

WRITING A MASTER THESIS (M.SC.) AT THE ENDOWED CHAIR OF PROCUREMENT

– Information for Students –

PURPOSE OF THIS DOCUMENT

These guidelines shall help to structure the process of writing a Master Thesis and to avoid common mistakes. However, this document should not be regarded as an exhaustive presentation.

REQUIREMENTS AND EXPECTATIONS

The master thesis constitutes an important element of the Master of Science (MMM) program. It represents an **independent piece of scholarly work**, which testifies not only the student's knowledge of the foundations, structures, and methodologies underlying a given topic, but also the ability to approach and structure a problem independently. Our expectation is that master theses make an original contribution to knowledge.

CHOOSING A TOPIC

The initial and most important step is the choice of the master thesis topic. You should endeavor to find a topic which...

- ... is of direct and intense interest to you. However, it is a common mistake to spend too much time trying to find “the optimal” master thesis topic. Please realize that there is a variety of possible topics that are suitable.
- ... is not so remote from your area of expertise that acquiring the necessary background will lead to an excessive delay. For this reason, attendance of one of our seminars (OPM 791 or OPM 792) is typically a formal requirement. Exceptions are possible, but have to be discussed with Prof. Dr. Bode.
- ... is of academic and/or practical relevance.

If you are interested in procurement, supply management, or industrial marketing management, we will support you in the endeavor to find a suitable topic.

(1) Suggested topics

At the Chair's offices, you find a list of suggested topics, which tie in closely with ongoing research projects at the chair. **We encourage you to have a close look at these topics and consider them.** If you have specific questions about any of the listed topics, please contact the indicated contact person directly by email.

(2) Topics based on own ideas or internships

If you have your own ideas or wish to conduct your master thesis within a company, please ensure that the substantive area in which you wish to do research is closely linked to our areas of expertise. So, please see the Chair's research interests and publication records before you contact us.

Based on your interest in one of the suggested topics or your proposal, we will arrange a kick-off meeting for further specification of the topic. **Prior to the meeting, send us your CV and current transcript of records by email** so that we know about your background and specific skills.

After the kick-off meeting, students must first **submit a short proposal**, which includes the following elements:

- **Title:** The title should clearly and succinctly convey the essence of the study.
- **Purpose/Research problem/research questions:** Here, the research problem that you seek to address should be made clear. What is the puzzle that you are trying to solve? Why is it a puzzle?
- **Design/methodology/approach:** The design of the study (i.e., case studies, action research, econometrics, linear programming, etc.) is essential.

If the proposal is considered appropriate for the discussed topic, the thesis can be registered.

MANAGING THE PROCESS

- During the first weeks, create an outline of the thesis and present it to your supervisor.
- Always keep in mind: A master thesis is an **independent** piece of work! Therefore, **we expect you to work independently and show initiative, leadership, and creativity** in the sense that you **tackle upcoming questions and problems yourself, before contacting your supervisor**. The role of your supervisor is to guide you through your thesis (e.g., hint at important literatures, give possible directions, suggest ways out of dead ends), but the actual work has to be done by you. You may get stuck, of course. After exhausting your possibilities, you are always welcome to solicit help.
- Prepare the scheduled meetings with your supervisor upfront. The more specific the questions are, the more elaborated the feedback will be. A preparation can be a detailed agenda or some slides describing your problem and questions. Send this material to your supervisor at least 24 hours prior to the actual meeting.
- While you write your master thesis at our chair, you are invited to participate in the **Master Colloquium Procurement (OPM 790)**. In this colloquium, all current master candidates of our chair and the chair's staff will participate. One of the master candidates presents his preliminary results. You are invited to participate actively. Ask questions about the work and the results as well as make suggestions for further research. The colloquium gives you an idea how to reflect critically the work of others.
- At about mid-time, we invite you to present your preliminary results in our master colloquium. Please prepare some slides covering your research gap and questions, the major literature streams covered, your research approach, your preliminary results, and your next steps until completion of the thesis. Plan about 20 to 30 minutes for your presentation and allow about 15 minutes for the subsequent discussion. The presentation offers you the opportunity to receive a broad feedback from the chair's staff as well as your fellow students. In addition, you learn how to present and defend your work.
- Do not wait until the last minute. Last-minute efforts usually read like last-minute efforts! Plan backward from the date the master thesis is due to allow plenty of time to get it done. A good master thesis requires careful preparation, research, critical thinking, writing, and review. These steps take time. Also, allow time for the unexpected.
- In case of illness or other severe impediments, the deadline can be extended by the examination office.

