Aalto University
School of Economics

INSTRUCTIONS FOR WRITING A MASTER'S THESIS

Master´s Thesis
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The aim of this document is to guide the students of the Department of Management Studies at the Aalto University, School of Business to produce an independent piece of academic work, a M.Sc. thesis. Please, read the instructions carefully as this document is based on the faculty's collective supervisory experiences of hundreds of students over many years. While this document tries to be as detailed as possible, in the interest of readability it is not fully complete. There will always be questions that you will need to find answers for yourself, e.g. getting acquainted with thesis done, doing literature searches and by asking your supervisor or fellow students. Please note that this document's layout and style (e.g. cover page, font, heading style, line spacing etc) mirrors that of an actual M.Sc thesis.

There is not one good way to write a thesis. The document will provide you with some well-grounded options. Discuss the options with your supervisor in order to understand which type of writing style fits your research question, literature and methodological choices as well as your own style of writing.

1 THE PURPOSE AND TOPIC OF THE MASTER'S THESIS

The purpose of the thesis is to demonstrate that each M.Sc. student is able to conduct scientific research in the fields represented in the department and write a scholarly piece of research. The thesis should follow the general principles of scientific research, i.e. the writing should be analytical, critical and systematic. During the thesis supervision process students and supervisors have their own responsibilities that are summarized in table 1.

Table 1: Responsibilities of students and supervisors during the Master's thesis process

Student:	**Supervisor:**
Yes: - conducting research independently and according to the highest ethical standards - is being proactive - sends the thesis for comments at least one week before the agreed meeting - sticks to the timetables and deadlines common to everyone for the submission of the thesis	**Yes:** - discusses the choices of theory and methodology, research questions as well as analysis - reads and provides comments max 3 times during the thesis work process - sticks to the timetables and deadlines common to everyone
No: - works for the supervisor's own research project (unless agreed separately) - demands flexibility and time from the supervisor without fulfilling one's own responsibilities	**No:** - writes or re-writes the thesis! - responsible for the corrections made in response to comments - assures that the quality of the thesis is according to student's expectations - is considered as a library or a control body

Each M.Sc. student should choose a topic that s/he is genuinely interested in and capable of integrating the knowledge and skills acquired during the studies. The student should also have good access to data sources about the subject matter. Most M.Sc theses in our fields are empirical rather than purely theoretical meaning that they involve the collection of primary data. You can go through the thesis done at the school at the e-thesis data base http://epub.lib.aalto.fi/fi/ethesis/

2 GRADING OF MASTER'S THESES AND ACADEMIC INTEGRITY

The subject of the thesis must be approved by the supervisor of the thesis who will also participate in grading it. In the case of an exceptionally broad or innovative topic, the thesis can also be carried out as a team of two students. This needs to be agreed upon with the supervisor.

The final grade of the thesis will be approved by the Head of Department on the basis of the recommendation provided by the supervisor and the second examiner. The thesis is evaluated on a scale 0-5 based on the criteria presented in Master's thesis evaluation rubric of the school Appendix 1.

Make sure that you follow ethical codes of conduct in collecting and analyzing your thesis material. You must be able to present the collected data to your supervisor during the thesis process but also after it, if suspicions arise concerning the authenticity of the material or ethicality of the analysis. Thus make sure that to restore your data set safely.

Please note that all thesis must pass Turnitin originality check. Please check your thesis independently prior turning it in for formal evaluation (https://mycourses.aalto.fi/course/view.php?id=3042). Turnitin will help you in detecting if your text is too similar to the original texts you are using. It will further help you in referencing correctly. Supervisors are obliged to do the originality check prior grading the thesis. Infringement of academic practice will be severely sanctioned. Please read Aalto University Code of Academic Integrity and Handling Violations Thereof.

(https://into.aalto.fi/display/enregulations/Aalto+University+Code+of+Academic+Integrity+and+Handling+Violations+Thereof).

After you have turned in your thesis please save your thesis to the turnitin system in order to protect your work from plagiarism. Also remember to upload it to the e-thesis system.

3 RESEARCH PLAN

Before writing the actual M.Sc. thesis, the student should prepare a research plan, which will be presented and discussed in the Master's thesis seminar. You will get more detailed information on how to write a research plan in the thesis seminar. In principal, the research plan follows the outline of the final thesis rather closely with some additional headings. A common outline for a research plan is as follows:

1) Title
2) Introduction
   - Introduce topic and significance
   - Statement of purpose, research questions/objectives
3) Review of Literature
   - What research is available on the subject? How is the present study positioned in the current body of knowledge? Do some research gaps exist in earlier literature?
   - Preliminary theoretical framework (Which theoretical concepts and streams of research you can use to structure your research problem?)
   - Limitations (what issues will be excluded and for which reasons)
4) Design and Methods
   - Overall approach and rationale (qualitative/quantitative, what kind of qualitative/quantitative approach)
   - Sampling, data gathering methods, data analysis
   - Ethical considerations
5) Tentative table of contents of the final thesis
6) References
7) Tentative timetable

4 A MODEL OUTLINE FOR THE FINAL THESIS

The total length of the report depends on the chosen topic, with the emphasis being on quality rather than quantity. The minimum length of thesis is 60 text pages. However, a typical length of an MSc thesis varies between 60-100 pages of text. A model outline and table of contents of a thesis is presented in Table 1 (page 7) Please see section five for alternative ways of structuring the report.

