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# Recommendations for an Improved RfQ Process

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## **Preface**

The path to writing these final words in my journey through the Industrial Management Master's program has been anything but straightforward, to say the least. While the journey to this point wasn't always easy, the skills gained, and the meaningful connections formed throughout the studies have made it all more than worth it.

I wish to express my gratitude to my supervisor Timo Hietala for all the support and guidance I received throughout the writing of this thesis. It was true pleasure working with you. I also want to thank all the lecturers, Sonja Holappa, Thomas Rohweder and James Collins for their rich and captivating lectures during the program.

I wish to thank my employer and my manager for their flexibility and for making it possible for me to complete this thesis alongside my work. I also want to thank my colleagues who participated and contributed to this work.

And last but not least, I want to thank my two-year old son for the joyful moments of him sitting on my lap, co-creating this thesis in his unique way.

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Vantaa

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## Abstract

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The objective of this study was to propose recommendations for an improved RfQ process to enhance RfQ handling procedures and reduce the manual workload of the sales team. The case company had identified the need to dedicate more time to higher-value activities.

The research approach chosen for this study was design research, and the study was conducted in four stages.

The first stage, the current state analysis, was used to develop a process description and map, identify strengths and weaknesses, and determine a critical weakness to focus on. The second stage was the literature review, which aimed to identify the best practices and tools for addressing the weaknesses found in RfQ handling process. The third stage involved the development of the initial improvement proposals, which were co-created with relevant key stakeholders. In the fourth and final stage, the initial proposed actions were validated by the Area Sales Manager of the sales team. Based on the feedback received in the validation stage, the proposals were adjusted and finalized accordingly.

The final proposal provided the case company with a list of seven recommended actions to improve the RfQ process. By implementing these actions, the manual workload of the sales team could be significantly reduced, and the quality of the offers improved. The outcome of this study offers the case company a more efficient RfQ process that can serve as a competitive advantage.

Keywords: process improvement, request for quotation, sales, artificial intelligence

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## List of Abbreviations

AI	Artificial Intelligence
CRM	Customer Relationship Management
CSA	Current State Analysis
DOCX	File Format
RFQ	Request for quotation
PDF	File Format
PIM	Product Information Management

# 1 Introduction

A Request for Quotation (RfQ) is a formal procurement document used by companies to request price quotes from potential suppliers or vendors for specific products or services.

In the construction industry segment in which the case company operates, there is a high volume of RfQs that the sales organization must review carefully and respond to. The RfQ process of the case company currently relies heavily on the salesperson's experience, expertise, and time-consuming manual work. Therefore, the quality, attractiveness, and how well the provided quotations match the customer's requirements can greatly vary depending on the salesperson's input.

This study aims to review and provide recommendations for improving the current RfQ process at one of the case company's sales organizations.

## 1.1 Business Context

The case company is a Finnish-based company that has a strong presence in various European countries. It is one of the leading suppliers of steel-based building products for walls and roofs for sustainable buildings. The case company produces wall and roof structures for construction professionals and offers design and product optimization services for its customers and partners. The case company has two main business units. One of them produces roofing products, such as roofing sheets and rainwater systems, and the other business unit offers exterior and interior wall and roof products, such as sandwich panels, façade claddings, load-bearing sheets, and, of course, accessories.

Although the number of product categories may seem small, each category boasts a vast array of product variants. For instance, when choosing a sandwich

panel, one needs to consider its intended use and various attributes such as thickness, surface metal sheets, core material, reaction to fire, fire resistance, maximum span, thermal transmittance (U-value), sustainability, and more. Modifying any of these attributes may alter the product variant, although many main panel variants share similar characteristics.

The case company has several competitors in both Finland and Europe, who offer a similar range of products. All these companies, including the case company, have unique strengths and special product offerings. However, most of the standard products in their portfolios are quite similar and do not provide a significant competitive edge over one another.

A quite common RfQ consists of main, standard products, but often also includes one or more special or non-standard products, albeit in smaller volumes. When a company cannot differentiate too much in the standard product category, it should review the RfQs carefully, trying to find a competitive edge from the smaller volumes of special products and offer an attractive total solution of various products.

To gain a bigger share of the extremely competitive market, the company must concentrate on improving the RfQ process. By improving the process, the quality and attractiveness of the quotations for customers will increase while releasing more time for the sales team to maintain customer relationships and other important tasks.

## 1.2 Business Challenge, Objective and Outcome

One of the main daily tasks of a salesperson is to review received RfQs and provide high-quality and attractive offers to customers.

The business unit of the case company offers products for wall and roof structures and operates in a segment of the construction industry with a high volume of RfQs. The RfQs come in varying quality and scope. The time frame to provide a quotation is usually very limited. Currently the RfQ process relies heavily on the experience and expertise of the salesperson and is mostly manual work. The need to manually identify requested products from the RfQs, select correct products accordingly from the case company's portfolio and additionally make a thorough comparison between their own and competitor's products can be quite arduous and time-consuming task, and can therefore be potentially neglected.

Neglecting these steps can result in a poorly optimized offer or even the proposal of a product that does not meet the customer's requirement. Proposing incorrect products can lead to a revisioning of the quotation and back-and-forth communication, which can lead to a customer dissatisfaction and even losing the deal. Proposal of incorrect products can later lead to a significant additional cost for the supplier in case the deal is won. It can be very challenging to get the customer pay for the additional costs that were caused by proposal of incorrect products.

The objective of this thesis is to create recommendations for an improved RfQ process and outcome of this study are recommendations for an improved RfQ process. The outcome allows the case company to develop and apply improvements to the process.

### 1.3 Scope and Outline of Thesis report

The scope of this thesis includes creating recommendations for an improved RfQ process, which is at the core of the sales organization's daily work. This study does not include the implementation of the improvements themselves.

This study consists of seven sections, starting with an introduction to the case company and the topic of the study. It is followed by a second section explaining the project plan, research approach, and the data collection plan. In the third section, groundwork is set by conducting a current state analysis of the RfQ process with the purpose of gaining a deep understanding of the strengths and weaknesses of the current process. In the fourth section, existing literature is analysed to identify process improvements, resulting in the development of a conceptual framework. The fifth section summarizes the findings gained from sections three and four and utilizes them for creating the initial recommendations to improve the process. In the sixth section, the finalized recommendations are validated based on a feedback and final proposal is given. The final section seven contains a summary of the study, recommendations for managing the implementation of the improved process and a self-evaluation of the study.

## 2 Project Plan

The previous section introduced the business challenge, objective, and outcome as well as the scope and outline of the thesis. This section describes the Project Plan on which this thesis is based. The first part of this section explains why the selected research approach was chosen and then continues by introducing the Research Design which shows how the study was conducted. The last part of this section explains the methods of data collection.

### 2.1 Research Approach

Due to the practical nature of this study, which was to serve as a practical business process development project, an appropriate research approach must be selected to reach the objective.

Kananen (2013) states that the development work that organizations do to improve their operations is close to design research (applied action research), and processes, activities, and services, for example, are generally under continuous development within organizations. The way Kananen describes design research and how it is linked to daily continuous improvement projects in organisations suggests that this research approach is most suitable for this study Kananen (2013: 20-22).

Two distinct research approaches, basic and applied research, are presented by Saunders et al. (2019, p. 46). Basic and applied research each play important roles in the development of knowledge and practice in business and management. Basic research focuses on building theoretical understanding, often carried out in academic environments where researchers have the freedom to choose their topics and timelines. Its findings are generally broad in scope and contribute academic knowledge and value to society in general. Applied research, on the other hand, is more practical in nature, aiming to solve specific problems within organizations. It is typically conducted in collaboration

with stakeholders, follows stricter timelines, and produces results that are directly useful for managers in organizations, while also offers insights that may inform academic work Saunders et al. (2019, p. 46).

Given its focus on practical problem-solving, the applied research approach was selected for this thesis.

## 2.2 Research Design

This study consists of four stages. The first steps of the study were used to identify the business challenge and the outcome. The research design follows a logical path to achieve the objective and produce the outcome, which is based on the business challenge. The research design of this study in visual form is shown in Figure 1.

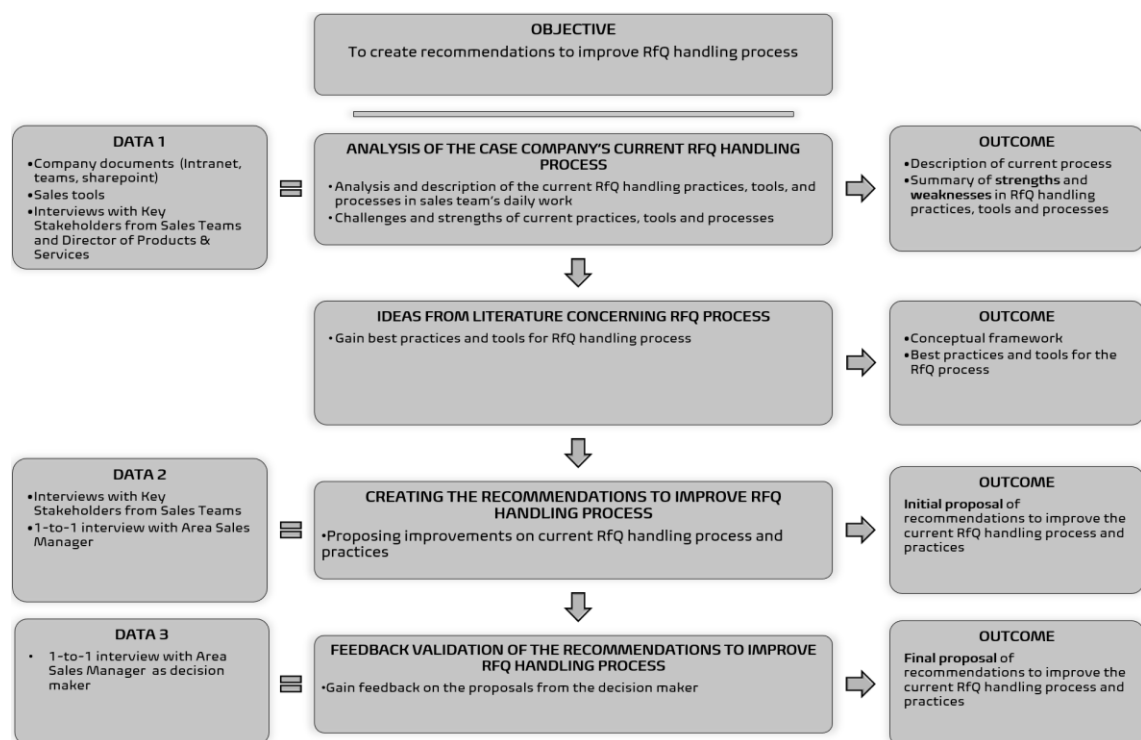


Figure 1. Research design of the study.

