INSTITUT FÜR
ENTREPRENEURSHIP
& INNOVATION

WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

E&I Master Thesis Guide

Guidelines, Information, Advice

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Content

0. Purpose of this document

Filing your master's thesis is one of your final steps leading to the conferral of your graduate degree. The aim of this guide is to provide all the necessary information for students who are interested in writing their master's thesis at the Institute for Entrepreneurship & Innovation (E&I) so that you can focus on the most important part – the thesis itself.

We assume that you have read this document before contacting one of the E&I team members regarding your master's thesis. If there are still some questions to be answered, please write us an e-mail (waltraud.hanousek@wu-wien.ac.at). We try to answer every question and will include missing information, if of general interest, in future versions of this document.

1 Prerequisites: Who can write a master's thesis at our Institute?

All students of the Strategy, Innovation, and Management Control (SIMC) Master's program are invited to write a master's thesis at the E&I institute. There are three prerequisites:

The first prerequisite for the assessment according to the study plan is the successful completion of the course "Master's thesis seminar". You can already begin your master's thesis while taking the corresponding course, however, usually you will complete the course first. We expect all candidates to know, understand, and apply the content of the course.

Second, you need to persuade us that the planned thesis will thematically and qualitatively adhere to the standards of the institute. The basis for a decision is a proposal (see 5.2) and a preliminary outline of the thesis. If the criteria are met, you will receive a final confirmation of supervision.

Third and finally, any commitment is contingent on the availability of a supervisor.

2 What is a master's thesis?

You are required to identify a practically and theoretically interesting research gap, formulate a research question, and with the help of relevant literature – and in most cases an empirical study, finally arrive at a solution. This task goes beyond your previous university course routine and therefore will be especially challenging.

What does this mean exactly? What is an appropriate problem statement? We want to clarify some potential misunderstandings:

- *A master's thesis is not a project report.* Documents created for practical purposes (e.g. a project report) solve a so-called "singular" problem. Their statements are more or less exclusively related to a particular case, at a particular point in time, in a given situation. In the master's thesis you are required to be able to generalize your findings.
- *A master's thesis is neither an individual experience, nor a personal opinion.* The fundamental characteristic of a thesis is that it is unbiased in nature. Problems are dealt with objectively, independently and impartially. Of course it helps if you have a topic in which you have experience, but the goal of a master's thesis is to solve a specific, yet common problem.
- *A master's thesis is not a textbook.* Textbooks are used to enable an interested reader to get started in a new subject, and aimed at transferring knowledge in an explanatory

manner. A master's thesis should of course be comprehensible to read, but it offers not just an overview or summary of existing literature; it goes beyond that: it identifies and solves a specific and definite problem.

So what is a master's thesis?

- *A master's thesis identifies a general problem.* A problem is "general" when it refers not only to an individual case. "How should company XY set the price for the innovation Z?" corresponds to a singular problem. "What are the determinants of price setting in product innovation?" is a general question.
- *A master's thesis identifies a relevant problem.* A research question is relevant if it (1) has not been sufficiently answered by existing research, *and* (2) the answer is important and interesting.
- *A master's thesis contains the solution of the problem (at least to some extent).* This is achieved, for example, through the use or the formation of theory or from empirical data. Therefore, a quantitative empirical study, an exploratory empirical study or a literature analysis are possible approaches.

From the above structure (master's thesis = developing a research question and answering it) it should be clear that a thorough and successful development of the research question is crucial for the future quality of the thesis.

The way the problem statement is elaborated and how well (in terms of methodically correct, thorough and critical) the question is answered determines the quality of a master's thesis. This clear line is often referred to as the *"common theme":* a very good thesis is a compelling argument. It contains nothing superfluous and should be concise. The normal range is 60 pages (excluding bibliography and appendix).

3 Supervisor

Your first points of contact are the research and teaching assistants or assistant professors of the institute. They have the role of the so-called "co-supervisor", and they decide whether your topic ideas go in the right direction, whether the status of proposal and outline is sufficient for registering and then accompany you, after official registration with Prof. Franke (official supervisor of the thesis), during the process.

4 Possible topics

The topics are predetermined in some way and are based on the areas of focus of the E&I institute. The co-supervisors often have topic suggestions that you can adopt or that you can develop further. These are usually aspects in which the assistants have a high interest due to their own research.

Of course we are also open to your own topics with regard to the SIMC teaching issues. In this case you must find an assistant that is willing to co-supervise the subject. We take our responsibility very seriously, a relation to our research focus or our course content therefore is important

In all instances the topics are typically kept relatively narrow. "Explaining the world" usually does not work, especially not if it is to take place on 60 pages. Your co-supervisor will assist in narrowing your research question, and help you develop the proposed topic into a proposal. This phase may take some time, so start early enough.