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Table 2: Thesis table of contents

TITLE PAGE (the front cover of this document is an example of a Master's thesis cover)
ABSTRACT (in English and Finnish, if applicable)
PREFACE AND ACKNOWLEDGEMENTS (optional)
TABLE OF CONTENTS
LIST OF TABLES
LIST OF FIGURES

1) INTRODUCTION (5-10 pages)
    - Background, topic and significance
    - Research problem, literature to which it is connected and research gap
    - Research objectives and questions
    - Limitations
2) LITERATURE REVIEW (20-30 pages) Can be divided into two main chapters if needed
    - RELEVANT LITERATURE, CONCEPTS AND THEORIES
        i. Reorganize and analyze research approaches, concepts, methodologies and results of prior research
        ii. Built around your own research idea, questions and aims
    - SUMMARY OF THE LITERATURE REVIEW (theoretical answers to the research questions)
        i. Explicate what is your understanding of the concepts and theories you intend to use and how are they related = theoretical framework
        ii. Hypothesis development (if they are relevant for your choice of methodology)
3) RESEARCH DESIGN AND METHODS (7-12 pages)
    - Research approach
        - Refined research questions, approach, unit of analysis, arguments for the choices made
    - Data collection / Producing empirical material
        - Collection method, sample, access, arguments for the choices made, limitations of the data, ethical considerations, reflection
    - Data analysis
        - Making the path from data to conclusions visible: Method? Why? How?
    - Evaluation of the research process & ethical considerations in each step of the process
4) EMPIRICAL FINDINGS (20-30 pages)
5) DISCUSSION AND ANALYSIS (alternatively can be integrated into previous section)
6) CONCLUSIONS (5-10 pages)
    - Main findings and theoretical contribution
    - Managerial implications
    - Suggestions for further research

REFERENCES
APPENDICES (optional)

5 GUIDELINES FOR WRITING THE VARIOUS PARTS OF THE THESIS

In this part of the guide, we will present the various chapters of a typical thesis by describing their purpose and content. Each chapter should be its own entity but they should be logically linked with each other, i.e. by having an introductory section that discusses the main idea of the previous chapter and outlines the purpose and structure of the next chapter. Other items of the thesis such as abstract, table of contents, lists of tables and figures will be discussed later in Section 6.

5.1 Introduction

5.1.1 Background

The opening section puts the thesis into a broader context and convinces the reader that the thesis is important and worthwhile reading. This chapter sets the stage for the study by explaining for example;

- the reasons that led to the research
- the reasons why the study is worth conducting (why is it relevant to you/research/practitioners/society)
- pertinent background factors
- the larger setting within which the research was conducted
- the importance of the study (to research, practice, society, you)
- some limitations regarding focus (or then in 1.3)
- In quantitative studies important definitions (or then in 1.3)

In other words it encourages the reader to go on by raising his/her interest and curiosity towards the topic 5.1.2 Literature, Research Gap, Problem and Research Questions

Literature and Research gap

Once the importance of the research topic has been established, the author needs to clearly indicate the literature the thesis is discussing with. . In a high-quality thesis also a research gap in the literature needs to be identified. The research gap is found through extensive reading of the literature. It is expressed by referring to existing research on the topic which does not fully cover it. The research gap may also emerge because particular research methods have dominated earlier work. The research gap can also be visualised with the help of a figure or table. It is very common to write and rewrite the first sections of the thesis as the literature becomes more familiar and the research process unfolds.

"While research on company-NGO engagement has increased in the past few years, key research gaps remain. Firstly, a growing number of studies on the company-NGO relationship have been conducted in different academic fields or literatures, but state-of-the-art reviews on the topic are not available. Secondly, corporate responsibility literature and stakeholder theory have developed rapidly in the past thirty years, but studies have focused on either a company-wide level or the examination of specific types of CR programs.

...The below research objectives and questions describe how these gaps are addressed in this thesis." (Kourula 2009, pp. 17)

After identifying the research gap, it is important to explain to the reader why the research gap should be filled. It is not sufficient just to state that limited research has been conducted on a particular topic. The (negative and problematic) implications of the research gap need to be drawn out and explicated. What consequences does this research gap have for current research efforts? What do we miss or lose if your study is not undertaken?

Main research problem

A research problem is identified as a broad topic that has complex or troubling aspects that can be understood better by the gathering of relevant information or evidence.The research problem can be expressed as an intriguing question which makes it easier to focus. It is important to find one main problem, which best reflects the purpose and the overall perspective of the research. The research problem should preferably be one or two sentences.

"How can companies manage the challenges of the global business environment by addressing stakeholder claims and defining and implementing corporate responsibility policies and programs?"

(Kourula 2009, pp.17).

Even when a research problem is initiated by a corporate partner it also needs to be grounded in earlier academic research. The research problem can then be divided into sub-questions which demonstrate how you are going to fill the research gap.

Research questions

A research question is concise and describes exactly what issues the research aims to acquire information about. Research question guides and focuses the study.

"Why and how do companies engage with nongovernmental organizations to demonstrate corporate responsibility in different institutional contexts?" (Kourula 2009, pp. 19)

These research questions can further be divided into sub-questions. Each question should be separate and not overlap with the others. On the other hand, the sub-questions should add up to the main question(s). The more questions you have, the greater the probability of overlap. We recommend you to limit yourself to 2-3 research (sub-) questions.

The best way to come up with the sub-questions is to ask what needs to be investigated in order to be able to give a definitive answer to the main research question(s). In the brainstorming phase, questions should be written down as they occur to the researcher. However, they should be studied in relation to each other and written out in a logical order. A typical solution is a chronological order. Another aspect to consider is whether all questions are based on the same level of analysis or organizing principle.

Once all sub-questions have been listed, they should be compared to the original main question(s). Research questions should be revisited during the research process. It is not uncommon that they are reformulated at the very final stages of writing up the thesis. The research questions are important in keeping the focus on key issues and selecting between relevant and redundant references, for example. In the concluding section, you need to make sure that you provide a complete answer to all your research questions both in the light of the literature you reviewed and based on the empirical study that you undertook.

5.1.3 Limitations

Careful formulation of the research gap, problem and research questions serves to establish boundaries and scope of your study. Often they formulate sufficient boundaries for the study and no separate section on limitations is needed. You may however need to elaborate on your choices. You may decide to exclude a particular stream of research and provide convincing reasons for doing this. Usually this section includes specifications of the data sources in terms of the depth and scope as well as temporal and geographical boundaries of your empirical study. You should specify what was excluded from the study and why. As an author, you need to justify your choices, whether to include a specific aspect or exclude it. The reasons may be related to the internal logic of the subject matter or they may be practical such as unavailability of information.

