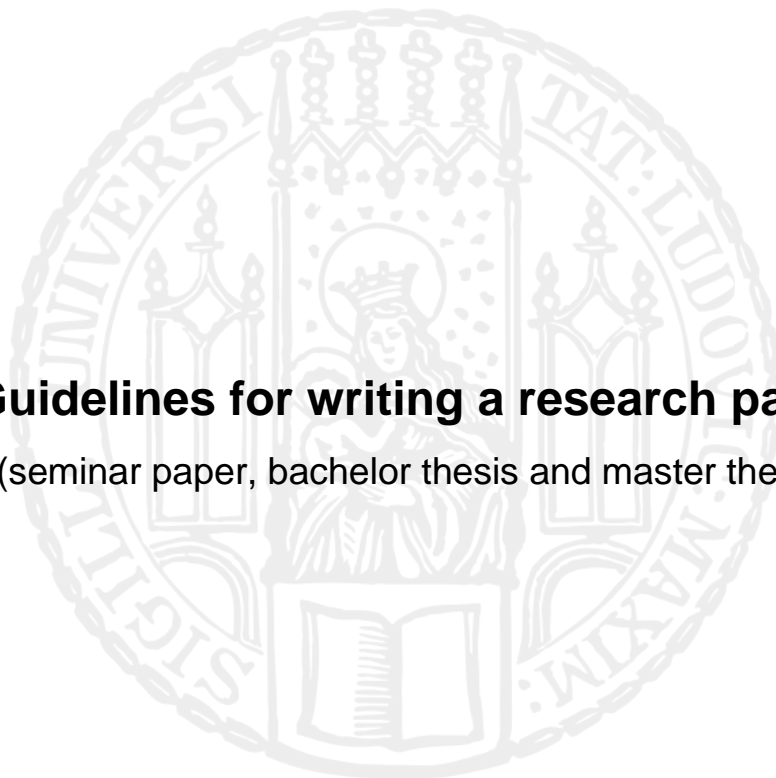# Professorship of Digital Services and Sustainability (DSS)

Guidelines for writing a research paper

(seminar paper, bachelor thesis and master thesis)

Munich, February, 20 2023

Contents

1 General Information

The writing of seminar papers or bachelor/master theses is subject to requirements regarding format and content. The most important guidelines for the preparation of a scientific paper are summarized below. Although the guidelines should not be understood as indomitable rules, it is very important that they are consistently adhered to within your work (e.g., the way literature is referenced, the line spacing used, etc.).

The research paper should be written clearly and comprehensibly. Existing publications should be explained when they are used, summarized in their own words and not merely copied. If existing works are used without marking in the form of a quotation, it is plagiarism, which is evaluated with the grade 5.0.

2 Basic procedure for writing a research paper

2.1 The preparation: Creation of an exposé

The exposé is prepared before the start of the actual thesis and describes the motivation and goal of the research work, as well as the planned methodological approach. When creating the exposé, a stringent and logical methodological procedure should be observed. In addition, the classification and originality of the topic as well as the presentation of the current state of research must be taken into account.

The structure of the exposé:

1. Overview: Pitching Research (see: Appendix), Scope: one page
2. Abstract and highlights (see template)
3. Introduction:
   a. Motivation of the topic
   b. Classification in the literature
   c. Aim of the work in the form of one or more research questions
4. Description of the methodology:
   a. e.g., methods of quantitative or qualitative research, systematic literature analysis
5. Expected results
6. Bibliography

The exposé should have a total length of 4-5 pages including pitching research.

2.2 The elaboration

After successful completion of the exposé, the thesis is officially registered by the supervisor at the ISC. To do this, students must sign the registration form at the DSS secretariat (+49 (0) 89 / 2180 – 1874, dss@som.lmu.de). In addition, the students receive the declaration of consent for the use of the results, which must be signed and returned to the supervisor.

During the processing time of a thesis, students are obliged to participate in all colloquium events. Students can find out about the relevant dates from their supervisor or from the DSS secretariat. After about half of the processing time, each student presents the current status of the research work in the form of a presentation **of 10 minutes (Bachelor students) or 15 minutes (Master's students)** followed by a discussion in the colloquium.

