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Managing project communications in EEQ Energy customer delivery projects in USA

Project Management and communication
2025

ACKNOWLEDGEMENTS

I would like to thank my wife Laura for her effort to provide me with possibility to write this study. It has not been an easy journey for any of us. I felt sad when I just couldn't be there for the family so many times when needed. I just had to keep on writing to get this valuable study done. For the whole time I had the vision of having more balanced life ahead of us, when the writing is over.

The real struggle was to get the thesis subject set correctly. Now I can confidently say that if the study subject does not feel right, it is not worth it to invest time on it. I was stuck with my thesis for years until I realized I have to think it all over from beginning and select a research subject that is close to my heart. It was a year ago in spring of 2024 when I made the decision to focus on project communications management in my thesis. 2024 for very busy year in work and the year when our third child, a little boy was born. So, it came 2025 until I really got into the writing of the thesis. The deadline was set to end of July 2025, which really tested my faith, could it be possible to write a study in such a short time frame while being busy at work and home with the family. For me failure is not an option, not without trying my best at least. So, I buried all the doubts and told everyone that this study will be written and it will be written now.

Thanks to everyone I had discussions with about the subject. You really proved that what I am doing matters and provided many valuable inputs to my work. Special thanks to the people I interviewed should know that it is you who made this study to happen, your words are the foundation of this work.

TIIVISTELMÄ

Tekijä	Marko Kiviluoma
Opinnäytetyön nimi	Managing project communications in EEQ Energy customer delivery projects in USA
Vuosi	2025
Kieli	englanti
Sivumäärä	109 + 3 liitettä
Ohjaaja	Adebayo Agbejule

Tämän tutkimuksen tavoitteena on selvittää projektin kommunikaationhallinnan vaikutusta projektin onnistumiseen ja asiakassuhteisiin. Projektiorganisaation tulee huolehtia kommunikaatiosta projektin monien sidosryhmien välillä. Hyvin usein projektit kärsivät ongelmista, joiden taustalla on riittämätön kommunikaatio. Tämä tutkimus selvittää, mitkä tekijät vaikuttavat ratkaisevasti kommunikaation toimivuuteen projektissa.

Tutkimus on tehty yksittäisenä tapaustutkimuksena. Teoreettisena viitekehyksenä käytettiin kirjallisuuskatsausta. Teoriaosuudessa käsitellään informaation kulkua eri projektinhallinnan prosessien välillä, perehdytään kommunikaation hallintaan, käydään läpi kommunikaatioon liittyviä keskeisiä käsitteitä ja menetelmiä. Lisäksi tarkastellaan kommunikaatiota Suomen ja USA:n välillä ajan, kielen ja kulttuurin näkökulmasta. Empiirisessä osiossa käytettiin haastatteluita. Haastatteluun valikoitui kolme eri asemassa toimivaa henkilöä tapausprojektista. Heidän vastauksensa antoivat arvokasta tietoa siitä, miten projektin kommunikaatio toimii ja missä on parantamisen varaa.

Tutkimuksen mukaan tehokkaalla kommunikaatiolla on merkittävä vaikutus projektin onnistumiseen. Luottamus taas on avainasemassa suhteiden rakentamisessa, ja sitä kautta osana tehokasta kommunikaatiota. Avoin ja rehellinen kommunikaatio saa aikaan luottamusta. Avoimen kommunikaation kautta saadaan selville, mitä tiedon tarpeita tai huolenaiheita asiakkaalla tai projektin sidosryhmillä on projektissa. Hyvin laadittu ja ajantasalla pidetty projektin kommunikaationhallintasuunnitelma huolehtii kommunikaation toimivuudesta koko projektin elinkaaren ajan.

Avainsanat projektikommunikaatio, projektin onnistuminen, tehokas
 kommunikaatio, asiakassuhteiden hallinta

ABSTRACT

Author	Marko Kiviluoma
Title	Project way of working – Managing project communications in EEQ Energy customer delivery projects in USA
Year	2025
Language	English
Pages	109 + 3 Appendices
Name of Supervisor	Adebayo Agbejule

The objective of this study is to find out how project communication management impacts project success and customer relationships. Project organizations must take care of communication with various stakeholders in the project. It is common that projects suffer from problems caused by insufficient communication. The objective of this study is to study how project success and customer relationships could be improved through communication.

The research has been conducted as a single case study. A literature review was used as a theoretical framework. The theoretical part discusses the flow of information between different project management processes, introduces communication management, and reviews key concepts and methods related to communication. Communication between Finland and the USA is examined from the perspective of time, language, and culture. Interviews were used in the empirical part. Three people in different positions from the case project were selected for the interview. Their answers provided valuable information about how the project's communication works and where there is room for improvement.

Based on the study, effective communication has significant impact on project success. Trust plays the key role in building relationships and in effective communication. Open and transparent communication generates trust. The information needs and concerns of the stakeholders are to be identified and used as input for project communications management plan. A well developed and maintained project communications management plan ensures that project communications are effective throughout the project life cycle.

Keywords project communication, project success, effective communication, customer relationship management

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LIST OF ABBREVIATIONS

EEQ	Engineered Equipment Delivery
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMP	Project Management Process
WIFM	what's in it for me
DDI	Development Dimensions International

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1 INTRODUCTION

Energy customer delivery EEQ (engineered equipment delivery) projects have long life span from start to finish. The project moves from phase to phase and outputs from previous phase act as inputs on following phase. Project management processes are used to control progress. While each phase of the project has its own project management processes, there needs to be interaction to transfer project information. Project communications management is needed for interaction between the process groups.

The project management plan is developed and followed by project managers to plan, implement and follow up the project activities daily. Communication plays a central role in each aspect of project management (Galvin-Ardila, et al. 2013). It is very common that projects suffer from lack of communication, resulting in increased workload among the project team and stakeholders. This also results in additional expenses and delays in the project.

This study is conducted as a single case study, and it aims to find deeper understanding of project communication management and how communication could be improved throughout the project. We focus on an energy customer delivery EEQ case project, located in the USA. The strategy in this study is to interview the project manager, site manager at project site and end customer. This should provide us with a good understanding how project communication works and what is behind issues, if the communication is not working. The objective is to find answers on how to improve project success and customer relationship through communication.

The limitation of the study is that more research is needed to generalize the findings. Due to the nature of the study, it would be difficult to replicate the findings. Projects are different, communication needs are different and people interacting are different. Regardless of the limitations I see great learning value in this study, it just needs to be tailored for every project, case by case.

1.1 Research Problem

In energy customer delivery EEQ projects, project communications are in high demand. Issues resulted from communication gaps are often expensive and time consuming. Many times, the time is tight, and it gets even more costly catch up the lost time. These situations could also be stressful in the project and the risk of conflicts increases. It is essential for the project team to understand what customer expectations are for the project and what is the customer's success criteria for the project. In the USA, customer delivery EEQ projects, customer expectations and success criteria for the projects may vary. The reason for this is that in the USA electricity generation and distribution are handled by a mix of private, public and cooperative entities. A study about the communication impact on project success and customer relationships is needed to help with the development of an effective communication strategy for this business area.

1.2 Research Gap

The literature on the subject of communication management has been extensively studied to date. Still after studying literature, I could not find a direct answer on how success and customer relationships could be improved through communication, in energy customer delivery projects in USA. The reason for this seems to be that there is no single answer to these questions, but the answer seems to be a combination of certain key practices in project communication management. Study is needed to identify these key practices.

1.3 Research Objectives

The objective of this thesis is to identify key communication management practices to improve project success and customer relationships in the case EEQ energy customer delivery projects in USA. The study is focusing on a single case project to constrain the scope of the research to a reasonable level. The findings of the study could be used to develop a communication strategy for other energy customer delivery projects in the USA.

1.4 Research Questions

The key project communication management practices need to be identified to answer the following questions:

Q1. How could project success be improved through communication?

Q2. How could customer relationships be improved through communication?

1.5 Research Methodology

The purpose of this study is to investigate project communication relationship to project success and how to improve customer relationships through communication in the case project.

“Qualitative research has an increasing role in the field of communication, scholars considering it the “dominant methodology in communication” (Lindlof and Taylor 2011, 12).” (Bîră & Daba-Buzoianu, 2017, 10) “Unlike quantitative research, qualitative research focuses on the personal experiences of individuals and seeks to understand the way individuals look at specific situations and construct meaning.” (Bîră & Daba-Buzoianu, 2017, 11) In Paille’s terms, theoretical sampling implies a significant methodological effort, as the researcher should observe several aspects of the same phenomenon in one participant, unlike traditional sampling where the researcher observes the same phenomenon with several participants (Paille 2002, 145). All this fits perfectly for this research subject. To find answers to the research questions mentioned above in chapter 1.4 qualitative research was conducted.

Qualitative research begins with an inductive approach, where data is collected first and then theories and concepts are being emerged from the collected data.

“Often qualitative researchers undertake a qualitative study because there is a lack of theory or an existing theory fails to adequately explain a phenomenon. Therefore, another important characteristic of qualitative research is that the process is inductive; that is, researchers gather data to build concepts, hypotheses, or theories rather than deductively testing hypotheses as in positivist research. Qualitative researchers build toward theory from observations and intuitive understandings gleaned from

being in the field. Bits and pieces of information from interviews, observations, or documents are combined and ordered into larger themes as the researcher works from the particular to the general. Typically, findings inductively derived from the data in a qualitative study are in the form of themes, categories, typologies, concepts, tentative hypotheses, and even theory about a particular aspect of practice.” (Merriam & Tisdell, 2015, 37)

1.5.1 Case study

“A case study is an in-depth description and analysis of a bounded system. Part of the confusion surrounding case studies is that the process of conducting a case study is conflated with both the unit of study (the case) and the product of this type of investigation.” (Merriam & Tisdell, 2015, 53) “If the phenomenon you are interested in studying is not intrinsically bounded, it is not a case. One technique for assessing the boundedness of the topic is to ask how finite the data collection would be; that is, whether there is a limit to the number of people involved who could be interviewed or a finite time for observations. If there is no end, actually or theoretically, to the number of people who could be interviewed or to observations that could be conducted, then the phenomenon is not bounded enough to qualify as a case.” (Merriam & Tisdell, 2015, 55)

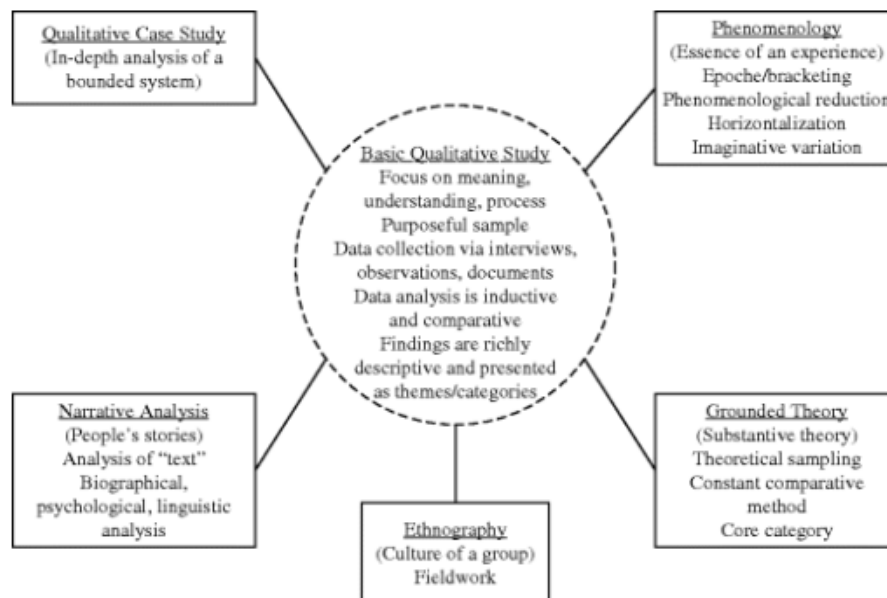


Figure 1. Types of Qualitative research (Merriam & Tisdell, 2015)

Based on the above information, it was clear that this research is a case study. The study has clear boundaries as we are studying project communication relationships in a case project. People we can interview are bound to be involved in the project. Figure 1. above presents characteristics of qualitative case study, which shares the base characteristics of basic qualitative study.

1.5.2 Single Case study

This study is conducted as a single case study. What makes this study a single case study, is that we are studying project communications relationships to project success and customer relationships within a single case project. The reason behind selecting a single case study instead of multiple cases is that generalizing the research would be difficult. It would require interviews on many other energy customer delivery projects in USA and comparing the findings with this single case study.

A single case study is able to provide in depth understanding of the phenomena studied compared to multiple case study. Single case is more likely suffering from researcher bias, intentional or non-intentional. Multiple cases could increase confidence in results and help to identify if the studied phenomena might apply on a larger scale, but this would require further research to justify the generality. Broad-based samples would be needed to justify generalization of the findings. (Lazar, et al. 2017)

1.5.3 Data Collection

In qualitative research the researcher is the primary instrument of data collection. Researchers need to be as objective and detached as possible when collecting data. (Merriam & Tisdell, 2015)

“Data conveyed through words have been labelled qualitative, whereas data presented in number form are quantitative. Qualitative data consist of “direct quotations from people about their experiences, opinions, feelings, and knowledge” obtained through interviews; “detailed descriptions of people's activities, behaviors, actions” recorded in observations; and “excerpts, quotations, or entire passages”

extracted from various types of documents (Patton, 2015, 14).” (Merriam & Tisdell, 2015, 105)

Interviews can be highly structured/standardized, semi-structured or unstructured/informal. This is presented below in table 1. Interviews used in qualitative investigations are mostly more open-ended and less structured. It is assumed that respondents define the world in unique ways. Interview questions need to be more open-ended. This type of interview is known as semi-structured interview. Interview questions are flexibly worded, or interviews consist of more and less structured questions. The structured section of the interview is included in the interview to get specific information from all respondents. Most of the interviews are guided by questions or issues to be explored. Exact wording or order of the questions are not determined in ahead of time. This interview format allows interviewers to interact with the respondent and adapt to the emerging worldview and new ideas. (Merriam & Tisdell, 2015)

Table 1. Interview structures (Merriam & Tisdell, 2015)

Interview Structure Continuum.		
Highly Structured/Standardized	Semistructured	Unstructured/Informal
<ul style="list-style-type: none"> • Wording of questions is predetermined • Order of questions is predetermined • Interview is oral form of a written survey • In qualitative studies, usually used to obtain demographic data (age, gender, ethnicity, education, and so on) • Examples: U.S. Census Bureau survey, marketing surveys 	<ul style="list-style-type: none"> • Interview guide includes a mix of more and less structured interview questions • All questions used flexibly • Usually specific data required from all respondents • Largest part of interview guided by list of questions or issues to be explored • No predetermined wording or order 	<ul style="list-style-type: none"> • Open-ended questions • Flexible, exploratory • More like a conversation • Used when researcher does not know enough about phenomenon to ask relevant questions • Goal is learning from this interview to formulate questions for later interviews • Used primarily in ethnography, participant observation, and case study

In qualitative research it is important to select respondents by potential of each person to contribute to the development of insight and understanding of phenomenon. (Merriam & Tisdell, 2015)

Interviews are typically audio recorded. This ensures that everything said is preserved for analysis. The best database for analyzing the interview data can be generated by doing a verbatim transcription. The quality of recorded data needs to be assessed as well as possible. Several factors may influence responses, such as respondent's health and mood and motives in the project at the time of the interview. All information obtained from the respondent has been selected, either consciously or unconsciously from all that he or she knows. Data from the interview is simply the respondent's perception of the phenomenon of interest at particular point of time. This is the personal perspective sought in qualitative research. Information from every single interview needs to be considered in light of other interviews and sources of data such as observations and documents. (Merriam & Tisdell, 2015)

Interview questions in this study are predetermined and asked in the same order to make data collection more systematic. Interview questions are open ended to catch the viewpoint of the respondents. The interview strategy is to approach communications management in the case project from three different angles to catch all perspectives while seeking answers to the research questions. These three viewpoints are the case company's site team viewpoint, the end customer's viewpoint and the project team viewpoint. One interview for each of these groups was kept. Due to interviewees belonging to different groups, the interview questions had to be adjusted to fit for their viewpoint. Question about internal communication was only presented in site team and project team interviews.

1.5.4 Analyzing Data

Collection and analysis of qualitative data should be a simultaneous process. This is what distinguishes qualitative research from traditional positivistic research. Qualitative research is emergent, and researcher does not usually know ahead every person to be interviewed, all questions that will be asked or where to look next,

unless data are analyzed as they are being collected.” Hunches, working hypotheses, and educated guesses direct the investigator's attention to certain data and then to refining or verifying hunches. The process of data collection and analysis is recursive and dynamic. But this is not to say that the analysis is finished when all the data have been collected. Quite the opposite. Analysis becomes more intensive as the study progresses and once all the data are in.” (Merriam & Tisdell, 2015, 181)

“At the outset of a qualitative study, the investigator knows what the problem is and has selected a purposeful sample to collect data in order to address the problem. But the researcher does not know what will be discovered, what or whom to concentrate on, or what the final analysis will be like. The final product is shaped by the data that are collected and the analysis that accompanies the entire process. Without ongoing analysis, the data can be unfocused, repetitious, and overwhelming in the sheer volume of material that needs to be processed. Data that have been analyzed while being collected are both parsimonious and illuminating.” (Merriam & Tisdell, 2015, 182)

The point when to finish the data collection will be based on the notion of saturation. Saturation occurs when continued data collection no longer produces new information or insights into the phenomenon being studied. Each interview needs to identify notations so they can be accessed later as needed for analysis and for writing up the findings of the study. As the data is collected it needs to be coded according to the relevant scheme for the study and according to the theoretical framework that informs the study (Merriam & Tisdell, 2015).

“Data analysis is the process of making sense out of the data. And making sense out of data involves consolidating, reducing, and interpreting what people have said and what the researcher has seen and read—it is the process of making meaning.” (Merriam & Tisdell, 2015, 187) Data analysis begins by identifying segments in the data set that are responsive to the research questions. A segment is a meaningful unit of data that answers or partially answers to the research question(s) in the study. It can be small as a single word describing a feeling or phenomenon or as large as several pages of field notes about particular incident (Merriam & Tisdell, 2015.).

“The task is to compare one unit of information with the next, looking for recurring regularities in the data. The process is one of breaking data down into bits of information and then assigning “these bits to categories or classes which bring these bits together again, if in a novel way. In the process we begin to discriminate more clearly between the criteria for allocating data to one category or another. Then some categories may be subdivided, and others subsumed under more abstract categories” (Dey, 1993, 44).” (Merriam & Tisdell, 2015, 188).

At the beginning of study analysis is totally inductive. Pieces of data are collected and derived into tentative categories. As more data gets collected and analyzed, checking is being done to earlier categories to see if they still hold up. Some categories will remain, and others will not hold up. Towards the end of the study, more information gets deducted as we are looking for more evidence in support of the final set of categories. The logic of data analysis is presented below in figure 2. (Merriam & Tisdell, 2015)

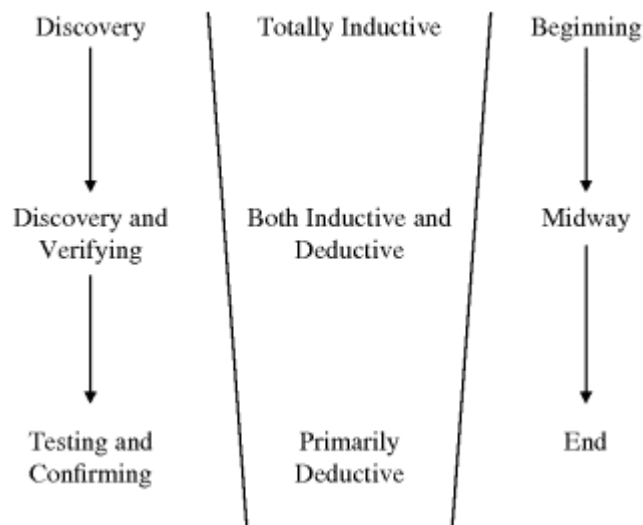


Figure 2. The Logic of Data Analysis (Merriam & Tisdell, 2015)

According to Merriam & Tisdell, (2015) categories identified by recurring data patterns need to be derived down to categories which provide value in finding the answers to the study research questions. The holding categories should: fit into the purpose of the study, be supported by theoretical framework of the study and include coded (marked) data patterns related to study purpose and research questions.

