



TECHNISCHE UNIVERSITÄT BERLIN
School of Economics and Management
Department of Technology and Management
Chair of Innovation Economics

Guide for the composition of scientific papers and theses

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1 General information

Papers can be written in English or German. This should be agreed upon with the advisor in advance. Two printed copies, one electronic copy (CD-Rom, E-Mail, in pdf and doc format, not write- or copy-protected), the Citavi-File and possibly the raw data and processed data should be delivered on time to the Prüfungsamt.

Diploma Thesis

Diploma Theses should be 60-80 pages and no longer (not counting cover sheet, table of contents, appendices, figures or bibliography).

Master Thesis

Master Theses should be 60-80 pages and no longer (not counting cover sheet, table of contents, appendices, figures or bibliography).

Bachelor Thesis

Bachelor Theses should be 30-40 pages and no longer (not counting cover sheet, table of contents, appendices, illustrations or bibliography).

Seminar paper

Seminar Papers are written for seminars or projects during advanced studies. They serve as preparation for a Diploma or Bachelor Thesis. A Seminar Paper can be written by an individual or as a team (max. two students). It should be 15-20 pages long per student (not counting cover sheet, table of contents, appendices, figures or bibliography). Please hand in the paper tacked in the top left corner.

2 Fundamentals of scientific method

What defines scientific method?

- A strong, precise research topic
- Comprehensible and transparent work
- Reference to theory
- Novelty and contribution to current research (e.g. development of a new model and the creation of verifiable hypotheses)

3 Project planning and time management

3.1 Finding help

- Who is willing to proof read your paper (grammar, spelling)?
- Who is willing to analyze and discuss the contents?

3.2 First draft

- Get an overview of available literature
- Select promising articles/journals etc.
- Develop an understanding for the research topic/determine aims
- Write an exposé (2 pages) including an outline and time schedule to be handed in to the advisor before registration in the Prüfungsamt

3.3 Final draft

- Make a time schedule
- Systematic search for literature according to specifications
- Work on the content of the research topic
- Write the paper; make appendices, illustrations, tables etc.
- Review and correct
- Layout and print

4 Systematic literature search and selection

4.1 Documenting the literature search and selection process

The literature search and selection process should be comprehensible. Therefore, the search strategy should be documented and the selection of central literature justified. The following information should be supplied: which database was used; search terms and other criteria used to narrow the search. Additionally, the quality of each journal should be considered. Several indicators and rankings exist, for example, the VHB-Journal ranking or the Handelsblatt-Ranking.

The results of the search must be processed (in addition to the above) by adequately selecting items according to the relevance to the research topic. The time consumed by the literature search should not be underestimated.

What to remember while examining literature:

- What is the current state of research? What is its basis? Where is the discussion leading? Which solutions already exist to my problem?
- Critically reflect on what you read (gaps, generalizations, contradictions etc.)
- Does the text contain any solutions/ideas which could be helpful in my research?

4.2 Analyzing literature

- What does it contribute to the field?
- What can it contribute to my research?
- Which position does the author take? Does he criticize?
- Which sources are quoted? Are they relevant to my research?

5 Structure of the paper

5.1 Table of contents

The table of contents should reveal which topics are relevant to solving the scientific problem, which relevance each aspect of the problem has and how they relate to each other.

Each section must have at least two entries. Excessive sub-sectioning is not encouraged; three levels are sufficient in most cases.

Reviewing the table of contents:

- Are all the sections relevant to the research topic?
- Are the headings descriptive of the contents?
- Does each section contain roughly the same amount and depth of subsections?
- Do all subsections correspond to their section?
- Is the order of the sections logical?

