GOETHE UNIVERSITÄT
FRANKFURT AM MAIN

Wirtschaftswissenschaften
Management und Mikroökonomie

Professur für Institutionen- und
Innovationsökonomik, insb.
Japan/Ostasien

Prof. Dr. Cornelia Storz

All You Need to Know: A Master Thesis Guide

Created for students of MEAS Program and Master Students of FB 02

Goethe Universität Frankfurt am Main

Table of Contents

1. A Guide to writing scientific papers

When preparing scientific papers, such as master theses, various guidelines should be considered, which are described below. We do not claim that the information provided herein is exhaustive, meaning that you are deliberately given room for your own discretion in the preparation of your scientific work. However, care should be taken to ensure that the adopted approach is consistent, hence, it does not conflict with the described principles, applied uniformly and meets scientific requirements.

1.1. Formatting guidelines

All scientific papers should be 60 ± 10 pages long. Further, all scientific papers should meet the following requirements the following standard: Page margin should be set to 3 cm left, 4 cm right with the Times New Roman (12 pt.), justified and with 1.5 line spacing.

1.1.1. Page numbering

Except for the cover sheet, all sheets shall be numbered. The details preceding the main text (table of contents, table of symbols and figures) are to be numbered with Roman page numbers and the remaining pages with Arabic numerals (e.g., Page 1: Introduction).

1.1.2. Citation format

In principle, every quotation must be verifiable with the help of the list of references. Quotations used but not explicitly marked can lead to a negative evaluation of the work, up to grading with "not sufficient", if it is demonstrably plagiarism.[1] Direct quotations begin and end with quotation marks. For indirect quotations (i.e. when the thoughts of an author are described analogously), no quotation marks are used. References to publications are made within the current text. The respective page number should be added to each quotation (direct or indirect).[2]

1.2. The basic structure of a scientific work

1.2.1. Cover page

The cover page of the thesis must contain the following information: title, course, organizer and semester, faculty, supervisor, and information on the author (name, matriculation number, address, telephone, e-mail, subject of study and semester number) and the submission date.

1.2.2. Table of contents

The table of contents (with page numbers) is to be placed before the paper and should be separated

---

[1] Papers will be checked at random using a digital application to see whether there are any plagiarized materials used in the thesis.
[2] See Subsection 1.2.6 for further details.

from the cover page. It should be self-explanatory and reflect the argumentation structure of the paper. Try to find "speaking" headings. The structure is a central component of the work and is included in the grading. Pay attention to a logical outline structure: If outline point 2.1 exists, there must also be outline point 2.2. The explanations in 2.1 and 2.2 are then essential regarding the statements of the entire chapter.

1.2.3. Table of symbols

The table of symbols contains all symbols and variables used in the work with their respective definitions. Add this section only if applicable.

1.2.4. Table of figures

The Table of figures lists all figures with their numbers and headings.

1.2.5. Main Body

Before starting the actual writing process, you should ask yourself the following questions:

- *How does this paper change, challenge, or fundamentally advance our knowledge of the concepts, relationships, models, or theories embedded in the literature on "X"?*
- *How does this paper cause us to think about "X" in a way that would not normally be anticipated from extrapolations of existing work, thereby advancing future work in an important and useful way?*

Once you have reached an answer, you can structure the main body of the thesis with the following sections: (1) Introduction, (2) Literature Review, (3) Data Section, (4) Analysis, (5) Results and Discussion and (6) Conclusion. These six sections should be able to capture the following phrases (Patriotta, 2017):

- *This is what I am focusing on*
- *This is why it is relevant*
- *This is what is known/not known (and why it needs attention)*
- *This is my burning question*
- *This is how I aim to address the question (theoretically/empirically)*
- *This is what I did*
- *This is what I found*
- *This is what it means*
- *This is what I add*
- *This is why you should care*