Working on the problem statement with two or several students is possible, and is especially

useful when there is a (large-scale) empirical study. However, the individual workloads must be clearly identifiable and separated from each other to be assessed.

5 The process: From the idea to the grade

5.1 Overview

The following figure illustrates the process of preparing and writing a master's thesis at our institute. The individual phases and milestones are described in the following chapters.

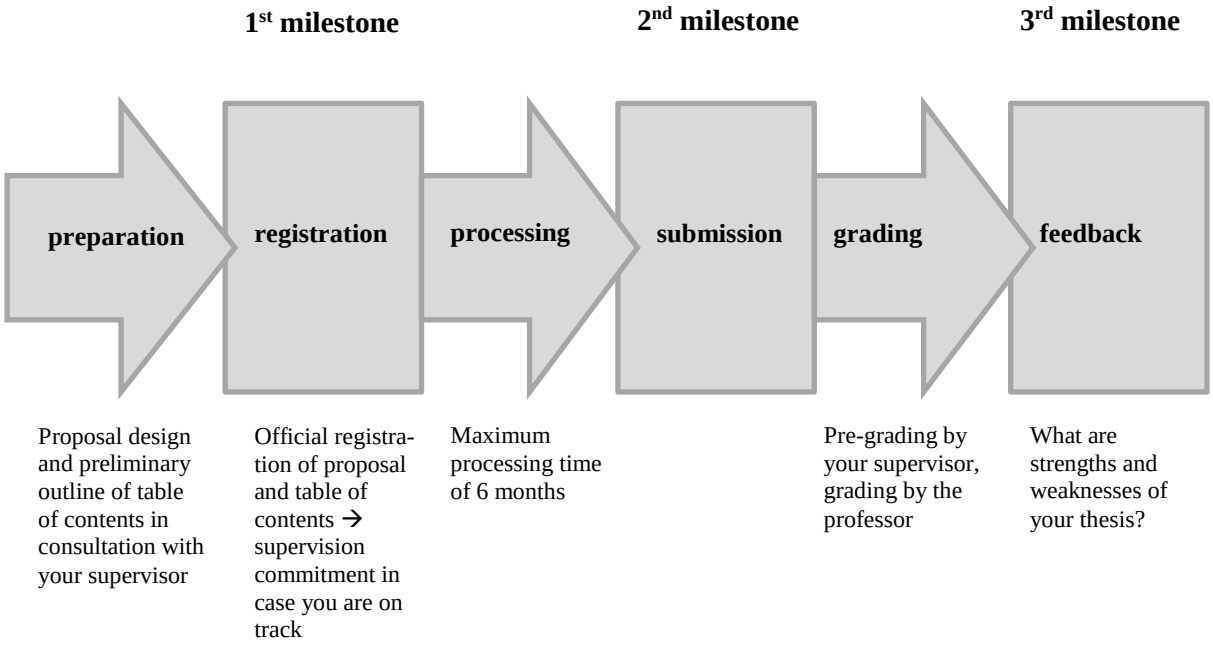

Fig. 1: Prototypical process of a master's thesis at the E&I institute

5.2 Preparation Phase: First contact with the supervisor and the creation of a proposal

If you meet the requirements (see chapter 2) and are interested in a master's thesis at the institute, please contact one or more assistants at the institute. Ask yourself what topics you are interested in, get informed about topic suggestions by (co-)supervisors and listen to their suggestions. Moreover, you can find suggested topics on our website.

In coordination with the co-supervisor you will narrow down your topic and develop a proposal. At this stage you should focus on the master's thesis, meaning you should not attend too many other courses. A delay in this early phase usually leads to everything becoming more difficult and strenuous for you than necessary.

A proposal is a preliminary concept, which will serve as a guide for both the author and supervisor. It ensures that there are no (significant) misunderstandings between (co-)supervisor and student, that the research question is answerable and relevant, and that you are generally on the right track. The proposal consists of two to three pages (excluding references) and includes:

- *Title.* As part of the registration, the title of the thesis will be made formally binding.
- *Background, problem definition, goal setting.* The theoretical and/or practical background will be briefly presented. You also briefly summarize the current state of research and explain what you want to achieve with this thesis.

