*. 15(1), 59-75.
- Serrador, P. & Pinto, J. K. (2015). Does Agile work? A quantitative analysis of agile project success. *Journal of Project Management*. 33(5), 1040-1051.
- Smith, P. G. & Reinertsen, D. G. (1992). Shortening the product development cycle. *Research Technology Management*. 35(3), 44-49.
- Verganti, R. (1999). Planned flexibility: Linking anticipation and reaction in product development projects. *Journal of Product Innovation Management*. 16(4), 363-376.
- Walczak, W. & Kuchta, D. (2013). Risks Characteristic of Agile Project Management Methodologies and Responses to Them. *Operations Research and Decisions*. 4, 75-95.
- Waldeck, J. Durante, C., Helmuth, B. & Marcia, B. (2012). Communication in a Changing World: Contemporary Perspectives on Business Communication Competence. *Journal of Education for Business*. 87, 230-240.

Workman, M. (2007). The Proximal-Virtual Team Continuum: A Study of Performance. *Journal of the American Society for Information Science and Technology*. 58(6), 794-801.

Wyner, G. A. (2000). Customer Selection. *Marketing Research*. 12(1), 42-44.

Yang, A. X. (2004). How to develop new approaches to RFM segmentation. *Journal of Targeting, Measurement & Analysis for Marketing*. 13(1), 50-60.

Zeithaml, V. A., Rust, R. T. & Lemon, K. N. (2001). The Customer Pyramid: Creating And Serving Profitable Customers. *California Management Review*. 43(4), 118-142.

Zirger, B. J. & Hartley, J. L. (1996). The effect of acceleration techniques on product development time. *IEEE Transactions on Engineering Management*. 43(2), 143-152.

Books:

Bryman, A. (2012). *Social Research Methods, 4th edition*. Oxford University Press: New York.

Burke, R. (1999). *Project Management: Planning & Control Techniques, 3rd edition*. John Wiley & Sons: Chichester.

Chin, G. (2004). *Agile Project Management – How to Succeed in the Face of Changing Project Requirements*. AMACOM: New York.

Cohn, M. (2005). *Agile estimating and planning*. Prentice Hall PTR: New York, NY.

Cooper, R. G., Edgett, S. J. & Kleinschmidt, E. J. (2001). *Portfolio Management for New Products (2nd Edition)*. Perseus Publishing: New York.

Costello, P. J. M. (2003). *Action Research*. Continuum: London.

Dance, F. E. X., Larson, C. E. (1976). *Functions of Human Communication: A Theoretical Approach*. Holt McDougal: New York.

Duncan, W. R. (1996). *A Guide to the Project Management Body of Knowledge*. PMI Publishing Division: North Carolina.

Gubrium, J. F. & Holstein, J. A. (2001). *Handbook of Interview Research*. Sage Publications: California.

Highsmith, J. (2004). *Agile project management: Creating innovative products*. Addison-Wesley: Boston, MA.

Kvale, S. (1996). *Interviews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks: California.

Lewis, R. D. (2012). *When teams collide: Managing the international team successfully*. Nicholas Brealey International: London.

Lewis-Beck, M., Bryman, A. E. & Liao, T. F. (2004). *SAGE Encyclopedia of Social Science Research Methods*. SAGE Publications: Thousand Oaks, CA.

McNiff, J. (2017). *Action Research: All You Need To Know*. SAGE Publications: London.

Reason, P. & Bradbury, H. (2001). *Handbook of Action Research – Participative Inquiry and Practice*. Sage Publications: London.

Tourish, D. & Hargie, O. (2009). *Auditing Organizational Communication: A Handbook of Research, Theory and Practice*. Routledge: New York.

Turner, J. R. (2000). *The Handbook of Project-Based Management: Leading Strategic Change in Organizations*. The McGraw-Hill Companies: London.

Thesis:

Schroeder, K. A. (2013). A Mixed Method Study of the Accelerators and Decelerators of Global Hybrid Team Effectiveness. PhD Thesis. Benedictine University, Chicago.

Websites:

AppGyver (2017). AppGyver Fact Sheet: http://appgyver.assets.s3.amazonaws.com/press/AppGyver_Factsheet.pdf. Cited 21.7.2017.

AppGyver 1 (2017). Business Processes: <https://www.appgyver.fi/use-cases/business-processes/>. Cited 25.7.2017.

AppGyver 2 (2017). Business Management: <https://www.appgyver.fi/use-cases/business-management/>. Cited 25.7.2017.

AppGyver 3 (2017). Collaboration: <https://www.appgyver.fi/use-cases/collaboration/>. Cited 25.7.2017.

AppGyver 4 (2017). Business Intelligence: <https://www.appgyver.fi/use-cases/business-intelligence/>. Cited 25.7.2017.

AppGyver 5 (2017). Intranet: <https://www.appgyver.fi/use-cases/intranet/>. Cited 25.7.2017.

Dick, B. (2002). Action Research: action and research: <http://www.aral.com.au/resources/aandr.html>. Cited 27.7.2017.

- Fonecta (2017). Patria Land Systems Oy: <<https://www.finder.fi/Kuorma-autoja+ja+vetoajoneuvoja/Patria+Land+Systems+Oy/Helsinki/yhteystiedot/2409971>>. Cited 27.3.2017.
- McConnell, E. (2010). Project Management Methodology: Definition, Types, Examples. <<http://www.mymanagementguide.com/basics/project-methodology-definition/>>. Cited 18.11.2017
- Patria 1 (2017). About Patria. <<https://www.patria.fi/en/patria>>. Cited 13.12.2017
- Patria 2 (2017). Corporate Structure. <<https://www.patria.fi/en/patria/corporate-structure>>. Cited 31.8.2017
- Patria 3 (2017). Armoured Wheeled Vehicles. <<https://www.patria.fi/en/products-and-services/armoured-wheeled-vehicles>>. Cited 31.8.2017
- Patria 4 (2017). Mortar Systems. <<https://www.patria.fi/en/products-and-services/mortar-systems>>. Cited 31.8.2017
- Smartsheet (2017). Gantt Chart Template for Excel. <https://www.smartsheet.com/sites/default/files/Gantt_chart_excel_0.png>. Cited: 4.9.2017.
- Statista (2017). Number of smartphone users worldwide from 2014 to 2020 (in billions). <<https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/>>. Cited: 5.11.2017