In defining the exclusion, following expressions may be used:

- The survey was restricted to… because...
- This investigation was limited to… because...
- The following items were excluded from the study… because...
- This study was limited to… because...

5.1.4 Definitions

In qualitative studies a separate definitions section is seldom needed. The concepts used should become clear in the introduction through positioning the study within a particular literature. Discuss the issue with your supervisor. In quantitative studies a list of definitions can, however, be useful.

All special terms used in the report that cannot be assumed familiar to an informed reader or that are used in an unusual sense, should be defined. A separate alphabetical or logical list of definitions central to the subject matter may be included in this section. The term being defined should be in italics or in bold, and the format for presenting the definitions should be standard text. You should explain why this particular definition was chosen. As the minimum requirement one can say that the key concepts in the title of the study should be defined. This section is not meant to overlap with other parts of the thesis such as the literature review. Any lengthy discussion on concepts and terminology should be included in the conceptual development or critique of terminology/ measurement in the literature review.

NOTE: All topics discussed in the Introduction section do not need sub-chapters of their own. They can also be integrated with each other textually.

5.2 Literature review

The purpose of the literature review is to position the study firmly in the existing body of knowledge. The review of related literature constitutes the theoretical framework which offers useful concepts and perspectives for the empirical part of the study.

In this chapter you should demonstrate your familiarity both with the most important, authoritative writing on the subject and with the most current empirical studies. The focus of this chapter is to discuss only the relevant literature that will be used in analysing the data. This should be written by creating a dialogue between different authors and studies. For example, while Egelhoff (1998) has studied multinational corporations at a macro level, Lasserre's (1996) work focuses on the micro level, meaning individual subsidiary units. Therefore the literature that is not directly relevant for the immediate topic of research should not be included.

When studying key references of literature and writing them up for the literature review you could comment on the following issues, for example:

- What topics are covered in previous research?
- How important concepts are used in the literature? How do different authors understand the key concepts?
- What research method have other researchers used? (e.g. survey, case studies, ethnography)
- How was the empirical data collected? (including the year, the industry, the country and/or region, and the subjects in the research, for example, CEOs or middle managers),
- What findings have other researchers generated?
- What limitations and problems can you identify in their research? (for example, was the data collection or its analysis appropriate)?
- Can you compare this study with other contributions in the field? How does it compare to the study you are intending to conduct/or have already conducted?

Any review of literature is made more useful if it contains one or several summaries. For example, you may want to summarise the key findings of previous research or show important relationships between earlier studies. Such summaries can be done textually or in the form of analytical tables (See Appendix 2 for an example). At the end of the literature review you should ensure that you have provided the reader with sufficient answers to the research questions based on existing research. That can be done by summarizing the key assumptions and beliefs found in the literature and relating them to the problem in question. Assumptions serve also to define existing issues and to locate gaps in current knowledge. They may be philosophical, substantive and/or procedural. Further, make sure that you explicate how you understand the key concepts used in the study. Finally, the literature review is often summarised with the help of a figure or model. It may be a preliminary theoretical framework or a model that is tested in the empirical study.

5.3 Research method

This section is used for explaining 'what, when, how and why you have done what you have done' in terms of data collection and analysis. It is not a review of the methodological literature. Instead, you should use the methodological literature selectively to justify your decision and choices during the research process.

5.3.1 Research Approaches

The choice of research method is made between, qualitative, quantitative or mixed methods. In management studies, the most common qualitative research strategy is the interview-based case study, which aims to discover the meaning, not the frequency of a phenomenon. However, qualitative methods for data collection and analysis may include e.g. observation, focus groups, content analysis, thematic analysis, narrative analysis and discourse analysis. Qualitative research is commonly conducted on one or selected number of companies/industries/individuals or other units of analysis which are studied in great detail. In contrast, statistical surveys are generally used when a large number of objects are studied and common patterns are analyzed. In this nomothetic study, the student has multiple attributes of the objects and s/he needs to identify the most relevant ones for the study.

5.3.2 Data Collection and Analysis Methods

Regardless of the chosen research method, a precise description of the empirical data collection and analysis should be provided as it determines the quality of the study and its findings. A detailed discussion of data collection and analysis answers the following questions:

- What kind of data was needed and what were ultimately collected? (be honest about your empirical work) What sources of data were used?
- What kind of sample size was attained? Why?
- For qualitative studies: how did you negotiate access? How did you exit when data collection was finished? (any compromises here?)
- How was the interview guide / questionnaire constructed? Why so?
- How was the data collected? Why so?
- For quantitative studies: What kinds of variables were used and how were they measured?
- For qualitative qualitative studies: Did you have some key constructs at the start of the fieldwork? How did your conceptual development evolve during the course of the study?
- How were the data analyzed? Why so?

The data analysis method should be selected to suit the research questions. For example, a qualitative case study as a research strategy is useful for providing answers to research questions that are complex and require a holistic approach. A quantitative methodology, on the other hand, is used to address research questions that deal with 'who', 'what' and 'how much' and examine the relationships among different variables. The following paragraphs will discuss more about qualitative and quantitative research.

While quantitative researchers traditionally write up their research findings in passive voice, a qualitative researcher often use the form 'I' in writing to indicate who is behind the decisions made in the study. At times qualitative researchers also may want to reveal his/her identity to demonstrate the firm belief that the researchers themselves act as instruments in data collection and analysis. How has your background affected the choice of research topic? How does your language competence influence the selection of references, data collection and analysis? The following example suggests that the researcher's personal experiences and cultural background has an effect on the research process and its outcomes:

> Example: *I am a 25-year-old Finn, born in Finland and have lived in Finland for 10 years. I have done my primary schooling in Sweden and I hold a Bachelor of Science in Business and Economics degree from the Lund School of Economics and Management. My observations and understandings are drawn mostly from case study research that I have conducted in Finnish, Swedish and English in Finland. I do not regard myself as a specialist in qualitative research even though I am interested in its advantages as a research method*.