As shown in Figure 1, the study begins with the current state analysis of the RfQ process. It is essential to deeply understand and know the current state of the existing process and situation before proposing any improvements. The outcome of this stage is the description of the process and a summary of the strengths and weaknesses of the RfQ process, practices, and tools.

To achieve these goals, internal company documents are reviewed to gain a deeper understanding of how the process and practices are defined. To determine what tools and practices are routinely used, and whether team members follow the written processes and guidelines, workshops and one-on-one interviews are conducted with the key stakeholders.

The second stage, illustrated in Figure 1, involves gathering best practices and practical ideas from the literature for process improvement. The outcome of this stage is the conceptual framework, which includes best practices and practical ideas for improving the process.

The third stage, also shown in Figure 1, focuses on developing the initial recommendations. These are co-created through one-on-one interviews and workshops with key stakeholders. In addition, interviews are conducted with other key stakeholders, who serve as decision-makers. The outcome of this stage is the set of recommendations for improving the current RfQ process and related practices.

The fourth and final stage of the study is the validation of the initial recommendations. In this stage, the initial proposal is presented to a decision-maker, and feedback is collected. Based on this feedback, the proposal is refined, resulting in the outcome of a final set of validated recommendations for improving the RfQ process and practices.

## 2.3 Data Plan

The research data for this study is collected from various sources, as summarized in Table 1. The sources for data collection are mainly interviews, and company documents.

Table 1. Data collection plan for the study.

	Content	Source	Informant	Timing	Outcome
DATA 1	<ul style="list-style-type: none"> <li>Description and <b>strengths</b> and <b>weaknesses</b> of current practices, processes and tools in RFQ handling process</li> </ul>	<ul style="list-style-type: none"> <li>Company documents (Intranet, teams, sharepoint)</li> <li>Sales tools</li> </ul>	<ul style="list-style-type: none"> <li>Head of Operational Excellence</li> </ul>	February 2025	Summary of <b>strengths</b> and <b>weaknesses</b> in RFQ handling practices, tools and processes
ANALYSIS OF THE CURRENT RFQ HANDLING PROCESS		<ul style="list-style-type: none"> <li>1-to-1 interviews</li> </ul>	<ul style="list-style-type: none"> <li>Key Stakeholders of Sales Teams</li> <li>Director of Products &amp; Services</li> </ul>		
DATA 2	<ul style="list-style-type: none"> <li>Proposing <b>improvements</b> on current RFQ handling process and practices</li> </ul>	<ul style="list-style-type: none"> <li>1-to-1 interviews</li> </ul>	<ul style="list-style-type: none"> <li>Key Stakeholders of Sales Teams</li> </ul>	March-April 2025	Initial proposal of recommendations to improve the current RFQ handling process and practices
CREATING THE RECOMMENDATIONS TO IMPROVE RFQ HANDLING PROCESS		<ul style="list-style-type: none"> <li>1-to-1 interview</li> </ul>	<ul style="list-style-type: none"> <li>Area Sales Manager</li> </ul>		
DATA 3	<ul style="list-style-type: none"> <li><b>Gain feedback</b> on the proposals from the decision makers</li> </ul>	<ul style="list-style-type: none"> <li>1-to1 interview</li> </ul>	<ul style="list-style-type: none"> <li>Area Sales Manager as decision maker</li> </ul>	May 2025	Final proposal of recommendations to improve the current RFQ handling process and practices
FEEDBACK VALIDATION OF THE RECOMMENDATIONS TO IMPROVE RFQ HANDLING PROCESS					

As seen in Table 2 below, the data collection in the first stage consists of company documents, one-to-one interviews, and workshops with the key stakeholders. The interviews and workshops are mostly conducted via online meetings using Microsoft Teams or in-person meetings. Part of the interviews are conducted as live meetings in the Helsinki Office.

Table 2. Data 1 collection used for the analysis of the process.

<b>DATA 1 – ANALYSIS OF THE CURRENT RFQ PROCESS</b>					
<b>Description, strengths and weaknesses of the current practices, processes, and tools</b>					
<b>#</b>	<b>Source</b>	<b>Data Type</b>	<b>Topic</b>	<b>Timing</b>	<b>Documentation type</b>
1	Company documents (sharepoint, intranet)	Data	Process chart	Jan 2025	Field notes
2	Company sales tools	Data	Tools	Jan 2025	Field notes
3	Sales Managers	Interview (Teams, live)	Practices, Process, Tools	Jan 2025	Field notes
4	Director of Products & Services	Interview (Live)	PIM process	Jan 2025	Field notes

The second data stage, shown in Table 3 below, is collected for the creation of the initial proposal of recommendations. The data is collected by conducting one-on-one interviews and workshops with the key stakeholders, much like in the first data stage. In addition to the first data stage, one-on-one interviews are conducted with the decision maker, in this case, the area sales manager.

Table 3. Data 2 collection used for creating the initial proposal.

<b>DATA 2 – CREATING THE RECOMMENDATIONS FOR AN IMPROVED RFQ PROCESS</b>					
<b>Proposing improvements on current process and practices</b>					
<b>#</b>	<b>Source</b>	<b>Data Type</b>	<b>Topic</b>	<b>Timing</b>	<b>Documentation type</b>
1	Sales managers	Workshop	Improvements on Practices, Process, Tools	April 2025	Field notes
2	Area Sales Manager	1-to-1 interview	Improvements on Process, Tools	April 2025	Field notes

The last data stage, shown in Table 4, is a summary of the feedback and comments received from validation interview. The area sales manager is interviewed to gain this data.

Table 4. Data 3 collection used for validating the refined initial proposal.

<b>DATA 3 – FEEDBACK VALIDATION OF THE RECOMMENDATIONS FOR AN IMPROVED RFQ PROCESS</b>					
<b>Proposing improvements on current process and practices</b>					
<b>#</b>	<b>Source</b>	<b>Data Type</b>	<b>Topic</b>	<b>Timing</b>	<b>Documentation type</b>
1	Area Sales Manager	Interview (live)	Validation of the initial proposal	May 2025	Field notes

The next section of this study describes the findings from the first data stage as well as the analysis of the current RfQ process.

### **3 Analysis of the Current RfQ Process**

This section provides an overview of the current state of the RfQ process, categorizing the findings into primary categories of strengths and weaknesses. The weaknesses are further subdivided according to the specific stages of the process in which they occur. The data collection methods employed for this analysis were introduced in the preceding section.

Initially, this section outlines the collection of Data 1 related to the current state analysis of the current process, followed by a comprehensive description of the process, its strengths and weaknesses, and finally an argumentation for why the critical weakness was selected for further study.

#### **3.1 Data Collection for the Current State Analysis of the RfQ Process**

The analysis of the current state of the RfQ process began with a review of company documents related to the sales process, as well as an examination of the tools used by the sales team. The existing documents regarding the process and PIM (Product Information Management) were primarily high-level process maps and intranet news articles. The tools identified in the review were in active use of the sales team.

The selection of key stakeholders for the analysis of the process was straightforward due to the simplicity of the sales team's organization model. The key stakeholders were identified through inquiries and by reviewing organizational charts, selecting individuals based on their responsibilities and roles.

The interviews concerning the RfQ process were conducted as semi-structured interviews with four stakeholders directly involved in the RfQ process within the sales organization's teams. The single interview regarding PIM was conducted informally with a key stakeholder responsible for the PIM improvement project.

The topics of the semi-structured interviews were planned and selected in advance to gather information on:

- The description and process map of the RfQ process
- The strengths and weaknesses of the RfQ process
- The direct and indirect consequences of the weaknesses in the RfQ process

The questions related to the topics are provided in Table 5 below. Most of the interviews concerning the RfQ process were conducted using Microsoft Teams. One of the interviews was conducted as formal interview in the Helsinki office. The interview concerning PIM was conducted face to face at the Helsinki office.

Table 5. The questions of the semi-structured interviews

<b>Questions related to the current state analysis of RfQ process</b>	
<b>Induction and process map</b>	
#1	Have you received structured induction on the sales process? How was it conducted?
#2	Do you know where to find a written process map of the RfQ process?
<b>Receiving quotations</b>	
#1	What are the methods customers send the RfQs? Distribution of methods?
#2	On average, how many RfQs do you typically receive withing day/week/month?
#3	What is the most typical form of documents the RfQ contains? Distribution of the form of documents?
<b>Content of a typical RfQ</b>	
#1	How many different product categories/products an RfQ typically contain on average?
#2	How many different types of wall-structures the construction documents typically contain?
#3	What is the scale of the documents in typical RfQ?
#4	What is the distribution of essential/non-essential documents in typical RfQ?
#5	What is the number of the pages in typical essential documents of the RfQs?
#6	What is the typical specification of the products requested? General, competitor or the case company specification?
#7	Is the specification clear and understandable?
#8	Have the product attributes clearly stated in the requests?
#9	From what documents are the necessary information found typically?
<b>Processing the RfQ</b>	
#1	How do you typically process a received RfQ? What tools do you use to process them?
#2	What is the typical processing time of an RfQ? From receiving the RfQ to identifying the products
#3	How do you select the correct products? What tools are used?
#4	Do you make a product comparison to select the best product? How and how often?
<b>Responding to the RfQ</b>	
#1	What is the typical time window given to respond to the RfQ?
#2	What is the method you use to respond to the RfQ?
#3	How much time is usually needed to create the offer?
#4	How often do you need to update the offer?
<b>Design phase in case the deal is won</b>	
#1	Have there been cases where incorrect products have been offered to the customer?
#2	If so, will it cause additional expenses to the supplier?
#3	What consequences does a poor-quality offer cause to the customer and the case company?

The pre-defined questions seen in Table 5 above were used to carry out the semi-structured interviews. The same question pattern was used in each of the interviews.