Additional consultation appointments are arranged individually with the supervisor. The specific number of consultation appointments during Bachelor's and Master's theses is determined individually by the supervisor. As an orientation, a maximum of two consulting appointments are estimated for seminar and bachelor theses, and three for master theses. In general, the students commit themselves to appear prepared for the appointment and to significantly shape the conversation through their own initiative. Inappropriately high levels of supervision may be a negative factor in the evaluation.

2.3　The levy

For all work written at DSS, the following files must be submitted in electronic form (by e-mail to the supervisor and as an upload in electronic version to the ISC):

- All sources used as PDF files (When creating PDF files from online sources, keep in mind that the options for printing the URL and the current date are enabled in your browser's print settings.)
- For all empirical work (qualitative and quantitative), all data and scripts used must be submitted. In particular, audio recordings of interviews (as MP3), written transcripts of interviews, original data sets from surveys as well as input and output files of all data processing carried out (e.g. with SPSS, SmartPLS, Excel, etc.)

As a guideline, the respective supervisor must be able to fully understand all results used in the work on the basis of the data provided.

Submission regulations for Bachelor's and Master's theses
The research paper must be submitted in duplicate, printed on one side, and bound (adhesive binding, no spiral binding) to the ISC (Ludwigstr. 28 VG, room 023) (Attention: Please note opening hours!).
In addition, the research work must be submitted to the supervisor in digital form. For this purpose, the work is considered as a Word (.doc) **and** PDF document (.pdf),

- both as an upload in electronic version at the ISC (Please use a separate data carrier only for work or attachments > 10 MB)
- as well as by e-mail to the supervisor.

Submission regulations for seminar papers
The research paper must be submitted in **duplicate in writing**, printed on one side, in a binder.

In addition, the seminar paper must be submitted to the supervisor by e-mail with the work in digital form as a Word (.doc) **and** PDF document (.pdf) together with any necessary digital attachments.

3 Formatting and layout guidelines

3.1 Basic formal requirements

For all seminar papers and theses, the Microsoft Word template must be used, which is available for [download](#) on the website of the chair. In addition, every student has the opportunity to use Microsoft Word in the CIP pools of the faculty.

The final manuscript should be as follows:

- Seminar paper: 22,200 characters (per person, approx. 10 pages, excl. illustrations and tables)
- Bachelor thesis: 70,000 characters (approx. 27 pages)
- Master thesis: 120.000-140.000 characters
- MMT thesis: 120.000 - max.140.000 characters.

These requirements must be strictly adhered to. Deviations of more than ±10% have a negative effect on the grading.

These requirements may change as part of new examination regulations, please additionally check these requirements in the examination regulations to which you belong. No responsibility is taken for the above information.

3.2 Formatting Guidelines

Margins:
- Top: 2.0 cm
- Bottom: 2.0 cm
- Left: 4.0 cm
- Right: 2.0 cm
- Header: approx. 1.2 cm
- Footer: approx. 1.2 cm

Line spacing: 1.5**; Font:** Times New Roman, 12 pts.

For readability, it is recommended that you format the text using the hyphenation feature.

Numbering:
- Headings: Headings shall be numbered consecutively in decimal terms. Subsections are therefore numbered as 2.1, 2.2, etc. A new bullet level should only be inserted if it consists of at least two bullet points.
- Pages: The pages of the scientific work are to be numbered consecutively. The pages of the text, the bibliography and the appendix are numbered with Arabic numerals. For all other pages (tables of contents, affidavit, etc.) Roman numerals are used.
- Since there is no page number on the title page, page numbering on the first page of the table of contents begins with a Roman I. The page numbers are always indicated in the lower right corner of a page.

3.3 Formal requirements for citation

The references for papers written at DSS are to be managed with the EndNote application. A full version of the program can be downloaded free of charge at https://www.ub.uni-muenchen.de/schreiben/literaturverwaltung/endnote/index.html. The download is only possible via the LMU network or the VPN client.

4 The design of scientific papers

Since business administration belongs to the social sciences, we recommend the general information in: *Bhattacherjee, A. (2012). Social Science Research: Principles, Methods, and Practices*

Students should argue objectively in their work and structure the topic well, as well as observe a continuous line of argumentation in the research work. At the beginning, the goal of the work should be precisely defined. Even during the writing of the work, the goal of the argumentation should always be clearly recognizable.

