

University of Cologne
Faculty of Management, Economics and Social Sciences
Department of Supply Chain Management and Management Science

Thesis Guidelines

Users Guide to Writing a Thesis at the Department of Supply Chain Management and Management Science



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1 Preliminary Note

The following are guidelines for writing a Bachelor's or Masters's thesis at the department of Supply Chain Management and Management Science. These guidelines have been prepared to help you in setting up and structuring your thesis. They particularly intend to point out minimal formal requirements (without the claim of completeness). The most important advice is to have consistency throughout the whole thesis, for example in the layout or the way literature is referenced. For further questions, please do not hesitate to consult your personal supervisor.

2 Structure of the Thesis

A typical Bachelor's thesis has around 30 pages and a Master's thesis has around 60 pages, counted from introduction to conclusion (without appendix). Please note that the exact length of the thesis depends on the topic and applied research methods (please discuss further details with your supervisor). We encourage all students to write their thesis in English, however this is not compulsory. Following is a suggestion for the structure of the thesis.

- Title Page
- Table of Contents
- List of Figures
- List of Tables
- List of Symbols
- List of Abbreviations

- 1 Introduction
- 2 Literature Review
- 3 Methodology
 - 3.1 ...
 - 3.2 ...
 - ...
- 4 Results
 - 4.1 ...
 - 4.2 ...
 - ...
- 5 Conclusion

- References
- Appendix
- Statutory Declaration
- Curriculum Vitae

The structure in the main body may vary from one thesis to another. The list of figures, tables, symbols, and abbreviations are only necessary when corresponding items are used in the thesis.

3 Page Layout and Format

3.1 Margins

The margins should be set as follows

- Left margin: 4.0 cm
- Right margin: 2.5 cm
- Top margin: 2.5 cm
- Bottom margin: 2.5 cm

Aside from page numbers, all other thesis material, including figures and tables, must fit within the margins.

3.2 Font

A single font style should be used throughout the thesis; the only exceptions are figures, tables and appendices. The font size of the text should be 12 points. We recommend using a serif font, such as Times or Times New Roman (please refrain from using sans serif fonts in the text). A Symbol font may be used for Greek letters or special characters.

Start headlines with capital letters. We recommend the following typefaces for headings:

- **1 Chapter headings, 16 pt, bold**
- **1.1 Section headings, 14 pt, bold**
- **1.1.1 Subsection headings, 12 pt, bold**
- *1.1.1.1 Subsubsection headings, 12 pt, italicized*

Note that the use of subsubsections should be avoided if possible. Subsubsections, if used, should not appear in the table of contents.

3.3 Spacing

The line spacing should be double (2.0) throughout. Footnotes, reference list entries, figures and tables as well as items in lists may be single-spaced. The paragraph alignment should be justified (Blocksatz).

3.4 Pagination

Every page in the thesis must be numbered except for the title page, which is counted but not numbered. All preliminary pages preceding the main body of the thesis should be numbered in lowercase Roman numerals, for example i, ii, iii, iv, v, and so forth. The first page of the main body of the thesis begins with the Arabic numeral 1.

4 Figures and Tables

The purpose of figures and tables in a thesis is to enhance readers' understanding of the information in the thesis. All figures and tables should be referenced in the text and should be numbered sequentially with Arabic numerals throughout the thesis. The source of figures and tables must be given in parentheses at the end of the caption. If a figure or table is adapted from another source, it should also be noted. Figures and tables should be placed centered at the top margin of the page or placed on a page, containing only figures or tables. Figure 4.1 shows the placement options.

4.1 Figures

Example

Figure 4.1 Placement of Figures and Tables

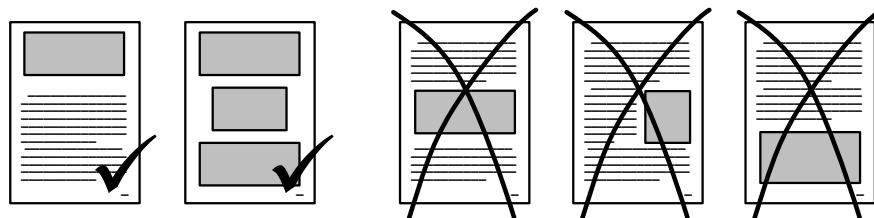


Figure Checklist

- Is the figure necessary?
- Is the figure simple, clean, and free of extraneous detail?
- Is the caption placed above the figure?
- Are the data plotted accurately?
- Is the grid scale correctly proportioned?
- Is the lettering large and dark enough to read? Is the lettering compatible in size with the rest of the figure?
- Are parallel figures or equally important figures prepared according to the same scale?
- Are terms spelled correctly?
- Are all abbreviations and symbols explained in a figure legend, caption or note?
- Are the symbols, abbreviations, terminology, and language in the figure consistent with those in the figure caption? In other figures? In the text?
- If the figure or its data are from another source, is the source properly cited?
- Are the figures numbered consecutively with Arabic numerals?
- Are all figures mentioned in the text?
- Is the figure placed correctly (see Figure 4.1)?

4.2 Tables

Example

Table 4.1 Daily Demand Forecast by Product

Product	Mean (SD)	95 % CI	
		LL	UL
A	14.5 (28.6)	5.4	23.6
B	31.8 (33.2)	21.2	42.4

Note. SD = standard deviation, CI = confidence interval, LL = lower limit, UL = upper limit.