The methods chapter of a qualitative thesis should be very detailed and written in a transparent way to allow the evaluation of the study. Table 3 illustrates an example of the structure (see page 15).

Quantitative research is conducted through analysis of numerical data, which may be collected using primary (e.g., questionnaire) or secondary (e.g., existing company reports or macroeconomic data) sources. Like qualitative research, the source and nature of the data used in a quantitative study must be extremely clear to the reader. Similarly, the approaches used to analyze the data must be explained clearly, allowing the reader to replicate the analysis with different data, if desired. The analysis of quantitative data should follow accepted statistical practices (e.g., confidence intervals, t tests, ANOVA, crosstabulations, regression modelling), with a careful distinction between describing the sample data and using the sample data to make inferences about the broader population.

Quantitative studies tend to be positivist in their orientation, with the sample data used to test hypotheses or expectations. Data collection is extremely important, and must be done carefully, with a focus on amassing a sample that is representative of the population of interest. Primary data collection requires the careful design of a survey instrument or questionnaire, with pre-testing prior to its use for the study. Secondary data collection requires the careful combining of data from different sources, with precise attention to units of analysis and timing. Neither primary nor secondary collection is easier than the other, so the researcher should opt for the approach that is the best fit with the research being undertaken.

Similar to qualitative research, the methods chapter for a quantitative thesis must be detailed and transparent. Table 4 illustrates a typical chapter structure (see page 16) .

5.4 Empirical findings and Discussion and Analysis

These two chapters present the results and analyze them in the light of the literature you have reviewed on the topic. You may want to divide the presentation of findings and analysis into two separate chapters or integrate them into one chapter. The empirical findings and especially the discussion and analysis are one of the most central parts of the thesis. The contents of presenting the empirical findings vary considerably, depending on whether the study is based on a qualitative, quantitative or mixed method. A qualitative case study is usually presented as follows: description of the research context, e.g. the case, presentation of the findings (usually structured according themes/narrative/discourses found or according to the key theoretical concepts or framework/model), discussion and analysis of the results (against the theory presented earlier). In case some unexpected findings emerge, you are expected to find relevant new references that were not introduced in the original literature review.

In a quantitative study, the following parts are usually included: basic criteria for the analyses (e.g., significance levels employed), presentation of the findings (usually structured according to the key constructs, each research question or hypothesis discussed separately), discussion and analysis of the results (relative to the theory presented earlier), and limitations of the analysis.

Figures and tables are essential in order to present the results as clearly as possible. More specifically, statistical tables are used when quantitative results are presented and direct quotations from the qualitative data (primary data such as interviews or secondary data such as newspapers, documents) are used when qualitative research is presented. Figures and tables should be integrated into the text and discussed. You need to make a decision what to present in the body of the text and what to include in the appendices. We do not recommend that you attach in the appendices extensive output from software employed in the analysis.

Table 3: Methods chapter structure of a qualitative thesis. Adapted from Zalan and Lewis (2004)

Part 1: Research Method

Unit of Analysis and Sampling Decisions

Description, definition and justification of the unit of analysis
Sampling procedures
Settings and characteristics of the sample

Data Collection

Sources of data (including their advantages and limitations)
Data collections procedures (e.g. how interviewees were identified and approached)
Researcher-informant interaction
Research protocols
Quality and reliability of data
Data limitations

Data Management, Displays and Use of Computers

Data reduction and complexity management procedures
Database size, storage and retrieval of data
Data displays
Computer software used (if any)

Analysis and Interpretation

Analytic procedures
Interpretation of data
Stages in conceptual development
Negative case analysis
Culture-specific issues in analysis and interpretation (e.g. conceptual equivalence)
Culture-specific ethical issues (e.g. a higher degree of anonymity required in some cultures)

Part 2: Evaluation of the Study

Validation of the Study

Validating the study using criteria developed for qualitative research.

Limitations of the Study

Issues related to the nature of the study (exploratory vs. explanatory), data collection procedures, researcher bias, boundaries of the study, transferability of other contexts, setting and timeframes, relationships of power between the researcher and the researched, language and cultural barriers.

Table 4: Methods chapter structure of a quantitative thesis

Part 1: Research Method

Unit of Analysis and Sampling Decisions

Description, definition and justification of the unit of analysis
Sampling procedures
Settings and characteristics of the sample

Data Collection

Sources of data (including their advantages and limitations)
Data collection procedures (e.g. how participants were identified and approached, or how secondary data were identified and accessed)
Data limitations

Data Analysis and Interpretation

Descriptive statistics (e.g., mean, median, standard deviation, correlation)
Data displays (e.g., histograms, scatter plots, if informative)
Analytical procedures (e.g., testing and modelling)
Robustness checks (e.g., match between assumptions and reality, residual analysis in regression)
Interpretation of results
Limitations of the analysis

Part 2: Evaluation of the Study

Validation of the Study

Validating the study using criteria developed for quantitative research

Limitations of the Study

Issues related to the nature of the study (exploratory vs. explanatory), data collection procedures, researcher bias, boundaries of the study, transferability of other contexts, setting and timeframes, relationships of power between the researcher and the researched, language and cultural barriers.

5.5 Conclusions

The purpose of the final chapter is to position your study in the existing body of knowledge. You should start by restating the importance of your topic, the research gap, problem, purpose of your study and the research questions. After summarising the key answers to your research questions or hypothesis you need to explain which of your findings were supported by existing research, which were not confirmed and what new knowledge did your study generate. It is also customary to include a general final evaluation of the study and present suggestions for further research.