4.1 The literature review

The *Literature Review* is more than a summary of existing research or an annotated bibliography. In a literature review, the understanding of the underlying field of research should be clarified. Furthermore, the results of previous research are evaluated, key concepts are defined, and relevant methodological questions are derived.

Structure:

In the following, an exemplary outline is presented, which should help to cover important aspects of the individual sections.

Theoretical part:

1. Introduction:
   - What is the research topic about and why is it interesting?
   - What "problem" will be solved?
   - What is the conclusion of existing literature?
   - What is the problem of the existing literature?
   - How does the research deal with the problem?
   - Description of the research work and the procedure used
   - Description of the extent to which the results of the research work contribute something to existing literature
   - Description of the general structure of the research work
2. Theoretical framework (optional):
   - Shows how the underlying research fits in with what is already known.
   - Shows how the underlying research contributes to the topic.
3. Research method:
   - Depending on the type of literature search, e.g. Systematic literature review (with a systematic review process), descriptive review (determining the extent to which a set of empirical studies supports all interpretable patterns or trends)

Application part:

4. Results:

- Description of findings
- Which relationships can be identified?
- Reference to the theoretical framework (if applicable)

5. Discussion:
   - What conclusions can be drawn from the data?
   - Identification of cross-paradigms, insights and questions
   - Use of previously unmentioned literature to emphasize certain points.

6. Limitations and implications:
   - Are there theoretical or practical implications of the results?
   - Are there any limitations of the study?

7. Result
   - Generalization of findings to a general conclusion
   - What is the overall rating?
   - What potential further research would be useful?

Examples:
- Paré, G., Trudel, M. C., Jaana, M., and Kitsiou, S. (2015). Synthesizing information systems knowledge: A typology of literature reviews. *Information and Management*, *52*(2), 183-199.
- Jasperson, J. S., Carte, T. A., Saunders, C. S., Butler, B. S., Croes, H. J., and Zheng, W. (2002). Power and information technology research: A meta triangulation review. *MIS quarterly*, *26*(4), 397-459.

4.2 Empirical research

Every student has free access to the software SPSS and STATA via the CIP Pool
- Introduction SPSS: https://www.youtube.com/watch?v=6-u2cAafp5o
- Introduction STATA: https://www.youtube.com/watch?v=Xll4Af7RL2U
- Data room: https://www.bank.bwl.uni-muenchen.de/forschung/daten-banken/in-dex.html
- NVivo 14-day trial: https://www.qsrinternational.com/nvivo/trial/free-trial-form

Quantitative research:
Quantitative research collects data in numerical form, which can be divided into categories or rankings, or measured in different units of measurement.
We recommend the following literature:
- **Data collection:**
  Bernard, H. R., and Bernard, H. R. (2012). *Social research methods: Qualitative and quantitative approaches*. Legend
  Wilde, T./ Hess, T. (2007): Forschungsmethoden der Wirtschaftsinformatik – Eine em-pirische Untersuchung, Wirtschaftsinformatik (49), Nr. 4, S. 280-287)
  - Experiments
  - Surveys
  - Crawling data etc.

- **Data analysis**:
    - Statistical analysis: SPSS, STATA, SmartPLS, etc.
    - Numerical analysis: e.g. Matlab

Qualitative research:

In qualitative research, data are not available in numerical form (Punsch, 1998, p.4). It answers "why" and "how" questions (Yin 2009).

We recommend the following literature:

- **Qualitative methods:**
  (Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative inquiry*, *12*(2), 219-245.)
    - Single Case Studies
    - Multiple Case Studies
- **Data collection:**
  (Patton, M. Q. (2005). Qualitative research. *Encyclopedia of statistics in behavioral science.* (2nd ed.) Newbury Park, CA. Sage)
    - Interview - Questionnaire Design
    - Focus Groups
    - Document Analysis
- **Analysis:**
  (Yin, R. K. 2009. *Case Study Research: Design and Methods*, (4th ed.). Thousand Oaks, CA: SAGE Publications)
    - "Grounded Theory"
    - Narrative Analysis
    - Content analysis

4.3 Structure of an empirical research paper

In the following, an exemplary outline is presented, which should help to cover important aspects of the individual sections.