In my study, the interview questions aim to provide answers to study research questions in two ways, directly and partially. The interview questions aim to provide data sets, which form data categories, that can be inspected through the theoretical framework. It was easier to iterate the interview data into categories, when the interview questions were presented in particular order in each interview. This created logical sections of the interview transcripts, from which it was easier to recognize data patterns between interview transcripts and sort the data into relevant categories.

1.5.5 Reliability and Validity in Qualitative Research

“All research is concerned with producing valid and reliable knowledge in an ethical manner. Being able to trust research results is especially important to professionals in applied fields because practitioners intervene in people's lives.” (Merriam & Tisdell, 2015, 214). “Regardless of the type of research, validity and reliability are concerns that can be approached through careful attention to a study's conceptualization and the way in which the data are collected, analyzed, and interpreted, and the way in which the findings are presented.” (Merriam & Tisdell, 2015, 215)

“Lichtman (2013) uses a continuum to capture this fluidity in changing notions of defining and assessing trustworthiness in qualitative research. Prior to 1990 the concepts of objectivity, reliability, and internal validity were used to assess qualitative research. In the next decade, 1990–2000, the concepts of credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1981; Lincoln & Guba, 1985) were thought to be more suitable criteria.” (Merriam & Tisdell, 2015, 216) It is to be noted that these concepts have also synonym names used in literature.

Credibility/Internal validity: It deals with the question of how research findings match reality. (Merriam & Tisdell, 2015). “Though qualitative researchers can never capture an objective “truth” or “reality,” there are a number of strategies that you as a qualitative researcher can use to increase the “credibility” of your findings, or as Wolcott (2005, 160) writes, increase “the correspondence between research and the real world.” Probably the best-known strategy to shore up the internal validity of a study is what is known as triangulation.” (Merriam & Tisdell, 2015, 220)

“A second common strategy for ensuring internal validity or credibility is member checks. Also called respondent validation, the idea here is that you solicit feedback on your preliminary or emerging findings from some of the people that you interviewed.” (Merriam & Tisdell, 2015, 221)

The third strategy is Adequate engagement in data collection. To understand the phenomenon, interviews are done until the data and emerging findings feel saturated. Same things are heard over and over, and no new information surfaces in data collection. (Merriam & Tisdell, 2015)

Reliability/Consistency/Dependability: Reliability is the extent to which research findings can be replicated. This is problematic in social sciences because human behavior is never static. In qualitative research human behavior can’t be isolated as researchers seek to describe the world as it is experienced (Merriam & Tisdell, 2015). Strategies to ensure Reliability/Consistency/Dependability are triangulation, peer examination, investigator’s position and audit trail. (Merriam & Tisdell, 2015) See table 2. below for strategy descriptions.

Transferability/External Validity: External Validity is the extent to which the findings of the study can be applied to other situations. How generalizable are the study results? Difficulty in generalization of the study lies in the minds of people interpreting the study. It could be difficult to think the study in the same way as the researcher did when writing it. In a qualitative/single case study sample is small and purposeful, providing in depth understanding of phenomenon instead of generalized data. (Merriam & Tisdell, 2015)

Eisner (1998, 103–104) points out, “generalization is a ubiquitous aspect” of our lives. However, “no one leads life by randomly selecting events in order to establish formal generalizations. We live and learn. We try to make sense out of the situations in and through which we live and to use what we learn to guide us in the future.”

Confirmability/Objectivity: “Confirmability pertains to the impartiality and objectivity of the findings, guaranteeing that they remain unaffected by any biases or

preferences of the researchers.” (Sirwan, 2024) Strategies to promote confirmability of the study include: Peer debriefing, Member checking and Reflexive journaling (Sirwan, 2024) See Table 2. below for strategy descriptions.

“Though qualitative researchers can never capture an objective “truth” or “reality,” there are a number of strategies that you as a qualitative researcher can use to increase the “credibility” of your findings” (Merriam & Tisdell, 2015, 220). Table 2. below presents eight most common strategies for ensuring validity and reliability of the study.

Table 2. Strategies for Promoting Validity and Reliability. (Merriam & Tisdell, 2015, p.233)

Strategies for Promoting Validity and Reliability.	
<i>Strategy</i>	<i>Description</i>
1. Triangulation	Using multiple investigators, sources of data, or data collection methods to confirm emerging findings.
2. Member checks/Respondent validation	Taking tentative interpretations/findings back to the people from whom they were derived and asking if they are plausible.
3. Adequate engagement in data collection	Adequate time spent collecting data such that the data become “saturated”; this may involve seeking <i>discrepant</i> or <i>negative</i> cases.
4. Researcher's position or reflexivity	Critical self-reflection by the researcher regarding assumptions, worldview, biases, theoretical orientation, and relationship to the study that may affect the investigation.
5. Peer review/examination	Discussions with colleagues regarding the process of study, the congruency of emerging findings with the raw data, and tentative interpretations.
6. Audit trail	A detailed account of the methods, procedures, and decision points in carrying out the study.
7. Rich, thick descriptions	Providing enough description to contextualize the study such that readers will be able to determine the extent to which their situations match the research context, and, hence, whether findings can be transferred.
8. Maximum variation	Purposefully seeking variation or diversity in sample selection to allow for a greater range of application of the findings by consumers of the research.

1.5.6 Reporting the Findings

Reporting the findings is the final step of qualitative study, it completes the research process. Reporting starts by compiling all the relevant data and determining the audience. Next the study's outline focus is reflected. Once focus and audience are set it is time to write the first draft, majority of the report is focused on qualitative research content. The report reviews essential elements of the study problem, methodology and findings, along with issues related to placement of components, balancing description with analysis and disseminating research findings. The report ends with discussion about issues related to the study (Merriam & Tisdell, 2015).

1.6 Structure of the thesis

The thesis is structured into four chapters as presented in table X below. Chapter one introduces the study background, research objective, research questions and research methodology. Chapter two is about literature review of project management, project communication management processes, project success, project communication concepts, and communication management. Chapter three presents research approach, interviews, interview analysis and summary of interviews. Chapter four presents conclusions and discussion, practical implementation and limitations and further research needs of the study.

Table 3. Structure of Thesis.

Chapter	Sub-Chapters	Description	Research method
Chapter 1 - Introduction	1.1-1.6	Background, research objective, research questions and research methodology	
Chapter 2 - Introduction	2.1-2.5	Project management concept, project management processes, communication concepts and project success, customer relationship management in project business, project communication management	Literature research
Chapter 3 - Introduction	3.1-3.2	Data collection, interviews and analysis	Empirical research
Chapter 4 - Introduction	4.1-4.3	Theoretical and practical contributions, Conclusions	Synthesis between literature and interviews

2 LITERATURE REVIEW

2.1 Project management

Projects are managed through communication. In this chapter project management plan is briefly described. Project management plan is the basis for project management. It includes all subsidiary plans for managing the project. One of these subsidiary plans is the project communications management plan, which is in central role in project management and in this study. Project management plan uses project requirements collected in project charter as an input. For this reason, early communication with the customer is critical. Project management must have a clear understanding of customer's expectations for the project.

2.1.1 Project management plan

Project management plans are developed by defining, preparing and coordinating all subsidiary plans and combining them into a project management plan. The project management plan is used as basis of all project work. It is combined from inputs from project charter, outputs of all other processes, enterprise environmental factors and organizational process assets by utilizing facilitation techniques and expert judgement (PMBOK 2013).

The project management plan defines project execution, monitoring, control and closing. The content of the project management plan is project specific and varies based on project application area and complexity. The project management plan is developed through the project life cycle until the project closure. If the project is part of a program, it should be consistent with program management plan (PMBOK 2013).

Table 4. Project plan contents (PMBOK 2013)

Project Management Plan	Project Documents	
Change management plan	Activity attributes	Project staff assignments
Communications management plan	Activity cost estimates	Project statement of work
Configuration management plan	Activity duration estimates	Quality checklists
Cost baseline	Activity list	Quality control measurements
Cost management plan	Activity resource requirements	Quality metrics
Human resource management plan	Agreements	Requirements documentation
Process improvement plan	Basis of estimates	Requirements traceability matrix
Procurement management plan	Change log	Resource breakdown structure
Scope baseline • Project scope statement • WBS • WBS dictionary	Change requests	Resource calendars
Quality management plan	Forecasts • Cost forecast • Schedule forecast	Risk register
Requirements management plan	Issue log	Schedule data
Risk management plan	Milestone list	Seller proposals
Schedule baseline	Procurement documents	Source selection criteria
Schedule management plan	Procurement statement of work	Stakeholder register
Scope management plan	Project calendars	Team performance assessments
Stakeholder management plan	Project charter Project funding requirements Project schedule Project schedule network diagrams	Work performance data Work performance information Work performance reports

2.1.2 Project charter

The project charter is a document that formally authorizes the existence of the project. This document provides the project manager with authority to apply organizational resources to project activities. The purpose of this process is to define the project start and project boundaries, creation of formal record of the project and direct way for senior management to formally accept and commit to the project. (PMBOK 2013)

It is recommended that project manager participates in the development of the project charter to obtain a foundational understanding of the project requirements. This will allow more efficient resource allocation to project activities (PMBOK 2013). As mentioned in chapter 2.3.4 it is essential to understand customer's expectations for the project from the beginning. This means that communication has to work already in the initial phase, before the project charter is released and project contract is signed.

2.1.3 Organizational process assets

“Organizational process assets are the plans, processes, policies, procedures, and knowledge bases specific to and used by the performing organization. They include any artifact, practice, or knowledge from any or all of the organizations involved in the project that can be used to perform or govern the project. The process assets also include the organization’s knowledge bases such as lessons learned and historical information. Organizational process assets may include completed schedules, risk data and earned value data. Organizational process assets are inputs to most planning processes.” (PMBOK 2013, 27). Project team may update the process assets throughout the project as necessary. Organizational process assets can be placed into two categories, which are processes & procedures and corporate knowledge base. (PMBOK 2013).

2.2 Project management processes

Managing the project is about managing the processes. Processes in the process groups do not interact with each other by themselves, communication is needed to transfer the information. Project management processes run in cycles from initiation to closing. This happens for the project and for every phase of the project. How efficiently the processes are implemented is up to the project manager and project team. Every project phase is different, and they all have to be managed with care. Issues in one project phase becomes even more significant issues in the next phase if not addressed. For this reason, it is important to focus on initiation and planning process groups. In each phase and start by checking if the phase includes new project stakeholders and what their expectations and concerns are. When stakeholder expectations are known it is easier to plan the processes properly. This is followed by execution and so on. When processes are properly managed in one project phase, it is easy to manage them also in the following phase.

A process is a set of interrelated actions and services to reach pre-defined result. “Each process is characterized by its inputs, the tools and techniques that can be applied.” (PMBOK 2013, 47) Project management processes (PMP) are applied to meet project requirements. Project management processes consist of application of knowledge, which in turn is applied through skills, tools and techniques to ensure project success. A process is a set of interrelated actions and services to reach pre-defined result. (PMBOK 2013)

In accordance with PMBOK (2013) Successful project team:

- Selects appropriate processes required to meet the objectives and adapt a defined one if possible.
- Use and adapt a defined approach to meet project requirements.
- Establish and maintain communication and engagement with stakeholders.
- Comply with Stakeholder’s needs and expectations.
- Keep competing project constrains in balance.

Project and product processes are to be aligned and connected with other processes to facilitate coordination. Actions taken during one process typically affect others. This is the reason why changes in processes cause tradeoffs which always need to be actively managed with stakeholders impacted by change. Processes may need to be iterated several times to achieve the required outcome (PMBOK 2013).

Project is not a closed system but rather a loop of information exchange between the project and the company. Organization provides feedback from previous projects to improve project performance, and the project provides valuable information to the company, which can be utilized later to improve the performance of the projects in the future (PMBOK 2013).

Common project management process interactions

Project management processes are discrete elements with well-defined interfaces, but in practice they overlap and interact in many ways. There are many ways to manage the project. The way to implement different processes in different process groups comes with project management experience. The application of project management processes is iterative, and many processes are repeated during the project (PMBOK 2013).

Project management process groups are linked by the output they produce. They are overlapping activities occurring throughout the project. Output of one process usually generates input for the next process. This can also be input for project management process groups, as certain process outputs will trigger updates on different process groups as they interact along the project life cycle. In a multiphase project processes are repeated within each phase until phase completion criteria is satisfied. Appropriate use of process groups drives the project to completion in a controlled manner (PMBOK 2013).

Project management process groups

Organization's processes and procedures are used through the project life cycle. Processes and procedures are grouped into project life cycle in PMBOK (2013) as follows:

- Initiating process group
- Planning process group
- Executing process group
- Monitoring and controlling process group
- Closing process group

The five project management process groups have clear dependencies and interact with one another. The process groups are independent from application areas or industry focus. "The project management processes are linked by specific inputs and outputs where the result or outcome of one process becomes the input to another

process but not necessarily in the same process group.” (PMBOK 2013, 52) Project management interactions are presented in flowchart figure 3.

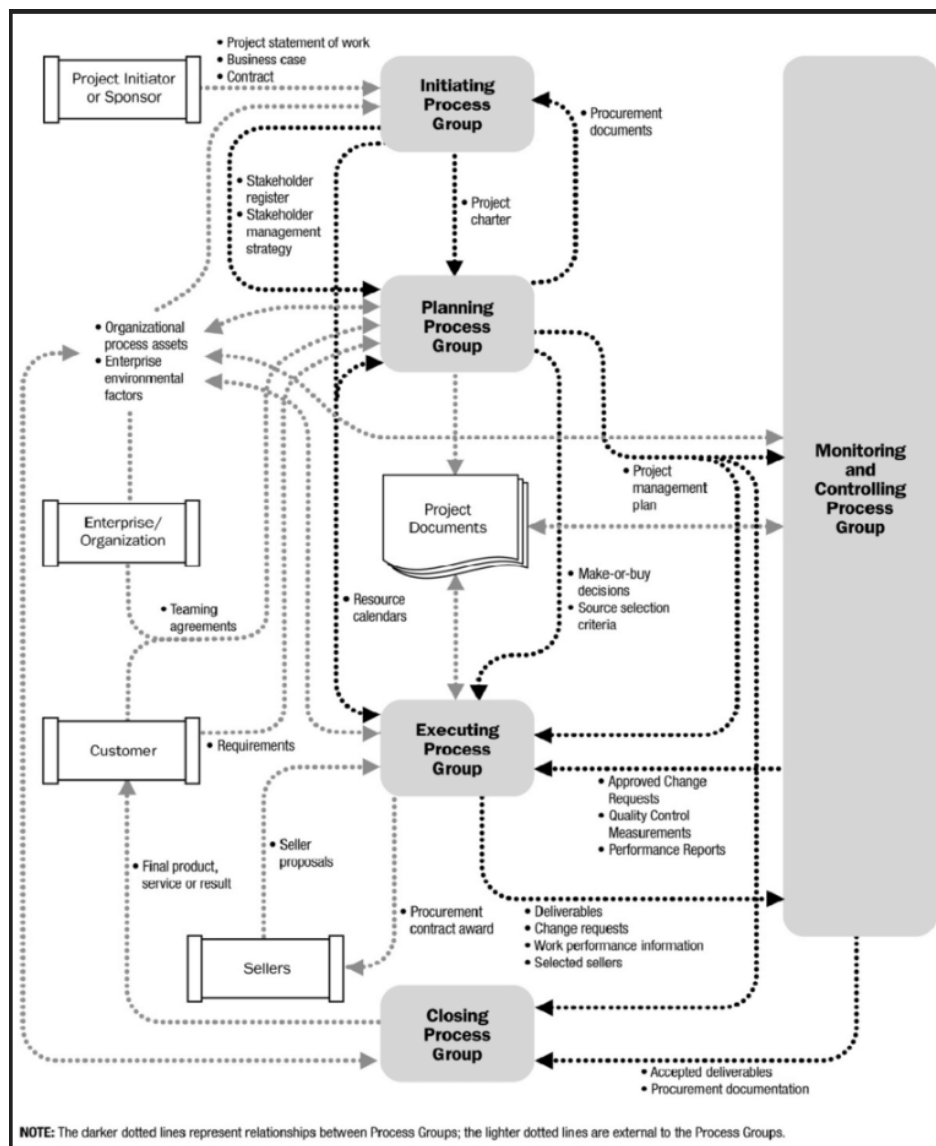


Figure 3. Project management process interactions (PMBOK 2013)

Process groups are normally repeated for each phase or subcomponent. This is illustrated in Figure 4. The project management processes are monitored and controlled throughout the project life cycle and inputs are iterated to all processes at the end of each project phase or completed sub element. The process groups are not project life cycle phases. Similar naming of process groups and phases is related to where most of the related activities take place. For example, most of the planning process group activities take place in project planning phase but are not limited to

planning phase. Figure 5. Presents process group interactions over project life cycle. It is possible to conduct all process groups within one project phase (PMBOK 2013).

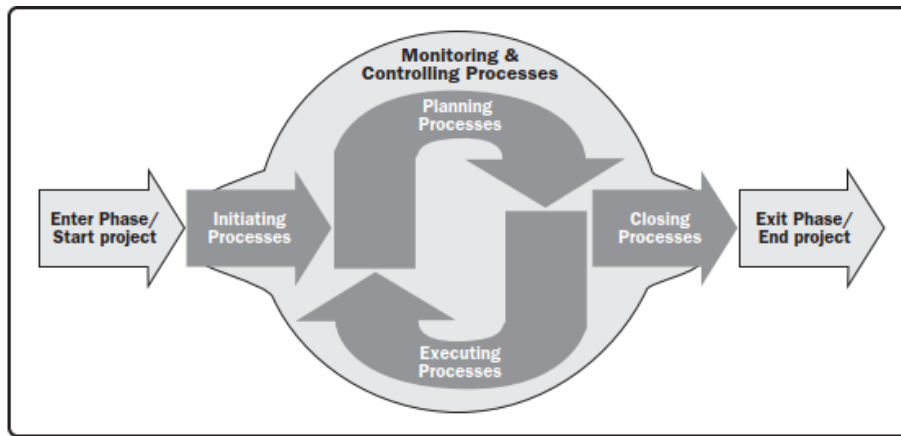


Figure 4. PMP group interaction in project phases (PMBOK 2013)

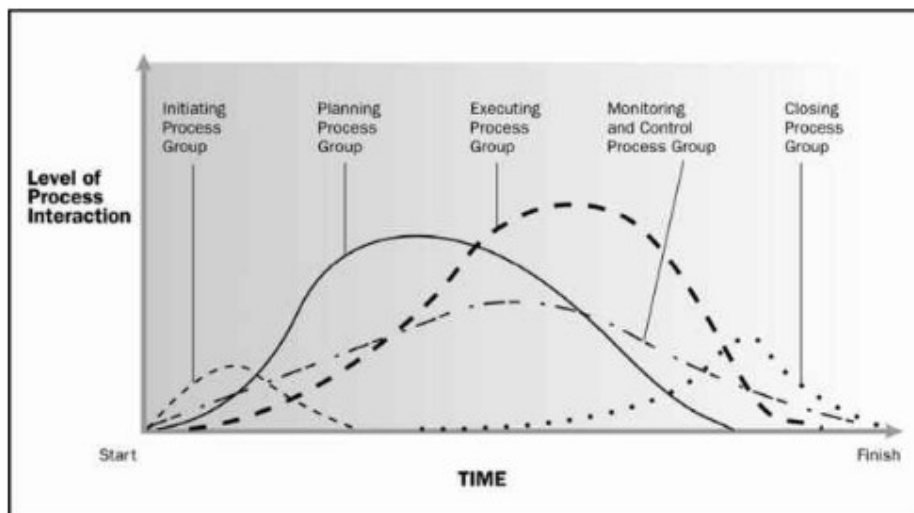


Figure 5. Process group interaction over project life cycle. (PMBOK 2013)

Initiating process group

The initiating process group consists of processes to define a new project or new project phase on existing project by obtaining authorization to start. Within the initiating process the scope is defined and financial resources are committed. Internal and external stakeholders influencing the project outcome are identified. The project manager will be selected. This information is collected into the project charter

and stakeholder register (PMBOK 2013). It is important to identify project stakeholders and fill information into the stakeholder register as described in chapter 2.3.4.