Whether the chapter should be divided into sub-headings depends on its length. If it is longer than three or four pages, subheadings should probably be used for the sake of clarity. In that case, the sub-headings may include the following: the summary (answering research questions/research problem), theoretical contribution, managerial implications, and suggestions for further research.

6 ALTERNATIVE STRUCTURES AND OUTLINES

The previous example is only one way of structuring the thesis: there are several variations of it. When research is being conducted, it does not necessarily follow the standard linear described above. For example, data collection and analysis might occur before writing the literature review. The traditional linear structure of reporting the thesis begins with identifying the research questions and reviewing relevant literature. This is followed by data collection and analysis before the write up of the empirical results. Since the linear reporting structure strictly separates the literature review from the empirical data, it may hide the real discovery process (the moments of 'aha'). In other words, the linear model may impose on the author a structure that differs significantly from the actual research process. You can decide whether you want to structure the thesis by following the traditional linear model or the actual nature of the research process. Regardless of the structure of the thesis, the chapters and sections should flow smoothly and logically and reflect the writer's style and thinking.

An alternative structure to write-up the thesis is called the abductive approach. It views the research process as an evolution during which learning and increasing understanding of the research subject is accumulated. The research process may not be linear proceeding from point A to D but it may include moments of redirections. Following the abductive approach these redirections should be explained in the methods chapter. For example, this may take the form of reporting the initial theoretical understanding first, followed by the empirical case and a revised theoretical model or framework. The thesis is unconventionally concluded by the methods chapter reflecting the entire research process.

The literature review forming the theoretical framework of the study can be presented in different ways: A) as a preliminary theoretical framework which aims at an initial positioning of the present study in relation to existing body of knowledge; this framework is expected to evolve, B) as a summarising theoretical framework at the end of the literature review which aims at guide the empirical work by specifying the key relationships between the dependent and independent variables or constructs for qualitative researchers, or finally C) revised theoretical framework which is developed as a response to the novel empirical findings and

presented as part of the discussion or conclusions. The theoretical framework can take many different forms and has several labels such as conceptual framework or model.

Finally, there is no universally agreed structure and therefore the final structure depends on each study. If you are undecided about what structure your thesis should follow, please consult your thesis supervisor.

7 REQUIREMENTS ON THESIS LAY-OUT AND FORMAT

The thesis should be based on a critical analysis of different sources and demonstrate the author's own analytical thinking and creative contributions. The research should be based on varied source material. All sources should be referred based on practices of academic writing.

The topic of the thesis must be approved by the supervisor who will also participate in the grading the thesis. The thesis should be written in English. It can also be carried out as a team project. However, this needs to be agreed upon separately with the supervisor. In practice theses which are written as part of a collaborative project are often published as individual reports to demonstrate ability to conduct independent scientific research.

7.1 General Format Requirements

The general requirements regarding the typography of research text include clarity, clearness and undisturbed flow of argument.

Language:	English
Paper:	A4 sheets, printed either on one or on both sides of the paper
Font:	Times New Roman, 12pt
Spacing:	1,5
Marginal:	Top: 4 cm Left: 3 cm Right: 3 cm
Text Alignment:	Fully justified (All lines of text are distributed evenly from the very left margin to the right side)
Page numbering:	Bottom, centered

7.2 Table of Contents

The thesis includes a Title page, Abstract and Table of contents. The title page will be produced automatically by the e-thesis system (see Writing and handing in the Master's Thesis https://into.aalto.fi/display/enmasterbiz/Writing+and+handing+in+the+Master%27s+Thesis and abstract will be Appendices are listed as part of the table of contents. The table of contents is followed by Lists of Tables and Figures. Titles in the table of contents should match exactly the headings used in the text.

7.3 Abstract

The abstract is placed in the beginning of the thesis, right after the title page before the table of contents. The abstract is one page in length and should be written last after all the other parts of the thesis have been completed. **Note!** If for some reason your thesis is written in Finnish, the abstract needs to be written both in Finnish and in English.

The abstract of a scientific piece of research has several functions:

1. It gives the reader a clear understanding of the contribution of the thesis in a concise format.
2. It informs about latest developments in a particular field of study. Even a person without previous knowledge of the subject should be able to understand what the main findings of the study are.
3. It should serve the purposes of data search so that future researchers interested in this field of study would be able to locate this piece of work.

7.4 Headings

The headings should be clear and relatively short. There should be at least two headings at the same level of hierarchy. If you are unable to separate more than one subheading from one chapter, the main heading should be sufficient. In other words, single subheadings are not recommended. If there is 2.1.1, there should also be 2.1.2. On the other hand, if two or more aspects are dealt with under the same chapter, each deserves its own subheading. It is important for the reader to understand the hierarchy between the headings. The following type of numbering is preferred in the text:

1 INTRODUCTION
1.1 Background
1.2 Research Objectives

The table of contents should include the main headings, first subheadings and in some cases also second subheadings.

7.5 Numbers

Spell out numbers one through nine; use numerals for numbers 10 and above. When referring to millions use numerals before the word “million” (e.g., 3 million; 45 million).

Percentages are always indicated with numerals followed by the symbol %. Write out years in full (e.g., 1972–1976, not 1972–76).

Refer to page numbers as follows: 1–5; 68–69; 11–12; 115–19; 13–18; 1–23; 1156–89; 1133–29. In decimals, use a leading zero (e.g., 0.123, not .123).

7.6 Mathematical material

Long mathematical expressions should be indented on a separate line and should be identified by consecutive Arabic numerals in parentheses flush with the right margin.

Short expressions should remain in the text unless there is a need to refer to them elsewhere in the text. Use italic type for variables in equations and in the text; use bold type for vectors and matrices. Use a lowercase x, not an asterisk, to indicate multiplication.

7.7 Tables and Figures

Tables and figures are numbered consecutively in the order in which they are cited and placed within the text. Each table and figure must have a brief title (e.g., Table 1. Answers received from international organizations). The title should be placed above the table/figure and the source below it. It is important to integrate the table into the text by discussing and referring to it.