Theoretical part:

1. Introduction:
   - What is the research topic about and why is it interesting?
   - What "problem" will be solved?
   - What is the conclusion of the existing literature?
   - What is the problem with existing literature?
   - How does the research deal with the problem?
   - Description of the research work and the procedure used
   - Description of the extent to which the results of the research work contribute something to existing literature
   - Description of the general structure of the research work

- *Non-scientific literature can also be used*
2. Theoretical background or related literature:
   - Building a basic foundation
   - Shows how the underlying research contributes to and expands existing knowledge
   - Conception of the study
   - Evaluation of research design and instruments used
   - Providing a reference point for interpreting the results
3. Development of research models and/or hypotheses (optional)
   - Sample
   - Measurements
   - Case description
   - Data collection and analysis
   - Etc.
4. Selection of research method:
   - Quantitative research
   - Qualitative Research

Application part:

5. Results (without references, but only evidence from qualitative or quantitative data):
   - Description of findings
   - Which relationships can be identified?
   - Reference to the theoretical framework
6. Discussion (literature sources needed!):
   - What conclusions can be drawn from the data?
   - Identification of cross-paradigms, insights and questions
   - Use of previously unmentioned literature to emphasize certain points.
7. Limitations and implications:
   - Are there theoretical or practical implications of the results?
   - Are there any limitations of the study?
8. Conclusion
   - Generalization of findings to a general conclusion
   - What is the overall rating?
   - What potential further research would be useful?

4.4 Good examples of quantitative or qualitative

Research
- **Multiple Case Studies**: Kranz, J. J., Hanelt, A., and Kolbe, L. M. (2016). Understanding the influence of absorptive capacity and ambidexterity on the process of

business model change–the case of on-premise and cloud-computing software. Information Systems Journal, 26(5), 477-517.

- **Experiment**: Henkel, Christopher; Seidler, Anna; Kranz, Johann, and Fiedler, Marina (2019). How To Nudge Pro-Environmental Behaviour: An Experimental Study. Proceedings of the 27th European Conference on Information Systems (ICIS)

- **Regression**: Kranz, J., and Picot, A. (2011, June). Why are consumers going green? The role of environmental concerns in private green-IS adoption. Proceedings of the 19th European Conference on Information Systems (ECIS).

- **Structural Equation Modeling**: Leonhardt, D., Haffke, I., Kranz, J., and Benlian, A. (2017). Reinventing the IT function: the role of IT agility and IT ambidexterity in sup-porting digital business transformation, Proceedings of the 25th European Conference on Information Systems (ECIS).

5 Research Resources

5.1 References of literature

- Journals (A ranking of important journals in the field of business administration can be found at VHB Jourqual)
- Conferences
- Library catalogues of the University Library, the State Library, OPAC
- Journal databases: EBSCO Business Source Premier, ProQUEST, AISeL, IEEXplore, ACM Digital Library, ScienceDirect, etc.
- Journals in full text: Journals Database (EZB)
- Bibliographies
- Reference works: specialist dictionaries, specialist manuals
- Meta-databases: Scopus, Google Scholar
- Keyword Tool: LitSonar

5.2 Search procedure

The search of suitable literature should be started early and carried out consistently and quickly. In addition, the period of the search should be limited in time. During the entire research process, it is important that all information is recorded correctly and completely. This can be ensured, for example, by means of Word, Excel, Mendeley, Endnote or similar. We recommend using Endnote here as well.

Procedure:
- In the procedure you can choose between the systematic search, the snowball system or a mixed form.
- Strategic reading: Strategic reading is a way to understand 80% of the material in 20% of the time. A distinction is made as follows:
  - Level 1: Title and abstract only
  - Level 2: Abstract, introduction, conclusion, "first paragraphs", all tables and figures, everything highlighted
  - Level 3: Full article

5.3 Possibilities of material evaluation

- By author / type of publication / peer review
- Recessions, Reviews, Abstracts
- Journal rankings: A+, A, B, C, D Journals (https://www.vhbonline.org/vhb4you/vhb-jourqual/vhb-jourqual-3/tabellen-zum-download)

