

**Heading [on one or multiple lines]**

**MAIN FIELD:** *Topic*

AUTHOR: *Author*

SUPERVISOR: *Supervisor*

JÖNKÖPING Year Month

Subheading [on one or multiple lines]

This final thesis has been carried out at the School of Engineering at Jönköping University within [see main field on previous page]. The authors are responsible for the presented opinions, conclusions and results.

Examiner: XXX XXXXXXX

Supervisor: XXX XXXXXXX

Scope: 7,5 hp or 9 hp (first-cycle education), 15 hp (first-cycle education), 30 hp (second-cycle education)

Date: 20XX-XX-XX

# Abstract

**Purpose** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Method** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Findings** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Implications** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Limitations** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Keywords** – XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

The abstract is a short description (mini report) of the contents of the report and should not exceed an A4-page. The purpose of the abstract is for the reader to quickly gain an understanding of the circumstances and findings of the study. It is therefore essential that the abstract contains as concrete details as possible. It is important that you place great emphasis on your wording since the abstract often determines if the report is deemed worth reading.

# Table of contents

1 Introduction 4

1.1 background 4

1.2 Problem statement 4

1.3 purpose and research questions 4

1.4 scope and delimitations 4

1.5 Disposition 4

2 Methodology 4

2.1 link between research questions and method 4

2.2 work process 4

2.3 approach 4

2.4 research design 4

2.5 data collection 4

2.6 Data analysis 4

2.7 validity and reliability 4

3 Theoretical framework 4

3.1 link between research questions and theory 4

3.2 Theory 1 4

3.3 Theory 2 4

3.4 Theory n 4

4 Empirical research 4

4.1 …description… 4

4.2 XXX 4

4.3 XXX 4

5 Analysis 4

5.1 research question 1 4

5.2 research question 2 4

5.3 research question 3 4

6 Discussion and conclusions 4

6.1 Results 4

6.2 implications 4

6.3 limitations 4

6.4 conlusions and recommendations 4

6.5 further research 4

References 4

Appendices 4

# Introduction

*The chapter provides a background for the study and the problem area the study is built upon. Further, the purpose and the research questions are presented. The scope and delimitations of the study are also described. Lastly, the disposition of the thesis is outlined.*

## Background

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Present the background for your chosen problem and describe why this is a relevant area.

## Problem statement

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

The problem statement aims to provide a more detailed description of the components involved in the problem depicted in the background section. It is important to transform the specific problem, e.g. the specific task from a company, to a broader and more universal or genreral problem which may be of relevance for a bigger audience, for example other industries or trade sectors. This is done by presenting a chain of reasoning in which the specifics of the task are portrayed as a special case of something more generic. Apart from demonstrating a broader need of the specific task it is also important to relate to the “state of the art” research in this area and present the scientific relevance/gap why this is relevant. This is done appropriately by describing the research front for the area with its in-depth parts. By this reasoning X, standpoints are taken successively which will lead to a well-argued and traceable specification and funneling of the problem area, whereby the purpose and the research question will follow naturally.

## Purpose and research questions

Clearly and concisely state the purpose and the research questions. The purpose defines what will be performed, examined, or compiled as well as its significance. The purpose can be broken down into a few research questions which you will answer in your report to fulfil the purpose. Your purpose and research questions will set the path in terms of choices of methods, theories, analysis options, etc.

Drawing on the problem statement, it is evident that XXX. Further, it is evident that XXX. Consequently, the purpose of this study:

*Is XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX*

To be able to fulfil the purpose, it has been broken down into X questions. Discuss and argue your way to the first research question. Hence, the study’s first research questions is:

1. XXX

Discuss and argue your way to the second research question. Hence, the second research questions is:

1. XXX

Discuss and argue your way to the third research question. Hence, the third research questions is:

1. XXX

To answer the questions and thereby fulfilling the purpose, a case study will be conducted at X.

## The scope and delimitations

Here you should fill in the gaps concerning the purpose and research questions by describing what the study entails, and even more importantly, what the study *does not* entail. Keep in mind that a thorough and coherent problem statement section will result in less need for delimitations.

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**Figure X** The scope and delimitations of the study

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## Disposition

Describe how the remainder of the report is structured, that is briefly explain how the report is organized to help the reader gain an idea of the structure of the report.