After approval of project charter the project becomes officially authorized. Project boundaries are defined as point in time for start and completion of the project. The key purpose of the initiating process group is to align stakeholder's expectations with the project's purpose, give visibility about scope and objectives, show how stakeholder participation in the different project phases can ensure that expectations are achieved. This process group gives a vision of the project, defining the project scope and requirements. It is essential that customer's expectations are identified and documented in the project initiation phase (PMBOK 2013). This is time to start communicating and building relationships. This is described in chapter 2.3.4.

Large projects should be divided into phases and initiating processes are to be carried out for each phase to validate decisions made during the original project charter and to identify stakeholder processes. Performing initiation processes at the start of each project phase helps to keep project on track. The success criteria are verified, and the influence, drivers and objectives of the project stakeholders are reviewed. Then the decision is made if the project should be continued, delayed or discontinued. Involving all stakeholders; sponsors, customers and all others with influence on the project during initiation creates a shared understanding of success criteria, reduces the overhead of involvement and generally improves deliverable acceptance and satisfaction of the customer and other stakeholders in general (PMBOK 2013).

Planning process group

Planning process group consists of processes performed to establish the total scope of the effort, defining and refining the objectives and developing the course of action to reach the objectives. The planning processes are used to develop the project management plan and the project documents used to carry out the project. Repeated use of feedback loop might be required for additional analysis. During the project more information and characteristics are collected and understanding about the pro-

ject requirements grow, this creates a need for additional planning. When significant changes occur during the project there will be need to revisit some of the planning processes and possibly initiating processes concerned. The key benefit of planning process group is to define the strategy, tactic and course of action or path to successfully complete the project or project phase. The well managed planning process group helps to keep stakeholders engaged. Project management plan and documents developed from planning process group includes scope, time, quality, communication, human resources, risks, procurement and stake holder engagement (PMBOK 2013).

Approved changes to project which are usually coming through monitoring and control processes may have significant impact on project management plan and documentation. By keeping the project management plan up to date with changes improves project precision with respect to schedule, cost and requirements to meet the defined project scope (PMBOK 2013).

The project team collects input from all stakeholders during the planning phase and uses collected inputs to develop the project management plan and documentation. The length of the planning phase depends on the nature of the project and has a certain end date which is set up to freeze the planning (PMBOK 2013).

Executing process group

The executing process group consists of processes performed to complete the work defined in the project management plan. This process group is about coordinating people and resources, managing stakeholder expectations, as well as integrating and performing the project activities in accordance with the project management plan (PMBOK 2013).

During the project execution, planning, updates and re-baselining may be needed due to changes to the expected activity durations. Changes in resource availability and unanticipated risks. These kinds of variances may have an impact on project management plans or project documents. If project management plan is impacted this will require detailed analysis and development of appropriate project management responses. The result of analysis can trigger change request and if approved

project management plan and documentation might be affected and there is a chance that project baseline needs to be readjusted. A large portion of project budgeting is used in process executions (PMBOK 2013).

Monitoring and controlling process group

The monitoring and controlling process group consists of processes required to track, review and orchestrate the progress and performance of the project. This process group is used to identify the areas where changes are needed and to initiate corresponding changes. The key benefit of this process group is about measuring and analyzing the project performance at regular intervals and recognizing appropriate events or exemption conditions causing variances from project management plan. (PMBOK 2013).

According to PMBOK (2013) the monitoring and controlling process group involves:

- Controlling changes and recommending corrective or preventive action in anticipation of possible problems
- Monitoring the ongoing project activities against the project management plan and the project performance measurement baseline
- Influencing the factors that could circumvent integrated change control or configuration management, so only approved changes are implemented.

Continuous monitoring provides the project team important information about the health of the project and identifies the areas in need of attention. Monitoring and control process group monitors work done in process groups and monitors and monitors and controls the effort of the whole project. In a multiphase project monitoring and control process group coordinates project phases and applies corrective actions to keep the project in compliance with the project management plan. As an example, missed activity finish date could be corrected as compromise of budget and schedule objectives (PMBOK 2013).

Project planning and control are two fundamental elements used to control a project, define milestones and have exceptional and robust channels of communication.

These alone are not enough. Critical information must be identified and communicated for monitoring the project and to have the right processes in place to facilitate communication and dissemination of information to relevant people (Camilleri, 2011).

Closing process group

The closing process group concludes all activities across all project management process groups to formally complete the project, phase or contractual obligations. The purpose is to verify that all project management processes are completed and formally establish completion of a phase or project. The closing of the project transfers some activities to other parts of the organization, for example to warranty organization. Closing process group activities are also used to formally establish premature closure of the project, in case of project abortion or cancellation (PMBOK 2013).

Project information flow

To have value in project execution, information must be accurate, complete, timely and meaningful (Camilleri, 2011).

Data and information are collected throughout the project life cycle as a result of various executing processes and shared within the project team. This information is analyzed by project control processes and then transformed and distributed as reports in various formats (PMBOK 2013). Project information flow is presented below in figure 6.

As stated in PMBOK (2013), because the collected data is used in various phases of project for analyzing and reporting, the information flow should be split into the following categories to reduce risk of miscommunication:

Work performance data: Observations and measurements identified during project work activities, Including work performance-, work progress- and work quality reports, Schedule review, Budget review, change order follow up, etc.

Work performance information: Performance data from control processes. These include follow-up of deliverables and change order status etc.

Work performance reports: Representation of project performance information compiled in project documents. Documentation used for decision making, recorded issues and action taken.

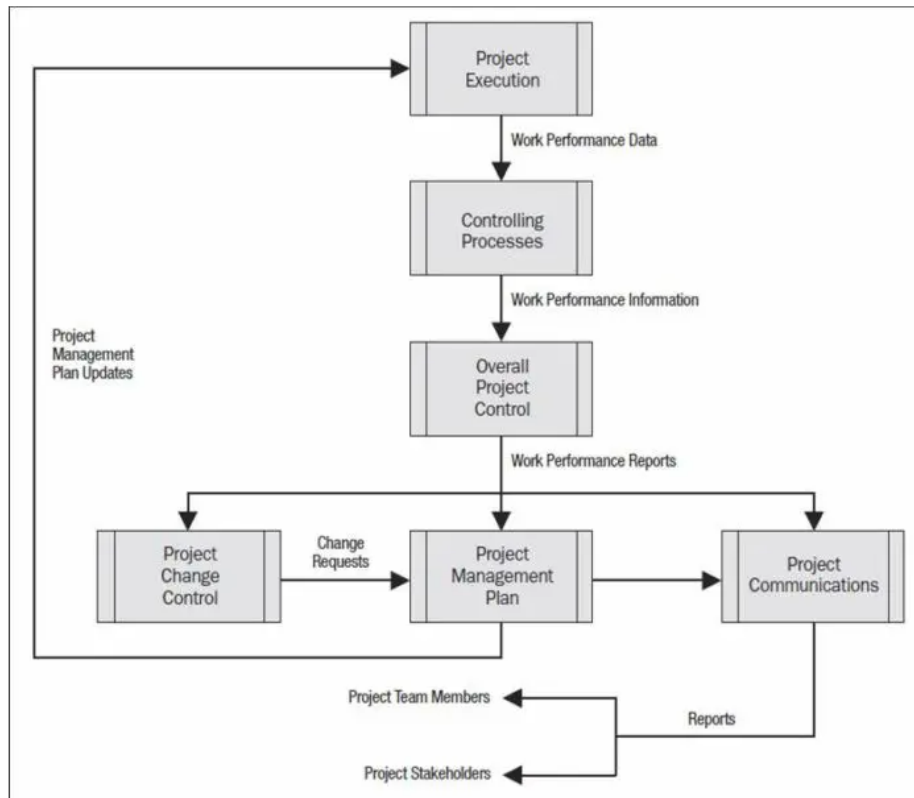


Figure 3-5. Project Data, Information and Report Flow
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Figure 6. Project information flow and reporting (PMBOK 2013)

2.3 Project communication and project success

2.3.1 Project success

“Effective internal and external communications are key factors that contribute to successful projects” (Camilleri, 2011, 202). Internal communications have the objective of informing employees in involved organizations of project developments. The objective of external communications is facilitating collaboration and cooperation with stakeholders outside of the project organization structure. This cooperation is essential for project success. Two critical aspects are essential in communications. Active and influential stakeholders need to be identified and formulation of an external communication strategy that mitigates concerns of these stakeholders. (Camilleri, 2011)

What makes a project successful, how project success is defined? The basic level of project success is known as triple constraint. Project is successful if it meets all technical specifications, cost and time. The criteria for project success was further expanded by Thomsett, (2002) in an extensive examination of 20 failing projects over 18 years. “Satisfies stakeholder groups, meets functional requirements, meets quality expectations and requirements, within cost, within deadline, delivers sustained and actual benefits and provides the team with professional satisfaction and learning.” (Camilleri, 2011, 31) Even this extensive definition of project success does not fully embrace the meaning of project success. Argument is that a comprehensive success criterion must reflect different views and interests. The list of project success factors with project type and critical factors for a particular project must be carefully identified (Camilleri, 2011).

2.3.2 Project failure

What makes projects fail? It is important to acknowledge factors that contribute to project failure, so that we can mitigate these factors. Camilleri (2011) writes that five major reasons for project failure identified by Sutton (2005) include: Unclear scope, initiating projects without the full agreement between sponsors, inappropriate steering arrangements and without tolerances being set, no change control and

no exception reporting structures being in place. Unclear scope, which is the extent for specifying the functional requirements, is the most fundamental of all failures.

2.3.3 Managing uncertainty in project communication

Uncertainty increases risks through wrong assumptions. Communication with stakeholders is the way to reduce this uncertainty and risk of wrong assumptions, which could lead to unwanted outcomes. According to uncertainty reduction theory people generally communicate to reduce uncertainty based on how much influence they have over us. It is important to recognize the purpose and motivation of communication, and not to overlook the information. (Plowman & Diffendal, 2020) According to uncertainty management theory “uncertainty exists when details of situations are ambiguous, complex, unpredictable, or when information is unavailable or inconsistent and when people feel insecure about their state of knowledge in general.” (Brashers, 2001, 478.) Why do people not always attempt to reduce the uncertainty? Reaction to uncertainty depends on how people evaluate the relevance of uncertainty to their lives and how they react emotionally. Uncertainty can be seen as a threat or as an opportunity. Motivation to communicate is impacted by a person’s view of the importance of communication and a person’s emotional reaction. The outcome could be that people decide not to communicate (Plowman & Diffendal, 2020).

From the above it is clear that people react differently in different situations when uncertainty is present, and this could lead to negative outcomes in the project. Uncertainty can only be reduced by communicating. The amount of available information impacts on the stakeholder’s ability to understand the situation and to make decisions on how to feel, think and act. Gaps are often filled with assumptions and frustration. Information needs to be available when needed. In communication it is important to remember that a significant amount of meaning is communicated through facial expressions, body language, verbal tone, inflection and other vocal cues. Using only text or voice has reduced effectiveness on reducing the uncertainty. Virtual teams must work harder to compensate for the lack of nonverbal communication. Even video calls can struggle to provide effective approaches due to limited opportunities for video conferencing (Plowman & Diffendal, 2020).

Quality of communication is important to get the delivered message correctly understood. Plowman & Diffendal (2020) describes three ways to improve quality of communication.

The first way is to use information technique known as SMART. This means that a clear message should be Specific, Measurable, Attainable, Relevant and Time-bound. (Hiyashi, 2011).

The second way is to use universally understood vocabulary and not to use technical terms which the person receiving the message might not understand. The third way is to ask for feedback to ensure that the message is understood as intended (Plowman & Diffendal, 2020).

By maintaining good communication, we reduce uncertainty in projects. Trust is closely related to uncertainty and in the team environment trust is critical for success. The way we communicate in projects has an impact to project success through this interaction. The impact can be positive or negative, depending on how the project communications with stakeholders are managed (Plowman & Diffendal, 2020). “As business leader and author Stephen R. Covey has stated, trust is “the most essential ingredient in effective communication. It’s the foundational principle that holds all relationships.” (Kruse, 2012). Build a solid foundation for your project by establishing trust with your stakeholders through effective communication” (Plowman & Diffendal, 2020, 29). “In a team environment like a project, trust is critical to success. Trust results in high-functioning teams that exhibit dedication to successful project outcomes and are often willing to take personal risks to advance common goals. (Plowman & Diffendal, 2020, 28), (Sinek 2009, 118.)

2.3.4 Know your audience

In a project the audience are the stakeholders involved in the project. These are all the people you need to cooperate with to complete the project (Plowman & Diffendal, 2020). “Stakeholder satisfaction is one of the criteria outlined in the PMBOK® Guide for assessing project success.” (Littau et al. 2010, 17.) Stakeholder satisfaction could be more important for project success than reaching the project objectives. (Littau et al. 2010).

Stakeholder analysis and stakeholder register

It is important to identify project stakeholders and keep track of them. Project stakeholders can be identified by reviewing project documents including project charter, business case and agreements. Another tool to identify project stakeholders is expert judgement. This means seeking input from people who have a thorough understanding of organizations' functions, culture and power structures and from people with thorough knowledge of industry customers, or a wider environment (Plowman & Diffendal, 2020).

Once we have identified the project stakeholders and their relationship to the project, the next step is to learn and understand what the stakeholders care about in the project, what their interests and concerns are. Once we have this knowledge it becomes easier to communicate with them. In Plowman & Diffendal, (2020), the concept WIFM (what's in it for me) is introduced. The concept is basic but powerful. People respond better and engage more when talking about things that matter to them. This really stands out when you ask them to take action, or when asking them to support changes that disrupt their normal activities. "The WIFM is the value proposition of the project for each stakeholder or group." (Plowman & Diffendal, 2020, 38)

To find stakeholders WIFM we need to learn about the project stakeholders, what matters to them and what they are uncertain about. A simple way to do this is to think of yourself in their role in the project and imagine how they feel about it. What would be important to you? Expert judgement could also be used to identify stakeholders' concerns about the project. Meetings can also be a useful technique with a wide range of stakeholder types and groups. In meetings we can learn about stakeholders also through nonverbal communication. It is possible that meetings also reveal new stakeholder groups which were not earlier identified. In meetings with stakeholders ask questions about the project's impact on their daily work, what do they see as the biggest benefit from the project, is there anything about the project that worries them and if there are any aspects of the project that conflict with their other priorities (Plowman & Diffendal, 2020).

Project should keep a book of stakeholders, their role in project, organization, power, influence and level of support. This list is typically known as the stakeholder register. Example of stakeholder register is presented in table 5 below. Stakeholders' power is the level of authority the stakeholder has over the project. Stakeholder influence is the stakeholders' ability to influence others involved in the project (Plowman & Diffendal, 2020).

Table 5. Stakeholder register (Plowman & Diffendal, 2020)

Stakeholder	Role	Power	Influence	Support	WIIFM
Stakeholder 1					
Stakeholder 2					
Stakeholder 3					

Stakeholder influence can be categorized by direction of impact. Upward direction such as management, sponsors and steering committee. Downward direction is project workers. Sideways direction is project managers and colleagues with similar levels of influence. Outward direction is stakeholders outside the project such as customer and vendors. See figure 7, stakeholder direction of influence (Plowman & Diffendal, 2020).

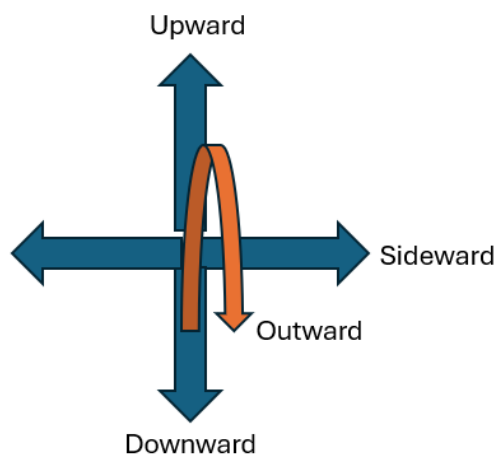


Figure 7. Stakeholder direction of influence

Stakeholder support

“Stakeholder support can make or break a project” (Plowman & Diffendal, 2020, 37). Plowman & Diffendal (2020) states that stakeholders can be classified into five groups of engagement as per PMBOK® Guide:

Unaware stakeholders: Do not know about the project and cannot move to different engagement classification.

Resistant stakeholders: Know about the project and oppose it. May try to stop the project as a whole or part of it.

Neutral stakeholders: Do not resist or support the project and are not often highly impacted by the project.

Supportive stakeholders: Take steps to support the project in words and/or actions.

Leading stakeholders: Take leadership role ensuring the project succeeds.

Stakeholders can move from one engagement classification to another, see figure 8, stakeholder engagement below. Communication is a powerful tool to move stakeholders from one engagement to another. Stakeholders’ engagement classification should be identified for each stakeholder in stakeholder engagement planning. By knowing stakeholder engagement classification project can develop communication strategies for the stakeholders, that align with stakeholder interests and expectations. (Plowman & Diffendal, 2020)

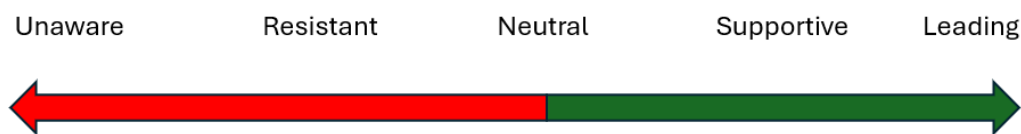


Figure 8. Stakeholder engagement classifications

“A good stakeholder engagement plan starts with identifying who your stakeholders are, their role, power and influence in the project, and their current and desired levels of support for the project. The next step is understanding how to engage your stakeholders in order to keep them informed and move them toward the level of support needed for the project to succeed.” (Plowman & Diffendal, 2020, 38).

When stakeholders are poorly informed, they have a high level of uncertainty. Stakeholders want to know how the project will impact them. What is expected from them during and after the project, does the project have any negative impact on them and what kind of support they will get to adjust to changes caused by the project. The more we know about project impact on different stakeholder groups the better we can communicate with them and reduce the uncertainty to gain their support (Plowman & Diffendal, 2020).

The best way to gain information about project stakeholders’ interests and concerns is by communicating with them, preferably early in the project. The same stakeholder register which was mentioned earlier in this chapter should include a column for stakeholder’s WIFM. Being interested and listening to the stakeholder’s interests and concerns builds trust and if a project works towards reducing the stakeholder’s uncertainty it will ultimately win the trust of the stakeholder. That means that the stakeholder is likely to move toward supportive engagement in the project (Plowman & Diffendal, 2020).

2.3.5 Communication basics

Words have an impact. What we say and write may have a positive or negative impact. Positive impact encourages people, and negative impact may make people silent and resist. Therefore, words need to be chosen carefully. Sometimes we feel pressure to give answers in haste and regret our words afterwards. It is better to take our time to consider our words before answering (Plowman & Diffendal, 2020).

Nonverbal communication makes up a significant percentage of our communication. Body language includes facial expressions, eye contact, movements of hands, positions of arms and legs. This is especially challenging in virtual teams, where

people need to rely on video conferencing to deliver the message effectively (Plowman & Diffendal, 2020).

Listen

Listening to the delivered message is important. Many times, the problem is how to make people listen. When people feel that the person speaking does not have authority over them, they do not listen, and other ways around they may not speak. (Plowman & Diffendal, 2020). I have been in a situation where team members complained to their team leaders about poor guidance and unclear directions in their daily activities. What the team leader replied was that “I am not your superior and I have not authority to tell you what your daily activities and tasks are”. In this situation the team leader felt he had no authority to lead the team because he was not their superior. Team leaders needs to lead the team and use the authority to lead the team. You do not need to be superior to your team members to lead them.