- *Research gap and research question.* What specific research question do you want to answer and why is it relevant from a practical and theoretical point of view?
- *Approach and methodology.* You describe how you will proceed to answer the research question and why this approach is suitable. You could also shortly mention any expected results.
- *Structure of the thesis.* Give an overview of what chapters the thesis is subdivided into. Here you should clearly characterize the "common theme".
- *Table of contents (1-2 pages).* All of your considerations should be summarized in an outline. This is a "declaration of intent": In contrast to the title of the thesis you can change the outline throughout the process. Normally this will be very useful.
- *Gant Chart.* In order to plan your bachelor thesis it is important to have a plan about when to do what. Therefore, we request to include a time plan into the proposal that outlines when the milestones of your bachelor thesis are planned to be achieved as well as the steps to be taken to achieve the milestones.
- *References.* State the table of references.

5.3 First Milestone: Registration and acceptance of supervision

All master theses are registered officially. The registration form can be downloaded from the E&I website. Registration serves as confirmation of supervision. The co-supervision assistant, in consultation with the supervisor, decides if the proposal has met the necessary criteria and coordinates the registration appointment date. After registration you will have six months time to complete your thesis.

As part of the registration, the topic title of the thesis will be binding. It cannot be changed afterwards. The student and co-supervision assistant will discuss the planned thesis with Prof. Franke.

5.4 Second phase: The process to solving the problem statement

Once you have a definitive confirmation of supervision, we strongly recommend you to begin working on your topic immediately. We have deliberately introduced a time limit of six months, because we want you to concentrate on working on your thesis.

During the working phase, you will stay in contact with the co-supervision assistant in order to keep him/her involved in any important decisions. Use his/her expertise when it comes to steps such as planning and conducting an empirical survey, analyzing interviews, etc. At this stage though, the contact with the supervisor is typically not as close as during the "incubation period" or working on the proposal.

Responsibility for completion lies with you. You decide when the work is finished or whether some things need to be amended or supplemented. The co-supervisor does not make a pre-correction for you. You decide alone and independently whether your work is ready to be submitted.

We strongly suggest that you look for someone to proof read the work for you - especially in regard to spelling, grammar and formalities, as well as content. Get feedback from non-specialist people on whether the thesis is structured in a clear and understandable way.

5.5 Second Milestone: Submission of the master's thesis

Submit the master's thesis by the deadline, both electronically and in hard copy (bound).

Should you foresee that you cannot comply with the deadline for a serious reason, you must submit a written request for extension to your supervisor in a timely manner.

For the printed thesis, the cover sheet of the master's thesis needs to be completed, signed, and placed with the thesis (available for download from the WU website). Submit the completed assessment protocol with your data and literature used electronically as well.

After submitting your thesis at the administrative office, please complete a master's thesis feedback form (available in the secretary's office).

5.6 Third phase: Assessment of the master's thesis

By law, the assessment of the master's thesis will take place within four weeks of submission. The co-supervision assistant is responsible for the pre-grading, and Prof. Franke for the final grading. The co-supervision assistant will notify you of your grade via e-mail.

5.7 Third Milestone: Feedback

After the thesis has been graded, you can make an appointment with the co-supervision assistant for a feedback session. We want to ensure that you understand the details of the assessment so that it may benefit you as much as possible in future, similar challenges.

6 Role of the Supervisor

From the above explanations, the role of the co-supervision assistant should have become clear. He/She has the function of an advisor that helps and provides support for your thesis. The accomplishment itself lies with you and you have full responsibility. Understanding this is very important because it has a number of practical implications. For example, it means that the input of the co-supervision assistant is an opportunity, not an obligation. "Nobody told me" is not a valid argument. You also have the duty to critically verify any advice given. You should never follow a suggestion without understanding its importance. Misunderstandings are always possible and you bear the responsibility. If the thesis has a particular weakness or you make a mistake, the excuse "I didn't understand it either, but Mr./Mrs. XY has told me to do it this way" will not help you. Wrong is wrong.

Let us be perfectly clear though: you will not be left alone. Students repeatedly confirm that the support is above average. We will help you get the most out of yourself and will be glad if you achieve a good or very good thesis.

7 What comprises a good master's thesis?

7.1 Important components and core elements

7.1.1 A good title

The thesis's title should be descriptive and concise. Although it is not possible that it summarizes all aspects of the thesis, one should immediately know what it is going to be about. It should create a curiosity about its content. The final wording will be agreed upon as part of the registration.

Using the broadcast search method to identify lead users: an exploratory analysis

➔ *Is a good title.*

First propositions about factors that influence the broadcasting search process as part of lead user identification: an exploratory analysis of six lead user projects that use the broadcasting method.