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# Metod och implementation

*The chapter provides an overview of the work process of the study. Further, the approach and design of the study are described as well as the data collection and data analysis. The chapter ends with a discussion about the validity and reliability of the study.*

Here you should start by motivating and describing what type of study you have conducted, e.g. a case study or an experimental study, as well as which specific methods you have chosen and what they entail, e.g. interviews, surveys, experiments, design, or observation.

Refer to the sources for your chosen methods in the same way you would when referring to theory. Thereafter you describe the undertaken procedure i.e. the steps taken to be able to answer the research questions and fulfilling the purpose. For example, the procedure for interviews, equipment that has been used, as well as descriptions of executed experiments. Describe how you have collected, processed, and analyzed the data. Be thorough when writing your description since it determines the assessment of validity (validation) and reliability (credibility) in the thesis work!

## Link between research questions and methods

The following chapter describe the chosen methods for data collection and data analysis as well as how they answer the research questions. Figure X describes the link between the research questions and used methods.

**Figure X** Link between the research questions and used methods.

To answer the first research question, we have XXX XXX XXX XXX XXX XXX XXX XXX

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX.

To answer the second research question, we have XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX.

To answer the third research question, we have XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX.

## Work process

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Figure X** The work process of the study

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## Approach

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## Design

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## Data collection

The data collection consisted partly of studying literature and partly of collecting empirical data from/by X.

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

## Data analysis

Describe the principles used in the data analysis. There are several ways to analyze collected data depending on research and purpose. It is not uncommon to combine the different analysis methods.

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

**Figure X** The data analysis

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## Validity and reliability

Validity and reliability are essential goals for your final thesis project. These concepts are shown by, in a trustworthy way, making different choices and explaining different standpoints e.g. method for data collection, analysis method, choice of theories, etc.

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

# Theoretical framework

*The chapter presents the theoretical foundation for the study.*

Based on your review of “state of the art” (current literature) in the problem statement as well as the developed research questions and purpose, you identify relevant sources/theories that further needs to be addressed to achieve stipulated learning outcomes. In this chapter it is suitable to put forward argument that not only describes different theories but also compares and evaluate them depending on how they will be used in the thesis work. It is important that you refer to all sources used in this chapter according to established rules for referencing.

## Link between research questions and theory

In the following chapter, the theory providing the theoretical foundation for answering the research questions is described. Figure X describes the link between the study’s research questions and the theory used.

**Figure X** Link between research questions and theory

To give a theoretical foundation to the first research question ”XXX,” the following areas are described in the theoretical framework: A, B, and C. A is covered because XXX. B is covered because XXX. C is covered because XXX

To give a theoretical foundation to the second research question ”XXX,” the following areas are described in the theoretical framework: A, B, and C. A is covered because XXX. B is covered because XXX. C is covered because XXX.

To give a theoretical foundation to the third research question ”XXX,” the following areas are described in the theoretical framework: A, B, and C. A is covered because XXX. B is covered because XXX. C is covered because XXX.

## Theory 1

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## Theory 2

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## Theory n

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

# Empirical data

*The chapter provides an overview of the empirical domain which forms the basis of this study. Further, a description is given of the empirical data that has been collected to answer the research questions.*

In this chapter you will present the empirical data you have collected. Depending on the study conducted, this chapter can take many shapes and forms. It is important that you present the empirical data in a logical and factual way, without adding any personal viewpoints or values. This will later be done in the analysis chapter. It is important to clearly distinguish between collected empirical data and what will later be your analysis of the empirical data, i.e. your results.

## …description…

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## XXX

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## XXX

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# Analysis

*The chapter answers the research questions by processing the collected empirical data and the theoretical framework.*

In this chapter the student will carry out an analysis based on the chosen theories and collected empirical data, i.e. generate and formulate the results of the study based on the research questions and purpose. The analysis will be performed according to those principles stated in the methods chapter.

## Research question 1

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## Research question 2

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## Research question 3

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# Discussion and conclusion

*This chapter summarizes the results of the study. Further, it describes the implications and limitations of the study. It also describes the conclusions and recommendations of the study. Suggestions for further research are given at the end of the chapter.*

## Findings

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## Implications

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## Limitations

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## Conclusions and recommendations

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

## Further research

XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX XXX

# References

* One of these three main reference system may be used.
	+ Harvard: (Name, Year), (Name, Year, Page)
	+ IEEE: [1], [2], [3]… [n]
	+ Oxford: Notation

# Appendices

Appendix 1 Text describing the appendix

Appendix 2 etc.

Each appendix should be numbered in the right top corner according to this list. Each appendix has its own page.