VHB-JOURQUAL3: Business Informatics		
Rank	**Magazine**	**JQ3**
A+ = Outstanding world-leading scientific journal in the field of business administration or its sub-disciplines		
1	Information Systems Research (IR)	A+
2	Management Information Systems Quarterly (MISQ)	A+
A= Leading scientific journal in the field of business administration or its sub-disciplines		
3	Journal of Management Information Systems	A
4	Mathematical Programming	A
5	Journal of the Association for Information Systems (JAIS)	A
6	Journal of Information Technology	A
7	Proceedings of the International Conference on Information Systems (ICIS)	A
8	Information Systems Journal (ISJ)	A
9	The Journal of Strategic Information Systems	A
10	European Journal of Information Systems (EJIS)	A
11	INFORMS Journal on Computing (JOC)	A
12	SIAM Journal on Computing	A
B = Important and respected scientific journals in the field of business administration and its sub-disciplines		
13	Journal of the AM (JACM)	B
14	Decisions Support Systems (DSS)	B
15	Decision Science	B
16	Computers and Operations Research	B
17	IEEE Transactions on Engineering Management	B
18	Business & Information Systems Engineering (BISE)	B
19	ACM Transactions on Information Systems	B
20	International Journal of Electronic Commerce (IJEC)	B
21	ACM Transactions on Management Information Systems	B
22	ACM Computing Surveys	B
23	Journal of Computational Finance	B
24	Artificial Intelligence	B
25	Group Decision and Negotiation	B
26	ACM SIGMIS Database	B
27	Proceedings of the European Conference on Information Systems (ECIS)	B

6 Citation rules

6.1 General

When creating scientific articles, the indication of external intellectual property is mandatory to prevent plagiarism. The author's own contribution - the intention to combine several literature sources - must be obvious. Please don't just swap words from an original phrase in a quoted sentence – quote original thoughts to back up your own work. For this purpose, the **so-called Harvard citation method** is used.

When using external intellectual property - whether as a verbatim quotation, as a logical transfer or direct transfer - an accurate and, if possible, actual (primary) source must be indicated. The literary source must be verifiable; the exact number of pages must also be indicated. A general reference to a scientific discussion ("the literature is in line with...") requires the unconditional citation of the most important sources in order to be able to prove them. The following three rules apply to each quote: directness/immediacy, accuracy, and feasibility.

- **Example 1 (literally):** The authors state that they identified "differences between firms regarding their ability to balance and connect market-oriented and technology-oriented knowledge, which we refer to as balancing capability". (Kranz et al., 2016, p.501)
- **Example 2 (indirect):** In their studies, the authors found that the selected companies show differences in their ability to balance and combine market-oriented and technology-oriented knowledge. (cf. Kranz et al., 2016, p.501)
- **Example 3 (summary):** Subsequently, the authors discuss the results of their study and the main findings they derive from it (Kranz et al., 2016: pp.501-502)

6.2 Directness/immediacy

The quotations are to be obtained from primary sources and not from secondary sources. If the primary source cannot be identified or found, the secondary source can be indicated if it is reliable. Original sources should be mentioned in the list of sources next to the secondary source, labelled "[original source] according to: (secondary source)".

6.3 Accuracy

"Material quoted directly from the work of another author [...] should be reproduced word for word." (APA, 2001, p.117).
- If the author is inserted into the text, the year and the number of pages follow in brackets directly after it.

Example:
Smith (1999, p.23) reported that "the creature walked like a duck and quacked like a duck".
- Without an introductory sentence, the author, date, and page are merged. Literal accuracy refers to outdated and incorrect diction (spelling) or punctuation.
Example:

For example, it was reported that "the creature walked like a duck and quacked like a duck" (Smith, 1999; p.23).
- For works with two authors, both names are mentioned in the source.

Example:
Research confirms that "the need for ... not proportionally enlarged" (Müller and Neuer, 2019, p.65).
- In the case of works with three or more authors, only the former author is indicated and replaced by "et al." Reference to the other authors. In the bibliography, however, all authors must be listed in full.

Example:
Müller et al. (2019, p.12) argue that ... .

Spelling or content errors in the original source should be adopted. An exclamation mark [!], indicates that the error did not occur during transcription.
Foreign language texts can be quoted verbatim, literally or as translated texts. According to the citation rule "accuracy", the literal offer should be taken over in the appropriate language. A translation may be included in the footnote, stating that it is a translation.