The introduction in Section 1 should be able to condense all the 10 phrases into 2-3 pages wherein it would highlight all the steps that will be laid out in Sections 2-6. The literature review on Section 2 should expound the phrase "This is what is known/not known (and why it needs attention)." The selection criterion for Section 2 is not about the completeness of the literature, but the benefit to your research question. The terms essential for understanding your work should be explained and narrowed down in such a way that it becomes clear how they are used in the work. Section 3 would then highlight the data and method that you are going to use. Here, expounding the phrase "This is how I aim to address the question (theoretically/empirically)," meaning, you should justify the reason why you would like to answer your research question in a theoretical or empirical (or mixed-method) manner, and provide descriptions of the data you used (e.g., qualitative data for the theory building, and quantitative data for empirical testing). Section 4 focuses on what specific method you did (the phrase "this is what I did") and continue on Section 5 providing the results ("this is what I found") and discussion of the implications of these results ("this is what it means"). Further, you can include the contribution of your paper ("this is what I add"), linking it to your research question and the gap in the literature that you found in your review. Lastly, at the end of the main text, the most important results of the work should be condensed in the concluding chapter (Section 6) and provide further societal implications ("this is why you should care").

1.2.6. References

The list of references shows all the publications mentioned in the text in alphabetical order (including Internet sources), but none that have not been used. For Internet pages, please also indicate the date on which you used the page as a source. Laws used must be listed as such under a separate heading within the list of references.

As it is highly crucial that all points are referenced properly, please make sure to use proper citation standards. In your thesis, you can use APA[3], MLA[4] or Harvard reference style. Free software packages (e.g., Citavi, Zotero) could be used in organizing your references correctly. For clarity and completeness, you can find the following format in citing different sources according to the APA reference style.[5]

- Citation for Print Books
    - Author's Last name, First name initial. Middle name initial. (Year published). *Title of*

---

[3] See https://www.bibme.org/apa for a complete overview on how to implement APA reference style.
[4] See https://www.bibme.org/mla for a complete overview on how to implement MLA reference style.
[5] Note: although these are divided according to the type of sources, you should NOT differentiate between types in the list of references.

the book. Location of publisher: Publisher.

- Citation for edited books
  - Editor, F. M. (Ed.). (Year published). *Title of edited book*. Location: Publisher.
- Citations for Journal Articles Found Online
  - Author's Last name, F. M. (Year published). Title of the article. *Title of Journal, volume number*(issue number), page range. http://dx.doi.org/10.xxxx/xxxxxx OR Retrieved from URL
- Citations for a Newspaper Article in Print
  - Author's Last name, F. M. (Year, Month Day of Publication). Article title. *Newspaper Title,* pp. xx-xx.
- Citations for Websites
  - Author's Last name, F. M. (Year, Month Day published). Title of article or page. Retrieved from URL on Date.

1.2.7. Appendix

Information that is essential for understanding the text belongs in the text and not in the appendix. An appendix is particularly recommended when interviews have been conducted (attach original questionnaire and English translation if necessary) or when there are relevant texts (e.g., legal texts, political statements). Your text must be understandable without reading the literature in the appendix. There must be a reference in the text to each presentation that is in the appendix.

1.2.8. Statutory Declaration

The following affidavit must be included in the verbatim at the end of the thesis:

1.2.8.1. English version

I herewith declare that I have composed the present thesis myself and without the use of any other than the cited sources and aids. Sentences or parts of sentences quoted literally are marked as such; other references with regard to the statement and scope are indicated by full details of the publications concerned. The thesis in the same or similar form has not been submitted to any examination body and has not been published. This thesis was not yet, even in part, used in another examination or as a course performance. Furthermore, I declare that the submitted written (bound) copies of the present thesis and the version submitted on a data carrier are consistent with each other in contents. Indication of place, date, and signature.