5.2 Elements of scientific papers and their functions

- Cover page
- Table of contents
- Assurance of academic integrity
- List of figures and tables (where applicable)
- List of abbreviations (where applicable)
- Text
 - Introduction
 - Importance and current relevance of the topic
 - Research topic and aims
 - Structure of the paper (methodology)
 - Conceptual framework
 - Definition of important terms and concepts
 - Theoretical framework
 - Main section
 - Current state of research (empirical and theoretical)
 - Critical analysis of existing literature
 - Results/speculations
 - Methods
 - Research gap
 - Positioning of your research and creating new models or creative solutions
 - Empirical testing of developed hypotheses
 - Conclusion
 - Concentrated description of the most important results
 - Limitations of the paper
 - Conclusions, forecast, ideas for future research
 - Appendix
 - Search strategy and its results
 - Summary of utilized literature
 - Unwieldy figures/tables
 - Bibliography

The first page of the paper is the cover page. The table of contents and further indexes before the actual text are to be numbered using roman numerals. The pages in the text should be numbered using Arabic. Footnotes can be sequentially numbered. Appendices must be numbered with roman numerals. They represent a continuation of the introductory indexes and should be numbered accordingly.

Important things to remember:

- Write for the target audience
- Arouse interest (even scientific papers can tell a good story!)
- Preserve clarity (formal structure, illustrations and models, clear goals, transitions)
- Precision and depth (don't incorporate too many ideas, focus on some and follow them consciously and accurately)
- Consistent use of terms (only use terms the way they were defined)
- Consistent and justifiable arguments (use literature to back up your arguments!)

6 Citation

There are many citation styles but only one should be used consequently throughout a scientific paper. This could be the citation style of the journal “Zeitschrift für Betriebswirtschaft” for a German or the style of “Research Policy” for an English paper. Both use the Harvard Short Style.

Footnotes should be used primarily to free the text from passing comments etc. Use a full stop at the end of a footnote as you would for a sentence. We strongly recommend the use of the citation software Citavi or Endnote. Citavi can be obtained free with a TU-Account (http://www.tubit.tu-berlin.de/menue/dienste/beschaffung_verleih/software/campus_vertraege/citavi_pro_campus/allgemeine_hinweise/). Introductory courses regularly take place in the university library (<http://www.ub.tu-berlin.de/index.php?id=2172>). Please do not use Foot- or Endnotes for citations.

Use original sources when possible, i.e. don't cite a citation!

If you use a quote in a footnote, put it in inverted commas and follow it with the author and page from the original source. If, however, you are merely citing an idea, follow it with the author and the year of the source. If you are citing from a book, add the page number. If a source has three or less authors they should all be named, otherwise only name the first author with the addition “et al.” (depending on your citation style). If an idea covers two pages in the source write, for example, “p. 35 f.“. If the idea covers more than two pages, use, for example, “p. 245 ff.”. If several sources by one author from the same year are cited, mark the year with letters (a, b, c, ...).

Example:

North/Weingast (1989), p. 803 ff.; Luhmann (1999a), p. 13.

Important: *All* ideas adopted literally or contextually from others must be made visible in the text or by mention of the source in a footnote.

Internet sources are acceptable. The internet address (URL) and the date it was accessed must be named. In order to allow documentation and verifiability a print-out or screenshot of the html-site should be added to the appendix. Alternatively it is possible to save it to a CD and hand in the disk.

The bibliography should contain following information:

- Surname and name of the creator(s)
- Publisher(s)

- Title
- Edition (if there are several)
- Place of publication
- Date of publication
- For looseleaf services add the version at the time of inspection

7 Figures and Tables

Figures from other sources may be inserted unchanged or modified. If the figure has been modified the caption must read “Based on...”

Abbreviations that are defined in a dictionary should not be included in the list of abbreviations in the preface. A list of figures and tables is mandatory if the paper contains figures or tables.

Figures and tables are to be numbered according to the chapter they occur in.

Examples for Images and tables in the text:

