

Guidelines for Writing a Term Paper, Bachelor Thesis, or Master Thesis

Chair of Industrial Economics

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1 Introduction

These guidelines are designed to help you write a paper or a thesis. Your adherence to these recommendations helps to avoid time-consuming (formal) revisions of your work. Unless otherwise agreed upon with your supervisor, these guidelines hold for all scientific papers written at the Chair of Industrial Economics (term papers, bachelor thesis, master thesis, etc.).

2 Scientific Working

2.1 Goal

The submitted work is supposed to prove your ability to work on an either self-defined or given research question in a scientific manner and within a limited period of time. You are not necessarily required to make an original contribution to knowledge, but you are expected to apply scientific methods when you are writing an academic paper, independent of scope and difficulty. The overall goal of your work is to obtain advanced knowledge on a certain topic and to illustrate this progress using relevant and thoroughly selected literature.

Additionally to reviewing (possibly) given literature, as part of your term paper or thesis you are in particularly required to independently search for and provide relevant literature and to evaluate the literature. Part of this process is to critically evaluate the literature.

The topic is to be stated clearly and defined precisely. For that purpose it is advisable to formulate so-called research questions which are to be answered within the academic paper.

2.2 Basic Information

It is advisable to start off searching the relevant literature. In most cases this first step causes a considerable workload but, in turn, is essential to get an overview of the topic. Typically, the next step is then to select sources that are to be treated in depth. These sources must be understood completely and subsequently presented and discussed with a critical mindset.

Prime principle in scientific working is to proceed with and present a topic in a well organized, understandable and transparent manner.

3 Searching the Literature

It is advisable to start off searching the literature by reading overview essays, standard-setting textbooks, or essays in international journals of newest date. With the help of bibliographies in such sources, it is usually easy to find previously published literature on the chosen topic.

Useful Links:

- Google and Google Scholar
- Catalogs of the universities library
- Electronic journals
- Database of the Economics literature

To get full access to certain data bases it is recommended to search the literature from within the universities network, i.e. to browse with the IP address of the university. If you connect from outside the university network, eg from home, you need to use a VPN client to get the access privileges (detailed information on the installation and implementation is provided by the 'Rechenzentrum' of the University).

Introduction into Literature Research

The university library offers courses on a regular basis where you will be introduced to helpful methods regarding literature research. In case you are not familiar with the above listed catalogs and data bases we advise you to take one of these courses, particularly in view of your future bachelor and master thesis.

4 Arrangement of the Thesis

The outline of the thesis is part of the work and shows to which extent the topic was grasped and treated. The arrangement should mirror the logical structure of the thesis and needs to be a first indicator of its contents.

4.1 Basic Principles

A coherent and self-contained reasoning shows itself in a logically correct outline with corresponding structure points. Subchapters that are on the same sub-level need to have a corresponding superordinate issue; e.g., the Subsections 3.2.1 to 3.2.4 all explain the superordinate issue of Section 3.2. There shall be at least two structure points on each sub-level, that is, Subsection 3.2.1 needs to be followed by Subsection 3.2.2. A well-arranged

structure of sections and subsections in the table of contents and an explanation thereof within the introduction help to convey the message of your paper to the reader.

4.2 Form of Arrangement

An arrangement in decimal classification is usually appropriate. Alternatively, mixed alpha-numeric classifications can be chosen. To achieve a clear arrangement, the depth of classification shall not entail more than three levels.

4.3 Table of Contents

The table of contents needs to contain a comprehensive overview of the sections, captions, and corresponding page numbers.

5 Overall Structure of the Thesis

If desired a brief preface comprising personal comments regarding the work can be placed at the beginning. The Introduction contains the motivation of the thesis. In here, the scientific question must be clearly described and distinguished from other scientific questions. Briefly discuss your approach and the chosen structure of the thesis. Chapter-wise brief summaries at the beginning or at the end of extensive chapters can facilitate the readability. In a concluding chapter, the essential results are given and an outlook on future treatments of the scientific question is given (e.g. Chapter 9 Conclusion and Outlook). It is advisable to write the Introduction and the Conclusion after the main part of the thesis has been finished.

6 Technicalities

6.1 Number of Hard Copies

Depending on the termination/specification of the supervisor or the Examination Office respectively the thesis or term paper is to be handed in on time as one or multiple hard copies. Additionally, submission of an electronic version is mandatory. It is recommended to convert files created with MS Word into PDF files.

6.2 Length

The length of your term paper or thesis must be agreed upon with your supervisor. Note that exceeding the agreed benchmark without the consent of the advisor is not an attribute of quality (but is rather leading to a decreased grade).