Plowman & Diffendal, (2020) lists six key listening skills as follows: 1. Be attentive. 2. Keep open mind. 3. Be attuned to and reflect feelings. 4. Ask open-ended and probing questions. 5. Paraphrase. 6. Share your own thoughts and feelings.

Feedback

Receiving feedback is important to confirm that used communication methods are working. Based on feedback communications and information flow could be adjusted to be more effective. For example, feedback about the timing of meetings and reporting deadlines (Plowman & Diffendal, 2020).

Meetings and interactions

People should engage more in real-time conversations to gain valuable information, share ideas and gain trust. Meetings should be controlled, keeping the discussion in the point and giving everyone the opportunity to participate in the conversation. Meeting rules help to control the conversation. For example, raised hand could be a signal for others to listen to what the person with raised hand wants to say. In today’s dynamic work environment, it is important to be present and not to get distracted by phone, e-mails or other tasks (Plowman & Diffendal, 2020). Everyone

should enter the meeting with a clear mind and check those phones and e-mails next time after the meeting has ended. This is also to respect everyone else in the meeting.

Group rules

For effective communication project team roles and responsibilities need to be clearly defined in project kick-off and written into project management plan. Who does what and when. These are called ground rules. Ground rules need to be written together as a team, so everyone will agree on them. As the project proceeds, the group rules need to be adjusted to fit the project needs (Plowman & Diffendal, 2020).

Lead by example

Lead team communications and behavior through your own example, this promotes other team members to follow the example (Plowman & Diffendal, 2020).

Avoid silence & rule of seven

Project team members need to communicate with stakeholders. If there is communication there is a risk that groups start to have conversations among themselves, leading to potential misunderstandings and conflict. It is better to check how everyone is doing rather than being silent. Being silent could be understood as silent acceptance (Plowman & Diffendal, 2020).

We don't always get a response from our team members or stakeholders. Plowman & Diffendal (2020) introduces the rule of seven. The rule of seven in project communication means delivering the same message in seven different ways. Sometimes delivering the message only one way does not work but delivering the same message in different ways does.

Communication methods

Push, pull and interactive communication methods. Push method requires information to be sent out and pull method requires people to come where the information is located, this information can be virtual or physical. Interactive methods

use the exchange of information (Plowman & Diffendal, 2020). Examples presented below in table 6.

Table 6. Communication methods

Push methods	Pull methods	Interactive methods
Email	Shared document repositories	Phone calls
Messages	Bulletin boards	Tele conference
Reports	Intranet	Meetings

Develop by learning

According to Plowman & Diffendal (2020), 90 percent of the project manager's time is spent communicating. Typically, training courses are kept about project management, but not about communication. Communication courses should be taken and books about communication should be studied.

Understanding the message

The way we communicate needs to be tailored for our audience, so that they understand the message. Professional language typically includes words and terminology, which is difficult to understand for people outside of that profession. This kind of professional language is known as jargon. There is no space for jargon when communicating with people who do not understand the terminology. (Plowman & Diffendal, 2020).

Communication types and methods

Project communication can be placed into four different categories. These are formal written, informal written, formal verbal and informal verbal. Communication methods used in projects fall into these four categories. See figure 9. below.

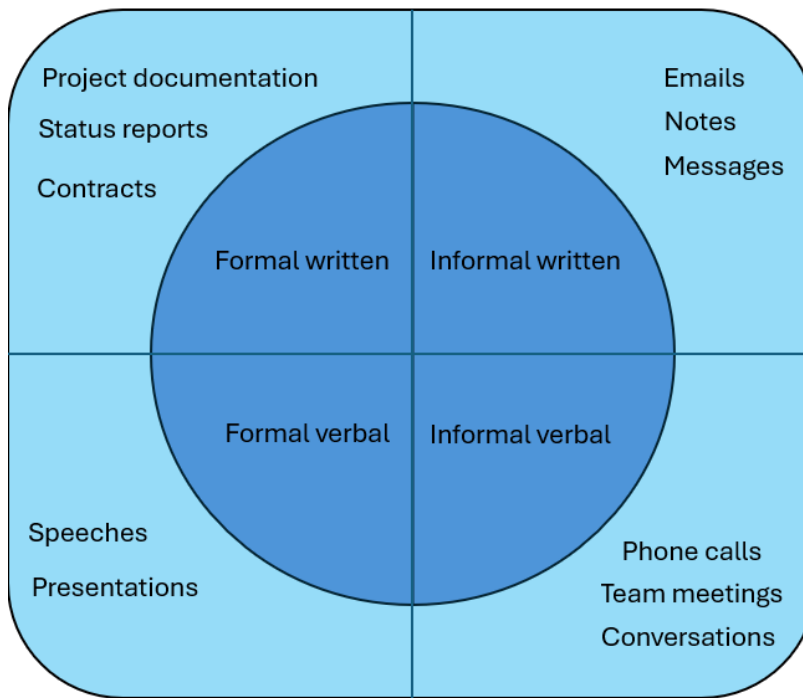


Figure 9. Formal and informal communication

The right communication type to be used depends on communication objective. Informal communication is not to be used when something needs to be documented. “In project management, if it is not documented, it didn’t happen!”. (Plowman & Diffendal, 2020, 62).

Project communications need to be scaled to fit for the project. Communication scaling means the amount of communication needed and what type of communication is needed. The need for scaling depends on project size and complexity. Virtual teams need to communicate more than collocated teams. Different stakeholders require different amounts of communication with. When communicating, the amount of people receiving the message should be scaled correctly. It is easier to correct communication mistakes and misunderstandings, when message is only shared with small group of people (Plowman & Diffendal, 2020).

2.3.6 Communication between Finns and Americans

The time difference between Finland and USA makes team collaboration challenging. The time difference between case company offices in Finland and USA is 8 hours. This means that Americans have to start the working day really early or Finns have to extend their working day beyond normal working hours to have any time for team collaboration. Look at figure 10. in below, it has to rotate either clockwise or counterclockwise to get any team collaboration time between team members or stakeholders between Finland and USA. Assuming normal working hours are from 8AM to 4PM. Working on international projects is often stressful for people and their families. It does not make it any easier that typically project team members are working with different team members on different projects and doing many projects at the same time.

According to Brady & Prentice (2019, 34) Varying meeting times should be chosen in convenience for both time zones. Being flexible makes it easier for team members to connect and demonstrates the manager's respect for all team members. (Chhay and Kleiner 2013). Other possibilities are scheduling meetings in advance if possible, showing appreciation to people who sacrificed the most to be present at the meeting, or attempting to have meeting within all time zone constraints and asking team members about their availability. (Virtual Team Builders n. d.)

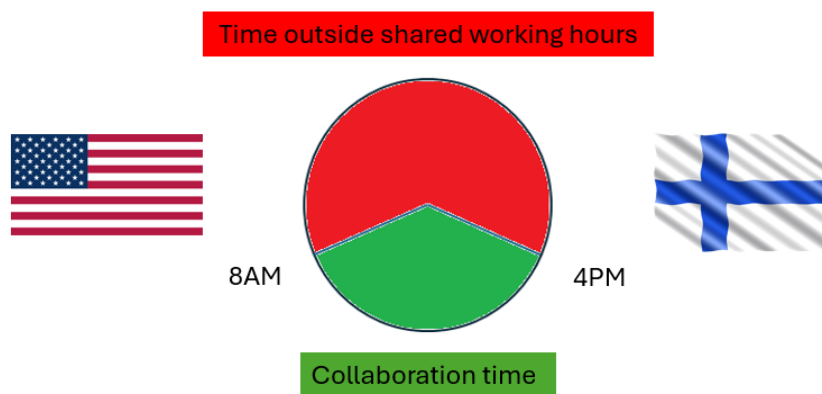


Figure 10. Collaboration time in virtual teams

Finns and Americans have a lot in common when working together. In both working cultures business is based on punctuality, solid figures, proven techniques, pragmatic reasoning and technical competence. Everyone is treated equally, and meetings follow minimum protocol, and humor plays an important part. (Gates, 2016)

There are significant differences between national characteristics. Finns are much more introverted than Americans. Americans wish to get things done in the shortest time possible, which shows out as impatience and occasionally aggressive. Finns on the other hand are by nature very patient and trained to curb aggressiveness. Americans are extroverts and are open to talk about anything, while Finns as introverts are more careful in discussion. Americans talk a lot and are persuasive, while Finns are reticent, often silent and avoid forcing their opinions to others. When Finns disagree, they often remain silent. Americans cannot stand silence during meetings, so they often take Finn's turn to talk. Americans are used to open debate and give-and-take arguments, will often interrupt a Finn during a speak. Finns do not like to be interrupted. (Gates, 2016)

American persuasiveness often leads to hyperbole, while Finns have tendency toward understatement and modesty. Americans are proud of their company and country, may innocently include in laudatory statements. Finns enter the meetings unsmiling, while Americans smile in the first meeting while everyone are still strangers. Different communication styles can be disconcerting in the initial stages of contact. Soon Finns can see that Americans are not taking advantage of their friendliness and Americans can see that Finns are good, even when not smiling. (Gates, 2016)

Finns and Americans are both problem solvers, enjoying the challenge posed by difficulties and the satisfaction of overcoming the difficulties. As problem solvers Americans are impatient and tend to solve the problem faster than Finns, which are more patient. This causes sometimes a conflict when American pushes toward the solution and Finn wants to use more time for perfecting the solution. (Gates, 2016)

2.3.7 Communication tools and how to use them

If the communication tools get too complicated and time consuming, we may end up communicating less in the project. Communication tools need to be selected to fit for the project size and complexity, while considering the experience and location of the project team (Plowman & Diffendal, 2020).

When selecting project communication tools, we should first think WHY the tool is needed. We should start by considering why we are addressing the communication need, and why it is important to project team or stakeholders. This way we can validate the need to resolve the problem (Plowman & Diffendal, 2020).

Next, we need to consider HOW the communication need has to be addressed. Communication tools need to fill the required criteria for communication needs. Required criteria may include accessibility, tracking, and collaboration features etc. If needed criteria could be listed by priority to select only the most important criteria for the tools. It also needs to be considered if communication needs to be synchronous (real time), asynchronous (non-interactive) or a combination of both. When questions why and how are addressed, it is easier to select correct communication tools for communication needs. This answers the question WHAT (Plowman & Diffendal, 2020).

Communication tools

Basic communication tools are familiar to all of us working in projects. But do we use these tools effectively? Plowman & Diffendal (2020) lists communication tools into 5 different categories as presented in table 7. below.

Table 7. Communication tool categories (Plowman & Diffendal, 2020).

1	2	3	4	5
Technology	Project documents	Presentations and templates	Meetings	Talents and strengths

Technology

Collaboration software: Team can use collaboration software that allows interactive discussions (online messaging) or the ability to work on the same document. Productivity increases when people work together talking and communicating. Collaboration websites can be used to store and share information. This provides the project team and authorized stakeholders with easy access to most current information. Collaboration tools benefit especially virtual teams, which are not collocated (Plowman & Diffendal, 2020).

Videoconferencing & teleconferencing: Video conferencing can be considered as virtual face-to-face meeting. This allows participants to see nonverbal communication of gestures, body language reactions or level of participation. The possibility to share the screen to present information can improve understanding and collaboration. Chat feature is a good platform for asking questions and clarifications. Video conferencing requires decent internet access and people need to know how to use it effectively. If a decent internet connection is not available, the meeting can be held as a teleconference. Teleconference is easier to schedule as it requires less complicated technology. It requires skilled facilitators to manage conversations and keep the agenda moving. The downside of teleconferencing is that participants can't benefit from seeing each other (Plowman & Diffendal, 2020).

E-mail: E-mail is considered as a one-way communication tool. It should be used for documenting conversations, not to conduct them. It is the benefit of e-mail that it provides project documentation. The downside of the e-mail is an unpredictable response time and how the message is understood. "Just because you hit the send button on an e-mail does not mean that you have communicated" (Plowman & Diffendal, 2020, 108).

Social media: Social media may be beneficial if the project impacts on members of the broader external community as a means of keeping them updated of the project status and impacts on them. It provides a platform for stakeholders to provide feedback, and engagement can be measured with social media metrics provided by the platform. Carefully consider why, how and what when thinking about using social media (Plowman & Diffendal, 2020).

Project documents

Project Reports: “Just because we put something in a report does not mean that we have effectively communicated the information.” (Plowman & Diffendal, 2020, 109). Reports are simply for documentation purposes. If the report includes information that certain stakeholders need to know, it needs to be communicated separately. At minimum bullet points with highlights of specific aspects of the report need to be provided when sending the report. The benefit of the report is that critical project information is being documented. The challenge is how to make sure that reported information has purpose and that it is read and used (Plowman & Diffendal, 2020).

Project Schedule: Project schedule is one of the most powerful communication tools. It provides high detail information such as tasks, milestones, planned and actual start/end dates, durations, dependencies, resources, etc. It collects pieces of information from other sections of the project plan into one place, the schedule. Printing the project schedule as a large wall chart and sharing the schedule online with virtual teams should be considered. It is recommended to highlight and mark late tasks in the schedule with bright color and tasks completed early with another color and icon. Benefit of marked-up project schedule which is visible for everyone is that it communicates progress, problems and commitment (Plowman & Diffendal, 2020).

Milestone Schedule: Milestone schedule is used to communicate high-level view of the project schedule. It presents milestones with planned dates (Plowman & Diffendal, 2020).

Status Reports: The purpose of the status reports is to communicate the project progress at regular intervals. It is a vital project communication tool. The frequency and formality of status reports is always project specific. Details of the status reports can be presented in the communications management plan. The status reports should be easy to read and preferably a maximum of one page long. It is recommended to include the lessons learned section in the status report. Status reports are

to be stored online into collaboration site for everyone's easy access. It needs to be made sure that the report does not include outdated information (Plowman & Diffendal, 2020).

Presentations and templates

Presentations: Presentations are effective ways to communicate key project information. Presentations can be face-to-face presentations, interactive webinars or videos. The benefit of presentations is that the audience can be engaged in conversations, questions can be answered and uncertainties addressed (Plowman & Diffendal, 2020).

Templates: Using templates saves time for communicating and provides consistent messaging to support communication. If template is not readily available, it is better to modify existing ones than to start from scratch, time is our most valuable resource (Plowman & Diffendal, 2020).

Dashboards: Dashboards are used for communicating a high-level overview of the project. Dashboards provide a flexible way to communicate key project information to keep everyone informed about the progress of the project (Plowman & Diffendal, 2020).

Meetings

Meetings are used for directing and managing the project. Meetings are typically held for information exchange, brainstorming, technical or design related discussion and planning, decision making and for progress follow up. Meetings should have a well-defined agenda and time frame. To make the meeting effective minutes of the meeting and action items should be documented. Meetings can be face-to-face or virtual, from which face-to-face meetings are most effective and require less preparation to be effective (PMBOK 2013).

Face-to-Face Meetings: Research shows that “when teams are unable to meet face-to-face even once they are less able to handle cultural differences and to understand and appreciate one another.” (DuFrene and Lehman, 2016, 17.) Face-to-face meetings are crucial for project and team success. The difficulty is getting everyone

scheduled to attend at the same time. There may be a cost associated with arranging face-to-face meetings, but the cost is greater if these meetings are not held (Plowman & Diffendal, 2020).

Stand-up Meetings: Stand-up meetings are quick daily meetings where everyone stands. Typically, meetings occur daily and last no longer than 15 minutes. The meetings are consistent, short and focused. This is an opportunity to quickly identify problems, prioritize items, and provide support where needed. It is important to have ground rules in place for stand-up meetings (Plowman & Diffendal, 2020).

Meeting Outcomes: Meeting outcomes, goals and intentions need to be communicated. Meeting outcomes need to address the intended goal of the meeting, and expectations to address what will be accomplished by the end of the meeting. All meeting outcomes are to be included on the meeting agenda and distributed in advance of the meeting time. The benefit is that this way everyone knows that their time and input is valued and respected and can be better prepared for discussions (Plowman & Diffendal, 2020).

Stories: Stories provide specific project experience or example in narrative format by simulating experience. This is beneficial as stories tap into stakeholders' emotions as well as their minds, providing deeper engagement. By showing through stories, what has happened in other projects reduces the uncertainty of what could happen in the current project. In the right situation, such as initial project team meeting or a conversation with an unsupportive stakeholder, stories can be one of the most effective tools (Plowman & Diffendal, 2020).

Talents and Strengths

Talent is person's natural abilities. Strength is taking a talent and enhancing it by investing time and effort to improve skills and knowledge through learning and practice. A strength is the developed ability "to consistently provide near-perfect performance" (Rath, 2007, 18–20.) in a given activity. When team members recognize their talents, they can better communicate what they need to maximize the use of their talents and strengths in the team. By understanding their own talents, team members are better equipped to develop their strengths. When team members have

communication specific talents, their communication strengths depend on opportunities for developing their talents into strengths. It is project manager's responsibility to create an environment where team members can become more aware of communication strengths in the team. It is recommended that team members are assigned tasks in the project which support the development of their talents (Plowman & Diffendal, 2020).

Effective use of communication tools

We must know how to use communication tools. Especially in diverse and global projects it is important to learn new cultures, new words and practice new ways of communicating. As the knowledge grows, the use of communication tools becomes more effective. It is also important to recognize when communication tool is no longer effective or working as intended, and it is time to make necessary changes (Plowman & Diffendal, 2020).

2.3.8 Communicating Change

Humans are naturally resistant to change. They are uncertain about how the change will impact them and their work. It depends if and how their uncertainty is addressed if they will resist the change. (Plowman & Diffendal, 2020, p.125). "Change initiatives have a high rate of failure. Research shows that anywhere from 46 to 70 percent of organizational change efforts fail. Research also shows, however, that actively managing change positively impacts success in projects and organizational initiatives." (Hornstein 2015, 291; Project Management Institute, 2012). "Organizations that excel at change management are five times more likely to integrate communication into their management strategy and eight times more likely to implement and maintain changes." (Towers Watson, 2012, 3).

Change is managed in very similar way to uncertainty. There are four concepts to inform content of messages, timing and other aspects of project communications management plan. If it is unclear how these concepts play out in the project, it is good idea to ask directly from the impacted stakeholders. Involving stakeholders and asking for their input on the project can increase their commitment and readiness for the change. The four concepts are: 1. The need for change, 2. The effect of

the change on stakeholders, 3. Stakeholder support through the change and 4. Change reinforcement (Plowman & Diffendal, 2020).

The need for change needs to be explained. Why change is necessary in the project, how it is tied to the strategy and what are the risks of not changing (Plowman & Diffendal, 2020).

Stakeholder impact. Similarly, as in WIFM concept presented in chapter 2.3.4, under stakeholder analysis and stakeholder register, stakeholders want to know what to expect and when to expect it. Uncertainty is reduced and trust is increased by answering their questions. Communication about expectations should begin early and continue throughout the project. Share information with the stakeholders even if some details could still be unclear at the time (Plowman & Diffendal, 2020).

Support for the change. People need to know how to make the change happen. This needs to be communicated, so that roles, responsibilities, processes, tools and everything related to the change is clear for everyone concerned by the change. Stakeholders are to be supported by providing details in timely manner and informing stakeholders about when and what kind of support they could expect to receive (Plowman & Diffendal, 2020).

Change needs to be reinforced to ensure the change is sustained. When project ends change management continues to ensure that the changes are successfully adopted into the organization (Plowman & Diffendal, 2020). It is smart to reinforce changes into the organization through change management. This way it is possible to adopt the good practices developed in previous projects in the new projects and avoid mistakes or inefficient practices from the past.

2.3.9 Communication in conflict management

Emotions could lead to conflict between people when stakes are high, resources are thin, budgets are tight, and time is limited. When stakeholder interests contradict one another or are put in jeopardy conflict occurs. Unresolved conflict could lead to stress, negative attitudes, decreased commitment to the project and ultimately

project failure. Conflict resolution is critical project management and communication skills. Sensitivity, knowledge and ability to resolve the conflict in timely and effective way are needed, so that the project can continue smoothly (Plowman & Diffendal, 2020).