6.4 Feasibility

A quote should contain information that was important to the person quoted. The quote must be large enough to understand its purpose, but it should not be more extensive than necessary. For reporting, one's own train of thought is crucial. For this reason, verbatim quotations should be used very sparingly and only if
- you can't present the idea better or more concisely in your own words,
- the meaning depends on the exact wording,
- it is about concept formation,
- it is a particularly original formulation,
- it is a text-critical discussion or argumentation in which the statements of the author are analysed or interpreted,
- it is foreign literature that is used as a supplement to an analogue transmission, so that the reader can determine that the author has translated the text correctly.

A quotation without specifying the exact page is only permissible if the overarching statement of a scientific contribution is to be referenced. If information about the author or year is not known, these are replaced by "n. a." (no author), or "n. d." (no date). In the case of (consultant) studies, practical contributions or journal articles, the name of the corresponding companies, institutions or journals can be given instead of the author.

References in the text must be given after completion of a statement. This is not necessarily necessary after each sentence unless it is a verbatim quotation or definition.

6.5 Examples of bibliography

1. **Reference to a publication in a journal:**
Kranz, Johann, Hanelt, André, Kolbe, Lutz (2016): Understanding the influence of absorptive capacity and ambidexterity on the process of business model change–the case of on-premise and cloud-computing software, in: *Information Systems Journal*, *26*(5), pp. 477-517.

2. **Reference to a book:**
Mertens, Peter, Bodendorf, Freimut, König, Wolfgang, Schumann, Matthias, Hess, Thomas and Buxmann, Peter (2017): Grundzüge der Wirtschaftsinformatik, Berlin, Hei-delberg: Springer-Verlag.

3. **Reference to a chapter in a book**:
Chenhall, Robert, and Romano, Christopher (1989): "Formal Planning and Control Presence and Impact on the Growth of Small Manufacturing Firms," in *Job Generation by the Small Business Sector in Australia*, William. Dunlop and Andrew Williams (eds.), Newcastle: Institute of Industrial Economics, pp. 71-89)

4. **Citation of a reference with 'in press' or 'forthcoming' implies that the article has been accepted for publication:**
Egger, Peter and Wamser, Georg (2015): The Impact of Controlled Foreign Company Legislation on Real Investments Abroad, *Journal of Public Economics*, forthcoming.

5. **Working Paper:**
Deming, David and Dynarski, Susan (2008): The lengthening of childhood (NBER Working Paper No. 14124). Accessed on National Bureau of Economic Research website: http://www.nber.org/papers/w14124

6. **Newspaper article:**
Online: Hilts, Philip (16 February 1999). In forecasting their emotions, most people flunk out. The New York Times. Accessed on http://www.nytimes.com
Print: Schwartz, John (1993): Obesity affects economic, social status. *The Washington Post*, pp. 1-4.

7. **Reference to a web page:**
When citing web pages, it is necessary to specify the complete URL. In addition, the date on which the source was first accessed must be indicated. All other information that is known, such as name of the author, date, etc. can also be provided:
Violino, Bob (2019): How to better integrate IT security and IT strategy, [online] https://www.cio.com/article/3407737/how-to-better-integrate-it-security-and-it-strategy.html, [2019-07-11].

8. **Social Media Post:**
Tweet: Gates, Bill (November 20, 2013). Needle-free immunizations? They'd be a huge breakthrough. A peek at the future of vaccinations: http://b-gat.es/I0wh54 [Tweet] https://twitter.com/BillGates/status/403372513456955392 [16.09.2019]

7 Marking of tables or figures

Figures or tables contribute to illustrate the facts presented. If figures or tables are inserted, it is essential to refer to them in the text. The formatting of the labels of tables and figures must be done according to the examples in the Word template provided. Irrespective of this, the following guidelines must be complied with in any case:

- The inscription is centered below with the addition "Fig." or "Tab." in the form:

  Fig. [first-level chapter number]-[sequential number]: [title of figure] e.g.: Fig. 3-2: Basic model of the label or Tab. 4-7: Elements of a good label
- The numbering of figures and tables starts again at "1" in each first-level chapter.: e.g.: Fig. 3-2: Basic model of the labeling and Fig. 4-1: Classification in the target system
- References to figures and tables are given directly in the label: e.g.: Fig. 3-2: Basic model of the label (Meier, 1911, p. 34.)