➔ *Content is correct, but cumbersome and impractical.*

7.1.2 The three vital parts: introduction, body and discussion

The ***introduction*** has a central function in the thesis. It serves three purposes:

First, the objective of the thesis is stated. The underlying problem statement should be clear, and you develop a research question. The rest of the thesis will refer back to this part. A common beginner's mistake is that the actual thesis deviates from the research question, or in the worst case has nothing to do with it anymore. The "common theme" begins in the introduction.

Secondly, the relevance of the research question is *justified.* This is obvious, but often forgotten. Sometimes, one reads of a "definition" of the topic. This is misleading, since definitions are statements of facts that do not require further justification.

What means "relevant"? A simple answer does not exist. A characteristic of relevant research is that it helps to find *general explanations about reality*, or to check, amend and/or modify current explanations, thus expanding our knowledge about reality. There are many starting points, such as finding suitable systematization schemes, formal or behavioral modeling, deriving or analyzing theoretical models, and/or empirical exploration of hypotheses, the empirical testing of theories/hypotheses, or a summary of existing empirical research results (meta-analysis) etc.

Third, the approach to problem solving is explained. The reader is offered a first overview of concepts, methods and results of the thesis. How does the author approach the topic? How do the individual chapters build on each other? What is the result of the thesis? The preview is thus a conceptual overview, a brief description of the methods used and a very brief summary of the key findings or conclusions.

The ***body*** contains the actual problem solving. It also introduces, analyzes and synthesizes the existing literature. Reviewed academic works are not always on the exact same topic, but can also be related in other ways, for example, originate from analogous fields or involve more general statements. This means the statement that one cannot find any literature on the topic only points to the fact that no thorough literature and database search was carried out. Based on discussion about the scientific work, you should show exactly why this is not sufficient to answer the problem statement contained in your thesis. It is therefore necessary to point out the limitations of previous research.

Based on these limitations, the contributions that your thesis makes can now be presented. What kind of support does your thesis offer to overcome these limitations? It may be useful to show on the one hand what your work accomplishes, and on the other hand what it does not address. Finally, it can be asked, what impact your own investigation results will have on the scientific theory. For whom is this result interesting? How will our point of view change because of the results of the thesis?

In the concluding ***discussion*** you should analyze to what extent the research question was answered, what alternative explanations there may be (especially in empirical studies), what additional questions emerged and what issues remain open and could be handled in future works. A self-critical analysis is important and there is no shame, if not all questions have been answered. Awareness of the limits of your own work is extremely important. An overly confident "everything's great" almost always indicates either a misunderstanding or a lack of analytical depth in your thesis.

7.1.3 Figures, Tables, and Charts

Figures, tables, charts and key words greatly help readers to navigate through the document. Particularly complicated and detailed issues can briefly be summarized in this way. So do not be stingy - but do not overdo it.

Figures serve the function to *easily demonstrate* concepts. Color, 3D effects and other bells and whistles only have a place in academic work if they add value or facilitate a better understanding. For example, only provide 3-D pie charts if the height of the cake is of significance. Illustrations should be noted in the text, and if necessary, they must be explained. Place meaningful captions under tables and figures.

7.2 Some key success factors

7.2.1 Text flow and structuring: the famous „common theme“

An important assessment criterion is the structure of the thesis. Do you understand the thesis immediately? Can you find your way around? The reader wants to be guided through the thesis and not have to put all the pieces together him/herself.

A good thesis is characterized by a clear theme and a compelling argument. This is known as the "common theme". In a thesis that has a clear common theme, the results are answers to the research question, the analysis of the literature supports the argument and has no unessential parts - in short, the thesis is well-rounded, complete and contains nothing unnecessary. The individual parts build on each other; there are no jumps and complicated pre- or recourses.

It is a lot of work to get a thesis to this point. In no case one will succeed right away. A thesis must usually be revised several times. Here, critical feedback from someone who is not involved in the thesis is very important to get an external perspective.

7.2.2 A clear outline

For a master’s thesis it should be sufficient to use a maximum of four numbered heading levels (e.g. chapter 4.1.2.3.). In general, you should be able to get along with three. If you have the feeling that you need more, you should critically question your fundamental structure. Otherwise, the danger is that the text almost exclusively consists of headlines that contain no argumentation.

An outline is logical and self-explanatory. What is fundamental for the title of the thesis also applies to the headings.