Sources of Conflict

Conflicts have two general categories: interpersonal conflict and task conflict (Chen, 2006). These conflicts are parallel to personal and practical needs, which are to be addressed when managing conversations, referring to chapter 2.5.2, Conversation process developed by Development Dimensions International (DDI). These two conflicts have different origins and can have different impacts on the team. Conflict type needs to be identified to make the decision if to intercede directly and where to focus . Both types of conflicts need effective communication to resolve them. Conflict can evolve from one type to another if left unattended. (Chen, 2006).

Interpersonal conflict is also known as relational or relationship conflict. Individual factors like personality, values, background, behavior or communication style could trigger incompatibilities among the team members. For teams to be functional and efficient, team members need to feel like they belong and are working towards a common goal. Conflict can impact the team members sense of team identity. They could become uncertain about their place in the team and take distance from other team members. This behavior undermines the group effort in the project. Other team members, who are not directly involved may also suffer negative effects from the conflict. Interpersonal conflicts are most damaging of all conflicts. Conflict can damage relationships that took time and effort to become functional. Repairing these relationships takes even more time (Plowman & Diffendal, 2020).

Task conflict is about different perspectives regarding how to approach a work task or how to get it done (Plowman & Diffendal, 2020). People have different backgrounds, different levels of experience and cultural differences. All this influence in occurrence of task conflicts. Task conflicts mix different viewpoints with a wide range of experience, resulting in increased project efficiency, learning, creativity and more flexible thinking (Chen, 2006).

Project team & internal conflict

Effective conflict management enhances team performance by becoming more cohesive. (Nesterkin & Porterfield, 2016, 15.) Unresolved conflicts on the other hand have a negative impact on team performance (Jehn, 1994; De Dreu & Weingart, 2003). Negative impacts could include unclear responsibilities, missed deadlines, lack of collaboration, decreased team communication and inefficiencies that could lead to time and cost over-runs (Susskind & Odom-Reed, 2019). To manage a conflict, one must know when to get involved. Involvement is needed if the conflict has a negative impact on the project, you are directly involved in the conflict or you are asked for advice or help to resolve the conflict. It needs to be considered if organizational resources are needed for conflict resolution. It is recommended to consult human resources in case the conflict is highly emotional. The 5-step approach (conversation roadmap) presented in chapter 2.5.2 can be applied whether you are directly involved in a conflict or in a mediating role (Plowman & Diffendal, 2020). As stated by Tumlin (2013), focus needs always to be on the problem, never on the person. Three steps for conflict resolution are: De-escalate, redirect and exit.

De-escalate: It is difficult to manage emotions in a conflict as these situations can elicit physiological responses, which are difficult to control. This also interferes with the part of the brain which controls rational thinking. This may trigger bad behavior and communication which is damaging to relationships and does not help to resolve the conflict. Conversation needs to be de-escalated to avoid additional damage to relationships. De-escalation can be done by asking parties to the conflict to focus their words on the situation at hand, rather than on any personal comments, attack or blame. Taking a break may be necessary, so everyone can cool down, process their emotions and gather their thoughts (Plowman & Diffendal, 2020).

Redirect: Conversation needs to be kept focused on the issue and re-directing the conversation is needed if communication gets intensified (loud voices, criticism etc.). First the facts need to be clarified to get both sides of the conflict a full picture of what has happened. Next the intent needs to be clarified to get rid of assumptions

about the intent. When people get emotional, they often make false assumptions of the intent to justify their feelings. Everyone needs to be given a chance to explain their intent to dispel any assumptions. Uncertainty is often the source of conflict, so by reducing or managing uncertainties we can reduce and manage conflicts (Plowman & Diffendal, 2020). In general people do not like to acknowledge their mistakes or even being partly at fault. Uncertainty about consequences and fear of negative repercussions may range from being viewed as incompetent to losing their job (Stone, et al. 2010). To allow people involved in conflict to move forwards in the resolution process, uncertainty needs to be reduced by making it clear what the consequences are if any. All conflict parties should provide an input to produce the output on how problems or issues caused by the conflict in the project should be compensated and what kind of mechanisms need to be put in place to prevent the issue from being repeated (Plowman & Diffendal, 2020).

Exit: Resolution needs to be accepted by both parties. Each party needs to have an opportunity to communicate any additional thoughts or concerns to make sure that the conflict is resolved. In case the conflict has impacted the project, necessary updates need to be made in project plan, schedule or any other impacted documents. It could be appropriate to record lessons learned about the conflict. If it is not possible to reach a resolution to the conflict involved parties need to be asked to table, the issue. This gives time to step back and consider involving more resources for input on the best way to resolve the issue. Time needs to be set up to reconvene the issue and all parties need to be made aware of when the issue will be addressed again (Plowman & Diffendal, 2020).

Conflict management with external stakeholders

Unsupportive stakeholders: As written earlier in chapter 2.3.4 Resistant stakeholders need to be identified. Once these stakeholders have been identified the following two steps can be taken to minimize resistance and to minimize the probability of a conflict or to mitigate its intensity if it arises (Plowman & Diffendal, 2020).

Step1: Early and frequent communication. Keeping resistant stakeholders in communication loop helps to demonstrate that their interest and impact on the project

is respected, and their disposition is not an obstacle for engagement. These communications should be built into the project communications management plan (Plowman & Diffendal, 2020).

Step2: Regular feedback. We should check in with these stakeholders with a regular frequency and encourage honest feedback and to provide responses to their concerns as well as we can. Stakeholder analysis and project communications management plan are the main resources when communicating with stakeholders. Involving stakeholders. If it gets difficult to address stakeholders' concerns, we should engage the stakeholder in working towards the solution together. We should get their input on what it takes to reduce or resolve their resistance to the project and to ask them to help put the solution into practice (Plowman & Diffendal, 2020).

Giving stakeholders bad news

Giving a stakeholder bad news is a situation which could potentially lead to conflict. Bad news needs to be communicated early to stakeholders with a high level of interest and/or investment in the project. *What:* Focus on what has happened, how it impacts the project, what the corrective actions are. Give a clear explanation of the problem, why it happened, how to prevent it from happening again and how the impact on the project will be minimized. *When:* The higher the stakes, the sooner the stakeholder needs to be informed. Fast action is needed to mitigate the effect of the problem. As soon as the source and the impact of the issue have been identified, the stakeholders should be informed. Regardless of whether the corrective action is not yet clear, the stakeholders need to be contacted anyway and ask for their support in the situation. *How:* Negative news should be delivered in real time, preferably face-to-face or at least through virtual conference call, or telephone call. Stakeholder reaction to the news can be bad and conversation could get intimidating, but this discussion is important as it gives the stakeholder possibility to ask questions, shows accountability towards the stakeholder and helps to preserve trust and relationships (Plowman & Diffendal, 2020).

If the stakeholder reacts poorly, it is important to de-escalate the interaction. This can be done by keeping the focus on resolving the issue and by answering the questions honestly. When concluding the conversation, reinforce the commitment to

corrective action and affirm the approval from the stakeholder. Keep the stakeholder up to date with information about the implementation and progress of the corrective action with regular updates. Project communication management plan should be updated as needed. Lastly it is important to fill in lessons learned, so that issue does not repeat in the project or in other projects (Plowman & Diffendal, 2020).

Conflict between stakeholders

Stakeholders have different expectations and priorities in the project. Sometimes it is not possible to meet expectations of all key stakeholders at the same time. Interpersonal conflicts can happen between stakeholders. To be prepared to manage conflicts between stakeholders, we need to be aware of where conflicts might occur. Potential areas for interpersonal conflicts can be revealed through stakeholder analysis. Expert judgement is also a useful tool to analyze stakeholder interactions from past projects. By listening closely, we can also get clues that indicate conflicts with other stakeholders. If conflict occurs it needs to be addressed early to prevent it escalating and putting the project at risk. As tools to mitigate conflict we can use five-step conversation road map mentioned in chapter 2.5.2 and three step conflict management approach mentioned earlier in this chapter. The potential issue in stakeholder conflict management is that the project team does not have authority over the stakeholder and support from other organizational resources might be needed (Plowman & Diffendal, 2020).

2.4 Customer relationship management in project business

Personal interaction is necessary to bridge the distances in the buying process, which are caused by differences in actors, countries, roles, requirements and distance between companies. Personal interaction can be utilized to manage discontinuity. When the economic relationship between the parties end at project completion, personal relationships enter sleeping phase and could be maintained and utilized in bidding process of future projects. This makes social relationships and personal interaction important for project business management. Organizational relationships are built on actions of individuals representing the organizations. Bad person-to-person interaction could have negative influence on relationships and that is often a basis for inconsistencies and ethical considerations. (Mainela & Ulkuniemi, 2013)

Personal interaction connects relationship management and project management.

There are three levels of personal interaction as presented below in figure 11.

The first level is **person-to-person** interaction, where tacit knowledge is exchanged in the form of personal communication and cooperative work. Social values are exchanged through person-to-person interaction, and it is a means of demonstrating commitment and creating trust in a relationship. The quality of relationship between the organizations is determined by trust. (Mainela & Ulkuniemi, 2013)

The second level of personal interaction is **relationships**. It is about means of initial idea selling, reducing the distance over project planning and implementation and maintenance of sleeping relationships. (Mainela & Ulkuniemi, 2013)

The third level is **community**. It is where personal interaction is used to engage in informational networks and socialize. This is what keeps relationships alive during sleeping phase. (Mainela & Ulkuniemi, 2013)

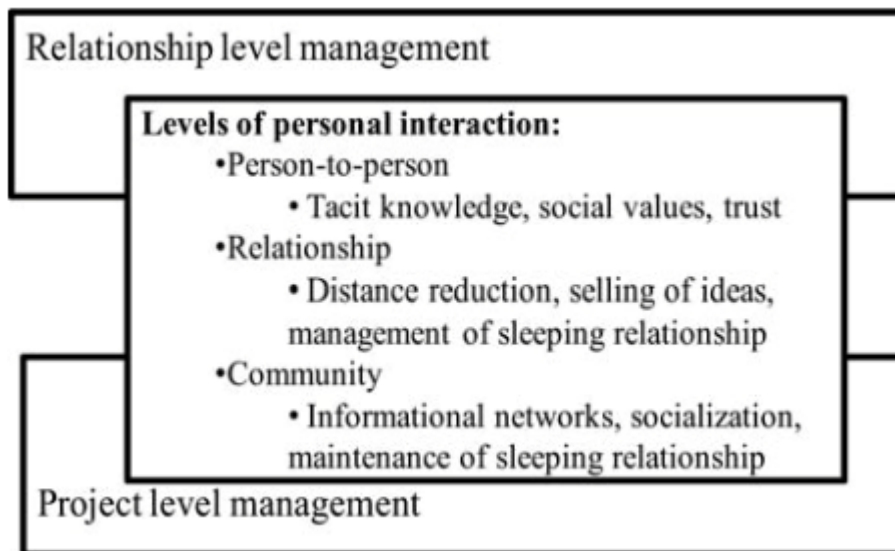


Figure 11. Personal interaction in project business relationships. (Mainela & Ulkuniemi, 2013)

Personal contact and local presence are important throughout the project, especially during initial phases when the customer’s needs are still emerging. Challenge is being available and paying attention but not wearing out the relationship. To manage this personal interaction needs to be systematic but not constant. Personal relationships are based on trust and chemistry between the parties. These personal relationships enable intermediation of high-level messages between companies. Personal relationships can be from different divisions in the company. Sales departments have relationships with customers and can have lighter interactions to collect valuable information. (Mainela & Ulkuniemi, 2013)

Presence: Presence is created through constant-, systematic- and occasional personal interaction. These three different types of personal interactions are related to relationship level or project level. Constant interaction is primarily focused on project level; systematic interaction is related to relationship level. Occasional interaction can be activated on either level as needed. (Mainela & Ulkuniemi, 2013)

Constant and systematic interaction bring consistency to the interaction. The occasional interaction is highly person-related and has valuable role in troubleshooting. For this reason, its influence on relationships and project success can be critical. (Mainela & Ulkuniemi, 2013)

Expertise: Business area is characterized by the trust the customers place in the professional service provider and particular experts involved in projects. For customers it is easier and safer to use the service provider and specific, well-known experts than to start everything from scratch with new provider. (Mainela & Ulkuniemi, 2013)

As presented in figure 12 below, personal interaction is at key position in determining customer relationship management at project and relationship levels. Personal interaction connects these two levels through functions of presence and expertise. The presence function answers the need for the project firm to be close to the customer and is driven by means of constant, systematic and occasional interaction. The expertise function answers specific capabilities and knowledge used to solve problems on behalf of the customer. These two functions are influenced by two situational factors, consistency of actors and troubleshooting events. These factors create specific contexts for personal interaction, which can either facilitate or hinder customer relationship management. (Mainela & Ulkuniemi, 2013)

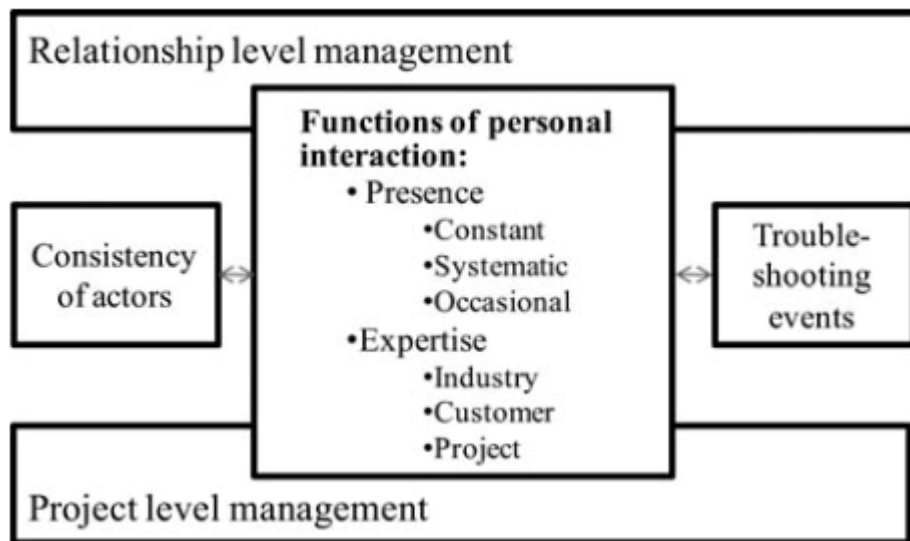


Figure 12. Personal interaction in customer relationships (Mainela & Ulkuniemi, 2013)

2.5 Project communications management

Project communication management definition by PMBOK (2013), 287 is as follows: “Project Communications Management includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information.”

PMBOK (2013, p. 287) states “Effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of expertise, and different perspectives and interests, which impact or have an influence upon the project execution or outcome.”

The project communications impact on every area of project management and if communications are well managed it will mitigate the risks related to project schedule, project cost and project quality. Communications are to be scaled for project needs. Project communications are managed with project communication management plans as part of the project management plan throughout the project life cycle. Communication can be written or verbal which both have their own place, tools and methods. Project communication management information flow is presented in figure 13.

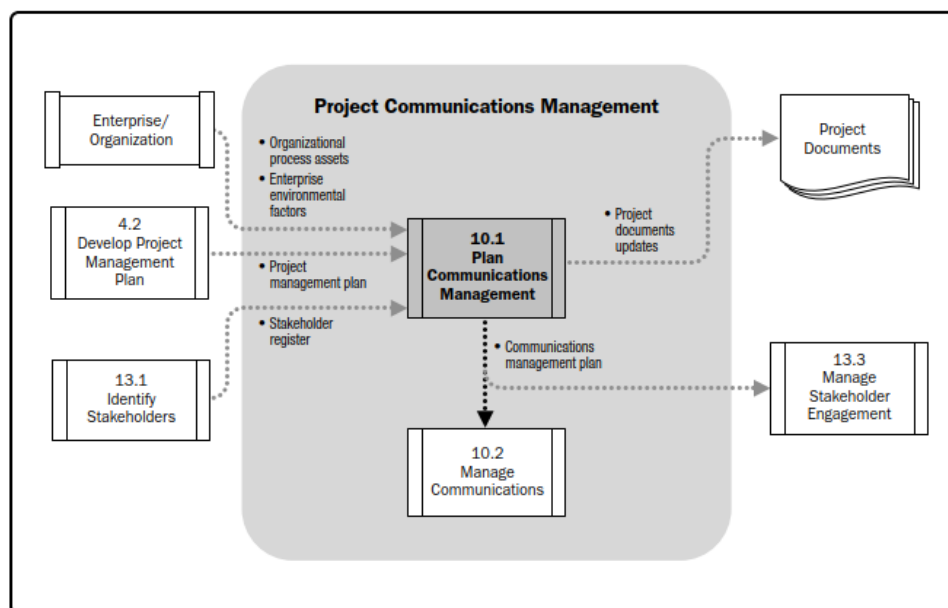


Figure 13. Project communication management (PMBOK 2013)

For communication to be effective information needs to be provided in the right format, with correct timing, to correct audience and with the right impact. For communication to be efficient, only the needed information is to be provided (PMBOK 2013).

2.5.1 Planning project communications

“If we fail to plan the project, we are planning the project to fail” (Plowman & Diffendal, 2020, 69).

In projects we need to communicate with various stakeholders for this project communication management plan is critical. Project managers use 90 percent of their time communicating (Plowman & Diffendal, 2020).

Project communication management plan

Plowman & Diffendal, (2020) states that following needs to be defined in project communication management plan: How to communicate with stakeholders? How to utilize processes, policies, plans and organizational process assets? What new processes are needed? What information will be sent and received, when, by whom? How will that information be distributed? Where will project information be stored and how will it be retrieved? How will project information be disposed at the end of the project? Kloppenborg et al. (2015, 443–444.) states the purpose of project communication plan as follows: “ensure timely and appropriate planning, collection, creation, description, storage, retrieval, management, control, monitoring, and ultimate disposition of project information.”

“Plan Communications Management happens in the planning process group. It is our “communications road map.” It is our guide for keeping everyone informed with the right message, at the right time, using the right methods, for the right reasons. The project communications management plan is where you bring them all together.” (Plowman & Diffendal, 2020, 71)

“On most projects, communication planning is performed very early, such as during project management plan development. This allows appropriate resources, such as time and budget, to be allocated to communication activities.” (PMBOK 2013, 290)

Planning the project communications is important to the ultimate success of any project. If communications are not properly planned it may cause problems such as delays in message delivery, communication of information to the wrong audience, or insufficient communication to the stakeholders and misunderstanding or misinterpretation of the message communicated (PMBOK 2013).

Communications management plan needs to be tailored to fit for the needs of the specific project. Correct templates, tools, and techniques needs to adapt to meet your project, stakeholder, and organizational needs. The communication management plan needs to be used and updated as the project proceeds and develops. It does not matter if you have the perfect plan if you don't put it into use (Plowman & Diffendal, 2020).

When developing the project communications management plan, project team should review together project communications management plans from previous similar projects and review lessons learned. This should reveal what worked well, what needs improvement and what project communications areas were challenging. Findings are to be discussed as a team. This teamwork brings many benefits to the project. It acts as team building and adds value and experience to the plan. The communications management plan should include all stakeholders and address aspects of the project, impacting them the most. Refer to chapter 2.3.4. Basics of good project communications should be incorporated, and plans should align with project team ground rules. Since changes happen in every project, the communications management plan should incorporate elements for handling and communicating changes with stakeholders. Refer to chapter 2.3.8. (Plowman & Diffendal, 2020).

Effective use of project communications

In Plowman & Diffendal, (2020) following eight methods are mentioned for effective project communications:

Take ownership: Someone from the project team needs to take ownership of the project management plan. The owner is responsible for ensuring that the project communications management plan gets followed properly, reviewed regularly, and updated as needed.

Review: Key elements of the project communications management plan should be reviewed in project status meetings and important communications reflected in project status reports.