1.2.8.2. German version

Ich versichere hiermit, dass ich die vorliegende Arbeit selbständig und ohne Benutzung anderer als der angegebenen Quellen und Hilfsmittel verfasst habe. Wörtlich übernommene Sätze oder Satzteile sind als Zitat belegt, andere Anlehnungen, hinsichtlich Aussage und Umfang, unter Quellenangabe kenntlich gemacht. Die Arbeit hat in gleicher oder ähnlicher Form noch keiner Prüfungsbehörde vorgelegen und ist nicht veröffentlicht. Sie wurde nicht, auch nicht auszugsweise, für eine andere Prüfungs- oder Studienleistung verwendet. Zudem versichere ich, dass die von mir abgegebenen schriftlichen (gebundenen) Versionen der vorliegenden Arbeit mit der abgegebenen elektronischen Version auf einem Datenträgerinhaltlich übereinstimmen.

Angabe von Ort, Datum und Unterschrift.

1.3. Style and expression

You should attach importance to a stylistically appealing work. The principle here is clarity in structure and presentation. In writing your papers, either American English or British English could be used, but not both. Abbreviations should be used as little as possible in the running text. Common abbreviations such as "e.g.", "etc." may be used. Abbreviations for convenience such as "EMP" for "employees" are not permitted. If figures and tables are used, a title (usually above the figure or table) and the source (usually below) are required. Master Theses written in German should avoid anglicisms (e.g., "profits" in English are "Gewinne" in German, and not "Profite").

1.4. Evaluation criteria

Category	Evaluation
Content	Are the facts correctly reproduced? Is the content well structured? Is the question formulated clearly?
Research Question	Is the research question clear?
Structure and layout	Is the work clearly structured and stringent in its structure? Are there references between the individual points? Is the argumentation clear?
Creativity	Is the own/original question pursued? Is the content original?
Style	Is the choice of words suitable? Are the sentences understandable? Is the interest of the reader aroused? Is the technical language used?
Literature	Is the important (state of the art) literature being used? Are Internet sources chosen carefully and used only in appropriate places?

Category	Evaluation
Coherence	Is the paper coherent in a way that it establishes a sound link between research question(s), literature review, framework/hypotheses, method, analysis, and findings
Grammar and Orthography	Is the sentence structure grammatically correct? Are spelling and punctuation correct?
Citation and list of references	Are indirect and direct quotations correct? Is the list of references complete and consistent?
Tables and Figures	Is the number of tables and figures appropriate? Are they presented in a way that is understandable for the reader and are they correctly overwritten? Are they adequately embedded in the running text

2. A Guide to Writing a Literature Review

A significant number of master students find it interesting to conduct a literature review on various topics. As it is relatively easier to find sources online, many of the students think that a literature review is only about fitting pieces together. However, contrary to this belief, creating a literature review requires an integration of information as well as its analysis and interpretation. In this section, we borrow heavily from Cooper (1984) and Randolph (2009) to guide the students in some of the best practices in conducting a literature review.

2.1. Literature review selection criteria

Decide what questions the literature review will answer and determines explicit criteria to dictate the inclusion, or exclusion, of an article included in the review. The following shows how the goal of the review influence what kind of questions to ask.

- Integrate research outcomes: From the previous literature, what is the effect of intervention X on outcomes Y and Z?
- Critically analyze the research methods: What research methods have been used in the past to investigate phenomenon X and what are the methodological flaws of those methods?
- Identify central issues: What are the central theories that have been used to explain phenomenon X?
- "How does X lead to/affect Y?" and "Why X leads to Y"?

2.2. Sampling

Gather an exhaustive, semi-exhaustive, representative, or pivotal set of relevant articles. In this step,

note that the type of data that will be extracted should be again determined by the focus and goal of the review. Remember to use only the data that fits the criteria that were determined in the previous step.

2.3. Extract and evaluate

Synthesize the information in the articles that met the inclusion criteria. In extracting data, students should document the system of extracting data from articles, types of data extracted, and the process used. This documentation of the procedure done in collecting the data should be at a level of detail where a second person could arrive at the same results by following the recorded procedure.