The following are some typical errors and possible improvements:

…

2. Acquisitions and their impact

2.1. Motives for acquisitions and their various impacts

2.2. Target conflict: acquisition or innovation

3. Literary analysis of the impact of acquisitions on innovation

…

In this example, the first point (2.) is repeated through a sub-point (2.1.). This is illogical, because the first point should serve as the headline for the subordinating points. A second weak point is that points 2. and 3. are highly redundant, are therefore probably do not differ very much in content. As a reader you are angry about unnecessary repetitions.

A much better division (which could of course continue to improve) would be:

…

2. Background: Acquisitions

2.1. Overview

2.2. Motives for acquisitions

2.3. Target conflict: acquisition or innovation

3. The impact of acquisition on innovation

…

5.2. Results of the empirical study

5.2.1. The requirements for start-ups

5.3. Interpretation of results

…

In this structure, the question arises, why the author ever subdivided the top point 5.2. He only has one sub-point. In this respect, the title is not strictly speaking a headline. The sub-point should be eliminated.

…

3. Results of the empirical study

3.1. Methodology used

3.2. Importance of each founding motive

3.3. Correlation analysis between motive and success

…

Here the headline (3.) does not actually apply to all three sub-points. 3.1. is not a result, rather the approach. Either you make this into its own point, or you change the headline point to „Empirical Study“.

…

5. Literature overview: establishing teams

5.1. Advantages of establishing teams

5.2. Supplementation through complementary skills

5.3. Problems of cooperation with engineers and economists

…

This illustrates a hierarchy problem. The author presents different aspects at the same level. For example, 5.2. is clearly a sub-point of 5.1. Also missing is the logical counterpart to the advantages, namely the disadvantages. A much better division would be:

…

5. Establishing teams

5.1. Advantages of establishing teams

5.1.1. Supplementation through complementary skills

5.1.2. Larger social networks

5.2. Disadvantages of establishing teams

5.2.1. Different language of engineers and economists

…

7.2.3 Avoiding digressions

One should always focus on the fundamentals, namely the topic of the thesis. This means that for every chapter, every paragraph, every sentence and even every word, you ask yourself one critical question:

Does it contribute to problem identification and/or problem solution?

You can take this sentence and paste it on your computer - that's how important it is. There is a tendency to document your own learning process when working on longer, more complex projects. Also, there is a strong reluctance to delete something once it is written – whether it contributes to the topic or not. It is very likely that you will encounter this situation.

Believe us: Someone who is hard on himself in this aspect will at the end write a better thesis. Things that deviate from the common theme, even if they are interesting and well written, will make the thesis *worse.* It will be necessary to revise the work several times and you will most likely have to remove some passages that you have put a lot of work into and that you may be proud of. While this is unfortunate, you will have to make the sacrifice or face the consequences, i.e. the risk of living with a worse grade.

7.2.4 A clear writing style

A good thesis is clear and precise. Obviously the writing style also contributes to this. The ability to express yourself can be learned – make yourself aware of which texts seem clear to you and which do not, and what distinguishes them. Practice it. There is good literature on this subject. Some short rules below:

What sounds simple is not scientific – erase this misconception from your memory. Scientific writing does not mean incomprehensible writing. Formulate short sentences and use a clear, simple language. Someone that writes complicated usually thinks complicated. Remember what the philosopher Karl Popper said: "If you cannot say something simply and clearly, say nothing and go back to work, until you can say it clearly."

Writing is a process. No sentence that you have written must remain that way. On the contrary - the writer Heinrich von Kleist praised "the gradual formulation of ideas" when writing.

Do not force the reader to read a sentence three times. This happens when you spice up your text with insertions and subordinate clauses. Rule of thumb: An insertion must be less than three seconds long. Otherwise, the reader forgets the thoughts of the main clause, which drowns out information. For comparison: "The judge denied, after he had pronounced the sentence against the accused, the defense lawyer, by not saying goodbye, any respect." Would be clearer: "The judge denied the defense lawyer any respect. After he had pronounced the sentence against the accused, he did not say goodbye to him"

Distinguish between foreign and technical words. Many foreign words can be replaced with their English counterpart. Unlike foreign words, technical terms belong in a scientific text.

Be active. Scientific texts often suffer from becoming depersonalized. Use the personal pronoun "I" when you give your opinion, or call other authors by name. Do not write your sentences with a passive subject. Active formulations promote thinking.

Who, how, what? "The behavior of Homo economics must be considered carefully in order to draw conclusions about the effects of the lack of information." Huh? Who here has what, how, where and why? Ask yourself these questions to avoid errors in your wording.

Distrust adjectives. They can often be replaced by a noun. A literary work is a book, positive developments are gains and critical statements are criticisms.