DOING THE RESEARCH

Good research is the foundation of your master thesis. Everything starts with your research question(s)! It stands to reason that without a solid foundation, the master thesis you write will inevitably be weak. Research relies on knowledge compiled by and analysis done by others. If you write a master thesis without consulting the literature, then you have written an essay, not a research report. As a general rule, your master thesis will be stronger if you use a good variety of the most fundamental, most up-to-date, and most specific resources.

When you are doing your research it is important to be creative. Start out by reading the references provided by your supervisor and/or a few general studies on your topic. This will give you a broad grasp of your topic and will help you to identify what is important and on what you need to focus your research. Libraries and online-sources contain many types of resources that you can utilize to do your research. The following list is a mere beginning:

- *Books*. Some books are fundamental to the procurement and supply chain field, and at least touch upon the topics assigned for the master theses.
- *Articles in scholarly journals*. Scholarly journals can deal with certain topics in much greater detail than (reference) books can do. Also, you must consult scholarly journals because scholars may have found new information or conducted new analyses.
- *Articles in practitioner journals*. Practitioner journals may touch upon certain up-to-date topics. For some contemporary topics, books are not yet available. In such cases, practitioner journals are more likely sources of information and analysis. You may consult practitioner journals even for non-contemporary topics because they are a valuable source of examples and case studies to be integrated in the master thesis.
- *Newsmagazines and newspapers*. If you are covering a current topic or need to have a day-by-day account of events and cannot find one elsewhere, you may also turn to newsmagazines and newspapers. Be sure, however, to check with your supervisor to ensure that these are considered acceptable sources for your assignment. Mostly they are useful for facts or for contemporary quotes and are usually not good sources of analysis.

PREPARING THE MASTER THESIS

(1) Structuring the document

The document should consist of the following:

- *Title page* should contain the following information “University of Mannheim”, “Endowed Chair of Procurement”, “Prof. Dr. Christoph Bode”, [Type of work] e.g. “Master’s Thesis (M.Sc.)”, [Title], [name], [address], [Student ID number], [supervisor], [due date].
- *Table of contents*: Shows the structure of the thesis.
- *List of abbreviations* (optional): Lists all abbreviations used except for commonly known ones.
- *List of figures*: Lists all figures in the thesis with number and caption.
- *List of tables*: Lists all tables of the thesis with number and caption.
- *Abstract*: Short summary (ca. 200 words)
- *Text*: From introduction to conclusion (see below).
- *List of references*: Reports all references cited in your thesis, including (but not limited to) (peer-reviewed) journal articles, book chapters, books, newspaper articles, web pages. Has to follow a specific reference style (see below).
- *Appendix* (optional): Very detailed but relevant information should be placed in the appendix, such as data collection instruments, detailed analyses, programming source code, or detailed descriptions. All appendices should be referred to in the thesis. If there is more than one appendix, they should be identified as A, B, etc. (optional).
- *Signed affirmation/ Eidesstattliche Erklärung (in German)*: The template can be found in the current version of the examination regulations for your course of studies.

More specifically, the text of the master thesis should have:

- An *introduction*, which is the key to letting your reader know where you are headed and what you will accomplish. Motivate your research questions so that the reader is interested in your thesis.