Table 6. An overview of the sources of data collected.

<b>Sources of data collected</b>				
<b>#</b>	<b>Source</b>	<b>Data Type</b>	<b>Date of the data collection</b>	<b>Length of the collection</b>
1	Sales Manager	Semi-structured Interview	16.01.2025 – 17.01.2025	1h 30 min
2	Sales Manager	Semi-structured Interview	23.1.2025	55 min
3	Sales Manager	Semi-structured Interview	23.1.2025	1h 15 min
4	Sales Manager	Semi-structured Interview	24.1.2025	1h
5	Area Sales Manager	Formal interview	13.1.2025	30 min

The following sub-section provides a description of the current state of the RfQ process.

### 3.2 Description of the Current State of Current RfQ Process

The process map of the entire sales process is available in the case company documents as a high-level map. However, no official written process map of the RfQ process exists in the official documents. A simplified process chart was created as a result of the interviews and is presented in Figure 2.

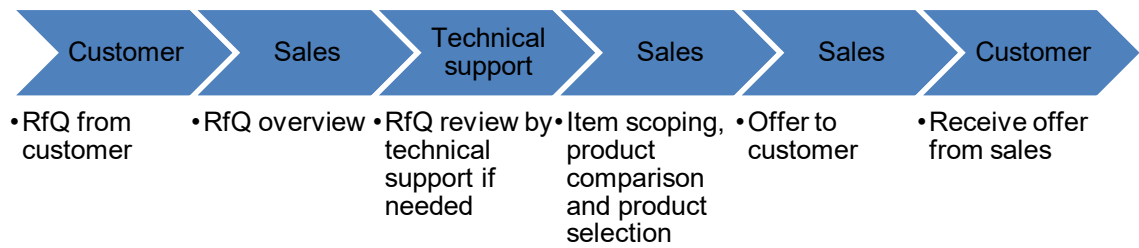


Figure 2. Simplified RfQ process chart

As shown in Figure 2, the process begins with a customer request and continues with an RfQ overview by sales team. The RfQ is then further reviewed by technical support if requested by the sales team. After the RfQ has been reviewed by sales and/or technical support, sales team proceeds to scope the appropriate items for the offer, make product comparisons, and finally select the correct products for the offer. Once all required products have been selected, sales team sends the offer to the customer.

The RfQ process can generally be divided into two distinct routes based on the complexity of the request: a simple price request for individual products or a more complex request aimed at sourcing products for projects or larger entities.

### 3.2.1 RfQ Process in the Case of Simple Price Request

In its simplest form, an RfQ can be a price inquiry made by phone call or a brief email from the customer requesting prices and delivery times for the goods. The products sourced this way are usually only a small part of a building or project, while the larger portion might have already been purchased from another source. The total value of the requested products tends to be smaller for these types of requests.

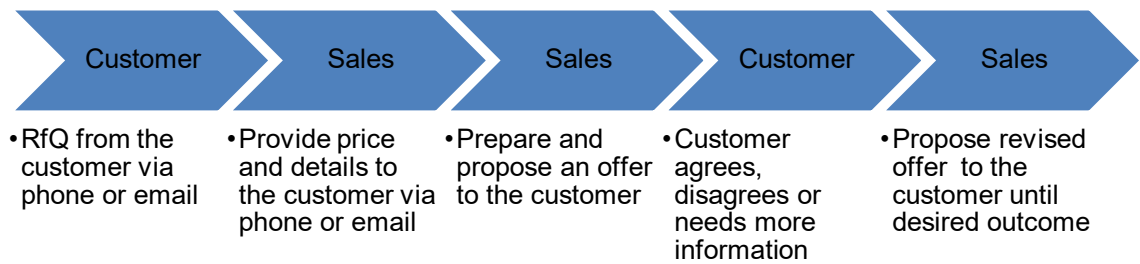


Figure 3. RfQ process in case of simple price request

As shown in Figure 3, the process is straightforward. The customer requests products by phone call or email, and the sales team prepares the offer and sends it to the customer. The offer can be sent using the case company's bidding tool, via email or simply by providing the price and details to the customer over phone. Although the process is not formally mapped, all salespersons seem to follow the same practices in this part of the process throughout the sales team.

This practice is quite effective and efficient. However, the downside of providing prices and details over the phone is that there will be no written record of the conversation, which can lead to misunderstanding at a later stage.

### 3.2.2 RfQ Process in the Case of More Complex Request

The second route for typical RfQs in the process is followed when the customer requests products for larger entities and projects, such as commercial buildings or factory buildings. The complexity and scale of these projects vary from small, simple, and short-term to very large and complex projects that span over a long period of time. The requests typically involve multiple products and/or product variations from one or more product categories.

Depending on the request, project size, and the customer requesting the products, the received RfQ can vary from containing only a few documents to dozens of documents, of which only a few are essential for the offer calculation.

Some customers familiarize themselves with the project, handpicking all the essential documents needed for the RfQ and offer calculation, while others provide a link to a project bank that contains all the project's documents, most of which are non-essential for the RfQ and offer calculation.

The essential documents in typical small to medium-sized requests usually contain a few to tens of pages per document, while large requests might contain up to a hundred pages in total. In most cases, the documents follow a standardized, well-presented format. Typical essential documents include construction specification documents, structural types, various detail drawings, and façade drawings, which usually contain the necessary information for identifying the requested products.

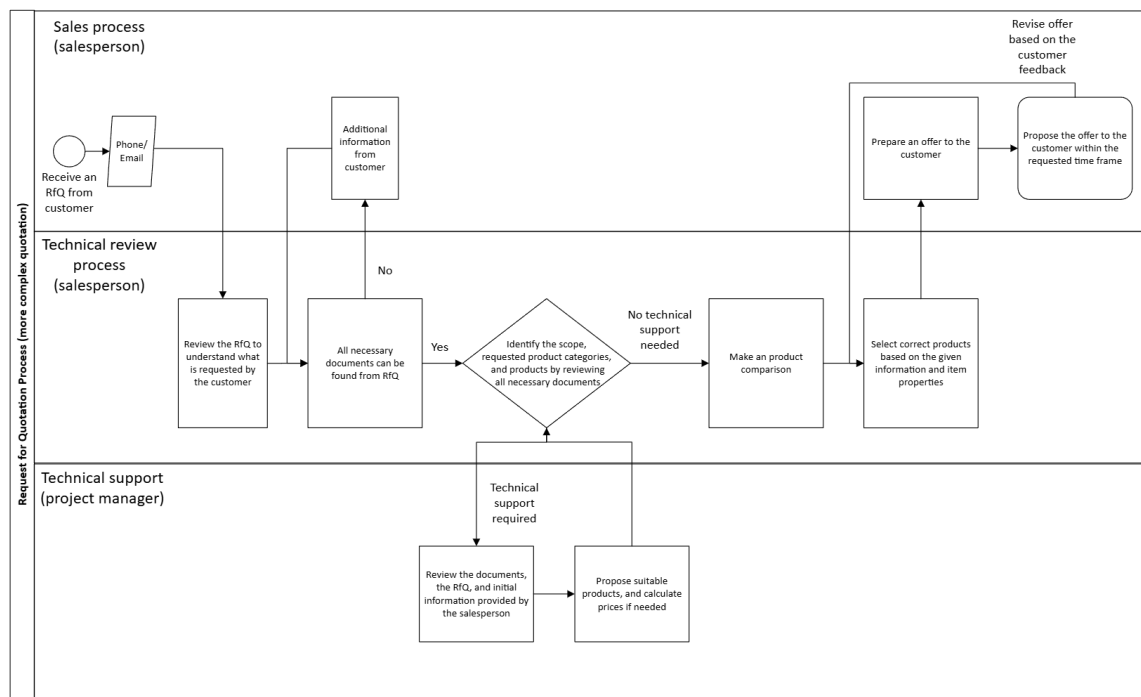


Figure 4. RfQ process in case of more complex request

Figure 4 shows that the process for more complex requests begins with the customer sending an email containing the RfQ and all its documents, usually followed or preceded by a phone call by the customer explaining their needs. The process then continues with the salesperson understanding what is

requested by the customer and checking if all necessary documents are available. The salesperson requests additional information from the customer if essential documents seem to be missing.

Once all the necessary documents have been acquired, the salesperson begins to analyze them in greater depth to identify the scope, requested product categories and products. Depending on the salesperson's expertise, the complexity of the request, and the nature of the requested products, the salesperson may need to request assistance from the technical support team.

Whether the request is passed on to the technical support team or the salesperson reviews the RfQ, the documents need to be carefully inspected for numerous attributes and aspects. The products in the RfQ can be specified with the case company, competitors or general specifications. The properties of the requested products can affect the variation of the products to be offered. For instance, in the case of sandwich panels, one must consider attributes such as thickness of the panel, core material, surface metal sheets thickness, reaction to fire, fire resistance, maximum span, thermal transmittance (U-value), sustainability and more. One of the major factors is the price of the products offered; nevertheless, the requirements must still be met.

If the specification is different from the case company's, a comparison of products needs to be made to find the most suitable product to offer from the case company's portfolio. The identification of the scope, products and product attributes is done manually by checking multiple documents one by one. The comparison of the products is done manually as well by searching matching products from competitors' portfolios to the case company's products. An experienced salesperson, however, performs this task most of the time without needing to look up the competitors' products, relying on the previous knowledge and expertise.

When the analysis is done and the salesperson has identified all the requested products, the process continues with the salesperson preparing an offer for the

customer. Once the products are selected in the bidding tool, the offer is then sent to the customer within the requested time frame for review. The customer reviews the offer, and if changes are needed, iterations of the offer are made between sales and the customer until the result is acceptable for both parties.

### 3.3 Strengths of the Current RfQ Process

The final part of the RfQ process, which involves preparing and proposing offers to customers, works overall quite well, even for more complex offers.

#### 3.3.1 Bidding Tool

As mentioned earlier in the description, the sales tools, specifically the bidding tool customized for the case company's usage, are actively used within the sales team. Increasingly, users are adopting the tool as their primary offering method, likely due to significant efforts made in developing new features and enhancing the user experience.