Sometimes a simple test helps: Give the thesis to your parents or a friend without business background and ask if they *really* understand the text or whether there are sentences that are not yet entirely clear. Also ask if the work is structured clearly, whether the central arguments are clear, and whether it is fun to read.

Again: It's not enough to write a thesis that only has good content – Quality means being able to communicate the content. By the way, this applies not only to master theses.

7.2.5 Anticipated technical problems

Experience has shown that there are always surprises. Therefore, it is best to print the master's thesis several days before the deadline and pay attention to proper formatting when proofreading.

7.2.6 Some tips on time management

Writing a research paper is a complex and (for the author) new task. Particularly problematic is that the complexity is often drastically underestimated. What initially seems simple can become very difficult and time consuming when the time comes to write the thesis.

This is one more reason to plan the time required for the individual steps and chapters (use of milestones). This way it becomes evident whether your pace is sufficient to complete the work within the given time frame. When scheduling, please give yourself a buffer, as experience has shown that deadlines often cannot be met.

As pointed out several times, repeated self-critical reviews are absolutely necessary in writing a high-quality thesis. The quality of a work usually increases with time, through the effort and critique that you receive from the people that you have asked for feedback prior to submitting

your thesis. Therefore, you should try to have written the thesis completed three weeks before the due date. This allows enough time to tweak and improve your thesis (and thereby your grade).

The often attempted feat of writing through the night and having tens of friends correct and revise at the same time, scrambling to find a replacement toner cartridge as the sun rises, and running to the nearest copy shop to have your thesis bound in record time rarely has a happy ending. Most of the time, inconsistencies and errors are so bad that the grade will be very unpleasant.

7.3 Tips for theses in collaboration with corporate partners

Principally we welcome theses that are developed through suggestion by and cooperation with corporate partners. Students who choose to go this route should note this is somewhat of a balancing act. The interests of academic research and practice are related, but not identical. The thesis is graded in terms of how well you work out an interesting and relevant problem and answer.

Experience has shown that there are always practitioners who would like the master's thesis to only solve a single concrete problem and are not interested in a generalization of the results. It is your responsibility to ensure that the work is of general interest.

7.4 Particularly challenging: Empirical studies

7.4.1 Is it worthwhile to work empirically?

It depends. On the one hand, working empirically is usually more work; it asks for the acquisition of specific know-how and skills (with regard to qualitative and quantitative methods of collecting and analyzing data) in addition to a good overview about the relevant literature. On the other hand, working empirically has some major advantages: It gives you much more freedom in choosing a research question, as most questions call for empirical work to be answered properly. Furthermore, writing a well-crafted empirical thesis is actually much easier than writing a very good conceptual thesis. For conceptual pieces of research, the thoughts expressed and ideas presented need to be extremely sharp and creative to really contribute to the literature. Just summarizing existing literature would not be sufficient. Even very experienced researchers often fail to publish conceptual work in highly ranked journals because of a lack of conceptual clearness and newness of their ideas. Consequently, it will be much easier with empirically founded theses to proof their contribution.

Requirement for an empirical master's thesis is an evidence of relevant knowledge because we want that you know what lies ahead of you. In empirical work the golden rule is that you have to put in some thought in your approach in advance, and not just "get started". Errors that happen here by being too hasty are often irreversible.

Especially in empirical studies, an "Explanation of the world" will not be possible. You should therefore formulate the problem so that you can thoroughly and comprehensively examine it. If the topic is too big and wide, the work is almost inevitably trite and shallow. Ideal would be a "narrow" topic that you can analyze thoroughly and in depth.

7.4.2 Different types of empirical work

You should first ask yourself whether you want it to be exploratory (usually smaller and not suitable for generalization) or hypothesis-testing (larger, quantitative).

Exploratory is, in contrast to widespread opinion among students, not inferior, "any worse" or

"less empirical" than hypothesis-testing work.

When deciding "exploratory vs. hypothesis-testing", you are not always free to choose. A topic that has not been researched much will usually first require exploration. It doesn't make sense to just start inventing hypotheses. Rather, they must first be developed, which is naturally achieved through the use of literature and empirical exploration.

Hypothesis-testing theses thus usually require prior exploratory work. An exploratory master's thesis can be just as good, and provide the basis for a hypothesis-testing thesis. Ideally, hypotheses are the result of an exploratory thesis.

7.4.3 Importance of documentation

It is very important to document the procedure accurately and comment critically. When conducting empirical research, there is often no ideal solution and you must make compromises due for practical reasons. The researcher almost always, through personal decisions, affects the results (through questions in the interview, analysis, interpretation, etc.) - this is perfectly normal and legitimate. However, it is essential that all actions, all ambiguities, all interventions etc. are disclosed and explained, so that the reader can understand this.