Remember always that while the organization of your master thesis may be clear to you, it is not clear to your reader. Therefore, the introduction is something like a road map that acquaints the reader with the journey ahead. This will make it easier for the reader to understand what follows and will improve the reader's evaluation of your work. Tell the reader in concise terms what the subject of the master thesis is and why it is relevant. State the objectives or research questions of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

- A *main body*, which represents the largest part of the master thesis. It should have a logical organization. Divide the main body into sections designated by headings and subheadings (depending on the research approach and methodology). Also with regard to your main body, do not assume knowledge on the part of the reader. Include all important information, explain its significance, and detail your logic. Firstly, familiarize the reader with the underlying theoretical concepts regarding the subject under scrutiny and the chosen methodology. Explain the current state-of-the art in the respective field of study. Secondly, develop your own framework by capitalizing on the previously explained concepts. Thirdly, use the framework to answer your previously defined research questions. Your supervisor wants to know what you know and will not necessarily “read into” the master thesis information that is not there. Do not forget to provide sufficient methodological detail to allow the work to be reproduced.
- A *conclusion* section, which sums up what you have found and stresses the evidence that supports your analysis. The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion section. There is something very human about wanting to have things summed up, so do not leave your reader hanging without a conclusion. Discuss the limitations of your work and provide an outlook on future research.

(2) Writing the Master Thesis

A master thesis has usually **between 50 and 60 pages**. Besides structure, the other hallmark of a good master thesis is clarity in writing. It is also important to realize that your report will be judged in part by such standards as neatness, grammar, and spelling, and other such technical criteria. Remember that if a master thesis fails to communicate well, then its research – no matter how well done – will have little impact. Following you will find some essential style considerations:

- *Watch your sentence structure*. Students and scholars too often seem to assume that long, complex sentences are symbolic of profundity. They are not; they are mostly just cumbersome. Simple, subject-verb-object sentences are best. They are powerful. Still, if you do not vary them occasionally, numerous short sentences do not “read” well. So, after several simple sentences, add a longer one. However, do not go too far the other way. Consider “Rourke’s Rule of 2s”: “Sentences more than two lines long or with more than two commas are probably too long to be understood easily, especially if there are two in a row.”
- *Use Standard English*. Colloquial English typically does not make a good impression unless you are writing fiction.
- *Avoid starting too many sentences with adverbial or adjectival clauses or phrases*. These are the short phrases (such as “In the later stage of the life cycle, the firm is exposed ...”) that are often followed by a comma. Also shun repeatedly beginning or ending sentences with words or phrases such as: however, though, for example, for instance.
- *Watch your paragraph length*. Paragraphs over one page in length are usually too long. They may contain redundant statements or more than one major idea. Rework such paragraphs to delete unnecessary text or to separate ideas into additional paragraphs. At the other extreme, one-sentence paragraphs are not acceptable. Remember that each paragraph should have a topic sentence and several others that explain or develop that topic.

- *Get to the point.* Avoid verbiage, buzzwords, inflated rhetoric, and do not overdo it with salesmanship and bombast.

Your master thesis must be free of common writing mistakes. Cautions about some of these are:

- *Avoid sentence fragments.* Every sentence must have a subject and a verb.
- *Check your spelling.* Misspelled words make you appear uneducated, careless, or both. Keep in mind that misspelled words and typographical errors cannot be distinguished from each other by a reader. Both are unacceptable. Try it. Do not rely on just your own sense of how words are spelled. Use a dictionary, the “spell check” program on your computer, and a second reader to proofread your drafts. Nevertheless, it is crucial to have a human scan your words.
- *Know when and how to use specific punctuation.* Consult dictionaries and style manuals on the proper usage of commas, colons, semicolons, parentheses, brackets, and the like.
- *Make sure subjects and verbs agree.* Subject-verb disagreement is most likely to occur when the two are separated in the sentences by several other words.
- *Be careful of verb tense.* Many poor writers use only present tense. Use past tense, future, and other tenses as appropriate. Also be careful to keep verb tense consistent within paragraphs.
- *Avoid the use of contractions.* Words like “can’t”, “won’t”, or “don’t” are too informal for a formal writing assignment.
- *Be careful of abbreviations.* In logistics and supply chain management a large number of abbreviations is used. But do not expect the reader to be familiar with them. The first time you use an abbreviation, provide the full word(s). Also do not use an acronym unless it is very common without first spelling out the full name, as in, the North Atlantic Treaty Organization (NATO).