Log: Keep a log or journal about critical project communications. This is useful resource later for documenting lessons learned.

Feedback: In communicating with stakeholders, listen to the feedback and incorporate relevant input.

System assessment: Ask project team members if project information storing and retrieving systems are working properly.

Ask questions: If a process in project communications management plan or certain message is uncertain, ask other team members about their opinion to clarify the problem.

Lead by example: Communicate effectively and be role model for others.

Make updates: In project communications, change what is not working and make updates to project communications management plan. Keep track of changes through revision control. Project communications management plan is an evolving document.

Communications matrix

Communications matrix is a document which defines what information is to be sent, when, to whom and how. The document is developed together by the project team. Projects handle a lot of information, and it is recommended to use shared document repository with revision control instead of e-mailing all documents. Table 8. presented below is just an example to present the idea about the communication matrix document (Plowman & Diffendal, 2020).

Table 8. Example, communication matrix (Plowman & Diffendal, 2020).

Communication	Format	Timing	Owner	Recipients	Comments
Status reports	E-mail	Weekly	Project manager	Project team and sponsor	Use one-page status report template
Status meetings	In-person or virtual/ conference call	Weekly	Project manager	Project team	30 minutes or less; distribute status report in advance
Status meeting minutes	E-mail	Within 24 hours of status meeting	Project coordinator	Project team	Includes action items and decisions
Action items	E-mail	As needed	Project coordinator	Project team	Each action item has follow-up due date and will be reviewed at each status meeting
Budget reports	E-mail and in-person review	Monthly	Project manager	Project team, sponsor, key management personnel	Use budget report template
Schedule updates	E-mail and in-person review	Monthly	Project manager	Project team, sponsor	Provide summary of schedule updates to key management
Risk review	In-person or virtual/ conference call	Weekly	Project manager	Project team, sponsor	Include in weekly status meetings
Issues or problem log	E-mail	As needed	Project manager	Project team, sponsor	Include in weekly status meetings

For other documents, determine the format, timing, audience, and other considerations based on the urgency, sensitivity, project needs, and stakeholder expectations.

2.5.2 Managing communications

The management communications process consists of creating collecting, distributing, storing, retrieving and disposition of project information in accordance with the communications management plan. The process enables effective and efficient communication flow between project stakeholders. The inputs, tools and techniques, and outputs of this process are shown below in data flow diagram figure 14. (PMBOK 2013).

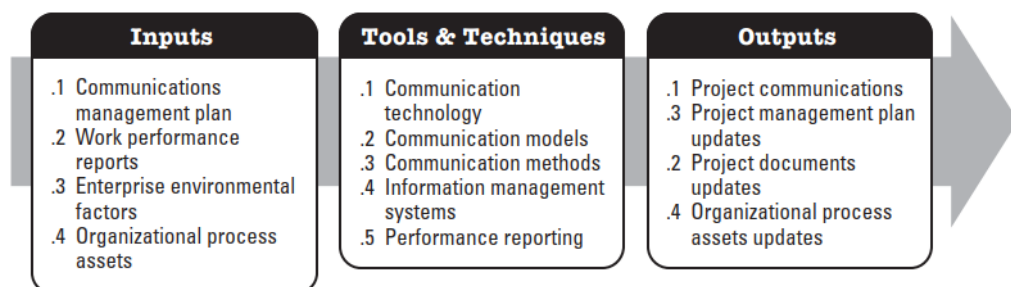


Figure 14. Inputs, Tools & Techniques and Outputs (PMBOK 2013)

Managing communications happens in executing process group. This is when work on the project is being done and the project team follows the communication management plan. This is important as among the project team everyone working on the project needs to be kept informed. So that they have the needed information to successfully complete their assigned tasks and deliverables. Outside of the project team we need to ensure that stakeholders have needed information to stay up-to-date and continue to support the project or move from being unaware or resisting the project to a more supportive position (Plowman & Diffendal, 2020).

The purpose of this process is to ensure that information communicated to project stakeholders is appropriately generated, received and understood. It also provides stakeholders with an opportunity to request further information, clarification and discussion (PMBOK 2013).

According to Plowman & Diffendal (2020) managing communications on a project means making sure that the project communications management plan is being executed. Practically managing communications starts with managing conversations with stakeholders. Ideally interactions end with accomplishing at least one of these three outcomes.

- A) Providing needed information to support the role of the person/group in their needs.
- B) Reducing their uncertainty about the project, their role or others involved in the project.
- C) Building their trust in the project's goals, plan and participants.

Communications management plan updates

According to PMBOK (2013) updates to communications management plan are linked to project management plan. Organizational processes assets may also require updating. These include:

- Stakeholder notifications, such as changes and project status.
- Project reports, which can be formal or informal. Describing project status, lessons learned, issue logs, closure reports and outputs from other knowledge areas.
- Formal or informal project presentations tailored to stakeholders.
- Project records include memos, meeting minutes and other projects describing documents. These records should be carefully maintained to keep documentation appropriate and organized.
- Feedback from stakeholders is to be distributed and used to improve future project performance.
- Lessons learned documentation including the cause of the issues, reasoning for corrective action. Lessons learned are to be distributed also on organizational level.

Conversation process developed by Development Dimensions International (DDI)

Byham and Wellins (2015) refer to DDI's study and research which states that people come to work with practical and personal needs. The practical part is to get the job done and the personal part is to be respected and valued. The same applies to project teams. Team members focus on getting work done to achieve the project objective and to know they are valued contributors and integral key members of the project team (Plowman & Diffendal, 2020).

Personal needs

Personal needs includes everyone inside and outside of the project team who has an interest in the project. According to DDI, five key principles are: Self-esteem, Empathy, Involvement, Share and Support. These principles are described below. (Plowman & Diffendal, 2020).

Self-esteem: By maintaining or enhancing self-esteem, communications are managed by reassuring team members about their necessary expertise to be part of the

project team, by giving praise for great work or by suggesting a better way of working.

To maintain self-esteem, fact-based discussions are needed. Focus on problems, not on people and show respect and support.

To enhance self-esteem, we would focus on recognizing key contributions and great ideas. This is an opportunity to build and show confidence in project team members or stakeholders. To do this we must be specific and sincere.

Empathy: “By listening and responding with empathy, we are managing communications to build understanding, address the positive and negative emotions, and show that we care about others’ feelings while working with the facts.” (Plowman & Diffendal, 2020, 85).

Involvement: “By asking for help and encouraging involvement, we are managing communications to seek ideas, ask for help, get commitment, and really be involved with the project and working together as a team. This is an opportunity to ask open-ended questions.” (Plowman & Diffendal, 2020, 85).

Share: We are managing communications by sharing our thoughts, feelings and rationale. Communications are managed to build trust. Trust is the foundation of any high performing project team. By sharing our feelings, having open and honest communications and discussing reasons behind decisions, changes or actions taken we build trust. The benefit of sharing is building relationships.

Support: When we provide support without removing responsibility, we are managing communications to build ownership. When managing projects, everything is owned by someone. When something is owned by someone, the owner is more likely to see it to completion and be successful. It is project manager’s responsibility to provide necessary resources to help team members to get their project tasks done and remove any obstacles from their way. By providing support we are providing confidence in others to be successful.

By using these five key principles in managing project communications we ensure that the personal needs of the project team and stakeholders are addressed. This achieves the feeling of being valued, respected and understood. To identify the personal needs of the project team we need to have discussions with the team. The personal needs of outside stakeholders can be identified during stakeholder analysis. These personal needs are to be recorded into the stakeholder register. For more information about stakeholder analysis and stakeholder register please refer to chapter 2.3.4. (Plowman & Diffendal, 2020).

Practical needs

Byham and Wellins (2015) state that for effective communications a structure to address practical needs of individuals and stakeholders is required. “DDI provides a “five-step conversation roadmap” called the Interaction Guidelines.” (Plowman & Diffendal, 2020, 87) The approach fits for any conversation or interaction any-time, with anyone associated with the project. It can be used to meet practical needs and to ensure that all needed items are discussed. Five-step conversation roadmap is described in following page and presented below in Figure 15. (Plowman & Diffendal, 2020)

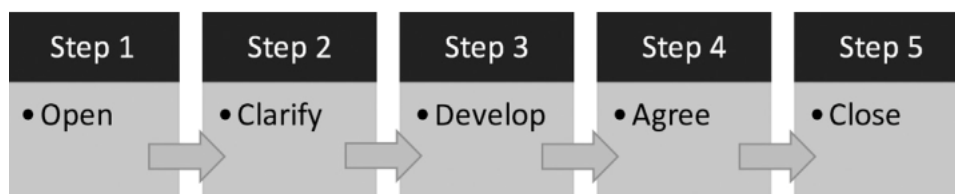


Figure 15. Conversation roadmap (Plowman & Diffendal, 2020)

Step 1 Open:

Objective of conversation and why it is important. “Communication objective”.

Step 2 Clarify:

Information is gathered by seeking details and sharing data about the problem. This is an opportunity to ask questions to identify roadblocks and reveal any concerns. This is a necessary step to establish clarity and gain mutual understanding.

Step 3 Develop:

In this step ideas are developed, creativity used, expertise of others utilized and the need for resources and support are being discussed to make these ideas a reality.

Step 4 Agree:

Putting together the action plan with specific dates, details and alternatives if needed. Opportunity to show commitment and plan how action plan progress will be tracked.

Step 5 Close:

Important items that have been discussed are summarized. Support and encouragement are being provided. This increases confidence and trust.

Throughout the five steps mentioned above, common understanding can be checked by asking question “What have you just heard?”. When someone repeats what you have said, this helps to check for understanding. (Plowman & Diffendal, 2020)

In project conversations we need to keep the discussion moving forward and on target. To achieve the conversation objective, dialogue may need to be adjusted along the way. (Plowman & Diffendal, 2020)

2.5.3 Monitoring project communications

Monitoring project communications is about evaluating ongoing communications to ensure that the intent of the project communications management plan is achieved. It is important that all communications always achieve their purpose. This can be verified by measuring effectiveness of communications or by incorporating feedback loops. (Plowman & Diffendal, 2020)

Measuring project communications effectiveness

“Peter Drucker, well known for his innovative thinking in the way we do business, is often quoted as saying, “What gets measured gets managed.” (Plowman & Diffendal, 2020, 105) Communication is difficult to measure, because it is hard to prove cause-effect relationship between communication and action. First, we need to decide what we want to measure. For this we need to revisit specific goals of each tactic in project communication management plan. We are trying to measure if the project communications are meeting stated goals (Plowman & Diffendal, 2020).

There are several approaches to measuring communications. Usage data from online collaboration tools can be tracked and compared to project deliverables and deadlines. This could potentially show whether project communications are or are not achieving the desired objectives. Surveys can be used to gather feedback about communications and if communication is working as desired. Planned vs actual communications. It can be measured how well project communication tactics outlined in project communications management plan are happening in practice. Are all reports sent at the correct time as defined in project communications management plan? (Plowman & Diffendal, 2020)

Measuring communication effectiveness should be started early and it is to be done regularly. If communications are noticed to be ineffective, corrections should be made. Measuring starts to continue to determine if changes in communication management are working (Plowman & Diffendal, 2020).

Feedback loops

Communication does not work one way. Feedback, such as e-mail responses, are needed to verify that the message is received and understood, this closes the loop. Closure is one essential element in feedback. If loop is left open, items are left unacknowledged, unclear, or unresolved in a conversation or interaction. This could lead to negative stakeholder experience. This Negative experience may cause the stakeholder to move towards resisting the project. Stakeholder engagement is explained in chapter 2.3.4. This is the reason why Step five (close) in conversation

roadmap presented earlier in this chapter is important. We must be sure that the subject has been closed, agreed upon and next steps decided. By asking this question we provide space for team members or stakeholders to address any remaining uncertainties or confirm their understanding of the message. By demonstrating that you value their personal and practical needs you build trust and ensure that the message is addressed (Plowman & Diffendal, 2020).

When engaging in a conversation or messaging, one should ask why I am talking/typing. This is a good way to determine that communication is purposeful. Things to ask yourself are: Am I adding value to the conversation, is it fact or opinion, is it relevant to the topic, is this already said by someone? (Plowman & Diffendal, 2020).

Lessons learned

Lessons learned is about documenting what worked well in the project and what needs to be improved. Once documented lessons learned must be shared and used by your team and other project teams to avoid pitfalls and problems that have been already encountered. Beneficial ideas and processes can be used in future projects. Too often lessons learned are documented and communicated just at the end of the project, when it is too late. Lessons learned need to be documented and communicated throughout the project. When lessons learned are captured early in the project it can be ensured that positive results (things that work) can be continued for resto of the project and negative results (things that do not work) can be stopped early. (Plowman & Diffendal, 2020) “Capturing and communicating lessons learned is a key element in managing and monitoring project communications” (Plowman & Diffendal, 2020, 96)

3 RESEARCH APPROACH

3.1 Data collection and sampling

The aim of the interviews were to collect data from a one case project in the USA. Three interviews were conducted, each with different group involved in the project. The purpose of this strategy was to study project communications impact on customer relationships and project success from many perspectives in the case project. The interviews were structured into four phases of questions. In first phase, the first two questions aim directly to provide answers to the research questions. In second phase questions aimed to collect data about communication efficiency between the stakeholders in the case project and how communication efficiency could be improved. The third phase of the interview aimed to collect data about cultural and language differences and impact on project communications. The interview ends with a question about lessons learned in communication management in the case project. Due to different roles of interviewees, the interview questions had to be tailored to fit each interview. The question palette itself was kept the same for each interview to ensure rigidity and quality of the interview results. Only exception is the question about internal communication, which was presented only to the site manager and project manager.

The idea behind of two first phases of questions in the interview was to use a combined approach to get answers to the research question. In the first phase of the interview two first questions take a direct approach to getting answers for research questions. The second phase of the interview questions took an indirect approach to provide answers that support findings from first phase or provide additional valuable insights about project communications. The third phase of the interview focused on revealing whether cultural or language challenges have impact on this project. These communication challenges may hinder communication efficiency if they apply to the case project. In the fourth and last part of the interview, the question aimed to reveal lessons learned. As we have learned, implementing lessons learned into projects comes with big benefits. Mistakes are not to be repeated but to teach us to reach for even greater success in our projects.

Interviews took about 30 minutes each and were conducted in native language of each participant. The interviews were recorded and transcribed to ensure reliability and validity. All transcripts were written in English by author and then checked by interviewees to validate common understanding. All interview answers were analyzed one by one, and interpretations of each interview analysis were checked with interviewees to ensure data validity. Data from interview analysis were grouped in interview summary to recognize key concepts and patterns from collected data.

The first interview was done with interviewee A (Site manager) at the case project site in the USA. He is a site manager in the case project. This is his first project as site manager, but he is really dedicated to his role and on top of the activities happening at project site. Next interview was done with interviewee B (Customer). The interview was done as a video conference call through Microsoft teams. Original intent was to do this interview while I was visiting the project site in USA, but due to busy schedules the interview was delayed. The customer is electrical lead project engineer, who has been involved in the project from the initiation phase. This is his first time working with the project team and the equipment delivered by them. The last interview was done with interviewee C (Project manager) at the company office in Finland. He has a lot of experience from different EEQ energy customer delivery projects in USA.

Table 9. Summary of interviews

Work position	Name	Experience in work position	Date of interview
Site Manager	A	1 year	12/05/2025
Customer Lead electrical project engineer	B	20 years	21/05/2025
Project manager	C	31 years	23/05/2025

3.2 Findings from the interviews

This chapter presents the findings from the interviews, analyses them and presents the summary of interviews. Presented interviews are in timely order as they were

conducted. Interview structures are in line with interview questions presented in appendix 1 interview A questions for site manager, appendix 2 interview B questions for customer and appendix 3 interview C questions for project manager.

3.2.1 Interview A

1. Interviewee A felt that communication plays even greater role when the customer does not have existing experience from similar projects: *“Communication is especially important with new customer, as they do not have existing experience from power plant projects with the case company.”* Interviewee A felt that communication is important on managing equipment deliverables in the constructions site: *“Communication has an important role in managing equipment deliverables in the construction site.”* Interviewee A felt that communication has an impact on project success when used to coordinate the site activities successfully with the customer and construction contractor. *“Communication has a central role in coordinating the site activities with the customer and construction contractor and through that impacting to the project success. “*

2. Interviewee A noted the importance of communication for building a good relationship with the customer from the beginning of the project. *“Customer has a lot of questions in the beginning of the construction and there the communication is the way to build on the relationship with the customer.”* Interviewee A highlighted the importance of timely and open communication with the customer. *“The reaction speed to identified defects in the construction is important. To build trust with the customer we must be honest and sincere about the problems and keep the customer informed.”* Interviewee A felt that by having open and fast acting communication with the customer improves the relationship with the customer and that for some stakeholders which were not keeping the customer informed, it had impact on their relationship with the customer. *“We have noticed that by acting this way customer has started to trust us more. For us this communication style has been beneficial. It has been noticed that not all of the stakeholders act the same way.”* Interviewee A pointed out that the major challenge in communications with the customer was to get the message delivered to everyone involved in the customer’s organization. *“Our concern is that as there is no single point of contact in the customer’s*

organization, we are not always sure if our message has reached all correct individuals. Sometimes there are persons coming back with the same questions again”

3. Interviewee A felt that communication and support from the project team has been on a good level and that quality of communication has improved through project execution. *“Regular conference calls with project team have been very informative. Project team has been active with site visits and fast responses to e-mails. Communication methods have been improved through the project execution. Conference calls matured to more formal meetings including meeting agenda and minutes of the meeting. Also, whats app messaging group was created for fast un-formal communication.”* Interviewee A felt that it would be beneficial to have a clear meeting agenda in use from the beginning of project conference calls and minutes of the meeting should be uploaded online for everyone to access. *“Communication methods could be further improved by having the meeting agenda starting from first conference calls and by uploading minutes of the meeting online for everyone to access.”*

4. Interviewee A felt that communication with the project team could be improved by having formal conference calls on a weekly basis with a clear meeting agenda sharing minutes of meeting online, where everyone can access them. *“Communication between site team and project team could be improved by having weekly meetings with clear meeting agenda and by keeping online record of meeting minutes.”* Interviewee A felt that the weekly customer meeting did not focus enough on planning of site activities and the situation worsened over time through the project as fewer people were attending the meeting. Separate meetings are needed to plan and follow up on site activities. *“Project’s customer meeting suffered inflation at some point of the project, less people were attending to the weekly meeting and meeting agenda did not focus on installation activities. For this reason, separate weekly meeting with project team is needed to go through items related to site activities and planning.”*

5. Interviewee A felt that the quantity of communication with the customer and contractor is of a good level as they have meetings every morning. *“Communication*

with the customer and contractor has been on good level for whole time. Every morning, we have one meeting together with the contractor and the customer, followed by one more meeting between the site team and the customer. "Interviewee A noted that nobody writes minutes of the meeting from these morning meetings, which often leaves it unclear who has the ownership and responsibility for works tasks and activities agreed in the meeting. "There are no minutes of meeting written from these customer and contractor meetings. This makes it more difficult to follow up what has been agreed and who is responsible for each task agreed on the meeting and causes misunderstandings. This is especially true at meetings where we have multiple stakeholders participating in the meeting. Sometimes we feel that this is even used to avoid responsibility." Interviewee A noted that when work tasks are only verbally agreed the task ownership is often missing but it is assumed by others that someone has taken the ownership. The result is that nobody took the ownership of the task and work is left undone." When work tasks are only agreed verbally the task ownership is often missing. When work task is followed up later, we often find out that the stakeholder responsible for the task did not take any ownership and tells that they understood the task belonging to someone else." Interviewee A noted that it would be important to address the ownership in the minutes of the meeting for each work task. This would clarify what needs to be done and who is doing it. "Ownership of each work task should be written in the minutes of the meeting and minutes of meeting should be written and distributed to everyone after the meeting. By working this way, it would be clear what needs to be done and by who."