2.4. Analyze and interpret the extracted data

Broadly speaking, students can do a quantitative literature review, qualitative literature review or mixed-method literature. The methods shown below are the most common methods in conducting a literature review.

- Quantitative Literature Review Methods: Narrative reviews or meta-analytic review
- Qualitative Literature Review Methods: Ogawa and Malen (1991) method, Phenomenological Method or Noblit and Hare (1988) method

2.5. Information weeding

You should determine which information to present and which information to be left out. In this step, you will need to justify why certain information is not relevant, for example, by establishing a set of criteria for the literature review (see Section 2.1).

The table below shows additional information that the students should consider in creating a literature review.

Table 1: Stages in Conducting a Literature Review

Stage Characteristics	Research Stage				
	Problem formation	Data collection	Data evaluation	Analysis and interpretation	Public presentation
Research Questions Asked	What evidence should be included in the review?	What procedures should be used to find relevant evidence?	What retrieved evidence should be included in the review?	What procedures should be used to make inferences about the literature as a whole?	What information should be included in the review report?
The primary function in Review	Constructing definitions that distinguish relevant from irrelevant studies.	Determining which sources of potentially relevant sources to examine.	Applying criteria to separate "valid" from "invalid" studies.	Synthesizing valid retrieved studies.	Applying editorial criteria to separate important from unimportant information
Procedural differences that create variation in review conclusion	1. Differences in included operational definitions. 2. Differences in operational detail.	Differences in the research contained in sources of information.	1. Differences in quality criteria. 2. Differences in the influence of non-quality criteria.	Differences in the rules of inference.	Differences in guidelines for editorial judgment.
Sources of potential invalidity	1. Narrow concepts might make review conclusions less definitive and robust. 2. Superficial operational detail might obscure interacting variables.	1. Accessed studies might be qualitatively different from the target population of studies. 2. People sampled in accessible studies might be different from the target population of people.	1. Nonequality factors might cause improper weighting of study formation. 2. Omissions in study reports might make conclusions unreliable.	1. Rules for distinguishing patterns from noise might be inappropriate. 2. Review-based evidence might be used to infer causality.	1. The omission of review procedures might make conclusions irreproducible. 2. The omission of review findings and study procedures might make conclusions obsolete.

Source: Cooper (1982)

3. Useful Database for Research

For students who are interested to do data work or to complement their results, these following links could be helpful in your research. *Note that all the links are accessible to everyone but there are databases that may have additional requirements such as creating an account and/or using a Goethe University Frankfurt IP Addresses.*

Table 2: Useful Database and links

Panel A. Industry and country-level data

Name	Link
DESTATIS	https://www.destatis.de/DE/Home/_inhalt.html
Eurostat	http://ec.europa.eu/eurostat
EU KLEMS	http://www.euklems.net/
GGDC	https://www.rug.nl/ggdc/
Historical Devt	https://www.rug.nl/ggdc/historicaldevelopment/
Korean Panel	http://www.welfarestate.re.kr/beluxe_aHXN48/
NBER	http://www.nber.org/data/
OECD	http://stats.oecd.org/
Penn World	https://www.rug.nl/ggdc/productivity/
STAN	http://stats.oecd.org/
World IO	https://www.rug.nl/ggdc/valuechain/

Panel B. Patent Data

Name	Link
EPR	https://register.epo.org/regviewer
ESPACENET	https://worldwide.espacenet.com/
IIP	https://www.iip.or.jp/e/e_patentdb/
PATENTSCORE	http://www.wipo.int/patentscope/en/
PATSTAT[6]	https://www.epo.org/searching-for-patents/business/patstat.html#tab1

Panel C. Entrepreneurship survey

Name	Link
GEM	http://www.gemconsortium.org/data
MobyGames	http://www.mobygames.com/
PSED	http://www.psed.isr.umich.edu/psed/home

---

[6] Accessible for 2 months after registration on their website.