The benefits of the bidding tool include access to offers made by different sales teams, harmonizing the offers, and reducing the repetitive work of creating the same offer repeatedly. The bidding tool also incorporates automation thereby reducing the risk of human errors. Both the company and customers benefit from clear and understandable offers. Lastly, if the deal is won, those involved in the design and development phase benefit from access to the offer.

#### 3.3.2 The Bidding Process in Case of Simple Request

As stated earlier in the description, simpler requests containing only a few items that do not require extensive research are easy and efficient to handle with the current practices used by the case company.

When the customer only needs the price and delivery time for one or a few items, the salesperson can check required information from the case company's

systems and catalogues, then provide the information over the phone or via email. In most cases, the customer will subsequently receive a formal offer generated by the bidding tool, to be reviewed and possibly accepted. If the customer agrees and orders the items, the offer can be easily converted into a proper order.

### 3.4 Weaknesses of the Current RfQ Process

The full list of weaknesses in the RfQ process, discovered during the interviews, is shown in Table 7.

Table 7. Summary of the weaknesses based on their location in the process

<b>LIST OF WEAKNESSES BASED ON THEIR LOCATION IN THE PROCESS</b>		
<b>#</b>	<b>Weakness</b>	<b>Location</b>
1	Customer has not analyzed the RfQ at all before sending it	RfQ overview
2	Missing important information or documents	RfQ overview
3	Occasionally, the information about requested products provided in different RfQ documents is inconsistent	RfQ overview
4	Missing important properties of the products, products or product categories themselves	RfQ overview
5	Potentially incorrect initial data will make product comparison challenging or even impossible	RfQ overview
6	Misunderstanding the scope of the RfQ	RfQ technical review
7	Identification of the scope, requested products, product categories, and their attributes is done manually	RfQ technical review
8	Product comparison is done manually, is very time-consuming, and can be potentially neglected for this reason	RfQ technical review
9	Missing tools, systematic practices and automated processes for product information extraction on large number of documents	RfQ technical review
10	Root cause: Missing defined Rfq process	Sales process
11	Consequence: Non-unified practices between different salesperson and sales areas can cause loss of time and resources especially when substituting other salesperson	Sales process
12	Consequence: Missing the deadline of the RfQ	Offer to customer
13	Consequence: Bad quality of the offer	Offer to customer
14	Consequence: Choice and offering of incorrect products, ultimately resulting in additional costs	Offer to customer
15	Consequence: Missing products from offers	Offer to customer

As illustrated in Table 7, the discovered weaknesses are divided into four categories based on where they reside in the process. The weaknesses were

categorized by their location in the process to understand at which stage they occur.

Next, the weaknesses were regrouped under three different categories to understand the root cause of the weaknesses during the process and whether the same weaknesses occur at different stages. The regrouped weaknesses of the process can be seen in Table 8.

Table 8. Summary of the weaknesses regrouped by categories

<b>REGROUPED WEAKNESSES BY CATEGORIES</b>
<b>Bad quality of the RfQ</b>
<ul style="list-style-type: none"> <li>• Customer has not analyzed the RfQ at all before sending it</li> <li>• Missing important information or documents</li> <li>• Occasionally, the information about requested products provided in different RfQ documents is inconsistent</li> <li>• Missing important properties of the products, products or product categories themselves</li> <li>• Potentially incorrect initial data will make product comparison challenging or even impossible</li> </ul>
<b>Lack of tools and automated processes</b>
<ul style="list-style-type: none"> <li>• Misunderstanding the scope of the RfQ</li> <li>• Identification of the scope, requested products, product categories, and their attributes is done manually</li> <li>• Product comparison is done manually, is very time-consuming, and can be potentially neglected for this reason</li> </ul>
<b>Lack of systematic practices</b>
Missing tools, systematic practices and automated processes for product information extraction on large number of documents

Table 8 represents the three different main categories of weaknesses found in the process.

The weaknesses can be grouped into three main categories: the poor quality of the RfQ, the lack of tools and processes, and lack of systematic practices. The analysis of the grouped weaknesses suggests that most of the weaknesses in the RfQ process originate from the lack of systematic tools and practices for extracting product information. Proper tools and practices could potentially mitigate some of the negative effects of the received poor-quality RfQs and therefore have an indirect effect.

### 3.5 Selection of Critical Weakness Chosen for Further Study

As previously mentioned, the analysis on the grouped categories indicates that the root cause of most weaknesses in the RfQ process originates from the lack of proper tools and systematic practices. Therefore, the critical weaknesses chosen for the study include further analysis of the missing systematic practices and tools for extracting product information.

The interviewed key stakeholders highlighted that some of the main consequences of the chosen critical weakness are that the scope of the RfQ can be easily misunderstood, and important properties of the products, products categories or products themselves can be missed due to the current method of manually reviewing all the documents. Stakeholders emphasized that on many occasions, the RfQs contain numerous non-essential documents with a lot of unnecessary information for the salesperson, making it very easy to misunderstand the scope and identify all requested products. This problem is especially pronounced when the workload and incoming RfQs are very high, and the time available to review them is limited.

The immediate consequences of missing products and offering incorrect products include lost time due to the back-and-forth communication between the customer and the salesperson, as well as the need to make multiple iterations of the proposed offer. Additionally, the necessity for multiple phone calls and emails to correct the proposal consumes valuable time for the customer and may ultimately lead to a dissatisfaction with how the proposal was managed. If this issue persists, it may negatively impact the customer relationship.

Furthermore, the prolonged proposal creation might result in missing the RfQ deadline, which will affect the customer and ultimately the client of the construction project.

The consequences of poor-quality offer throughout the entire lifecycle of the process, from RfQ to proposed offer and possibly won deal, include potential

additional costs or reduced margins for the salespersons' company as well as for the customer. If the specifications were correct but non-suitable products were offered, it may lead to additional hassle and costs during the production and delivery stages of the project. This can result in delays during the installation stage and possibly even the re-creation and delivery of products that have already been produced and delivered.

To address the previously mentioned consequences means finding solutions to questions like:

- What must be done to improve the RfQ process
- Who are the key stakeholders involved in the improvement
- How the improvements must be done

The questions presented will be addressed and answered in the following chapters. Resolving these root causes, which have direct, and indirect consequences throughout the process as previously discussed, will form the basis for developing solutions to tackle the problems.

In the next chapter ideas from relevant literature for the best practices to tackle the weaknesses are discussed and introduced.

## **4 Ideas from Literature Concerning RfQ Process**

In this chapter, relevant literature was reviewed and transformed into a conceptual framework. The selected literature addresses the categorized weaknesses identified in the previous chapter, the current state analysis. This chapter presents possible ideas, best practices, and suitable tools and processes identified from existing literature. It begins by outlining best practices for the RfQ, exploring the suitable tools and processes for RfQ handling, and concludes with the development of the conceptual framework.

### **4.1 Best Practices and Tools for RfQ Handling Process**

The following sub-sections explore literature related to influencing customer behaviour, sharing knowledge and best practices within teams, leveraging artificial intelligence in RfQ handling, and finally, creating effective training material and benchmarking sessions to support the implementation of the aforementioned topics.

#### **4.1.1 Influencing Customer Behaviour**

The author describes customer relationships as a strategic asset. Through continued interaction and personalized understanding, the business gains insights that competitors lack. This unique knowledge enables tailored offerings, making the relationship difficult to replicate and costly for the customer to replace, especially when the trust is established.

The author introduces the concept of Learning Relationships, which refers to the idea that when a company listens to its customers and allows to educate the company about their needs, the company becomes better equipped to respond with precisely tailored solutions. This mutual exchange fosters a deeper relationship, where the customer feels understood and valued, and in turn, becomes more invested in the company.

Each experience teaches the customer more about their own preferences, as well as from the feedback they receive from the company. Similarly, with every interaction, the company gains deeper understanding of what it did well and what could be improved. This ongoing exchange enables the company to refine its strategies and tactics more effectively than before the relationship began (Peppers, Rogers and Kotler, 2025, p. 23-24).

It is explained that the characteristics of relationships are iterative by nature. This means that with each interaction, less needs to be explicitly communicated, as shared history and context will gradually develop. The current and future actions of both parties reflect this accumulated understanding. As a result, both the company and the customer must adapt their behaviour over time. If the company fails to provide tailored input to the customer and vice versa, there may be little ongoing value for the customer to maintain the relationship (Peppers, Rogers and Kotler, 2025, p. 47).

#### 4.1.2 Sharing the Knowledge and Best Practices

Knowledge sharing plays a crucial role in how social capital contributes to organizational innovation. The author notes that innovation research has not clearly distinguished between tacit and explicit knowledge sharing, nor fully explored how this distinction influences innovation within teams. Tacit knowledge can provide a competitive advantage, as it is difficult for rivals to imitate, especially when it is effectively managed within the organization (Hu and Randel, 2014, p. 214).

There are two distinct types of knowledge: tacit and explicit. Tacit knowledge is highly individual and difficult to articulate using language or numbers. It includes beliefs, perspectives, technical skills, and personal know-how. In contrast, explicit knowledge is objective and rational, and can be expressed through texts, equations, specifications, and manuals. Because of its structured nature, explicit knowledge is easier to record, retrieve and share (Magnier-Watanabe and Benton, 2017, p. 326).

Even though tacit knowledge holds significant potential for innovation, individuals may be reluctant to share it, as it represents personal value and a source of competitive advantage. To address these challenges and personal concerns, managers can offer incentives, such as merit-based pay or formal recognition, to encourage employees to share their knowledge more openly.

However, extrinsic incentives do not always produce the desired outcomes, as evaluating knowledge-sharing, particularly tacit knowledge, is often challenging. Moreover, such incentives can reduce individuals' sense of personal fulfillment and show mixed effects on team performance.

Rather than relying solely on extrinsic incentives, organizations can foster knowledge sharing by promoting internal drivers of engagement. Team members are more likely to find non-material rewards fulfilling when strong social capital exists, characterized by trust, mutual understanding, and interpersonal connections (Hu and Randel, 2014, p. 214).