Figure 7.1.: Imitation in the stages of innovation¹

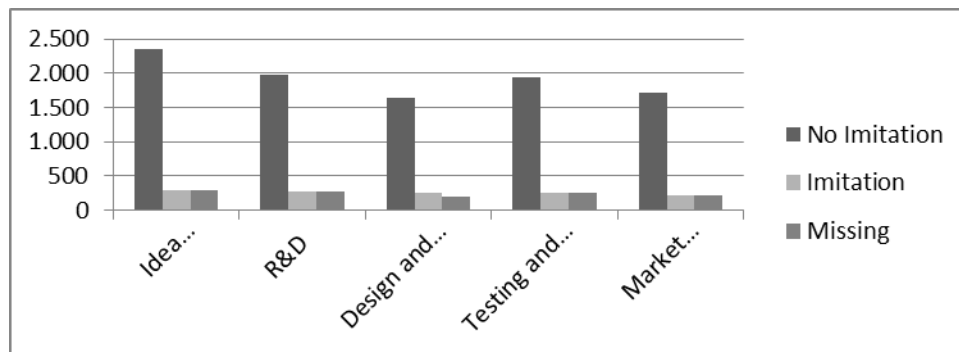


Table 7.1.: Imitation in the stages of innovation²

Imitation	Idea generation	R&D	Design and Configuration	Testing and Marketing/Production	Market Introduction
No Imitation	2.354	1.977	1.648	1.943	1.713
Imitation	285	280	259	252	222
Missing	288	266	199	247	219

¹ Lightly altered figure taken from McGrafik (1996), p. 9.

² Self-made table using Data from McTabelle (1997), p. 100.

8 Proofreading

Gaining some distance from your work can work wonders so leave plenty of time for proofreading. Often printing it is helpful when correcting mistakes. Make sure to find someone in advance who will read the paper, correct mistakes and check and discuss the contents. Readability can be heavily impeded by mistakes in spelling and grammar. Therefore, we recommend examining your work repeatedly under this aspect. A dictionary and the norm DIN 5008 can be of help. Scientific work not only expects a high standard with regards to the content but also the language. Colloquial terms and phrases or subjective wording that shows the writers lack of distance to a topic should be avoided. Adequate wording, however, does not mean the text must be complicated or difficult to understand. Make sure not to repeat words unnecessarily often or to use too many foreign words.

9 Assurance of academic integrity

Diploma, Bachelor and Master Theses must contain an assurance of academic integrity that states the creator worked independently using only the sources named. Additionally, the paper cannot have been presented to any other examination panel. The assurance of academic integrity is to be signed and placed after the table of contents. It must have the following wording:

Eidesstattliche Erklärung

Hiermit erkläre ich Eides statt, dass ich dir vorliegende Arbeit selbstständig und ohne unerlaubte fremde Hilfe angefertigt, andere als die angegebenen Quellen und Hilfsmittel nicht benutzt und die den benutzten Quellen wörtlich oder inhaltlich entnommenen Stellen als solche kenntlich gemacht habe.

Signature

Place, Date

10 Formatting

- **Format:** DIN A 4; the pages should be printed one-sided using an established word processor
- **Margins:** 4 cm left, 2 cm top, bottom and right
- **Text:** Times New Roman (12 point) or Arial (11 point), justified, 1.5 line spacing (single spaced inside tables)
- **Paragraph:** 6 Point gap
- **Page numbering:** The title page is not numbered. The tables of contents and lists of figures and tables or lists of abbreviations are numbered with roman numerals. The text and bibliography are numbered with Arabic numerals and appendices with A1-A?. Page numbers are written in the footer in the bottom right corner of the page in Times New Roman (10 point) or Arial (9 point), single spaced.
- **Footnotes:** Times New Roman (10 point), Arial (9 point), justified, single spaced
- **Figures and Tables** that take up one page or more should be placed in the appendix. Smaller figures and tables can be shown in the running text. Please note in a footnote following the figure or table description whether you have copied it from a source or created it yourself.
- **Headings:** Not in capital letters
- **Emphases** may be placed but should be used sparingly and uniformly, either in **bold** or *italic*.

11 Examples for bibliography and cover pages

Please choose an established and stringent citation style for your bibliography.

Bibliography

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School of Economics and Management
Dept. of Technology and Management
Chair of Innovation Economics

Diploma/Master/Bachelor Thesis
To achieve a degree in ...

- Insert title of the paper here -

Handed in to
Prof. Dr. Knut Blind
Institut für Technologie und Management
Fachgebiet für Innovationsökonomie

on day.month.year

By:
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Matrikelnummer: xxxxxxxxxxx



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**Title of the seminar
paper**

Paper for the seminar xxx
„Topic of the seminars“
Sommersemester/Wintersemester 20xx

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Prof. Dr. Knut Blind
Department of Technology and Management
Chair of Innovation Economics

on day.month.year

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