

**Guideline for writing a scientific report at the Seminar
of Personnel Economics and Human Resource
Management**

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1. General information for writing a scientific paper

With your thesis you can reveal that you have understood the methods and topics of your studies and that you are able to transfer and apply them on new areas.

For successfully writing your thesis, there are plenty of rules and formal requirements which we have summarized for you in this guideline.

A thesis on a good qualitative level is characterized by clear arguments and a consistent structure. In concrete terms this means that you as the author have to ask yourself the following questions repeatedly:

- "What do I want to examine with this paper? "
- "How does this statement fit into my structure/the context of my argumentation? "
- "Is the reader capable of understanding the main statements without reading literature from other sources? "
- "Is this sentence important for my statements, or can I leave it out? "

This principle should be clear from the introduction.

2. Formal guidelines for writing a scientific paper

Take a look in our compulsory template for the type of formatting. There you find hints regarding the type and size of the font, the outline of the paper, the formatting and quotations and much more. We strongly recommend sticking to these specifications!

- http://www.pwl.uni-koeln.de/fileadmin/wiso_fak/personalwirtschaftslehre/lehre/master_diplom/format_diplomarbeit.dot

3. External form

Diploma, master and bachelor theses have to be turned in duplicate and in hardcover edition at the examination office. The declaration of consent for review on plagiarism and the statutory declaration have to be included. Further information concerning the formal requirements you can find on the homepage of the examination office.

- Declaration of consent for review on plagiarism: http://www.pwl.uni-koeln.de/fileadmin/wiso_fak/personalwirtschaftslehre/lehre/master_diplom/einvers_tandniserklaerung_plagiatsueberpruefung.pdf
- Statutory declaration: http://www.wiso.uni-koeln.de/pa/downloads/bachelorarbeit_anfertigung.pdf

Term papers for advanced seminars have to be turned in *in duplicate*, punched and stitched together with a flexifastener at our administration office or directly at your advisor.

4. Literature research

Sources for your topic you find in (text-)books, journals (see journal database ZDB of the university and city library) or the literature databases e.g. EbscoHost. Searching working papers you can also make use of Google Scholar.

- Search for current or supplementary literature independently. Find out which papers are the most important ones for your topic. Read them and address them in your paper.
- Pay attention to the type of the source: not every journal or publication on the internet is reputable. Take a look at journal rankings (e.g. <http://vhbonline.org/service/jourqual/iq2/total/>). In case of doubt ask your advisor.
- One decisive factor for your grade is not the quantity of the literature elaborated, but the quality of the elaboration. It is important to concentrate on some main results which you have understood very well. There are differences depending on the type of the paper: analysing a single model or study you have to explain the methods or proof steps in detail. Tendentially, here you can make use of fewer sources than it is necessary for giving a literature overview.
- Check, if all cited texts are indicated in the bibliography.

Please note: We ask all students who write their thesis at our seminar to sign the declaration of consent for review on plagiarism.

5. Quotations

If you adopt a thought from a source – even if it is only analogous – this is a quotation. There are two different types of a quotation:

- **Literal quotation:** they have to be adopted from the source without any change and they have to be tagged with quotation marks. Passages which are irrelevant for the context can be left out. This is made obvious with (...). After the quotation the source has to be specified according to American citation (Surname, year: page number). You should make use of literal quotations sparingly and only for definitions, technical terms and basic theses.
- **Indirect (analogous) quotation:** these ones occur more often than direct quotations, especially in chapters with a mere display of literature. In an indirect quote the statement of an author is repeated analogously with own words, often over longer passages. A translated passage is an indirect quotation, too!
Analogous quotations do not have to be tagged with quotation marks. The source is mentioned once at the end of the quotation. With longer passages keep in mind that it is clear which parts belong to the quotation.

Keep in mind that an adoption of thoughts from an external source without sufficient labelling is plagiarism and signifies an attempt to deceive!

You do not have to quote common issues which could be printed in every basic textbook. In case of doubt it is better to specify one source too much than too few sources. If you have questions concerning this issue please talk to your advisor.

6. Formulations and style

- Pay attention to write in clear terms.
- Explain newly introduced terms.
- Abbreviations have to be specified in a list of abbreviations at the head of the thesis.
- Do not adopt literal expressions from original texts if you do not refer to a source directly. Formulate with your own words. It is less important to formulate very polished than writing a didactic comprehensible and clear text. You should make clear repeatedly that you understood what your issue is about.
- By no means merely translate passages or parts of sentences!!
- Prove your statements with empirical and theoretical results. Formulate non-verified (neither model theoretically nor empirically) statements very cautiously.
- Pay attention to the common theme: Explain your transitions and delimit the papers from each other.

7. Summary of results from not extensively elaborated sources

This paragraph is important for papers and chapters with a mere display of literature.