6. Interviewee A felt that internal communication with the team gets more challenging when the size of the team increases, especially when new team members join the team later during the project execution. He also felt that it is challenging to transfer information from one person to another when someone gets replaced by another person in the site team. *"Internal communication is easy when the team is small. When new people come to the construction site and join the team it has been challenging to brief the newcomers about the project and integrate them with the team efficiently. We have also experienced challenges with team member replacements through the project. It is a challenge to transfer all information from one person to another. As mentioned earlier there is no assigned ownership for the work*

tasks discussed in the morning meetings at site. We have to internally discuss and coordinate about who takes care of work tasks belonging to our team.” Interviewee A felt that work tasks assigned for the site team could be assigned to a personal level in internal meetings. This could be written in meeting notes to assign ownership for each task. “If work tasks would have been clearly assigned on stakeholder level in the morning customer meeting, we could then have short internal meeting to assign work tasks on personal level. The tasks and ownership could be written briefly in minutes of meeting received from the customer morning meeting.”

7. Interviewee A felt that there have not been any difficulties related to language. He sees the Finnish direct and open communication style as a benefit and as a way to create trust and maintaining that trust by standing behind the spoken words “We have not faced any language barriers, English as a language is easy to speak and understand. Our direct communication style might have surprised the customer sometimes but they we quickly won the trust of the customer by being open and honest with our communication and by taking accountability from our words.”

8. Interviewee A felt that it would be good to plan project meeting practices together with the project team. He would like to prepare his team better for customer meetings by having a short internal meeting first. He also noted that everything agreed at site verbally needs to be written down and documented. “I would firstly discuss together with project team to reach common agreement about the meeting practices. Here at the site, we would have team briefings before the customer meetings to make sure the whole team has a common understanding about ongoing work and try to predict what kind of questions could arise. We would agree on who answers the questions, so we would have one answer to questions as a team, instead of many team members giving different responses. I would also do better work on writing down what has agreed within the team or between the project stakeholders.”

3.2.2 Analysis of interview A

1. Interviewee A (Site manager) recognizes the importance of communication for project success in construction project. He sees communication as an essential tool

in the project to coordinate site activities with stakeholders. He sees that the stakeholders at construction site have a lot of communication needs as they do not have experience from similar projects. His view about the relationship between communication and project success aligns with the view of interviewee B (customer). In literature Camilleri (Chapter 2.3.1) states that Effective internal and external communications are key factors that contribute to project success. In the same chapter Camilleri further supports the views of interviewees A (Site manager) and B (Customer) by describing that internal communications have the objective of informing employees in involved organizations of project developments. The objective of external communications is facilitating collaboration and cooperation with stakeholders outside of the project organization structure. This cooperation is essential for project success. Two critical aspects are essential in communications. Active and influential stakeholders need to be identified and an external communication strategy that mitigates concerns of these stakeholders needs to be formulated.

The starting point would be to run through the project management initiation processes for project construction phase as written in literature based on PMBOK5th edition (chapter 2.2). The initiation processes start with stakeholder analysis, which aim to identify project stakeholders and their concerns and expectations in the project. Information about stakeholder analysis is written in literature based on book written by Plowman & Diffendal (chapter 2.3.4). Once stakeholders and their concerns and expectations have been identified, communication strategy needs to be formulated as stated by Camilleri (chapter 2.3.1).

The information from stakeholder analysis acts as an input for planning processes which are used in updating the project communications management plan. More specifically the update is done to stakeholder engagement plan, which is a part of communications management plan. In literature Plowman & Diffendal (Chapter 2.3.4) states that we need to know how to engage the stakeholders to keep them informed and to move them toward the level of support needed for the project to succeed.

As stated in PMBOK5th edition (chapter 2.5) the project communications are to be scaled for project needs and are managed with project communications management plan as part of the project management plan. Effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of experience, and different perspectives and interests, which impact or have influence upon the project execution or outcome. For communication to be effective information needs to be provided in the right format, with correct timing, to correct audience and with the right impact.

2. Interviewee A (Site manager) recognizes the importance of communication in building relationships with the customer. He notes that it is important to start building relationships early in the project. This view is also shared by interviewee C (project manager). He emphasizes how timely and open communication builds trust and creates an environment for cooperation. In literature it is stated in PMBOK5th edition (chapter 2.5) that for communication to be effective information needs to be provided in the right format, with correct timing, to correct audience and with the right impact.

Interviewee A (Site manager) noted that relationships between the customer and some other stakeholders got worse because those stakeholders were not transparent and did not keep the customer informed. In literature this is explained by Plowman & Diffendal (Chapter 2.3.4). Stakeholder engagement can move from one class to another. Poorly informed stakeholders have high level of uncertainty, and this could cause stakeholders to move backwards in engagement classification and reduce the support.

Interviewee A (Site manager) found it sometimes difficult to get the message delivered to all project personnel in the customer's organization as there was no single point of contact. The literature offer solution to this issue, as written by Plowman & Diffendal (Chapter 2.5.1) Communication matrix is a document which defines what information is to be sent, when, to whom and how.

3&4. Interviewee A (Site manager) felt that support from the project team has been at good level and that communication with the project team has improved through the project. He mentions informative conference calls, active site visits and fast e-

mail responses. He felt that the conference calls with the project team have improved through the project into more formal meetings with meeting agenda and minutes of the meeting. He felt that meetings should have been more formal and frequent from the beginning. As stated in literature by Plowman & Diffendal (Chapter 2.3.7) Meetings should have well-defined agenda and time frame. To make meetings effective, minutes of the meeting and action items should be documented.

Responses from interviewee C (project manager) bring clarity behind the meeting issues. He agrees that meetings are essential for project coordination. The problem is that project team is mostly located in Finland and the case project, where site manager is located is in USA. The time difference in this case is seven hours. This makes arranging meetings challenging. In literature in chapter 2.3.6 Brady & Prentice states that varying meeting times should be chosen in convenience for both time zones. Chhay and Kleiner state that being flexible makes it easier for team members to connect and demonstrates the manager's respect for all team members.

5. Interviewee A (Site manager) felt that communication with the customer is good as they have a meeting every morning before the daily activities start. This meeting also includes all stakeholders working on the project site. He also highlighted a problem related to work coordination. Even though they have a meeting every morning, the minutes of the meeting are not written, and work tasks are not assigned in writing. This leads to misunderstandings and work tasks without ownership. He felt that the more different stakeholders attending the meeting the worse the problem with missing minutes of the meeting gets.

These meetings are also described by interviewee B (Customer). He does not mention anything about meeting documentation or issues related to that. These quick meetings which both interviewees are describing are stand-up meetings. These types of meetings are for quick daily coordination of project activities. Minutes of meeting are not typically written as it would make the meetings long, which does not serve the purpose of these meetings. In literature the stand-up meetings are described by Plowman & Diffendal (Chapter 2.3.7). As an author I would see it necessary to provide feedback to the customer about the need for formal meeting to

document and follow up the action items. It would need to be a separate meeting, maybe weekly, and with small group of key persons from stakeholders.

6. Interviewee A felt that personnel changes in the site team are challenging. He described that it is difficult to transfer information from one person to another, especially if personnel changes happen later in the project execution. He also mentions that sometimes it is not clear to team members what is expected from them. More internal coordination is needed.

This issue seems to be a communication management issue within the site team. Personnel changes in the project are changing as large amount of information needs to be transmitted to another person in short time. Documentation in form of a progress report, which lists all open action items and if something is agreed with stakeholders related to them. Going through the report in briefing before the personnel change would greatly improve the situation. In literature Plowman & Diffendal (Chapter 2.3.7) states that if the report includes information that certain stakeholders need to know, it needs to be communicated separately. Just because we put something in the report does not mean that we have effectively communicated the information.

7. Interviewee A (Site manager) felt that there were not any difficulties related to language and culture. He rather sees Finnish direct communication style as a benefit. The customer has learned to trust Finns through their openness and honesty. The statement about the open communication style and trust is supported in literature by Gates (chapter 2.3.6).

8. Interviewee A (site manager) felt that it would be better to plan project meetings together with project team and to agree about site activities in writing instead of verbal agreements. Interviewee C (Project manager) shared the view of the need to improve the effectiveness of project communication between the project team and site team. He mentioned the need to have more regular meetings to coordinate the project. As an author I see that everyone wants to improve the effectiveness of communication but methods how to do it may not be completely aligned.

Communication should be planned together by site team and project team to formulate effective communication strategy and adjust the way of working as necessary. It is stated by Plowman & Diffendal (Chapter 2.5.1) that the planning of project communications is important to the ultimate success of any project. If communications are not properly planned it may cause problems such as delays in message delivery, communication of information to the wrong audience, or insufficient communication to the stakeholders and misunderstanding or misinterpretation of the message communicated.

3.2.3 Interview B

1. Interviewee B felt that communications are critical for project success and highlighted the importance of meetings with all stakeholders to identify possible issues and the need for support. *“Communication is critical for many aspects, if there are no communications there is going to be issues with the project. We have a daily coordination meeting every morning to discuss the plan of the day with all stakeholders to identify any pinch points or need of assistance and to look ahead for the next days out. We have meetings with the engineering firm, weekly meetings with instructors and meetings with the equipment supplier. Communication is the key through entire time of the project.”* Interviewee B felt that it is important to resolve issues together to reach common understanding. *“When we have a problem, we try to get entire team together to discuss, so that everyone understands what is going on and make sure everyone has an input into the issues or day to day activities.”* Interviewee B noted that communication gaps could lead to various problems and even to injuries at site. *“If there is a gap in communications it could lead to injuries, project delays or other issues.”* Interviewee B felt that communication is the core of a successful project. *“Communication is the core of the successful project.”*

2. Interviewee B felt that the relationship between the customer and the case company is of a good level, but they were disappointed with how the case company handled communications with some of their subcontractors. *“Overall relationship between the case company and the customer is good. This is the first time we have been working together. One thing to improve is to include us into meetings with*

case company's sub suppliers to avoid time consuming back and forth messaging about the issues."

3. Interviewee B answered: *"Communication methods have been good. Sometimes there have been some language barriers with Finns. The only thing we would improve is communication with case company's sub suppliers like mentioned earlier. Sub-suppliers need to get involved sooner. If there are concerns about parts or materials, we could then hear responses directly from suppliers."*

4. Interviewee B felt that the question about communication with the project team was already answered in the question about project communication methods. *"I think we discussed about this in previous question."*

5. Interviewee B felt that it has been easy to ask questions from the site team and that they can get answers from the project team fastest. *"Site team are part of our daily meetings and if there are any questions we can reach out to them. They can get answers from the project team faster than we can. Everything has been working out well."*

6. Interviewee B felt that there have been some language barriers and by repeating what has been said they confirm the common understanding. *"There have been some language barriers. What we typically do is ask to repeat what has been said and then we repeat the same to make sure we are talking the same and are on the same page."*

7. Interviewee B felt that more frequent meetings in the project engineering phase would be needed. He felt that they should be involved in certain product review meetings to familiarize themselves with the equipment and to be involved in certain comment review meetings to make sure all comments are picked up. *"More frequent meetings would be needed in the engineering phase. The equipment was new to us. I would like to be more engaged with the case company's sub suppliers. I would like to have meeting to get to know how our equipment is supposed to operate and to follow up that our comments about equipment design get picked up."*

3.2.4 Analysis of interview B

1. Interviewee B (Customer) saw that communication is essential for project coordination and planning. A construction coordination meeting is held every morning, and the focus is on the day's work activities and look ahead for the next days out. They try to make the meetings efficient by including all stakeholders involved in the project construction into the same meeting. This way everyone gets the same message and has a chance to provide input to everyone. His message clearly is that effective project communication is essential for successful project coordination, and a well-coordinated project is a successful project. This view is shared by interviewee A (site manager). Related references to literature are written in analysis of interviewee A earlier in this chapter.

2. Interviewee B (Customer) felt that overall relationship between the case company and customer is of good level, but he was disappointed with communication management with case company's suppliers. They were not directly involved in communications with these suppliers, and they received information updates only through the case company. For this reason, they were often unsure what was going on with design updates and equipment delivery times. They wish case company would have involved them directly in meetings with these suppliers. He felt that back and forth e-mail messaging about issues was time consuming.

As an author I recognize that customers are describing issues with sub-suppliers, where priority getting the issues resolved is high. In these kinds of situations effective communication is critical. If communication is not timely it is not effective. In issue situations in project, everyone impacted needs to be kept informed about the situation and its developments, including status of investigations, corrective actions, impact on project etc. Project communications management plan should be updated and lessons learned to be recorded to avoid repeating the issue in the future. In literature Plowman & Diffendal (Chapter 2.3.9) writes about communication management in issue situations. Interviewee C (Project manager) recognized this issue in his interview; he brought up the difficulty of getting information from sub

suppliers. He emphasized the importance of effective and transparent communication in projects and was clearly disappointed about the communication difficulties with the sub-suppliers.

3. Interviewee B (Customer) felt that communication methods in the project have been working well. With exception of those sub-supplier follow-ups. Everyone needs to be kept in the communication loop and up to date with latest information. For customers the situation seemed like that project team was not communicating, but the problem was that project team was struggling to get information from sub-suppliers.

4. Interviewee B (Customer) did not add anything when asked about communication with the project team. He was in opinion that the answer was already covered in earlier questions. He feels that communication with project team has been working well, and this is supported by view of interviewee C (Project manager).

5. Interviewee B (Customer) felt that communication with the site team is working well. Site team is able to provide information effectively in daily morning meetings. His view is supported by interviewee A (Site manager). As an author I would see the importance of effective communication between site team and project team in ensuring that site team has the necessary information to support the customer with fast and informative responses. In literature it is stated by PMBOK5th edition (chapter 2.5), that for communication to be effective information needs to be provided in the right format, with correct timing, to correct audience and with the right impact. For communication to be efficient, only the needed information is to be provided.

6. Interviewee B felt that there have been some language barriers between Finns and Americans in the project. He explained that they do to check the correct understanding in meetings by using method familiar from literature by Plowman & Diffendal (Chapter 2.5.2). It describes that throughout the five steps; common understanding can be checked by asking question “What have you just heard?”. When someone repeats what you have said, this helps to check for understanding. The five step conversations roadmap is developed by DDI and it has five steps: open, clarify,

develop, agree and close. This can be used to address practical information needs of any conversation.

7. Interviewee B (Customer) felt that they should have been involved in design review meetings with case company's suppliers. He is referring to these same equipment suppliers as discussed earlier in the interview. This is definitely something to be included in lessons learned for the project. It is important to have direct communication between all key stakeholders when coordinating product engineering. It is the customer who signs the final approval for the product design and issues found need to be addressed, while keeping everyone informed about the progress. In situations like this message delivery simply slows down too much if communication method is only e-mail, and messages go from point to point between many stakeholders. E-mail should be used only for documentation purposes and communication should mainly happen interactively in meetings. In literature this is supported by Plowman & Diffendal (Chapter 2.3.7).

3.2.5 Interview C

1. Interviewee C felt that communication between the project team and the customer needs to be open and transparent for the project to be successful. *"I think that communication has big impact on project success. If communication works well, the customer will talk more freely about their problems and will not try to hide them. But this requires us to behave the same way and not to hide anything from the customer. Problems need to be openly discussed right after they are recognized, and we have information about the reason and an idea of what could be done about it. The solution needs to be discussed together with the customer to reach common agreement on the way ahead. This of course requires that the customer is willing for open and transparent discussions."* Interviewee C felt that it is important to meet the customer face to face as early in the project as possible to start building the connection with the customer. *"Meeting the customer face to face as early as possible in the project helps to build trust and foundation for open and transparent discussions and paves the way for successful project."*

2. Interviewee C felt that trust and transparency are the foundation for good customer relationships. *"Trust and transparency are the keys to good relationship."*

3. Interviewee C felt that communication methods in the project have been working well. He highlighted the importance of face-to-face meetings in earning trust and building relationships. *“We have done well, but we had some challenges due to part of the project team members being in USA and part in Finland. It has been challenging to find suitable time slots for project team meetings. Now we have more and more virtual meetings, which is good but unfortunately non-verbal communication is then missing. Face-to-face meetings are needed to generate trust that it is not possible to get through virtual meetings. Interviewee C felt that e-mails sometimes cause misunderstandings that require clarifications. “Sometimes e-mails cause misunderstandings, but in this case, it has not been a problem. People have not been afraid to ask for clarification when there have been any questions. This is true with the customer, engineering company and site team. All of them have been in contact with us and asked any questions they may have.”*

4. Interviewee C felt that it is important to have meetings regularly to coordinate the project activities during installation and commissioning. He again highlighted the importance of face-to-face meetings and difficulties related to different time zones. *“By having weekly meetings between project team and site team. Now we have had meetings as needed and during most busy times, but it would be good to have regular meetings, especially during the installation phase and maybe also during commissioning phase. Otherwise, all questions will just come through e-mail, and it could remain unclear who is responsible for what. It is easier to coordinate through discussions. In this project we have visited the construction site many times, which has improved communications and transparency. Again, I would mention the meeting challenges related to time zone differences.”*

5. Interviewee C felt that the communication between the project team and the customer have been working well on this project. He highlighted the importance of face-to-face meetings and support. *“We had enough meetings with customer’s key personnel, and we got to know each other and to trust each other. We did not meet with the customer’s project manager as often, but we still managed to meet with him enough to earn the trust. We did visit the construction site every time when the customer wished to. This improved the cooperation between the project team and the customer.”* Interviewee C felt that it is important to receive feedback from the

customer and sometimes indirect feedback channels are useful. *“When customer was displeased about something in the project, they were able to contact our sales team and provide feedback. Through them we received feedback, and we were able to improve things. This has been a useful way to receive the information as customers are not always willing to complain directly to the project team.”* Interviewee C felt that providing information for the customer is sometimes difficult when the information needs to come from suppliers which are not very responsive in communication. *“We should find ways to improve response time from our suppliers. Often it takes too much time to get responses from them, especially from the suppliers located in the USA. It feels that we do not always get the priority from our suppliers, like they do not see reason to communicate better with us.”*

6. Interviewee C felt that the project team’s internal communication has been challenging due to time differences, and it was not possible to hold regular weekly meetings. *“Project team’s internal communication has been challenging due to team members located in different time zones. For this reason, we had mostly virtual meetings and meetings were not kept weekly as I would prefer.”*

7. Interviewee C felt that there have not been any difficulties related to language or culture with the customer. Difficulties with suppliers in USA could be related to cultural differences. *“Sometimes Americans understand the meaning of words differently than Finns. In this project we did not experience this. It could have been due to cultural differences that our suppliers in USA did not communicate. It was like they were maybe afraid to take responsibility.”*

8. Interviewee C felt that in the next project there should be more internal meetings, more meetings with the site team and there should be meetings with equipment suppliers. This is for better project coordination and faster problem solving. *“If I would notice that the communication with customer is not open, I would keep more face-to-face meetings with them. I would have more internal meetings with project team members and more meetings between project team and site team. Most significant upgrade to project communications management would be to have meetings with our equipment suppliers. If there is a problem with the supplier, we would resolve the situation as a team and bring in support functions as needed. We would*

have regular virtual meetings for follow up and if needed we could visit the supplier to discuss face-to-face.”

3.2.6 Analysis of interview C

1. Interviewee C felt that communication between the project team and the customer needs to be open and transparent for the project to be successful. Effective internal and external communications are recognized as key factors contributing to project success according to Camilleri (chapter 2.3.1). In the same chapter Camilleri brings up two critical aspects that are essential in communications. Active and influential stakeholders need to be identified and formulation of an external communication strategy that mitigates concerns of these stakeholders. As written in analysis of interview A (site manager), stakeholders and their concerns are identified through stakeholder analysis and communication strategy is updated into project communications management plan, which is used to manage project communications.

Interviewee C emphasized that it is important to meet with the customer face-to-face as early as possible in the project. He explained that this early face-to-face meeting helps to build trust and foundation for open and transparent discussions and paves the way for a successful project. His thoughts about face-to-face meetings are supported in the literature by Plowman & Diffendal (chapter 2.3.7), as well as by DuFrene and Lehman (chapter 2.3.7). The view about starting to build relationships early on the project is also shared by interviewee A (Site manager).