All figures and tables shall be listed in a table and, where appropriate, in a separate table of tables. These are inserted after the table of contents.

Examples of various illustrations
   1. **Adopted image**

Figure 7-1. Mona Lisa (La Gioconda) (Leonardo da Vinci 1503 - 1506)

2. Modified image based on an existing source

Figure 7-2. Isleworth Mona Lisa, replica (based on Leonardo da Vinci 1503 - 1506)

3. Own presentation

Figure 7-3. Lady of the Renaissance, (own illustration)

8 Helpful sources of information

8.1 Literature

- Bahr, Jonas and Frackmann, Malte (2011): Richtig Ziieren nach der Harvard-Methode, [online]
https://www.kuwi.europa-uni.de/de/lehrstuhl/lw/osteuropa/Medien/Harvard-Zitierweise.pdf [10.10.2019]
- Webster, Jane and Watson, Richard (2002): Analyzing the Past to Prepare for the Fu-ture. *MIS Quarterly*, 26(2).
- Kornmeier, Martin (2018): *Scientific writing made easy: for Bachelor, Master and Dissertation*. UTB GmbH.
- Cochrane, John (2005): *Writing Tips for Ph. D. Students.* Chicago, IL: University of Chicago.
- Gioia, Dennis and Chittipeddi, Kumar (1991): Sensemaking and sensegiving in strate-gic change initiation. *Strategic Management Journal*, 12(6), 433-448.
- Pratt, Michael (2009): From the Editors: For the Lack of a Boilerplate: Tips on Writing up (and Reviewing) Qualitative Research. *Academy of Management Journal*. 52(5). 856-862
- Gioia, Dennis, Corley, Kevin and Hamilton, Aimee. (2013): Seeking qualitative rigor in inductive research: notes on the Gioia methodology. *Organizational research methods*, 16(1), 15-31.
- Hsu, Hua (2015): A Guide to Thesis Writing That Is a Guide to Life
https://www.newyorker.com/books/page-turner/a-guide-to-thesis-writing-that-is-a-guide-to-life?utm_brand=tny&utm_source=facebook&utm_social-type=owned&mbid=social_facebook&utm_medium=social&fbclid=IwAR0Nm2Jpt-BAyrgd3AelXiSts5ZOjZj4p9O2NckOGTb879n_UzdcFFrd6RYg, [2019-09-30]

8.2 Procedure to build a convincing argument

- **Familiarize yourself with the topic**
  - Search for a review or latest research on one or more topics
  - What is the "State of Art"?
- **Think about what your contribution could be**
- **Think about the form of your research work**
  - General Literature Review
  - Integration of other insights
  - Development of a model/proposals
  - Testing/validating data (of your own data or that of others)
- **Develop a storyline**
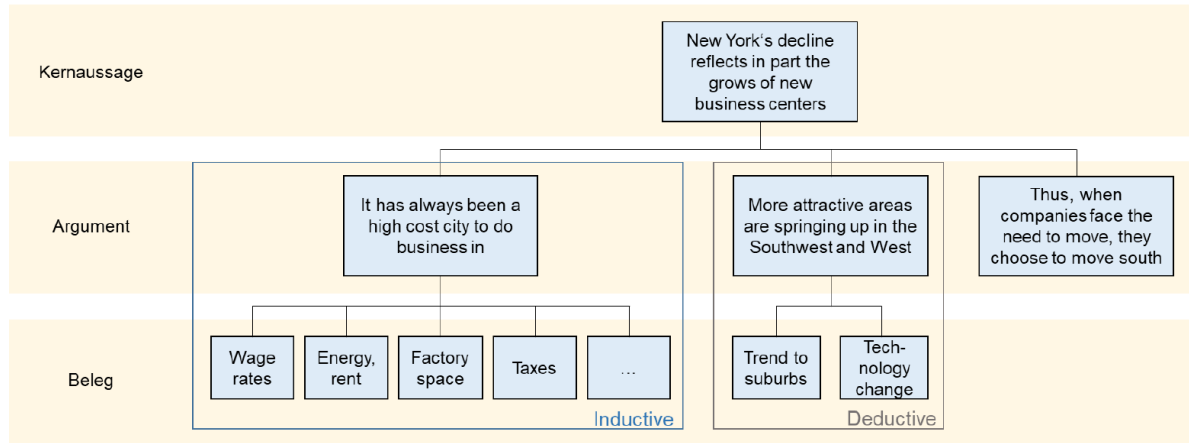
Example of a convincing argument:

Figure 8.2. Building a persuasive argument (Minto, 2009).