7.8 (End) Notes

Use notes only when it is necessary to explain or amplify text. Do not use notes to cite materials as notes tend to distract the reader. As alternatives to end notes, please consider adding an appendix.

7.9 Appendices

Any relevant detailed or extensive background information is included as an Appendix. The title of an appendix is written on top of the page. Appendices are numbered: either in Roman numerals in the upper right hand corner (e.g. Appendix III) or in Arabic numerals in front of the title (e.g. Appendix 1. Title). Appendices are not numbered as part of the preceding text. If an Appendix contains two pages for example it should be numbered as follows: Appendix III, 2. It is common to include as an appendix the interview guide, the letter or email sent to companies to encourage them to respond to a survey, or a set of typical survey questions.

8 REFERENCING

Referencing should be done using Harvard System of Referencing. Click for instructions http://libweb.anglia.ac.uk/referencing/harvard.htm

8.1 Referencing in text

There are various techniques used for referencing. We recommend that you use the Harvard System of referencing which means that references are inserted into the body of the text in parentheses (author, year, and page for direct quotations only).

Examples from the Harvard System of Referencing Guide

> Cormack (1994, pp. 32-33) states that 'when writing for a professional readership, writers invariably make reference to already published works'.
>
> In general, when writing for a professional publication, it is good practice to make reference to other relevant published work. This view has been supported in the work of Cormack (1994, pp. 32-33).

All quotations and sources quoted directly or referred to indirectly must be referenced. As a general rule, direct quotations of less than three typewritten lines are usually run into the text in quotation marks. Longer direct quotations are indented and single-spaced. Any alterations of direct quotations are forbidden (other than acceptable changes in capitalization and end punctuation).

The preferred way to refer to literature in the text is:

> Marschan (1996, 59)

Please, be consistent with the chosen style of referencing.

If the reference has two authors, the last names of both of them should be mentioned and the names will be connected with a & -sign.

> Marschan & Welch (1997, 55)

Should there be more than two authors, only the first one will be mentioned and connected to the others with the expression ‘et al.’

> Marschan et al. (1997, 56)

If the same author/authors have two separate references from the same year they will be separated from one another by adding the letters ‘a’ and ‘b’ to them in the text references as well as in the list of references.

> Marschan (1996a, 34)
>
> Marschan (1996b, 78)

When using one reference repeatedly, the name of the author need not be repeated. Instead, itis common practice to use ‘ibid’ along with the page number. However, it should be clearfrom the context which reference is being referred to by ‘ibid’.

> (Ibid, 89)

The referencing discussed in this guide is based on Harward System of referencing. Other accepted methods of referencing are the Oxford style, for example:

- References in numbered footnotes. The footnotes at the bottom of the page are separated from the text by a 5 cm-long line separated by one empty line from the rest of the text.

8.2 List of References

Irrespective of the referencing style, all sources must be listed alphabetically at the end of the report according to the last name of the author. If the name of the author is not mentioned, the name of the reference or its abbreviation will be used. If there are several authors, all of their names will be listed in the same order as in the original work. If several works of the same author have been used in the thesis, they will be listed in the order of publication, from the newest to the oldest. The different information in the list of references will be separated by a full stop. The complete list of references allows the thesis examiners to check the original sources and fellow researchers to identify important references. It is critical that the reference list matches exactly the references mentioned in the body of the thesis. In the list of references, books and articles may be combined under the heading 'publications'. Other sources should be listed separately under appropriate headings such as Newspapers and Interviews.

8.2.1 Referring to a book

1 The last name and the first names or initials of the author, in the way they have beengiven in the cover of the work.
2 Year of publication
3 The name of the work, which will can be in Italic
4 The edition, if not the first
5 Name of the publication series if this work has been published in a series
6 Publisher and publisher's location

Patton, M.Q., 1990. Qualitative Evaluation and Research Methods. Sage Publications: Newbury Park, California.

8.2.2 Referring to a chapter in an edited book

1 The name of the author
2 Year of publication of the book
3 The title of the article
4 The name of the editor is followed by (ed.) and the names of several editors by (eds.).
5 The name of the edited book which will be in Italic
6 The volume of the magazine
7 Page numbers of the chapter in the edited book

Weiss, L., 2008. Developing Tangible Strategies. In T. Lockwood and T. Walton, ed. *Building Design Strategy: Using Design to Achieve Key Business* Objectives. Allworth Press: New York. Ch. 8, p.79-86.

8.2.3 Referring to an article in an academic journal

1 The name of the author
2 Year of publication of the article
3 The title of the article
4 The name of the journal which will be in Italic
6 The volume and number of issue of the journal
7 Page numbers of the article

8.2.4 Information about interviews

1 The name of the interviewees and his/her position in the organisation
2 The organisation and its location
3 Date, place and time of the interview

8.2.5 Information from the Internet

1 Name of the author(s) (if given)
2 Name of organization
3 www-address
4 date when last updated or accessed (if the date of update is unavailable)

9 APPENDICES

Appendix I: Master's Thesis Rubric

I Problem setting of the study, attributes 1-2
II Contribution and the use of scientific methods, attributes 3-10
III Presentation and integration of the study, attributes 11-14