Interviewee C emphasizes that building a good and solid relationship with the customer helps to overcome possible challenges later in the project. For communication to be open and transparent there needs to be trust and co-operation between the project team and the customer. The function of communication in reducing uncertainty and building trust is reflected in literature by Plowman & Diffendal (chapter 2.3.3). The importance of managing stakeholder communications in the project is also described in the literature by Plowman & Diffendal (chapter 2.3.3).

2. Interviewee C again highlighted the importance of face-to-face meetings in earning trust and building relationships. He described trust and transparency as keys to good relationships. This is supported in literature by Kruse (chapter 2.3.3), Kruse

cites words of Stephen R Covey, as he describes trust as an essential ingredient and as foundational principle that holds all relationships. In literature trust is described as solid foundation for the project also by Plowman & Diffendal (chapter 2.3.3). Mainela & Ulkuniemi (chapter 2.4) support this by stating that presence is one of the main functions of customer relationship management. Presence consists of personal interactions which could be constant, systematic and occasional. Person-to-person interaction in the form of personal communication and cooperation demonstrates commitment and creates trust in relationships.

3. Interviewee C felt that communication methods in the project have been working well. As a communication challenge he mentioned how the project team is split partially between USA and Finland. This forces project team meetings to be mostly virtual. The downside is that non-verbal communication is then missing, and it is difficult to find suitable time slots for the meetings. He emphasized the importance of face-to-face meetings in generating trust, which can't be generated through virtual meetings. His words are supported in the literature by Plowman & Diffendal, (chapter 2.3.5).

He also mentioned the risk of misunderstanding related to e-mails and how these issues were avoided in this project due to open communication between the customer and project team. He continued that in this project we did not have this issue, because people were not afraid to ask questions to clarify details. This is supported by Plowman & Diffendal (chapter 2.3.7). where it is mentioned that the tone of written message may differ from the tone how the message is read. For communication to work, there needs to be two-way dialogue.

4. Interviewee C felt that regular meetings with the site team are needed to coordinate the project activities during installation and commissioning. Without meetings communication would be just through e-mails and then it could remain unclear who is responsible for what. It is easier to coordinate through discussions. He mentioned again the challenges of organizing meetings due to different time zones. He clearly recognizes the importance of meetings in managing projects. Importance of meetings is supported in literature by Plowman & Diffendal, (chapter 2.3.7).

5. Interviewee C described the communication between the project team and the customer. There has been enough meetings to get familiar with the customer's key personnel. Project team and customer's project organization got to know each other and to trust each other. It was the customer's project manager that the project team did not meet as often, but enough to earn his trust. It is important to get to know people involved in the project from the customer side. Interviewee C recognizes the need to identify stakeholders and their key people and to learn their interests and concerns, as this provides an ideal starting point for building relationships. Improving relationships with them and gaining their trust are the first steps to good cooperation. Meetings are useful techniques for identifying stakeholders and learning about their concerns. This is supported by Plowman & Diffendal (chapter 2.3.4).

Interviewee C added that the project team visited the construction site every time customer wished to. This improved the cooperation between the project team and the customer. The customer got full support from the project team. By being present at the construction site project team showed dedication to the project and further improved the relationship with the customer in face-to-face meetings. Stakeholder support and engagement are supported in the literature by Plowman & Diffendal (chapter 2.3.4).

Next, interviewee C brought up an interesting way to collect customer feedback. Project team collaborated with sales team to collect customer feedback. This way the project team was able to collect also negative feedback which the customer would not like to provide directly. The feedback received was used to take corrective action. This could indicate a possible task conflict with the customer. In literature Plowman & Diffendal (chapter 2.3.9) describes the need to encourage stakeholders for honest feedback and to address their concerns as well as we can.

Interviewee C felt that it was sometimes difficult to get answers to customers' questions when responses were needed from equipment suppliers. This is the same thing what interviewee B (customer) complained about. Clearly something needs to be done to improve communication with equipment suppliers. There must be some

reason behind this low level of cooperation. Literature about managing communications with unsupportive stakeholders as per Plowman & Diffendal is written in chapter 2.3.9.

6. Interviewee C felt that the project team's internal communication has been challenging due to different time zones between project team members. For the same reason it has been challenging to hold regular meetings weekly. Literature about virtual teams and collaboration between different time zones is written in chapter 2.3.6.

7. Interviewee C felt that there were no language difficulties in the project. He thought that difficulties with case-company suppliers in the USA could be related to cultural differences. He thought that these suppliers might have decided not to communicate if they were afraid to take responsibility. As an author, I could not find literature to support the theory about avoiding responsibility for cultural reasons. It could be a good start to spend some time with these stakeholders and discover what are the reasons behind their unsupportive behavior and start working towards improving the relationship with them. Information on how to manage unsupportive stakeholders is written in literature, based on a book by Plowman & Diffendal (chapter 2.3.9).

8. Interviewee C answered that, to improve communications in the next project there should be more internal project team meetings, more meetings between the project team and site team and the required number of meetings with case-company's equipment suppliers for more efficient project coordination. With the customer project team would hold a necessary number of face-to-face meetings to reach and maintain open communication dialogue. It is written in literature by Plowman & Diffendal (chapter 2.5.2), that inside the project team must have sufficient information to complete their assigned tasks and responsibilities, outside the project team it needs to be ensured that stakeholders have all the needed information to support the project. As an author I would say that the correct number of meetings is in place when the internal and external information needs are satisfied.

3.2.7 Summary of interviews

All three interviewees agreed about importance of effective project communications to project success. Interviewees A (Site manager) and B (Customer) shared the opinion that effective communication is important for stakeholders' coordination during installation and through that it has key role in project success. Interviewee C (Project manager) connected the impact of communication to project success and customer relationship in a smart way. He emphasized the importance of building relationships from the very beginning of the project to build trust and connection with the customer. This cooperation between the project team and the customer paves the way for a successful project.

The need to start communicating early in the project was supported by interviewee A (site manager). As written by Plowman & Diffendal (chapter 2.3.4), Stakeholder support can make or break a project. It is essential for project success to identify and gain support from key stakeholders in the project. This connection between building the customer relationship from early in the project and project success was made by interviewee C (Project manager), and the same mentioned by interviewee A (site manager), when asked about the connection between communication and customer relationship. They both emphasized the importance of open and honest communication with the customer as a major contributor to building trust and creating an atmosphere for open dialogue between the parties. This is supported by Mainela & Ulkuniemi (chapter 2.4), where it states that personal contacts and local presence are important throughout the project, especially during initial phases when the customer needs are still emerging.

Interviewee B (Customer) brought up an issue where the customer was disappointed with how communications were handled with some of the stakeholders used by the project team. Customers felt that they were not receiving information in a timely manner about corrective actions related to deliverables from this specific supplier. As written in literature chapter 2.3.8 a stakeholder may have a negative reaction to bad news and the situation is to be de-escalated by keeping the stakeholder informed about the corrective actions and progress of implementing the solution. This issue

was also recognized by interviewee C (Project manager), and he specified that the issue behind the problem was communication difficulties with the stakeholder. It was difficult to provide information to the customer when the stakeholder did not communicate with the project team. As written chapter 2.3.4. maybe more insights could be revealed through stakeholder analysis, which could provide clues how to get this stakeholder moving toward to supportive side of stakeholder engagement.

All interviewees agreed that project communication methods in the project have been working well. Interviewee A (Site manager) mentioned the progressive improvement in communication through the project and the fact about too few meetings between the site team and the project team in the early installation phase. This was also supported by interviewee C (Project manager). Project manager emphasized the importance of face-to-face meetings and difficulty of getting these meetings arranged due to locations of key people in different countries. In literature chapter 2.3.6 reveals more about the situation the people involved in this project are experiencing due to different time zones. A lot of flexibility is needed to manage the project with significant time zone differences.

About communication between the project team and site team both, interviewees A(Site manager) and C (Project manager) both agreed that the regular meetings as essential for project coordination. Both mentioned the fact that regular meetings would have been needed from the beginning of team interactions.

Internal communications in the project team and in the site, team were investigated in interviews. Interviewee A (Site manager) mentioned challenges related to team members being replaced many times during the project and how it has been difficult to pass the information from one team member to another in these situations.

Interviewee C (Project manager) mentioned difficulties at holding team meetings as project team is split between USA and Finland. This gives face-to-face meetings only rare opportunities and virtual meetings are also challenging to arrange due to different time zones. Time zone differences are described in the literature chapter 2.3.6.

Interviewee B (Customer) and interviewee C (Project manager) agreed that communication between customers and project team in this project has been of good level throughout the project. Customer was also happy with communication between the customer and site team.

Project team had regular meetings with the customer from the beginning of the project, but meetings between the site team and project team got more regular only later on the project. In the literature chapter 2.5 it is written that for communication to be effective it needs to be provided in the right format, with correct timing, to correct audience and with the right impact. It also mentions that project communications needs to be managed with project communications management plan through the project life cycle. In the literature chapter 2.2 it is recommended to run project management processes in each project phase. Updating of project communications management plan would have been needed to address also information needs of the site team as part of the planning processes for this project phase.

Both interviewees A (Site manager) and B (Customer) mentioned daily morning meetings at construction sites, which take place every morning and include also other stakeholders working at site, such as the main construction contractor. As mentioned by interviewee B (Customer) these meetings provided effective means of work coordination and a way to keep everyone informed about activities going on at the construction. He described this as an opportunity for everyone to provide input and ask questions at the beginning of the day. This sounds familiar to stand up meetings, referring to chapter 2.3.7.

Interviewee A (Site manager) complained that minutes of the meeting are not minutes of meeting written from these meetings and without documentation ownership of work activities discussed in the meeting sometimes remains unclear. Daily work coordination was effective due to daily stand-up meetings, but there was no planning meetings with documented action plan follow up.

Interviewee C (Project manager) mentioned that it is difficult to collect negative feedback from stakeholders. The customer did not provide negative feedback directly. All feedback is important, the project team managed to collect also the negative feedback through indirect communication channels. Which was in this case

one of the project team's support functions. As mentioned in chapter 2.3.5, *receiving* feedback is important to confirm that communication methods are working and based on feedback information flow could be adjusted. It is mentioned in chapter 2.4 that personal relationships are different, and it could be lighter to speak with someone who is in different role and has different level of relationship with the customer. It could be even the intention of the customer that their message would be delivered through different channels.

When asking about communication difficulties in the project related to language or cultural differences interviewees A (Site manager) and C (Project manager) answered that there have not been any difficulties, but instead interviewee B (Customer) was on different opinion and mentioned that sometimes talked messages have to be repeated and clarified to reach common understanding with Finns.

When talking about lessons learned in the project, interviewees A (Site manager) and C (Project manager) agreed that meetings between site team and project team need to be better managed from the beginning of the installation phase. Interviewees B (Customer) and C (Project manager) shared the opinion that communication with stakeholders and information flow to the customer about stakeholder-related issues need to be improved.

3.3 Theoretical contribution

Q1: How could project success be improved through communication?

The literature provides a definition of project success and correlation to customer relationships in following.

As written in chapter 2.3.1, project success criteria is defined by Thomsett (2002) as following: Satisfies stakeholder groups, meets functional requirements, meets quality expectations and requirements, within cost, within deadline, delivers sustained and actual benefits and provides the team with professional satisfaction and learning.

As written in chapter 2.3.4, Littau et al. (2010) refers to PMBOK ® Guide, which states that: Stakeholder satisfaction is one of the criteria outlined in the PMBOK ® Guide for assessing project success. Stakeholder satisfaction could be more important for project success than reaching the project objectives. (Littau et al., 2010)

As written in chapter 2.2, for project team to be successful: Appropriate communication processes need to be used to meet project objectives. For communication management knowledge area this includes project communications management plan to be tailored for project needs. Communication needs to be engaged and maintained with project stakeholders. Project needs to comply with stakeholders' needs and expectations and keep competing project constraints in balance. (PMBOK 2013).

Following literature reveals that the key contributor to successful projects is effective communication.

As written in chapter 2.3.3, Effective internal and external communications are key factors that contribute to successful projects (Camilleri, 2011). In chapter 2.5, according to PMBOK5th edition, effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of expertise, and different perspectives and interests, which impact or have an influence upon the project execution or outcome.

As written in chapter 2.5, for communication to be effective information needs to be provided in the right format, with correct timing, to correct audience and with the right impact. For communication to be efficient, only the needed information is to be provided. (PMBOK5th edition)

Following literature reveals how communications need to be engaged from very beginning of stakeholder interactions to gain trust and support of stakeholders. This is also starting point for effective communications management planning to address stakeholders' uncertainty.

As written in chapter 2.3.1, two critical aspects are essential in communications. Active and influential stakeholders need to be identified and formulate an external communication strategy that mitigates concerns of these stakeholders (Camilleri, 2011).

As written in chapter 2.3.4 The best way to gain information about project stakeholders' interests and concerns is by communicating with them, preferably early in the project. Being interested and listening to the stakeholder's interests and concerns builds trust and if a project works towards reducing the stakeholder's uncertainty it will ultimately win the trust of the stakeholder. That means that the stakeholder is likely to move toward supportive engagement in the project. By understanding how to engage your stakeholders in order to keep them informed we can move them toward the level of support needed for the project to succeed." (Plowman & Diffendal, 2020).

In chapter 2.3.4 it is stated by Plowman & Diffendal, (2020): Stakeholder support can make or break a project.

Following literature explains the role of planning in effective communications.

The role of planning is discussed in chapter 2.5.1, which writes that planning project communications is important to the ultimate success of any project. If communications are not properly planned it may cause problems such as delays in message delivery, communication of information to the wrong audience, or insufficient communication to the stakeholders and misunderstanding or misinterpretation of the message communicated. (PMBOK5th edition)

In chapter 2.5.1 it is stated by Plowman & Diffendal, (2020): If we fail to plan the project, we are planning the project to fail.

Project communications are managed according to project communications management plan. In chapter 2.5 following is written about managing communications. Communications are to be scaled for project needs. Project communications are

managed with project communication management plan as part of the project management plan. Communications are managed throughout the project life cycle, from project initiation to closing of the project. (PMBOK5th edition)

Following literature explains the correlation of trust for project success. It is essential ingredient in effective communication

The function of trust to project success is described in chapter 2.3.3. By maintaining good communication, we reduce uncertainty in projects. Trust is closely related to uncertainty and in the team environment trust is critical for success. The way we communicate in projects has an impact to project success through this interaction. The impact can be positive or negative, depending on how the project communications with stakeholders are managed. (Plowman & Diffendal, 2020)

In chapter 2.3.3 Plowman & Diffendal (2020) refer to Sinek (2009) and states: In a team environment like a project, trust is critical to success. Trust results in high-functioning teams that exhibit dedication to successful project outcomes and are often willing to take personal risks to advance common goals.

In chapter 2.5.3 describes lessons learned with following words. Lessons learned is about documenting what worked well in the project and what needs to be improved. Once documented lessons learned must be shared and used by your team and other project teams to avoid pitfalls and problems that have been already encountered. Beneficial ideas and processes can be used in future projects. Too often lessons learned are documented and communicated just at the end of the project, when it is too late. Lessons learned need to be documented and communicated throughout the project. When lessons learned are captured early in the project it can be ensured that positive results (things that work) can be continued for resto of the project and negative results (things that do not work) can be stopped early. (Plowman & Diffendal, 2020)

Literature supports findings from the interviews. It can be said that effective communication is a key contributor to project success and effective communication is built on trust between stakeholders.

Q2: How could customer relationships be improved through communication?

Literature provides a clear correlation between good relationships and project success through trust. As written in chapter 2.3.3, by maintaining good communication, we reduce uncertainty in projects. Trust is closely related to uncertainty and in the team environment trust is critical for success (Plowman & Diffendal, 2020).

As written in chapter 2.3.3, Kruse (2012) refers to words of Stephen R. Covey: As business leader and author Stephen R. Covey has stated, trust is “the most essential ingredient in effective communication. It’s the foundational principle that holds all relationships.”

Build a solid foundation for your project by establishing trust with your stakeholders through effective communication. (Plowman & Diffendal, 2020)

As explained in chapter 2.4, relationships between companies are built on personal interaction through presence and expertise of individuals.

Literature supports findings from interviews. By maintaining good communications, we can reduce the uncertainty and build trust. Trust is the foundation of relationships and essential ingredient in effective communications.

3.4 Practical implications

EEQ Energy customer delivery projects are all unique with project communication needs. This is due different project teams consisting of different people with varying

levels of experience and different communication skills. It does not make it any easier to develop team communication skills and practices when team members are changing from project to project. Also, the projects come with different levels of complexity and different customers who have different information needs and priorities.

It would be advantageous to acknowledge the existing personal relationships already in initiation, when bidding for new project. Better outcome could be expected when individuals in customer side are already familiar with expertise of project firm individuals and have existing relationships from earlier projects with them. This is serious business advantage, and it should be recognized as project success factor in each project. Project team members should be motivated to build these personal relationships as well as to develop their expertise in the business area.

The study revealed few communication issues in the case project, which the project team was able to manage thanks to flexibility of project team members and trust the team had built in the relationship with the customer. In the end it is not relevant to focus too much on these issues, other than writing the lessons learned and keeping the lessons in mind when starting to work on next project. Communication needs vary and for communication methods there is no one size that fits all models which could be written here. What matters more is general communication strategy which this study was able to reveal.

It is important to remember to always perform the communication management processes for each project phase to find out what are the concerns and information needs of the project stakeholders. Each time new information needs emerges, it should be updated into project communications management plan. We need to remember that communications management plan has to be tailored to meet the communication needs for each project. What also can be generally applied from this study is that communication needs to be effective and that main contributor in effective communication is trust. Trust stands in the center between project success and good customer relationships. In the end I could say: Successful projects are driven by relationships built on trust between the stakeholders.

3.5 Limitations and further research

One limiting factor of this study is the sample size. Reliability of the findings could be further proven by conducting more similar studies in other projects. This could be problematic, because human behavior is never static. Different projects have different information needs and have different people involved in them. Main findings of this study are expected to be repeated if similar study is attempted. The main findings are effective communication and trust as driving factors for project success. These findings were constantly repeated in research literature and data.

Further research could be conducted about any tool or aspect related to effective communications. In this study we just briefly went through different factors and things contributing to effective communications. Many of the subjects are already widely researched but could still include some aspects which could be beneficial to be researched. Further research could also aim to reveal more about building trust in relationships and different factors contributing to relationship management in project business.

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APPENDICES:

APPENDIX 1 – Interview questions – Site manager

1. How does communication impact on project success?
2. How could the relationship with the customer be improved through communication?
3. Do you feel that communication methods with the project team are effective? 3.1 How could these be improved?
4. How could the project team improve communication with the site team?
5. What do you think about the communication between the site team and the customer?
 - 5.1 How could communication with the customer be improved?
6. What do you think about internal communication within the site team?
 - 6.1 How could site team internal communication be improved?
7. Have you faced communication challenges with the customer or stakeholders due to language or cultural differences?
8. Would you manage communication differently in the next project?
 - 8.1 What would you change and why?

APPENDIX 2 - Interview questions - Customer

1. How does communication impact on project success?
2. How could the relationship with the customer be improved through communication?
3. Do you feel that communication methods with the project team are effective?
 - 3.1 How could these be improved?
4. How could the project team improve communication with the customer?
5. What do you think about the communication between the site team and the customer?
 - 5.1 How could communication with site team be improved?
6. Have you faced communication challenges with project team or site team due to language or cultural differences?
7. Would you manage communication differently in the next project?
 - 7.1 What would you change and why?

APPENDIX 3 – Interview questions - Project manager

1. How does communication impact on project success?
2. How could the relationship with the customer be improved through communication?
3. Do you feel that communication methods in the project are effective?
 - 3.1 How could these be improved?
4. How could the project team improve communication with the site team?
5. What do you think about communication between the project team and the customer?
 - 5.1 How could communication with the customer be improved?
6. What do you think about internal communication within the project team?
 - 6.1 How could project team internal communication be improved?
7. Have you faced communication challenges with the customer or stakeholders due to language or cultural differences?
8. Would you manage communication differently in the next project?
 - 8.1 What would you change and why?