Here it becomes apparent that each core statement is supported by several arguments, which in turn are supported with several proofs or examples.

Two types of reasoning:
Justifications can be either inductive or deductive.

- Inductive: listing a set of examples, justifications, proofs, etc. that support the argument
- Deductive: naming several ideas that lead to a conclusion

To guide the reader through the key messages, it is helpful to use signal words.

8.3 Tips to keep in mind when writing a research paper

- Build your text logically
- Check if theoretical concepts have been taken up in the results section
- Integrate feedback from the supervisor
- Don't get lost in literature
- Don't start side discussions, but use well-founded arguments

9 Appendix

9.1 Pitching Research

General Information			
Pitcher's Name		Purpose:	Pitching research:
Working Title	Concise/informative title		
General research question	Define the most important characteristics of the research question in one sentence.		
Main reading	Identify the key paper(s) that most critically support the topic (standard reference details only). Ideally one paper and a maximum of 3 papers		
Motivation	In a short paragraph (max. 100 words) the core motivation is presented – this may include identifying a research gap that they hope to fill.		
Three	**The three core statements of an empirical research paper**		
Idea	- Identify the "core" idea that drives the intellectual content of this research topic. If possible, articulate the central hypothesis(es). - Identify the key dependent ("explained") variable and the key test/independent ("explanatory") variable(s). - Is there any serious threat from endogeneity here? If so, what is the identification strategy? E.g. is there a natural experiment or exogenous shock that can be exploited? - Is there any theoretical "tension" that can be exploited?		
Data	- What data do you propose to use? e.g. country/setting; Why? Unit of analysis? Individuals, firms, portfolios, industries, countries ...? sample period; sampling interval? Daily, weekly, monthly, quarterly, annual, ... Type of data: firm specific vs. industry vs. macro vs. ..? - What sample size do you expect? Cross-sectionally? In Time-series/longitudinal? - Is it a panel dataset? - Data Sources? Are the data commercially available? Any hand-collecting required? Are the data to be created based on your own survey instrument? Or by interviews? Timeframe? Research assistance needed? Funding/grants? Are they novel new data? - Will there be any problem with missing data/observations? Database merge issues? Data manipulation/"cleansing" issues? - Will your "test" variables exhibit adequate ("meaningful") variation to give good power? Quality/reliability of data? - Other data obstacles? E.g. external validity? construct validity? Are there any other data obstacles? E.g. external validity? Construct validity?		

Tools	- Basic empirical framework and research design? Is it a regression model approach? Survey instrument issues/design? Interview design? - Econometric software needed/appropriate for job? Accessible through normal channels? - Knowledge of implementation of appropriate or best statistical/econometric tests? - Compatibility of data with planned empirical framework? Is statistical validity an issue?
Two	**Two key questions: What and why?**
What's new?	- Is the novelty in the idea/data/tools? Which is the "driver", and are the "passengers" likely to pull their weight? - Or is this "Mickey Mouse" i.e. so intellectually unchallenging that a simple Venn diagram can depict the novelty in your proposal
What?	Why is it important to know the answer? How will major decisions/behaviour/activity etc be influenced by the outcome of this research?
One	**The Bottom Line**
Contribution?	What is the primary source of the contribution to the relevant research literature?
Other considerations	- Is Collaboration needed/desirable? - idea/data/tools? (either internal or external to your institution) - Target Journal(s)? Realistic? Sufficiently ambitious? - Risk assessment ["low" vs. "moderate" vs. "high": "no result" risk; "competitor" risk (ie being beaten by a competitor); risk of "obsolescence"; other risks? Are there any serious challenge(s) that you face in executing this plan? What are they? Are they related to the Idea? The Data? The Tools? Are there ethical considerations? Ethics clearance? - Is the scope appropriate? Not too narrow, not too broad.

9.2 Declaration on honour (please look for the latest template provided at the ISC homepage)