Panel D. Databank at the House of Finance

Name	Link
SAFE[7]	http://safe-frankfurt.de/datacenter/_databases/

Panel E. Firm-Level Data

Name	Link
CrossAsia[8]	https://crossasia.org/
DSM	https://deutscherstartupmonitor.de/
GMOP[9]	https://fdz.iab.de/en/FDZ_Establishment_Data/GMOP.aspx
IAB[10]	https://fdz.iab.de/en/FDZ_Establishment_Data/IAB_Establishment_Panel.aspx
KFWGM	https://www.kfw.de/KfW-Konzern/KfW-Research/KfW-Gründungsmonitor.html
Mannheim IP	https://www.zew.de/en/publikationen/zew-gutachten-und-forschungsberichte/forschungsberichte/innovationen/innovationserhebung/

Panel F. Literature Review

Name	Link
Web of Science	https://clarivate.com/webofsciencegroup/solutions/web-of-science-core-collection/

For other datasets that are not listed or mentioned here, you can use **Google Public Data** (https://www.google.com/publicdata/directory) to search for all publicly available data for any country across different periods. To search for a more specific dataset or for datasets that are not publicly available, you can use **the Google Data Search** engine (https://toolbox.google.com/datasetsearch) to look for a dataset.

---

[7] Accessible only with Goethe University IP address or when using a VPN.

[8] Goethe university students can apply for the access by filling out the registration application site from the website. This website includes various database related to East Asian countries such as China, Japan and South Korea. The database coverage includes: Statistical yearbooks, archival materials, newspaper articles, Chinese academic journals, Nikkei NEEDS Financial QUEST. Access to the database should be through a Sinology/Japanology or other Asian studies departments.

[9] GMOP (German Management and Organizational Practices) Survey: This data set relates to the years 2008 and 2013 and contains information on 1927 establishments. Students can apply for on-site data access

[10] IAB is an annual representative firm survey. It has been conducted by the IAB since 1993 in West Germany and since 1996 for East Germany. This data is also available linked with individual administrative data such as LIAB (Linked Employer/Employee Data). Data is available via on-site use application or remote data access application

4. A Guide to Scientific Journals

To write an effective and credible scientific paper, you must only use good journals in your references. Good journals mean that they are peer-reviewed and have scholarly articles that publish frontier research in their respective fields. However, for students who do not have a lot of experience writing scientific papers, it might be difficult to discern good journals from the bad. To address this issue, you can use the ABS Academic Journal Guide and/or VHB JourQual to help you find relevant and trustworthy scientific sources. Both guides compile and rank journals according to their quality and contribution. Students can use articles from any journal that has a grade of 4 and above from ABS Academic Journal Guide and/or a grade of A and above from VHB JourQual. Please see the link below to access both journal guides.

Table 3: Links to Journal Guides and Rankings

Name	Link
ABS	https://facultystaff.richmond.edu/~tmattson/AJG%202018%20Journal%20Guide.pdf
JourQual	https://www.vhbonline.org/en/vhb4you/vhb-jourqual/vhb-jourqual-3/complete-list

5. References

Cooper, H. M. (1982). Scientific guidelines for conducting integrative research reviews. *Review of Educational Research, 52*(2), 291-302. http://dx.doi.org/10.2307/1170314

Noblit, G. W., & Hare, R. D. (1988). *Qualitative Research Methods: Meta-ethnography*. Thousand Oaks, CA: SAGE Publications, Inc. DOI: 10.4135/9781412985000

Ogawa, R. T., & Malen, B. (1991). Towards Rigor in Review of Multivocal Literatures. Applying the Exploratory Case Study Method. *Review of Educational Research, 61*, 265-286. http://dx.doi.org/10.3102/00346543061003265

Patriotta, G. (2017). Crafting Papers for Publication: Novelty and Convention in Academic Writing. *Journal of Management Studies, 54*, 747-759. DOI:10.1111/joms.12280

Randolph, J. (2009). A Guide to Writing the Dissertation Literature Review. *Practical Assessment, Research and Evaluation, 14*(13), 1-13.