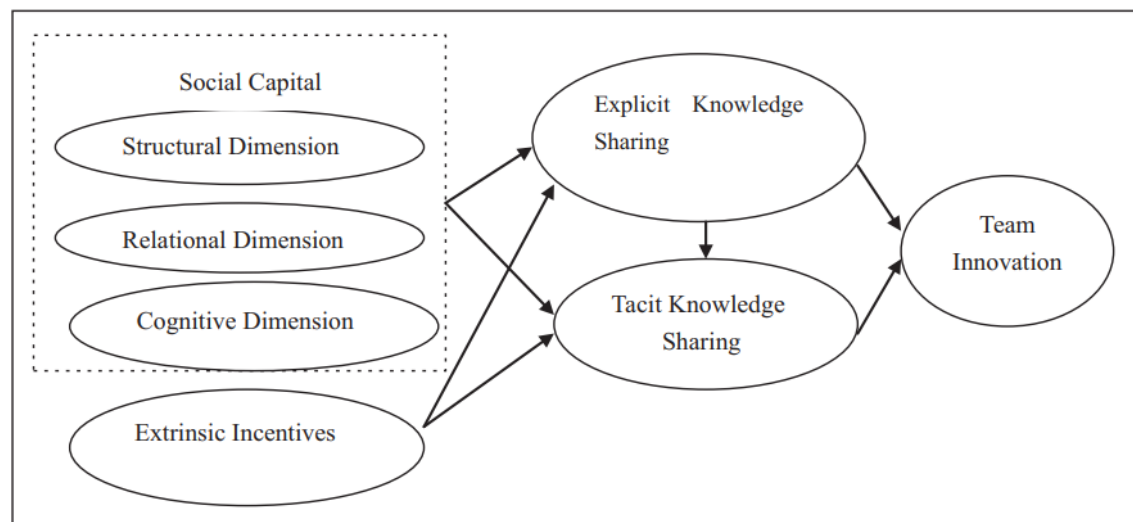


Figure 5. Conceptual model of social capital, extrinsic incentives, knowledge sharing and team innovation (Hu and Randel, 2014, p. 215).

One study finds that emphasizing and rewarding team processes over outcomes enhances individuals' intentions to share knowledge. When leaders highlight the value of collaboration through process-oriented incentives, team members are more motivated to contribute their expertise. Consequently, adopting a process-focused approach to goal setting may foster more effective knowledge sharing within teams (Yoon and Svetieva, 2021, p. 8).

#### 4.1.3 Leveraging Artificial Intelligence in RfQ Handling

Many companies are currently exploring how they can leverage artificial intelligence within their organizations. Korzyński et al. (2023: 26) cite Baidu CEO Robin Li, who predicts that individuals unable to write effective prompts may become, and that prompt engineering will be a core component of half of all jobs in future.

In the context of the case company, the use of artificial intelligence for data extraction from text-based documents should be further investigated. Korzyński et al. (2023: 26) explain that, in the case of text-to-text prompting, an effective prompt should include four core components: context, instructions, input data and expected output format.

Korzyński et al. (2023: 31) provide a table of recommendations for designing effective text-to-text artificial intelligence prompts. The table, which is their own elaboration based on prompts used in ChatGPT and Bard, is presented below.

Table 9. Recommendations for the text-to-text AI prompts (Korzyński et al. (2023: 31))

Acronym	Recommendation	Description
A	Articulate the instruction	Clearly state the task to be performed, such as 'write,' 'classify,' 'summarize,' or 'translate,' and specify how the output should look (table, list, Python code).
I	Indicate the prompt elements	Show the model where the instructions and input data are and what the expected output format should be.
P	Provide ending cues and context	Offer the model clear ending cues, such as three dots for continuation or a colon, dot, or placeholder like 'answer:' for indicating a response is needed. Furthermore, ground the model by providing a context for the task (e.g. 'You are a manager of a tech team').
R	Refine instructions to avoid ambiguity	Give the model-specific instructions and a detailed description of the task to avoid any confusion or imprecision.
O	Offer feedback and examples	For conversational models, such as ChatGPT, feedback on the model's responses can help it better understand the desired output. Moreover, providing the model with a few examples of expected responses (few-shot learning) can help it adapt its style and way of responding.
M	Manage interaction	Treat the model as your sparring partner, asking it to provide counterarguments or point out flaws in your ideas.
T	Track token length and task complexity	Break complex tasks into smaller steps for better performance. Remember to control the token length, keeping the prompt and response under the token limits of the model (usually 4096 tokens for commercially available LLMs). The token length of a text can be checked here: <a href="https://platform.openai.com/tokenizer">https://platform.openai.com/tokenizer</a> .

The table above should be used merely as an initial guide for prompt creation, as each task is unique and requires a specifically tailored prompt (Korzyński et al. (2023: 31)).

#### 4.1.4 Creating Effective Training Materials and Training Sessions

It is often noted among salespeople that successful implementation of solution requires strong justification, clearly structured and simple instructions, and effective training sessions. Changing how salespeople behave in certain situations can be particularly challenging task, often requiring consistent support and reinforcement to ensure adoption.

Carlner (2015, p. 2) explains that learning is not just about giving people information—it's about helping them actually change how they think and act. Trainers usually focus on building complex skills made up of smaller actions, like how recommending a product means first understanding what the customer needs and then finding the right options.

In this case, it would be beneficial to first identify how the training will impact the salespeople's way of working and what they stand to gain from it. Both the arguments and the training sessions should then be tailored around these insights.

Carliner (2015, p. 3) states that the primary objective of training is to develop the competencies and skills of the learners. It is an aim that goes far beyond distributing information. The learning process involves shaping behaviors and thought patterns, and it must be verified that the learners have successfully mastered them.

According to Carliner (2015, p. 4-5), there are three different key principles for improving human performance. The first principle emphasizes that a training program must focus on meaningful goals, specifically those that directly support learners in achieving their objectives. The second principle highlights the importance of identifying the performance gap between the learners' current skill level and the desired outcome. Training should be designed to address this gap, but it is limited to influencing only one of the three drivers of performance: skills and knowledge. It does not address the other two drivers: tools and resources. Therefore, the third principle asserts that training programs alone may not be sufficient to close the performance gap between starting and desired skill levels.

Implementation of the training involves delivering training to the learners, promoting the program, providing learning environments, tracking progress and lastly conducting evaluations of the progress. Effective execution is essential for achieving learning outcomes and program goals (Carliner, 2015, p. 11.12).

## 4.2 Conceptual Framework

This section translates the ideas gathered from relevant literature into a conceptual framework. At the top of Figure 6, the three categories of weaknesses identified in the current state analysis are presented. These categories served as the basis for selecting literature aimed at addressing the identified weaknesses. Four distinct themes were identified to respond to the three categories of weaknesses.

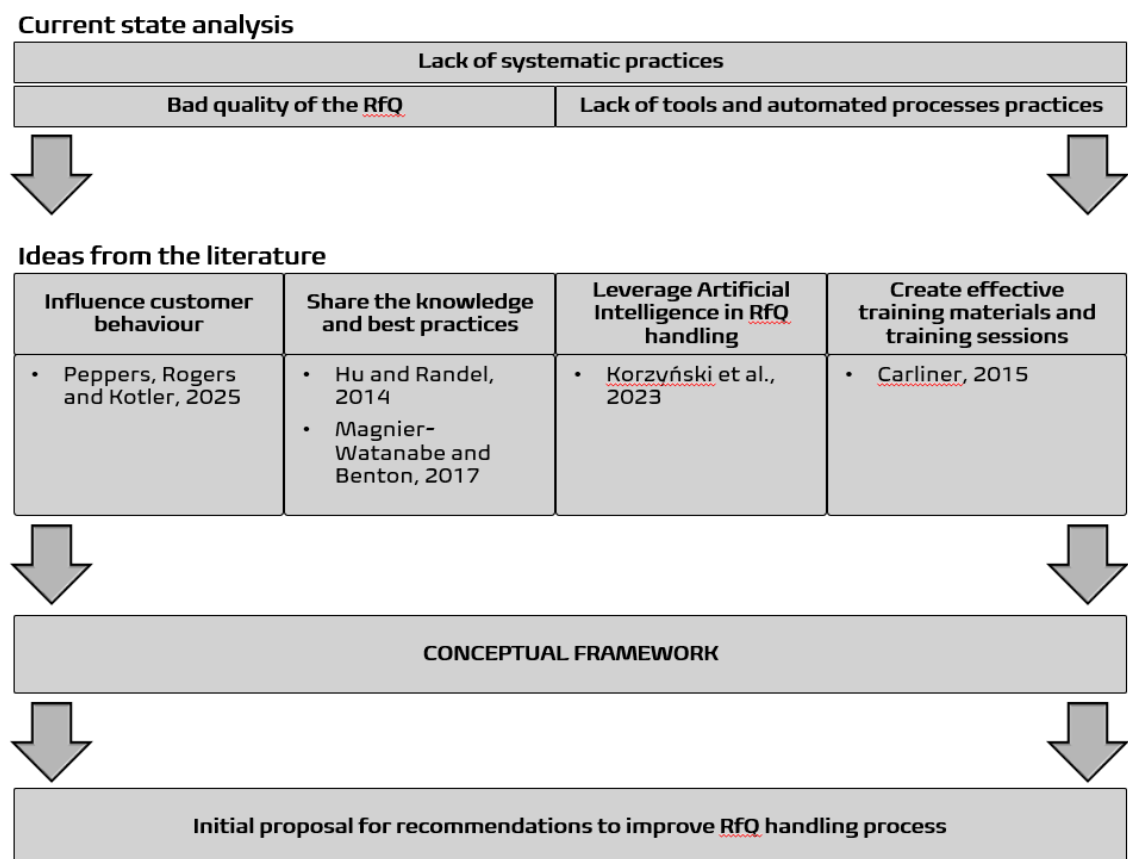


Figure 6. The conceptual framework of this study

The relationship between the weaknesses and the corresponding literature is then synthesized into a conceptual framework, which forms the foundation for the initial proposal presented in the following section.

## 5 Creation of the Initial Recommendations

Chapter 5 describes the co-creation of the initial improvement proposal for the RfQ process. The findings from the current state analysis and the conceptual framework are combined to create the initial solution to the business challenge introduced at the beginning of this study. This chapter begins with an overview of the initial solution development, continues with a description of how it was carried out, and finally summarizes the improvement proposals in more depth.

### 5.1 Overview of the Initial Recommendations

The objective of the proposal was to co-create an initial improvement proposal for the RfQ process within the sales organization of the case company. Depending on the season and the location where the salesperson operates, the volume of RfQs can sometimes be overwhelming. Consequently, the sales team area manager proposed investigating methods to reduce the amount of manual work. The time previously spent on manual tasks could then be reallocated to more valuable activities, such as customer acquisition or customer relationship management.