(3) Formatting

A well-formatted and stringent layout emphasizes your research findings. Therefore, pay attention to a neat appearance of your thesis.

- *General layout.* Print only on one side of a page. Use Times New Roman as font with a 12pt size and a line spacing of 1.5. In footnotes use the same font with a 10pt size and single line spacing. Set your page to full justification with hyphenation. The top, right and bottom margin are 2.5 cm, the left margin is 3.5 cm (for binding). Page numbering is on the bottom of the page.
- *Numbered sections.* As described above, divide your thesis into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, etc.), 1.2, etc. Each heading should appear on its own separate line. Remember: If there is a 2.1.1 then there should also be a 2.1.2. Use the numbering also for internal cross-referencing.
- *Footnotes.* Footnotes should be used sparingly. Number them consecutively throughout the thesis.
- *Figures.* All figures should be numbered according to their sequence in the text and referenced in the main body of the thesis. Preferably, use a sans-serif font (Arial or Helvetica) inside figures.
- *Tables.* Tables have to be integrated as editable text and not as images, and consecutively numbered in accordance with their appearance in the text. Any table notes have to be placed below the table body. It has to be referred to any table in the body of the text.

CITATIONS, FOOTNOTES AND BIBLIOGRAPHY

(1) When to cite?

In research, you always build on the previous work of others (“dwarfs standing on the shoulder of giants”), which has to be cited. There are two reasons that citations are mandatory. The first is to allow the reader to explore the subject further by consulting the works that you have used. Second, intellectual honesty requires citations. Failure to use them is plagiarism, which is unacceptable in any form.

Plagiarism is the theft of the thoughts, facts, sentences / text blocks, or knowledge of others by not giving them proper credit. Follow these guidelines to protect yourself:

- Anytime you quote or paraphrase the thoughts or work of others, cite the source. It is incorrect to believe that only quotations require citations. You should also insert a note whenever you are relying on someone else's thoughts or research, even if you are only paraphrasing (putting it in your own words).
- Simple, commonly known facts need not be cited. A rule of thumb is that if you did not know the information before you started the master thesis, then you should use a citation to show where you found the information. Also, even if you know something when you start, you should cite the source of any controversial "fact".
- When in doubt, cite the source. Plagiarism is unethical and has serious consequences. Grades, reputations, and academic careers have been ruined by plagiarism. Err on the side of safety. One citation too many is far better than one citation too few. We take the issue of plagiarism extremely seriously!

(2) How to cite?

The use of correct formats for citations – in-text and in the list of references – often seems complex and cumbersome. However, the advantages of following a consistent format are completeness and consistency. Preferably, the formal style of a master thesis should follow the APA guidelines. For more details, see:

American Psychological Association (2010). *Publication Manual of the American Psychological Association*, 6th ed., Washington, DC: American Psychological Association.

Please ensure that every reference cited in the text is also present in the list of references (and vice versa).

COMPLETION

At or before the fixed deadline, you have to submit **one hard copy** (with appropriate binding, e.g., metal or plastic spiral binding; we do not need leather binding with gilt edged pages) and **soft copies**, including **source files** (MS Word or Latex) and a **PDF** file, of the master thesis. The grade will be based on these documents.

ASSESSMENT

- *Content* (75%, structure; research question(s), motivation, and relevance; comprehensiveness of answers to research question(s); literature and background; strength of logic/ consistency of argumentation; methods (justification, application, limitations); interpretations, discussion, and recommendations).
- *Writing* (10%, technical terms are used and defined; readability of the text).
- *Form* (15%, correct citations; consideration of formatting guidelines; orthography).

Please note that we will also **consider the extent to which you worked independently** (i.e., without direct help from your supervisor) and demonstrated initiative in solving the given tasks and problems.