6.3 Binding

With term papers and written presentations sewing is allowed (e.g. folders or the like).
With bachelor and master theses the following is to be taken into account:

1. Two bound copies with adhesive binding as well as an electronic version of the thesis in common and readable format have to be delivered to the Examination Office no later than on the last day of the agreed time limit.
2. The bound copies as well as the electronic version have to include the signed statutory declaration.
3. Theses written in any other language than German must contain a summary written in German

6.4 Font/Formatting

A common font (preferably with serifs) should be used. The printing has to be one sided on DIN A4 paper. All margins should be 2.5cm. Use a 12pt font and 1.5 line spacing for the normal text. For the footnotes use 10pt and 1.1 line spacing. The pages are numbered continuously. Grouped style is desired and hyphenation should be used.

6.5 Duplication

Make sure that the thesis is printed in high quality. Use a good copying machine when using copies as part of your work.

6.6 Contents and Enumeration

- a) Front cover (for master and bachelor thesis only)
- b) Title page (compulsory, see example in attachment)
- c) Table of contents
- d) List of abbreviations, tables, figures (if needed)
- e) Text of the paper (Introduction, chapters, conclusion)
- f) References / Bibliography
- g) Appendix (if needed)
- h) Statutory declaration / Affidavit (compulsory for Master and Bachelor thesis)
- i) Back cover (for master and bachelor thesis only)

The page count starts on the title page, the page enumeration only starts on the following page, however. Including the List of abbreviations, tables, and figures, the page enumeration is in small-case roman numbers (i, ii, iii, iv, and so forth). In the normal text, the page enumeration starts anew in arabic numbers (1, 2, 3, and so forth). The page enumeration needs to be consistent within the header or footer.

6.7 Abbreviations

For the sake of readability, abbreviations shall be used sparingly. Common abbreviations may be used for references. Special abbreviations within the text, the tables, within figures, or within the bibliography need to be explained, if necessary in a separate list of abbreviations.

6.8 Text Processing Programs

There are several text processing programs available which can be used when writing an academic paper. In addition to the commonly used Office programs (e.g. Microsoft Word, OpenOffice Writer) in academics often Latex based processing programs are used which are available free of charge. These in particular facilitate formatting the text and writing complex formulas. Note that the use of such processing programs necessitates a certain investment to get familiar with these programs. Especially in view of your future bachelor or master thesis this investment might be worth it however.

The 'Rechenzentrum' of the University offers courses on a regular basis both for scientific working with Office programs and Latex based text processing programs.

7 Citations

7.1 Quotations

Each quotation must be verifiable. For this reason, any verbatim or paraphrased text, tables, figures etc. need to be declared as such. All academic papers that are handed in are subject to electronic plagiarism check. Failing to obey these rules may lead to a fail grade for reasons of plagiarism. Note that not only information taken from any literature source but also information obtained from interviews, etc. must be referenced accordingly.

Verbatim quotations are enclosed in double quotes and must be reproduced faithfully. Omitting one word is marked by two points, omitting several words is marked by three points. Any deviations from the original must be declared as such. A verbatim quotation shall not contain more than two to three sentences. If longer quotations are unavoidable, they need to be clearly marked as such in an optical manner; e.g., indented with single line spacing. Generally, one quotes from the original work. Only if the original work is not

available, one can quote from a secondary source. In this case, the quotation declares the secondary source by “cited by . . .”.

For each quotation, one needs to check whether it is not out of context, whether it is not given another interpretation than the one given by the original author. To verify quotations, the page number needs to be declared in addition to citing the work from which the quotation is made.

In case text elements from foreign-language literature have been translated for the purpose of quotation they need to be marked. Paraphrased quotations need to be fully recognizable as such in their full length and need to be verifiable by a citation.

7.2 Selecting References

When selecting references it is important to note that not every kind of literature is adequate for a scientific paper. Unreservedly quotable are articles published in (economic) journals and monographs of recognized authors. Introductory literature and lexicons are less reliable sources and should be viewed with caution. Usually you should refrain from quoting (or at least quote under reservation) literature for practitioners, lecture notes, term papers, bachelor and master theses and articles published in newspapers of any kind.

As a basic rule what matters when quoting sources is the context and intention of the quote. For instance, if you wish to emphasize within the introduction that the topic is of current interest it might make sense to quote from one of the latter category of sources. Scientific arguments mentioned in the main part of your academic paper however should be taken from unreservedly quotable sources only.