7.4.4 Data collection and processing

For quantitative work, it is often tempting to use every available statistic. However, writing an empirical work is not a competition of data. It's not about using as *many* procedures *as possible*, but using the *correct* ones. In extreme cases, it is only a simple count of frequency. The basic rule is that you should always consider what the evaluation of data contributes in terms of answering the research questions.

When presenting results (i.e., empirical findings), it has proven to be useful to just show the bare results, i.e. presented as a table or graph. In the text you can then explain some of the key points (what is the average finding?) and finally, something that is often forgotten, *interpret!* Interpretation means that you try to describe what this result means in terms of the research questions, how it is classified, whether or not the result surprises you, how this has an effect on the theory, etc. Of course we also explain the limits of interpretation, thus presenting "alternative explanations".

7.4.5 Interviews

Interviews are recorded and later (with information about interviewee and date) transcribed – this way you can make a meaningful reference to statements made by the interviewee in your thesis (with reference to the appendix, interviewee, and page). Confidentiality of course is essential. No personal data may be made available to third parties.

Do not make the mistake of underestimating the demands of qualitative interviews. They vary greatly from normal everyday conversations. Be sure to familiarize yourself with the relevant methods.

7.4.6 Ethical dilemmas

Especially in empirical work, clear ethical principles are important. Although we are not in the same situation as physicians or psychologists, who have to constantly worry, there are problems that can arise.

A guiding rule is that you cannot harm third parties, and must not abuse their trust. If you have promised respondents, for example, that after completing your investigation you will send them a brief summary of your findings, then you should do so. Personal data from inter-

views may of course not be disclosed to third parties. Also, the clever idea "I will announce that I am raffling off 10 MP3 players – they cannot verify who gets one anyways " is obviously not allowed. Should you have any doubts about something, you should seek the advice of your supervisor.

8 Formal guidelines

The following formal requirements are "suggested requirements", so you have some margin of discretion. Please use these responsibly.

8.1 Structure and outline of thesis

A master's thesis is usually written in English (as our Master Program is also in English language) and includes the following parts:

- Cover sheet (available for download on the WU website)
- Acknowledgments (optional)
- Title page
- Table of Contents
- Figures and Tables
- Body
- Bibliography
- Appendix

Use a decimal outline in order to structure your work:

1 Introduction and problem statement
  1.1 Background
  1.2 Aim of the thesis
  1.3 Structure of the thesis
2 Current state of research
  2.1 External problem solving: New resources leading to innovative solutions
    2.1.1 Use of internal sources
    2.1.2 Use of external sources
...etc.

8.2 Formatting the text

The thesis is one-sided, 1.5 line spacing. The font is Times New Roman, size 12, and the text alignment should be full justification. The top page margin is approximately 2 cm and the bottom margin about 3 cm. The left margin should be held at 3 cm, and the right at 2 cm. All pages of the text should be numbered with Arabic numerals.

Paragraphs make the text much easier to read. It is important to make sure that paragraphs tie together coherent thoughts. Figures, graphs, tables etc. are to be numbered chronologically and given a description.

8.3 Citations in scientific work

8.3.1 Why cite and to what extent?

A scientific work builds on existing knowledge. Those who ignore the existing literature will not make a contribution to research. Therefore, the literature research and the reference to existing literature are of major importance. The WU library offers special courses in literature research on a regular basis. It is advisable to take advantage of this service.

The necessary number of references cited is a much-debated topic. It is not possible to specify a "minimum number". A relatively large literature base is not only advisable, but necessary for a good thesis. Of course it is important to note that it is not the quantity that is important, but rather the quality of the sources and how well they are applied. Strong empirical work, due to its focus, naturally uses fewer citations than a theoretical work. It can be said, although there are exceptions, that as a rule of thumb one can say that 30 scientific sources are certainly not enough, and that 80 sources tend to be the norm for a master's thesis.

For citing, the citation guideline listed below must be followed. Any use of someone else's intellectual material in a scientific work must be accurately cited, or otherwise be considered plagiarism. This rule will allow the reader of the thesis to determine whether the ideas presented by the author are his/her own, or if they originated elsewhere. It should be easy to locate and review the used citations. This applies both to verbatim and non-verbatim representation of others' work.

Plagiarism is not a petty offense and is as easily found as it is created. At WU, as well as at the institute, special software is used, which automatically compares the submitted work with all possible sources. For more information, see: http://www.wu.ac.at/academicstaff/en/info/thesis/plag. Also, you are supposed to upload your master's thesis to the Learn@WU platform, which will automatically run a plagiarism check over your final submission.