The initial solution development was conducted in a workshop with the key stakeholders. The aim and desired outcome of the workshop were introduced to the key stakeholders in the beginning of the session. The findings from the current state analysis were also briefly discussed in the beginning of the session.

Additionally, informal meetings with the area sales manager and the sales manager were conducted during the solution development stage. These informal meetings took place as live sessions in the Helsinki office of the case company. Prior to the workshop, short informal discussions were also held remotely with some of the key stakeholders, usually during meetings while discussing other matters. The purpose of these discussions was to prepare and map out possible questions and topics to create an effective and fruitful workshop.

The initial proposal was developed in a workshop with the same key stakeholders involved in the current state analysis. However, the current state analysis was intentionally conducted through one-on-one interviews to maintain a structured discussion. For the creation of initial proposal, the workshop provided a valuable opportunity for fruitful, less structured discussion and idea sharing.

The key stakeholders represented various levels of experience within the sales team. The customer pool of each salesperson varied somewhat; some salesperson had a large number of customers ranging from small to very large, including both continuing and one-time customers, while others had less variety in their customer base and more standardized and familiar relationships. This diversity in the customer base among salespeople provided valuable insights into the initial proposal and what aspects should be considered.

An email explaining the agenda of the workshop was sent to the key stakeholders, followed by an invitation to the workshop via Microsoft Teams. The agenda encouraged the key stakeholders to think of some ideas and practices in advance. It included few questions divided into two different categories:

Best practices on RfQ process:

- What are your best practices when processing the RfQs?
- Do you have a systematic way of processing the RfQs?
- What ideas do you have that could be used to make the process more efficient and less manual work?

Using Artificial Intelligence as part of the RfQ process:

- In what kind of applications, use cases and situations AI could be used in your work?
- Share your ideas and preferences
- What kind of challenges you would expect to encounter using AI?

The nearly two-hour long workshop began with an explanation of the agenda sent in advance, followed by a review of the summary of findings from the current state analysis. The workshop continued with rich and active discussion, while author of the study took field notes and steered the discussion when needed.

## 5.2 Co-creation of the Initial Proposal in Workshop

During the workshop, two distinct topics emerged. One was the need to share and receive the best practices and information on how different salespeople in various teams manage their customers and the large volume of RfQs they receive. Additionally, there was discussion on how and in which forum these ideas should and could be shared.

The other interesting and discussed topic was whether and how it could be possible to leverage artificial intelligence in salespersons' daily work and tasks. One of the stakeholders mentioned a previous discussion on the topic with their customer. The customer had stated that if they do not start leveraging artificial intelligence in their organization, they will remain in the starting blocks, so to say. The AI solution was piloted with the participants during the workshop.

Other topics, outside the scope of the business challenge, were discussed at the end of the session. Some of the key stakeholders suggested that it would be highly beneficial for them to have easy access or way to analyse their sales and customer behaviour, possibly with the help of the AI agent.

### 5.2.1 Co-creation of the Initial Proposal for Leveraging Artificial Intelligence

The topic that sparked the most discussion was the possibility of leveraging artificial intelligence in salespersons' daily work. The topic is prominent within the case company, which is exploring opportunities to leverage artificial intelligence throughout the organization. One area that could benefit greatly is the sales organization. Even small time savings per RfQ received can benefit individual salespeople significantly, and the company as a whole, due to the high multipliers.

At the time of writing this thesis, the case company is using Microsoft Copilot, an advanced conversational artificial intelligence designed to assist users with a wide range of tasks. It is available to every employee in the company and is easy to use, especially when prompts have been created in advance. A prompt is a piece of text or instruction given to an AI model to guide its response. A prompt helps to define the context and direction for the AI's answer, ensuring it provides relevant and accurate information based on the user's needs.

Some of the stakeholders had been experimenting with various conversational AI models for personal use, but none had used Copilot or any other AI model professionally. Stakeholders were curious about how it would work in certain situations, such as when they need to analyse construction specification documents, construction type documents, or façade drawings. They explained that they would either want to analyse the documents quickly to get an idea of the scope of the project and documents or dig deeper into extracting the needed product information, such as product types and categories, product attributes like colours, reaction to fire, fire resistance and so on.

The workshop then proceeded by piloting first part of the initial solution: analysing and extracting product information from documents. The author of the thesis had prepared real-life examples of construction documents and drawings to be used during the piloting period. The documents were hand-picked to

represent very common, small to medium-sized projects. Basic prompts for product information extraction were also prepared in advance. At the time of the workshop, the author of the thesis had received the full license for Copilot only a few days earlier. A full license allows better access to company documents, which is necessary for configuring, testing and piloting the solution. While it is not necessary for salespeople to have the full license, having it would certainly help them adapt to using the solution, as it would involve fewer manual steps.

The piloting started by showing and inputting the pre-defined prompt to Copilot, uploading the documents that needs to be analysed just by dragging them from folder to the copilot input box and then waiting for the results, which usually takes from few seconds to about ten second.

The analysed document contained roughly one hundred pages and included all the general specifications of the construction project, such as general performance documents, earthworks, specifications for walls, windows, doors, appliances, and so on. One of the very simple prompts used can be seen below:

- Create a row and wall-specific (e.g. US1, VP1) list of metal façade- and wall products. List their key features row by row (eg. color, joints, thickness, material. Emphasize responses on metal-based products, primarily for exterior and interior walls as well as intermediate floors. Keep the response concise. Do not list any items related to windows, doors, or roof related products. Bold the products that mention the case company. The documents to be read will be added to the second response.

As seen in the prompt above, it attempts to find essential products related to the walls and exclude the rest to keep the response short and easily readable. The abbreviations, such as US1 and VP1, are standardized; the former stands for exterior wall and the latter for intermediate wall. This type of prompt is best used

for extracting information from single construction specification or construction type documents.

Depending on the format and style of the document, the results can vary. In this case, the response contained following items:

- Bolded header starting with the document identification number, followed by abbreviation of the wall, the type of product category it contains, e.g., metal sheet cladding, and lastly in parentheses, the types of walls where these can be found, e.g., US01 and US02
- Under the header, the important attributes were listed row by row with bullet points
- The prompt returned seven rows, which included the main size of the products, thickness, fire resistance, instructions for the air gap behind the products, joint sizes, general instructions for the substructure of the products, suggested product and manufacturer, and lastly, the colour of the products

The next documents that were analysed during the workshop, the results were quite consistent and similar to those mentioned above. However, one of the documents had some issues retrieving useful information with the previously used prompt. It turned out that the quality and format of the documents vary significantly and have substantial impact on the response. The characteristics of good quality and well-readable documents for Copilot are:

- Preferred file formats such as PDF and DOCX
- Clear structure and readable basic fonts like Arial, Times New roman, or Calibri and consistent formatting throughout the document
- Documents should include high-quality images and graphics and have metadata such as subject and keywords
- Limited use of tables, especially complex tables

The problematic characteristics of the documents found during piloting are:

- The documents that are scanned or otherwise contain low-quality text seem to cause problems for Copilot.
- When the product specification under one header breaks and continues across two or more pages, Copilot sometimes does not recognize that the text at the beginning of the next page belongs under the header on the previous page

The challenges and consequences regarding the use of Copilot identified during the piloting are:

- Using the same chat in Copilot for more than one project sometimes make Copilot hallucinate. Hallucination in this context means that the AI generates information that is incorrect, misleading, or entirely fabricated. Copilot in some cases returned information from the previous documents
- Using poor prompts could return incorrect, excessive, or insufficient information
- Using incorrect prompts for specific scenarios, such as single document versus multiple documents, could return incorrect, excessive, or insufficient information

These challenges sparked discussion among the stakeholders and cast some doubt on the usability and reliability of the solution. While the number of low-quality documents seems to be minimal, the issue is significant and needs to be addressed. The solution must be verified through extensive testing to gain confidence in the responses. The challenges regarding the latter issue should be possible to address by refining the prompts. However, refining the prompts will not help with low-quality documents and will require further study, possibly involving another type of AI model if Copilot does not get upgrades in this area. To prevent the misuse of Copilot, training materials should be created and

made available to the stakeholders, and stakeholders should be trained to use Copilot.

In addition to the hand-picked documents, the stakeholders wanted to see how the solution would work with their own current and past project documents. The solution was tested with these documents, and the results were similar to those obtained with the hand-picked documents.

Next, the stakeholders wanted to evaluate Copilot's ability to analyze façade drawings. A façade drawing is typically a PDF document, which presents the exterior of the building, including projections and details. It generally contains at least general instructions regarding the required building materials and plans. According to the stakeholders, essential information is sometimes exclusively found in the façade drawings. This includes details such as the products, the thickness and colors of the metal sheets used, and the required thermal transmittance value.

Together with the stakeholders, a few façade drawings were selected and tested using the same prompts as those used for the previous documents. The results were promising and similar to those obtained in previous cases. Although all the documents were analyzed correctly this time, the same issues with document quality will persist with façade drawing documents. This means that if the documents are scanned or otherwise of low quality, the results can be poor.

The next step in the workshop on AI prompting involved testing the ability to extract desired information by reading multiple documents simultaneously. The stakeholders explained that some customers send dozens of documents, only a few which are essential for creating the offer. According to the stakeholders, the worst-case scenario occurs when customers have not reviewed the large number of documents they are sending or when they send credentials to a project bank containing hundreds of non-essential documents. There have been cases where the quotation received by salesperson did not contain any

products that the salesperson could offer. For these reasons, identifying which documents contain essential information by analyzing multiple documents simultaneously could save a lot of time and effort compared to manually opening each document, especially in cases where the documents have been named as a string of characters and numbers instead of a name that suggests what information could be found within.

A prompt for analyzing multiple documents had been created in advance, and documents named as string of characters and numbers were chosen for piloting purposes. A simple prompt used can be seen below:

- Create a list of all metal-based façade and wall products found in the documents. Sort the list by document names as headings. List the possible case company products and their key features under the headings. Emphasize the response on metal-based products; do not list any items that are non-metallic. Keep the response concise. Bold the case company products.