Table Checklist

- Is the table necessary?
- Are all comparable tables in the thesis presented consistently?
- Is the title brief but explanatory?
- Is the caption placed above the table?
- Does every column have a column head?
- Are all vertical rules eliminated?
- If the table or its data are from another source, is the source properly cited?
- Are the tables numbered consecutively with Arabic numerals?
- Is the table referred to in the text?
- Is the table placed correctly (see Figure 4.1)?

5 Citations and References

You must cite the sources you use in your work within the text of your thesis. This brief citation refers the reader to the exact place in the reference list where you will provide the extended details of the source.

5.1 In-Text Citations

This guide is based on the Harvard referencing style, most commonly used in the natural sciences, mathematics, and the social sciences. In the Harvard style your in-text citation will include:

Author's name Use surname only. Use both authors' surnames linked by *and* for two authors. Use first author's surname and *et al.* for three or more authors.

Year of publication Give full four digits for year.

Page number where relevant Abbreviate to *p.* for single page and *pp.* for page range. Give full numbers for page range.

The Harvard style recommends giving page numbers if you are quoting directly. However, if you are paraphrasing it is not essential to give page numbers. We also recommend to use page numbers when referring to a book (for example (Thonemann 2010, p. 198)).

Examples

- Human behavior, such as misconceptions about inventory and demand information, may cause the bullwhip effect (Sterman 1989).
- Lee et. al. (1997) analyzed four sources of the bullwhip effect: demand signal processing, rationing game, order batching, and price variations.
- Cachon and Fisher (2000) studied the value of sharing demand and inventory data using a stochastic demand model.
- According to Cachon and Lariviere (2001), “firm commitments are not useful for aligning incentives but are useful for communicating information” (p. 643).

5.2 Reference List

All sources cited in the text should appear in the reference list sorted in alphabetical order by the name of the first author. If there are several publications of one author, additionally sort by the year of publication. If you have to include several publications of the same author and year, mark them with small letters, for example (Thonemann 2010a).

Your reference list should be formatted according to the requirements of the journal Management Science of the Institute of Operations Research and the Management Sciences (INFORMS) (<http://www.informs.org/Find-Research-Publications/Journals/Author-Portal/Latex-Style-Files>). The format and content of entries in the reference list differ by reference type. Examples for the most common reference types are given in the following paragraphs.

Articles

Articles in Journals and Magazines

Fisher, M. L., A. Raman, A. McClelland. 2000. Rocket science retailing is almost here—Are you ready? *Harvard Business Review* **78**(4) 115–124.

Sterman, J. D. 1989. Modeling managerial behavior: Misperceptions of feedback in a dynamic decision-making experiment. *Management Science* **35**(3) 321–339.

Tversky, A., D. Kahneman. 1974. Judgment under uncertainty. Heuristics and biases. *Science* **185**(4157) 1124–1131.

Articles in Proceedings and Edited Books

Bolotin, V. 1994. Telephone circuit holding-time distributions. J. Labetoulle, J. W. Roberts, eds. *Proceedings of the International Teletraffic Congress, ITC 14*. North-Holland, Amsterdam, The Netherlands, 125–134.

Cachon, G. P. 2003. Supply chain coordination with contracts. S. Graves, T. de Kok, eds. *Handbook of Operations Research and Management Science: Supply Chain Management*. Elsevier, Amsterdam, The Netherlands, 227–339.

Kahneman, D., S. Frederick. 2002. Representativeness revisited. Attribute substitution in intuitive judgment. T. Gilovich, D. Griffin, D. Kahneman, eds. *Heuristics and biases. The psychology of intuitive judgment*. Cambridge University Press, New York, 49–81.

Books

Cachon, G. P., C. Terwiesch. 2009. *Matching supply with demand. An introduction to operations management*. 2nd ed. Irwin/McGraw-Hill, Boston, MA.

Hopp, W., M. Spearman. 1996. *Factory physics*. Irwin/McGraw-Hill, New York.

Thonemann, U. 2010. *Operations Management. Konzepte, Methoden und Anwendungen*. 2nd ed. Pearson Studium, München.

Working Papers

Schultz, K. L., J. O. McClain, L. W. Robinson, L. J. Thomas. 2007. The use of framing in inventory decisions. Working paper, Cornell University, Ithaca, NY.

Internet Documents and Websites

Supply Chain Council. 2013. Supply Chain Operations Reference (SCOR) model – Overview – Version 10.0. Available online at <https://supply-chain.org/f/SCOR-Overview-Web.pdf>, checked on 26/07/2013.

6 Appendices

The appendix contains all explanations, figures, and tables that are not interesting for the majority of readers. For example, you might want to include further details to some concepts or data material for the sake of completeness. Every element in the appendix must be referenced within the main text. Formal requirements concerning the main text are valid for the appendix as well. If the appendix contains more than one issue, the issues should be presented in Appendix A, Appendix B, and so forth.

7 Submission

Depending on the legal requirement of your course of studies, theses are typically submitted by handing in two hard copies and an electronic version (CD/DVD) at the examination authority (Prüfungsamt). For detailed information on the submission guidelines and the statutory declaration (Eidesstattliche Erklärung), we refer to the examination authority of the Faculty of Management, Economics and Social Sciences (<http://www.wiso.uni-koeln.de/15679.html?&L=0>).

Also please send a PDF version of your thesis to your supervisor via email. **Please note that all theses will be checked for plagiarism.**¹ Plagiarism is an inexcusable violation of the declaration you have to add to your thesis and is treated very seriously by the University of Cologne.

¹[Turnitin.com](http://www.turnitin.com) is used at the University of Cologne to check for instances of plagiarism in students' work.