- Results from other sources have to be quoted as precisely as possible. Handling model theoretical papers without any display of proof, it is absolutely necessary to name the prerequisites under which the theoretical results have been deduced.
- Outlining empirical results you have to describe the methods and data sets as accurately as possible. Mention potential problems of the methods and data sets made use of.
- Mind the consistency in the description and omit contradictions. If you are confronted with contradictory results in two empirical studies on the same topic, mention possible reasons for the differing results.
- An extensive bibliography does not account for a good literature review. Do not handle the papers sequentially. It is important to understand and describe the links between the papers and to reveal the reasons for differing statements.

8. Analytical derivations

- Do not adopt analytical derivations merely from the original source!
- Only write what you have fully understood! In case of doubt – if you do not understand a part of a paper after several attempts reading it – ask your advisor and admit that you did not understand a certain part of the paper. Surely it is better to get through without the help of the advisor, but many analytical derivations are difficult to understand.

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- The main results in model theoretical papers are mostly illustrated as theorems (propositions, lemmata...). Often it is useful to proceed similarly in the seminar paper/diploma/master thesis and to underline the theorems. However, do not copy them merely.
- Make obvious that you have fully understood analytical derivations! For example, you can add proof steps omitted in the original paper. Describe the proof steps more precisely than in the original paper, e.g. explain the methods made use of [→ look them up in a book on mathematics (see below) and understand them].
- Sometimes it is possible to simplify an original model if the essential factors are retained. This simplifies the illustration of the model and it is a nice personal contribution which makes clear that you have really understood the basic ideas.
- Add detailed analytic proofs to the appendix.
- If you consider older papers: question the approaches in those papers considering the current state of economy. Example: game theoretic equilibrium concepts.
- Graphic illustrations (e.g. game tree, timeline) often clarify the process steps of a model.
- If you have ideas for model extensions, calculate them by all means. Sometimes it is possible to extend existing papers. Possibly it is useful e.g. to examine a special case of a model from a paper and to deduce the main results for this special case independently. This procedure also represents a personal contribution.

9. Empirical Results

- Almost always your aim should be to check possible theoretical results on the basis of empirical results and observations. To support a theory you can make use of data ranging from an econometric study which fits to your topic to a case study from a company which is mentioned for the purpose of illustration.
- Make a difference between empirical results (result of a statistical estimate) and examples for the purpose of illustration (case study, anecdote). The latter are important for the purpose of illustration and they are useful for plausibility checks. However, of course they do not have a validity comparable to empirical results.
- Make sure you understand the applied statistic & econometric methods and shortly outline them (Examples: look up the Spearman rank correlation coefficient in a book on statistics; look up a probit estimation in a book on econometrics, see below for the source). Give reasons why certain methods are applied and mention problems where applicable.
- Here again: do not merely copy the corresponding lines from the original text.

10. Intuition and interpretation

- Constantly make an attempt to work out the intuitions for the analytic results from the papers in more detail. It should be the aim to exactly understand what the deduced results are driven by.
- In doing so, necessarily formulate your ideas with your own words (this also makes clear that you have really understood the original papers).

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- In the end discuss the assumptions of the model critically. Tendentially it is better to question whether the results of model are stable when changing certain assumptions than merely numerating the assumptions which are unrealistic. (Core issue: How robust is the model?)
- Constantly make the attempt to bring in your own ideas and thoughts.
- By all means, handle the original papers critically! Even if they originate in highly qualitative journals, do not adopt every interpretation from the author, but constantly question: "Do I really believe in it?", "Is this really such an important aspect?". In this way you can make clear that you have dealt with the topic independently and that you do not merely reproduce original sources.

11. Recommended reading

Mathematics:

- Sydsaeter, K.; Hammond, P.J. (1994): Mathematics for Economic Analysis. Englewood Cliffs: Prentice Hall.

Econometrics:

- Backhaus, K.; Erichson, B.; Plinke, W.; Weiber, R.(2000): Multivariate Analysemethoden. Berlin: Springer.
- Verbeek, M.(2000): A Guide to Modern Econometrics. Chichester: Wiley. (more detailed)
- Wooldridge, J. M. (2008): Introductory Econometrics - A modern Approach. Mason, Ohio: Thomson/South-Western

Statistics:

- (especially non-parametric tests) Siegel, S.; Castellan, J.(1998): Nonparametric Statistics for the Behavioral Sciences. New York: McGraw Hill.

Micro/Game theory:

- Dutta, P.(1999): Strategies and Games: Theory and Practice. Cambridge: MIT Press.
- Gibbons, R. (1992) : A Primer in Game Theory. New York: Harvester-Wheatsheaf.
- Mas-Colell, A.; Whinston, M.; Green, J. (1995): Microeconomic Theory. Oxford University Press. (more detailed)