7.3 Citations within the Text

Sources can be recognized by short but clear references within the text or in footnotes, which usually contain the author’s name, the year of publication, and the page number. Detailed information on the source is then to be put into the bibliography. If more detailed references with additional information are needed, these can be put into footnotes. One needs to distinguish between publications of the same author in the same year and several authors with identical names. Example:

Harrington (2006a), pages 13 p.

when there is a second source by Harrington from 2006 that is cited within your work and recognized as Harrington 2006b.

7.4 Bibliography

The bibliography contains all citations within the academic paper. The references are ordered alphabetically, and chronologically if there are several citations from one author. The formatting of the bibliography is as follows: The first line of each entry starts at the left margin of the page, all following lines of the same entry are indented. There must be an empty line between two entries.

There are different formatting styles for references that can be adopted. Commonly used styles can be found on the websites listed below. Once a style has been adopted no mixing of styles is permitted, and consistency is, therefore, paramount

- For printed media: <http://library.duke.edu/research/guides/citing/>
- For electronic media: <http://www.apastyle.org/elecref.html>

The following list reflects alternative formatting rules:

a) Books:

- Author's name (forename and last name)
- Publishing year (in brackets) (missing information on the publishing year has to be declared through n.y.)
- Book title (in italics)
- Edition (when there exists more than one)
- Publisher location and publisher;

Example:

Varian, Hal R. (1992): *Microeconomic Analysis.*, third edition, New York (W.W. Norton & Company, Inc.)

b) Essays in Journals:

- Author's name (forename and last name)
- Publishing year (in brackets)
- Essay title (in italics)
- Journal's name (in italics)
- Volume and number
- Pages;

Example:

Nash, John F. Jr. (1950): The Bargaining Problem. *Econometrica*, Vol. 18, No. 2, 155-162.

c) Articles in Collections:

- Author's name (forename and last name)
- Publishing year (in brackets)
- Essay title (in italics)
- Name of publisher
- Title of anthology
- Volume (when multivolume anthology) and edition
- Publisher location (and maybe publisher)

Example:

Holt, Charles A. (1995): Industrial Organization: A Survey of Laboratory Research. In: Kagel, John H. & Alvin E. Roth (Pub.): *Handbook of Experimental Economics*. Princeton University Press (Princeton), 349-443.

d) Doctoral thesis, Scientific Reports:

- Author's name (forename and last name)
- Publishing year (in brackets)
- Title (for doctoral theses in italics)
- Kind of source (maybe location of source);

Example:

Müller, Erika (1987): *Theorie und Praxis des Staatshaushaltsplans im 19. Jahrhundert*. Doctoral thesis, University of Konstanz.

e) News paper article:

- Author's name (forename and last name)
- Publishing date (in brackets)
- Title
- Newspaper's name (in italics)
- Pages;

Example:

(2001): Bundesregierung will Biersteuer erhöhen. *Südkurier*, 12.02.2001, S. 5.

f) Sources from the internet:

- Author's name (forename and last name)
- Title

- Uniform Ressource Locator (URL)
- Day on which the source was downloaded from the URL;

Example:

Bundesministerium für Gesundheit (2000): Der Risikostrukturausgleich in der GKV.

URL: <http://www.bmggesundheits.de/infos/voel/22-08.htm>, 6.11.2000.

Due to the fact that internet sources are frequently changed or even deleted it is recommended to save the sources locally on your computer.

8 Text Additions

8.1 Tables and Figures

Tables and figures are numbered continuously, maybe within each chapter in decimal classification. In addition to the numbering, a title with a clear description of the contents is needed, e.g. Table 2-3: Government Revenues according to revenue types. Further information for understanding the table is to be located above the table, further information on the figure is to be located below the figure. If one refers to tables and figures within the text, one must be able to find them quickly by the corresponding number (and page number). Tables and figures are accompanied by a source declaration if they are based on primary sources, e.g. Source: Federal Office of Statistics (1984a), pages 22 p. Multipage tables should be avoided if possible (downsizing is advisable). Landscape tables and figures are depicted such that the manuscript needs to be turned clockwise to read it. Just like for large quotations of primary sources, legislative texts, etc., sections with lengthy tables and figures should be placed into one appendix or into several appendices for the sake of readability.

8.2 Footnotes

Footnotes are mainly used for annotations in scientific work. Pieces of information can be put into footnotes that would disturb the flow of the text; e.g., references to additional literature, references to other parts of the own thesis, deviations from the main line of argument in the text. For the sake of readability it is recommended to primarily use footnotes to specify sources and to avoid extensive explanations of any side issues. The point of reference of a footnote in the text is marked with a superscript arabic digit. The text of the associated footnote needs to be placed at the end of the page. Footnotes should be enumerated continuously.