As seen from the prompt above, it aims to create a list of metal-based products from various documents, using the document names as headers and listing all key features under the headings. The response was formulated as follows:

- Document name and filetype (.PDF) as a bolded header
- Below the header, key features were listed with bullet points under a subheader
- Followed by another subheader titled “Possible products”, with possible products listed with bullet points below the subheader

The results were quite good, and the stakeholders commented that this could help them save time going through RfQs that have dozens of documents, especially those without obvious file names. While testing this solution, it turned out that Copilot, at the time of the workshop, could only process five documents

at a time. This was slightly disappointing, as it would have been very helpful to be able to drag and drop all the files received. Nevertheless, the processing time for five documents at a time was still much shorter than going through all the documents one by one manually.

Stakeholders asked whether Copilot or another AI model could analyze documents found in folders or website-based project banks. It was discussed that currently the solution is limited to local and company cloud documents, which need to be dragged into Copilot's input box. The requested option should be investigated further in the future.

After the piloting was completed, the stakeholders expressed concern about whether the prompts would be created for them or if they would need to create them themselves. They stated that if they need to create prompts, the solution will likely fail and will not be adopted for daily use. It was agreed that the author of this thesis will create finalized prompts tailored for specific scenarios and further refine them with the feedback received from the salespeople after the completion of this thesis.

It was agreed with the stakeholders that simple training material would be created and shared with them. A brief but sufficient training session would then be arranged after the stakeholders have had time to try out the solution themselves and identify what is working and what needs to be changed. The author of this thesis will create the training material and conduct the training session accordingly.

In addition to product information extraction and document analysis, two additional topics emerged during the discussions. It was agreed with the stakeholders that the opportunity to implement a product comparison tool and a Copilot AI agent for sales analytics would be investigated after the first part of the solution is completed and running.

The idea for product comparison tool was also based on the possibility of leveraging Copilot. A set of prompts and databases for product information would need to be created. Once the PIM development project, which was ongoing during the writing of this thesis, is completed, the information gained from it could be used as a database for the product information of the case company products. For the competitors' products, a database of the products and their attributes would need to be created, most likely in the form of Excel file. These files could then be compared by asking Copilot relevant questions using pre-defined prompts to get the most suitable product requested in RfQ. A plan to update the competitors' product information at regular intervals would also need to be created to ensure data is up to date.

The development of the comparison tool was also discussed face-to-face after the workshop with the area sales manager in a formal meeting at the Helsinki office. The area sales manager inquired whether Copilot could be used directly with the correct prompts to extract the needed product information from multiple websites and make a comparison of the products on the fly. It was briefly tested, but with the prompts used, Copilot could not extract any meaningful information. It was decided that this needs to be studied further.

Having a product comparison tool would not only help the new salesperson in their induction periods but also reduce the possibility of human error for more experienced salespeople relying on their memory and experience.

The next and final topic regarding the use of AI was sales analytics, which is in some parts slightly outside the scope of the thesis. The stakeholders expressed the need for a simpler way to analyze the purchasing behavior of their customers, the correlation between received RfQs and won deals, the price history of the won and lost deals, and more. Currently, there is a way to do this, but it is time-consuming and requires significant understanding of various platforms and graph analysis.

For this purpose, a Copilot agent for sales could be promising. The Copilot agent is an AI-powered assistant that helps sales teams streamline their work by using conversational interaction with the available data. The agent can connect to CRM systems, analyze vast amounts of data, and present it in a form that is easier for salespeople to understand and make conclusions. In addition to data analytics, it could also automate some of the routine tasks, such as crafting offers, sending follow-up emails, and even scheduling meetings. The suitability for the case company is to be inspected and evaluated after the other solutions and proposals have been completed.

### 5.2.2 Co-creation of Initial Proposal of the Best Practices on RfQ Process

As stated earlier in this chapter, during the workshop, the stakeholders discussed ways to improve the information flow between different teams and salespeople, as well as how to manage the large volume of RfQs during the high season. The stakeholders noted that although there are currently many different channels and means of communication, these channels are not leveraged enough for sharing the information regarding best practices. The regular meetings that occur lean more towards discussing daily business and sales topics.

One of the challenges in their daily work is receiving poor-quality RfQs from some customers. Some customers forward the received documents to the case company salespeople without examining them at all. This usually results in extra work for the salespeople and unnecessary, avoidable email exchanges between the salespeople and the customers.

One of the stakeholders proposed a practice to improve the quality of the received RfQs by changing the way they interact with the customer. The stakeholder stated that customers can be taught to respect the valuable time of the salesperson. By doing so, the customer also benefits by receiving better quality offers earlier. If the salesperson merely accepts the received documents as they are and does not provide feedback, the customer will continue the same behavior. The stakeholder pointed out that sometimes even good customers, who usually send

only the essential documents, send out the whole package without analyzing them. In these cases, however, the customer has usually just received the documents themselves, and it is acceptable for the salesperson to go through the whole package to serve the customer. The stakeholder summarized the challenge and the resolution by saying that if the customer is pretending to request something, the salesperson will respond by pretending to offer something.

The challenges in the information flow between the salesperson and sales teams are mainly since they have been identified as personal issues for each salesperson, rather than team issues. Therefore, no actions have been taken to address these issues at the team level. The stakeholders suggested that brief instructions or a memo about the ideas and suggestions derived from the workshop discussion could be created and then shared in the regular sales meetings. For future suggestions and idea creation, a time slot in the sales meetings will be reserved for these purposes. The findings will then be recorded and shared later with the other teams.

### 5.3 Initial Improvement Proposals

The proposed improvements from the workshop and formal discussions with sales managers and area sales manager are summarized in this section. The proposed actions together with the findings from CSA can be found from the table below.

Table 10. Summary of the CSA findings and proposed actions

Findings from the CSA	Proposed action
<b>Bad quality of the RfQ</b>	
Customer has not analyzed the RfQ at all before sending it	<ol style="list-style-type: none"> <li>1. Create instructions for sales team how to share their methods to change customer habits, ensuring they provide higher quality RfQs with only the necessary documents</li> <li>2. Arrange sessions for sales team to share their knowledge and best practices of RfQ handling to each other</li> </ol>
Missing important information or documents	
Occasionally, the information about requested products provided in different RfQ documents is inconsistent	
Missing important properties of the products, products or product categories themselves	
Potentially incorrect initial data will make product comparison challenging or even impossible	
<b>Lack of tools and automated processes</b>	
<ul style="list-style-type: none"> <li>• Misunderstanding the scope of the RfQ</li> </ul>	<ol style="list-style-type: none"> <li>3. Create set of prompts for AI to help summarize one or multiple construction documents at once to identify products within</li> <li>4. Create instructions and train sales team how to properly use AI with preset prompts</li> <li>5. Create instructions and train sales team how to identify and locate essential documents from folders and compressed archives using AI</li> </ol>
<ul style="list-style-type: none"> <li>• Identification of the scope, requested products, product categories, and their attributes is done manually</li> </ul>	
<ul style="list-style-type: none"> <li>• Product comparison is done manually, is very time-consuming, and can be potentially neglected for this reason</li> </ul>	<ol style="list-style-type: none"> <li>6. For induction period and less-experienced sales personnel, create set of prompts and documents for AI to help with comparing and suggesting most suitable products</li> <li>7. Create instructions and train the sales team on how to use the comparison tool properly</li> </ol>
<ul style="list-style-type: none"> <li>• Finding from initial proposal development workshop: Analyzing sales history and customer behaviour is very time-consuming</li> </ul>	<ol style="list-style-type: none"> <li>8. Implement an AI agent for sales analytics</li> </ol>

As shown in Table 10, the findings from the CSA are grouped under two distinct categories in the left column, with the corresponding proposed actions listed in the right column.

The first set of improvement proposals addresses the grouped weaknesses related to the poor quality of the RfQs received. The first proposed action is to create clear instructions that make it as easy as possible for salespeople to share their methods for influencing customer behaviour – specifically, how customers submit RfQs to sales. Once these instructions are in place, the second proposed action is to organize sessions for sales teams to exchange knowledge and best practices related to RfQ handling.

The second set of improvement proposals addresses the grouped weaknesses related to the lack of tools and automated processes. Six actions were proposed. The first action is to create a set of AI prompts designed to help summarize one or more construction documents at a time in order to identify the products mentioned within them. The second proposal is to develop instructions and provide training for the sales team on how to effectively use AI with the created prompts. The third action is to create guidelines and train the sales team on how to identify and locate essential documents from various sources, such as folders and compressed archives. The fourth and fifth actions focus on developing a product comparison tool based on an AI model and training the sales team on how to use it effectively. The sixth action is to implement an AI agent for sales analytics.

## 5.4 Summary of the Initial Improvement Proposals

As described in the previous sub-sections, the proposed actions can be summarised into two distinct approaches. The first focuses on creating instructions and training sessions aimed at influencing customer behaviour and facilitating the sharing of best practices among salespeople.

The second approach is to leverage AI in various ways, from extracting product information from documents and developing a tool to compare products across different documents, to implementing and utilizing AI for sales analytics. This

approach also includes the development of clear instructions for effective AI usage and training the sales team accordingly.

This chapter concludes the co-creation of the initial improvement proposals and recommended actions. The following chapter presents the validation of these proposals and introduces the final recommendations for an improved RfQ handling process.

## 6 Validation of the Proposals

This chapter introduces the validation of the initial proposals described in the previous chapter. It begins with a brief overview of the validation stage, followed by a description of the adjustments made to the initial proposals based on feedback received from the key stakeholder. The final proposal is then presented in the next sub-section. The chapter concludes with recommendations and follow-up actions for the future.

### 6.1 Overview of the Validation Stage

The validation of the initial proposals took place at the Helsinki office of the case company. The participant involved in the validation stage is listed in Table 10 below. In addition to this participant, the author of this study was present during the validation.

Table 11. Table below provides the sources of data collected for the validation

<b>Sources of data collected</b>				
<b>#</b>	<b>Source</b>	<b>Data Type</b>	<b>Date of the data collection</b>	<b>Length of the collection</b>
1	Area Sales Manager	Informal Interview	24.05.2025	~1 hour

Table 11 shows the participant of the validation stage.