Measurable Attributes	0 – Insufficient	1 – Sufficient	2	3 – Good	4	5 – Excellent
1. Explication of how the study relates to a phenomenon or area of interest	Provides a vague or no description of the relationship.	Provides some explication of the relationship.		Provides a clear explication of the relationship.		Explicates the relationship in an insightful manner.
2. Specification of the research problem, objectives and/or questions	Provides very vague or no description of the research problem, objectives and/or questions.	Provides limited specification of the research problem, objectives and/or questions.		Provides clear specification of the research problem, objectives and/or questions.		Provides an insightful specification of the research problem, objectives and/or questions.
3. Positioning of the research problem within the discipline	Does not position the research problem within the discipline.	Positions the research problem within the discipline to some extent.		Positions the research problem appropriately within the discipline.		Positions the research problem solidly within the discipline.
4. Review of literature	Reports on earlier literature without connecting it to the research question and/or objective, possibly omitting key references.	Reports on earlier literature without connecting it fully to the research question and/or objective.		Reviews earlier literature relevant to the research question and/or objective in an appropriate manner.		Demonstrates critical thinking in reviewing earlier literature relevant to the research question and/or objective.
5. Development of a theory-based research framework, model and/or hypotheses	Does not use a theory-based research framework, model and/or hypotheses.	Applies a framework, model and/or hypotheses loosely based on theory.		Develops or applies a theory-based research framework, model and/or hypotheses.		Develops an innovative theory-based research framework, model and/or hypotheses.
6. Selection and justification of research methods	Selects inappropriate research methods, does not justify or link them to the research questions or objectives.	Selects appropriate research methods, but does not justify them clearly or create a linkage to the research questions or objectives.		Selects appropriate research methods that are justified and linked to the research questions or objectives.		Selects appropriate, sophisticated, and rigorous research methods that are clearly justified and linked to the research questions or objectives.

7. Selection and justification of research material or data	Selects inappropriate research material, does not justify it, or link it to the research questions and methods.	Selects applicable research material that is weakly justified and/or linked to the research questions and methods.		Selects appropriate research material that is justified and linked to the research questions and methods.		Selects rich research material that is fully justified and solidly linked to the research questions and methods.
8. Application of research methods	Applies research methods in an inappropriate manner.	Applies research methods in a broadly appropriate manner, with some implementation weaknesses that affect the outcome.		Applies research methods in an appropriate manner.		Applies research methods with rigor and proficiency.
9. Analysis and presentation of data/findings (including diagnostics)	Analyses and/or presents data/findings inadequately.	Provides mostly adequate analysis and presentation of the data/findings.		Provides clear and competent analysis and presentation of the data/findings.		Provides rigorous and convincing analysis and presentation of the data/findings.
10. Discussion and interpretation of findings, including limitations	Fails to relate findings to existing literature; provides superficial or erroneous interpretations; provides limited or no discussion of the limitations.	Discusses some connections between findings and existing literature on a general level; provides limited interpretations; addresses some limitations of the study.		Discusses findings and relates them appropriately to existing literature; provides appropriate interpretations; addresses the key limitations of the study.		Discusses thoroughly and critically the findings in relation to existing literature; provides perceptive interpretations; discusses the limitations appropriately.
11. Development of practical, societal, and/or theoretical implications and discussion of avenues for future studies	Fails to develop implications of the study; fails to suggest avenues for future studies.	Develops some implications of the study; presents some avenues for future studies.		Develops clear implications of the study; presents avenues for future studies.		Develops insightful implications and avenues for future studies.
12. Knowledge of ethics in academic research	Fails to conduct research according to academic norms.	Shows awareness of ethical issues; may report on them.		Demonstrates knowledge of ethical issues; may discuss them explicitly.		Displays competence in addressing ethical issues in academic research; may provide suggestions of advanced or innovative solutions to ethical problems.

13. Academic style, language use and readability	Uses non-academic style; inaccurate language use interferes with reading and comprehension; citation format not observed.	Uses sufficiently appropriate academic style; inaccurate language use does not interfere substantially with reading and comprehension; use of illustrations and examples infrequent and/or not fully competent; citation format not always observed.		Uses academic language fluently; minor errors may exist but do not interfere with reading and comprehension; illustrations and examples contribute to the clarity of the arguments; citation format almost always observed.		Produces a thesis that meets academic writing standards; readily conveys meaning; illustrations and examples enhance the clarity of the arguments; citation format consistently observed.
14. Consistency and coherence of the thesis	Text is fragmented and unbalanced; internal links among theory, methods and results are not explicit; problems with headings and paragraph and section structure.	Text is not fully balanced; some key internal links are missing; does not fully form a coherent whole; some problems with headings and paragraph and section structure.		Forms a balanced and coherent whole; some internal linkages are implicit rather than explicit; headings and paragraph and section structure typically support the overall coherence.		Forms a coherent whole with consistent and explicit internal linkages; has a logical flow of argumentation with neat headings and clearly structured paragraphs and sections.

Appendix II: Example of an analytical table summarizing the existing literature

	Gupta & Govindarajan 2000	Kostova 1999	Lucas 2006	Minbaeva 2005	Szulanski 2000
The theoretical focus of the study	The study formulizes a theoretical framework of the determinants of intra-MNC knowledge transfers. **Research question:** What are the determinants of intra-corporate knowledge outflows from and inflows to foreign subsidiaries?	The study investigates the transfer of strategic organizational practices in the MNC. Model draws on the idea that transfers are embedded in three types of context – social, organizational and relational – that operate at the level of the country, the organization and the individual, respectively. Those contexts affect the transfer process. **Research question:** Not mentioned	The study investigates the role of culture on knowledge transfer. The model uses Hofstede's (2001) framework and develops a conceptual model of knowledge transfer and the associated propositions **Research question:** How do subsidiaries deal with the challenges to knowledge transfer efforts posed by cultural differences?	The study investigates the impact of HRM practices to knowledge-related outcomes in an MNC. **Research question:** How various HRM-practices influence knowledge-related outcomes in an MNC?	The study identifies stages of knowledge transfer and factors that are expected to correlate with difficulty at different stages of the transfer. **Research question:** Not mentioned.