8.3 Formulas

Symbols used in mathematical formulas need to be clearly defined within the text the first time they are used. A coherent notation of formulas leads to a better readability. If needed, the used symbols can be listed separately at the end of the thesis. As necessary, the formulas can be numbered to enable referring to formulas. The enumeration can be structured within each chapter and should be given at the left or right margin of the page throughout. Large formulas are to be centered and spacing before and after inserted. Example:

$$R = p_1x_1 + p_2x_2 \quad (1)$$

or

$$a = \frac{(b + c)^2}{5 \cdot c}. \quad (2)$$

Short formulas, e.g. $a = b/c$, can be inserted into the continuous text. Note that when the formula in the continuous text involves a fraction, the numerator and denominator must be separated by a “/”-symbol, whereas for large formulas that are separated from the text actual fraction lines must be used. Characters used within formulas must be written in italics.

9 Theorems, Definitions, Lemmas

Assumptions, theorems, definitions and lemmas etc. are to be numbered as well. There are two different styles that can be used: For the sake of readability, theorems, definitions and lemmas etc. can be enumerated independent of the type (e.g. Theorem 1, Definition 2, Theorem 3). Alternatively, a separate enumeration for each type can be used (e.g. Theorem 1, Definition 1, Theorem 2). Note that once a style has been adopted consistency is paramount. The only formatting rule that needs to be taken into account is that theorems and definitions must be set in italics.

10 Some Literature on Writing Academic Papers

1. Brauner, Detlef Jürgen; Vollmer, Hans-Ulrich (2008): *Erfolgreiches wissenschaftliches Arbeiten*. Sternenfels (Verl. Wiss. und Praxis).
2. Brink, (2007): *Anfertigung wissenschaftlicher Arbeiten*. München (Oldenburg).
3. Gerhards, Gerhard (1995): *Seminar-, Diplom- und Doktorarbeit*, 8. Auflage, Bern und Stuttgart (Haupt, UTB 217).
4. Krämer, Walter (1998): *Wie schreibe ich eine Seminar-, Examens- und Diplomarbeit?* 4. Auflage, Stuttgart (Gustav Fischer, UTB 1633).

5. Niederhauser, Jörg (2006): *Die schriftliche Arbeit*. Mannheim (Duden).
6. Theisen, Manuel René (2006): *Wissenschaftliches Arbeiten*. München (Vahlen).

11 Templates

Both title page and statutory declaration are compulsory elements of all kinds of academic papers. Below you will find exemplary title pages for master and bachelor theses and for term papers. Additionally, a template for the statutory declaration is provided.

The University logo can be found here (access from the University network only):
http://www.uni-wuerzburg.de/fuer/beschaefigte/corporate_design_vorlagen/logos/

Seminararbeit

Julius-Maximilians-Universität Würzburg



<Titel der Arbeit>

Eingereicht bei: Professor Toker Doganoglu, Ph.D.
Lehrstuhl für VWL, insbesondere Industrieökonomik
Julius-Maximilians-Universität Würzburg

Betreuer: <Betreuername>

Abgabedatum: <Datum>

Erstellt von: <Vorname> <Nachname>
<Straße> <Hausnummer>
<PLZ> <Ort>
<Matrikelnummer>

Abschlussarbeit zur Erlangung des akademischen Grades
eines Bachelor of Science (Wirtschaftswissenschaften)

Julius-Maximilians-Universität Würzburg



<Titel der Arbeit>

Eingereicht bei: Professor Toker Doganoglu, Ph.D.
Lehrstuhl für VWL, insbesondere Industrieökonomik
Julius-Maximilians-Universität Würzburg

Betreuer: <Betreuername>

Abgabedatum: <Datum>

Erstellt von: <Vorname> <Nachname>
<Straße> <Hausnummer>
<PLZ> <Ort>
<Matrikelnummer>

Abschlussarbeit zur Erlangung des akademischen Grades
eines Master of Science (Economics)
(bzw. Master of Science (Business Management))

Julius-Maximilians-Universität Würzburg



<Titel der Arbeit>

Eingereicht bei: Toker Doganoglu, Ph.D.
Lehrstuhl für VWL, insbesondere Industrieökonomik
Julius-Maximilians-Universität Würzburg

Betreuer: <Betreuername>

Abgabedatum: <Datum>

Erstellt von: <Vorname> <Nachname>
<Straße> <Hausnummer>
<PLZ> <Ort>
<Matrikelnummer>

Affidavit

I hereby declare that this master thesis has been written only by the undersigned and without any assistance from third parties. Furthermore, I confirm that no sources have been used in the preparation of this thesis other than those indicated in the thesis itself.

<Place>, <Date>

.....

<Name>