The validation stage was conducted in an informal meeting with the key stakeholder. During the session, the initial improvement ideas were presented, and the solutions that were in place at the time were tested and piloted. Feedback was collected from the key stakeholder. Due to the tight timeframe and the fact that the solution was still under development, the final implementation could not be tested. Therefore, the validation was limited to partially developed solutions and recommendations.

## 6.2 Feedback and Adjustments to the Initial Proposal

The validation stage was conducted with the key stakeholder, the Area Sales Manager, who also acts as a decision maker. The feedback on the initial proposals and recommended actions was mainly positive. Some of the proposed actions were approved as presented, others required minor adjustments, and one was excluded from the final proposal.

The insights and final proposed actions gathered during the validation interview represent Data 3 in the data plan introduced in Chapter 2.

Table 12. The adjustments made to the initial proposals during the validation stage

<b>Changes to the Initial Proposals Based on the Feedback</b>	
<b>Initial proposed action</b>	<b>Final proposed action</b>
<b>Bad quality of the RfQ</b>	
1. Create instructions for sales team how to share their methods to change customer habits, ensuring they provide higher quality RfQs with only the necessary documents	Approved as such
2. Arrange sessions for sales team to share their knowledge and best practices of RfQ handling to each other	Approved as such
<b>Lack of tools and automated processes</b>	
1. Create set of prompts for AI to help summarize one or multiple construction documents at once to identify products within	<b>Approved as such but advised to be refined to get more precise and concise answers with greater emphasis on the case company products. Databases for AI training was advised to be created.</b>
2. Create instructions and train sales teams in how to properly use AI with preset prompts	Approved as such
3. Create instructions and train the sales team in how to identify and locate essential documents from folders and compressed archives using AI	Approved as such

4. For induction period and less-experienced sales personnel, create set of prompts and documents for AI to help with comparing and suggesting most suitable products	<b>Using the AI for comparing the products was approved as well as the initial proposal to use pre-made documents containing all the product information. It was suggested to investigate possibility to compare products without additional documents or databases</b>
5. Create instructions and train the sales team on how to use the comparison tool properly	Approved as such
6. Implement an AI agent for sales analytics	<b>Due to the budget and license acquiring reasons implementing an AI agent for sales analytics was not approved at this time and was removed from the final proposal</b>

As shown in Table 12, the left side of the table presents the initial proposed actions introduced in the previous chapter, while the right side displays the adjusted actions based on the feedback received during the validation stage. The actions that were adjusted or rejected are highlighted in bold.

The proposed actions related to creating instructions and arranging training sessions for the sales team, under both categories, *the poor quality of the RfQs* and *lack of tools and automated processes*, were approved by the key stakeholder without changes. Therefore, the final proposals for these items will be presented as originally defined.

The changes and adjustments made to the proposed actions under the category of *lack of tools and automated processes* are listed below:

- Item number one, which relates to creating a set of prompts for extracting product information, was suggested to be slightly refined. The key stakeholder emphasized that the prompts should be adjusted to ensure the AI provides more concise responses with stronger focus on the case company products. In addition, it was recommended that databases or documents containing keywords for different search criteria be created to enable more precise and relevant answers.

- Item number four relates to using AI for comparing products and creating the necessary database documents, was approved. The key stakeholder suggested investigating the possibility of developing prompts that enables product comparison without the need for additional documents.
- Lastly, item number six was rejected for the time being and was removed from the final proposal. The implementation of an AI agent was excluded due to budget and licensing constraints, as well as the fact that it's deployment would require consulting external personnel.

### 6.3 Summary of the Final Proposal

The final proposal includes seven of the eight initially proposed actions. Two of the approved actions were recommended for slight refinement, and one was excluded from the final proposal.

Table 13. The final proposals listed under the two categories

<b>Final Proposals</b>
<b>Bad quality of the RfQ</b>
1. Create instructions for sales team how to share their methods to change customer habits, ensuring they provide higher quality RfQs with only the necessary documents
2. Arrange sessions for sales team to share their knowledge and best practices of RfQ handling to each other
<b>Lack of tools and automated processes</b>
1. Create refined set of prompts for AI to help summarize one or multiple construction documents at once to identify products within. Create database documents containing keywords to get more precise responses from the AI model.
2. Create instructions and train sales teams in how to properly use AI with preset prompts
3. Create instructions and train the sales team in how to identify and locate essential documents from folders and compressed archives using AI
4. For induction period and less-experienced sales personnel, create set of prompts and documents for AI to help with comparing and suggesting most suitable products. Investigate the possibility to compare products without additional keyword documents
5. Create instructions and train the sales team on how to use the comparison tool properly

This concludes the chapter on the validation of the proposal. The next and final chapter summarizes the study, presents practical recommendations for next steps, and provides a self-evaluation of the study.

## 7 Conclusions

The final chapter provides an executive summary of the study, followed by practical recommendations for next steps of implementing the proposed actions, and concludes with a self-evaluation to demonstrate the credibility of the thesis.

### 7.1 Executive Summary

The objective of this study was to propose recommendations for an improved RfQ process, with a particular focus on enhancing the sales team's RfQ handling procedures. The outcome is a set of recommendations for an improved RfQ process that the case company can implement to improve process efficiency by reducing manual work and minimizing human errors. Given the increasing number of RfQs received in recent years, many of which include large packages of documents, the company recognized the need to explore ways to improve and automate document analysis and information extraction procedures within the sales process.

The research approach chosen for this study was design research. Applied action research, commonly used in continuous improvement projects, was selected as the research approach for this study. The study consisted of four stages of research that were current state analysis, literature research, initial proposal development and the validation of the proposed actions.

The first stage, the current state analysis, was conducted to develop a process description and map, identify the strengths and weaknesses of the existing process, and determine critical weaknesses to focus on. Data was collected through one-on-one interviews with key stakeholders involved in the process. As a result, three distinct categories of weaknesses were identified, resulting in total of fifteen weaknesses.

This was followed by a literature review, which aimed to gather best practices for addressing the identified weaknesses in RfQ handling process and to

generate practical ideas for process improvement. The conceptual framework was developed based on existing knowledge and the reviewed literature, providing a foundation for addressing the weaknesses identified in the current state analysis.

The third stage involved the development of the initial solution, which focused on co-creating improvement actions in collaboration with key stakeholders. Data was collected through a workshop and an interview with the key stakeholders. The identified weaknesses were carefully analysed, resulting in reduction of the original categories into two distinct groups and the proposal of eight actions to improve the process.

In the final stage, the proposed actions were validated by the Area Sales Manager of the sales team. The validation process was conducted through a one-on-one interview at the Helsinki office of the case company. Data for the validation stage was gathered during this interview. The proposed actions were presented to the manager and piloted collaboratively. Each action was discussed and evaluated by the manager. Of the initial eight proposed actions, seven were retained. The feedback received was generally positive, and it was recommended to proceed with the implementing of the solutions. Based on the results of the validation, the final proposals were adjusted and documented as a refined list.

## 7.2 Practical Next Step Recommendations

Due to the challenging and tight timeline of this study, the AI-based solution could not be fully developed and implemented by the end of the study. The next step should be to finalize the solution based on the proposed actions, in close collaboration with relevant stakeholders. Based on the experiences of the previous implementations, the solution should be fully functional before being deployed across the entire team. If implemented in a partially developed state, there is a high risk that users may become frustrated and fail to adopt the

solution. It is therefore recommended to select suitable stakeholders and schedule weekly meetings to review progress and collaboratively develop the solution until it reaches a level suitable for broader implementation.

Once the solution reaches an acceptable level, it is recommended that it be introduced to the sales teams in other countries. This would support the company in its strategy of pursuing scalability and smoother processes.

Although slightly outside the scope of this study, the initial proposal included implementation of an AI agent for sales analytics. This action was removed from the final proposal due to budget and licensing constraints, as well as the need for external consultants. However, it was considered potentially highly beneficial for the sales team and is recommended for further investigation and possible future implementation.

Additionally, due to the limitations of the current AI model, Copilot, used during the development of both initial and final solutions, it is recommended to explore the feasibility of a tailor-made AI solution. Such a solution may offer advantage over the existing Copilot-based approach.

### 7.3 Self-Evaluation of the Study

This thesis was designed and executed using a triangulation approach, incorporating data from semi-structured interviews, a stakeholder workshop, and document analysis. The data was gathered from a substantial number of sources, each with diverse customer base and varying levels of experience. The proposed actions benefited from strong contribution from literature. This methodological triangulation enhanced the robustness of the study by providing a more comprehensive understanding of the research problem.

To improve the credibility of this study, a structured research process was followed. The key stages included a current state analysis, a literature review, the co-creation of initial proposal, and the validation of the proposed actions.

The initial business problem addressed in this study was the inefficiency in the company's RfQ handling process, specifically, the challenge of receiving large volumes of RfQs with varying levels of quality, which sales teams must process manually. The outcome of the study is a set of proposed actions, presented in Chapter 6, aimed at addressing these challenges and improving the overall RfQ handling process. As a result, the objective of the study has been successfully achieved.

The scale and depth of the results from the current state analysis could have been enhanced by arranging a workshop following the individual interviews. However, the semi-structured interviews alone provided valuable insights into the process and the working methods of the sales team. The interviewed stakeholders presented approximately half of team and had a wide range of experience levels, from beginners to highly experienced managers. Each stakeholder also served a different customer base, which brought varied customer behaviours into the analysis. For these reasons, the results of the current state analysis were considered credible and effectively revealed the key weaknesses in the process that needed to be addressed.

Multiple sources of literature from relevant fields were utilized to develop the conceptual framework and to identify best practices for RfQ handling process and process improvement.

The initial proposal and the validation of the proposed actions were developed within tight timeframe, and as a result, the solution was not finalized or implemented during the study. Both initial and final proposals would have benefited from an additional workshop. However, since the primary objective of the study was to provide improvement recommendations, the objective was effectively achieved.

## 7.4 Closing Words

Although the solutions were not fully finalized, this study delivered a developed solution and a set of recommendations that align well with the company's strategic goals and support the initial promise of an improved RfQ process. At the time of writing, construction industry volumes had been declining, while the competition for projects had intensified. As such, the outcome of this study provides the case company with a more efficient RfQ process that can serve as a competitive advantage. By reducing manual work, the improved process frees up time for higher-value activities such as customer acquisition and relationship management. In a declining market, capturing market share through strengthened customer relationships is essential to ensure readiness when the market begins to recover.

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