Source: Thuneberg, P. 2008. Master's thesis: From pitfalls to possibilities: Challenges and facilitators of interunit knowledge transfer in an MNC

Appendix III: Example of an analytical table summarizing the existing literature

Empirical evidence of the study	Data from 374 subsidiaries within 75 MNCs headquartered in the U.S, Europe and Japan.	No empirical evidence.	No empirical evidence.	Data from 92 subsidiaries of Danish MNCs located in 11 countries.	Data from 122 transfers of organizational practices within 8 firms.
Definition of knowledge transferred	Knowledge is defined as *"know-how."* Study discusses *marketing* know-how, distribution know-how, packaging/design technology, product designs, process designs, purchasing know-how and management systems and practices.	Strategic *organizational practices* are those practices considered to be dominant, critical or crucial for achieving the strategic mission of the firm.	*Knowledge* is embedded in technologies, routines, practices and people.	*Knowledge* is defined as marketing know-how, distribution know-how, packaging design/technology, product designs, process designs, purchasing know-how and management systems and practices.	*Transfer of best practice* inside the firm connotes the replication of a superior internal practice within the organization that provides better results than any known alternatives. Practice refers to the organization's *routine use of knowledge.*
Stages of the transfer process	Not mentioned.	Emphasis of the study is on the implementation and internalization stage of the practice transfer.	Once knowledge is acquired, one must make adjustments such that it can fit into the new context. That is, it needs to be transformed into be applicable in the new environment where it can be employed.	The knowledge transfer process is explained to start from planning issues (e.g. staffing). The HRM-practices should make it possible for the knowledge recipient to apply and utilize the new knowledge.	The process consists of four stages that are initiation, implementation, ramp-up and integration stage.

Source: Thuneberg, P. 2008. Master's thesis: From pitfalls to possibilities: Challenges and facilitators of interunit knowledge transfer in an MNC

Appendix IV: Example of an analytical table summarizing the existing literature

Key persons involved in the process	*Both individual employees and managers* are responsible for knowledge transfer.	The success of transfer is thought to reside primarily in the individual *employees at the recipient unit.*	The theory sees MNC as a network, where the key role in knowledge transfer is on all *employees and their mutual relationships*.	The main role lies at *HRM-department* that should manage the knowledge transfer process so that it is as efficient as possible. As employees have an important role, because they apply knowledge.	The knowledge *sender's* involvement and contribution is most needed for the initiation and implementation stages. Attributes of the *recipient* are likely become increasingly important as the transfer unfolds. *Managers* should coordinate knowledge transfer efforts.
The role of motivation in the transfer process	Motivation has impact on employees' willingness to acquire knowledge and thus it has impact on knowledge inflows to the subsidiary. Motivation did not seem to have impact on willingness to share knowledge with other units and thus it has not impact on knowledge outflows from the subsidiary.	Motivation in the form of organizational commitment, job satisfaction and psychological ownership are mentioned to be important in the institutionaliz ation stage of practice transfer.	Motivation is an important element in knowledge transfer. It is important to understand that people from different cultures motivate from different things.	Motivation is important and HRM should provide different motivational practices, such as promotion and compensation.	A highly motivated recipient can both initiate a transfer but also complicate its implementation.
How is a successful knowledge transfer defined?	Not mentioned.	Practice transfer is successful when is has been implemented and internalized at the recipient unit and the employees have developed a sense of ownership towards it.	When knowledge transfer efforts provide the desired results and the new knowledge becomes embedded within the organization's fabric.	Not straightly mentioned, but application of knowledge is considered important.	The transfer has succeeded when the use of new knowledge becomes gradually routinized at the recipient unit.

Source: Thuneberg, P. 2008. Master's thesis: From pitfalls to possibilities: Challenges and facilitators of interunit knowledge transfer in an MNC

Appendix V: Example of an analytical table summarizing the existing literature

Possible problems in the process	Motivational problems, too low number or quality of knowledge transmission channels, lack of absorptive capacity and low status of subsidiary's knowledge stock.	Social context: Differences in national cultures, norms, values, laws and rules between the subsidiary and the parent company. Organizational context: Different organizational cultures, values and communication patterns. Relational context: Also low trust, identification and commitment to parent may cause the situation that subsidiary is not motivated to implement a practice.	Cultural differences: motivational problems, lack of managerial commitment to knowledge transfer, lack of control, lack of autonomy, willingness not to take a risk, different values.	The knowledge receiver's do not have ability to recognize value of new information and apply it to commercial ends (low absorptive capacity). Motivational problems. The organizational culture does not offer learning opportunities and systems.	Problems to recognize opportunities to transfer knowledge and to decide whether to pursue it, communication problems between the source and recipient, coordination and motivation problems, lack of skills to utilize the knowledge, unexpected problems that occur during the process, problems in acceptance of the practice at the receiving unit and unlearning barriers.

Source: Thuneberg, P. 2008. Master's thesis: From pitfalls to possibilities: Challenges and facilitators of interunit knowledge transfer in an MNC

Appendix VI: Example of an analytical table summarizing the existing literature

Possible facilitators in the transfer process	Other subsidiaries' appreciation of single subsidiary's knowledge stock, a variety of knowledge transmission knowledge transmission channels (both formal integrative mechanisms and corporate socialization mechanisms), incentives that increase motivation, headquarter-subsidiary decentralization, a greater number of local nationals in the subsidiary's top management team.	Similarity of regulatory, cognitive and normative institutional environment and values between the parent and the subsidiary. Also an organizational culture that has positive attitudes towards learning, innovation and change facilitate the practice transfer. Also commitment to parent, identifying and trusting the parent facilitate the transfer.	Similar cultures, managerial commitment to knowledge transfer, common and clear rules of knowledge transfer and incentives.	Extensive recruitment and selection procedures for new employees, establishment of objectives and targets for the self-development and training of employees, promoting employees from within the firm, internal job transfers, performance-based compensation system that reward employees for their job and personal contribution to organizational performance. A combination of HRM-practices has greater effect on organizational outcomes than the sum of the individual effects from each practice alone.	Organizations should understand the transfer process so that they can beforehand anticipate the possible knowledge transfer problems. Organizations should also try to learn from the previously occurred and solved transfer problems.

Source: Thuneberg, P. 2008. Master's thesis: From pitfalls to possibilities: Challenges and facilitators of interunit knowledge transfer in an MNC