8.3.2 Verbatim quotations

Verbatim reproductions are to be put in double quotes. Quotations within a quotation are indicated by single quotes. Footnotes belonging to a quoted source are not incorporated. Long quotations (two or more lines) can also be shown by indentation and narrower font, but longer quotations are to be avoided if possible and replace with brief summaries.

8.3.3 Paraphrasing

Paraphrasing someone else's thoughts or expressions also requires correct citation. In this case, "c.f." (compare) can be added to the citation, but it is also common to leave that out. The correct page numbers are required when paraphrasing as well.

8.3.4 Statistical tables, figures, diagrams, maps, etc.

Figures are only of scientific value if they are verifiable. All figures are therefore provided with source data. Even well known figures (such as population numbers and size information about countries) must be cited. If your thesis combines a number of different figures, rearranged to make them comparable so that citing every single number is no longer possible, the beginning of the section should list all the sources and the methods used for rearranging should be referenced in a footnote.

As it is with verbatim quotations and paraphrasing of text, tables, figure etc. do not only need to be cited if the contents were reproduced 1:1, but also if they were simplified, supplemented, or modified in any other way.

8.4 Presentation of sources

8.4.1 Body of the thesis

References in the body of the thesis are to be done either directly in the text (Harvard style) or by way of footnotes (German citation). Consult with your supervisor which method is preferred.

Harvard style displays the source in brackets directly following the quoted or paraphrased text. If you cite more than one publication in brackets, they are to be listed in alphabetical order and separated by a semicolon. The author's name and the year are usually not separated by a comma, except in publications with three authors, where the names are each separated by a comma. When there are more than three authors, only the first is listed and then appended "et al.".

German citation uses an Arabic numeral superscript in the text which refers to a footnote. The footnotes should be numbered consecutively for the entire work and be separated from the text by a solid line. Two or three authors are separated by a slash, and with three or more authors, you also only use the first author and add "et al.". The publications are also listed in alphabetical order.

All references in the body of the thesis include the author's name, year, and – if you use a direct quote – the exact page numbers.

Only the bibliography includes the detailed description of the title, publisher, location, etc.

Harvard-style:

The success of the lead-user method in generating innovative ideas for companies has already been empirically documented. (Lilien et al. 2002, p.1051 et seqq.; Urban and von Hippel 1988, p.579; Olson and Bakke 2001, p.391).

German citation:

The success of the lead-user method in generating innovative ideas for companies has already been empirically documented. [1]

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[1] C.f. Lilien et al. (2002), p.1051 et seqq.; Urban/von Hippel (1988), p.579; Olson/Bakke (2001), p.391

References for tables, figures, diagrams, etc., are placed directly below the object, preceded by the word "source" (or "sources"). To avoid any misunderstandings, any special notes to the figures in tables, diagrams, etc. are to be labeled with small letters (a, b, c, etc.) directly in the table or figure and referenced in the footnote.

When you create a figure yourself, you need to identify the figure as such (source: own rendering). If you take the basic outlines of a figure, but to make changes or additions, you must also note this.

Source: Own rendering based on Homburg and Krohmer 2003, p.195

8.4.2 Bibliography

Adhere to the following guideline for the bibliography:

– *Quoting from books*

- Surname of the author (without any title)
- First name(s) of the author (either written out or abbreviated)
- Year (The year of the book is on the title page or on the back of the title page. If there is nothing to indicate the year of publication, this must be identified as "n.d." [= un-dated].)
- Title of book (subtitles can be omitted)
- Edition of the book (not required for the first edition)
- Location of publication of the book (if not identified in the publication, write "n.p" [= no place]. The location and the name of the publisher must be separated by a colon.
- Publisher

> Gillis, Tom S. (1997): Guts & Borrowed Money, Austin: Bard Press, p. 244

– *Quoting essays from journals, periodicals, etc.*

- Surname of the author (without any title)
- First name(s) of author (either written out or abbreviated)
- Year
- Title of the article
- Title of the journal, preceded by "in:"
- Name or the editors (without any title) with the suffix "(ed.)"
- Edition of the journal, if more than one edition has been published
- Location of publication (see above)
- Name of the publisher (see above)
- Page number (see above)

> Dougherty, D (1996): Interpretive barriers to successful product innovation in large firms. In: Cognition within and between organizations, J. R. Meindl, C. Stubbart, & J. F. Porac (ed.), Thousand Oaks, CA: Sage, pp. 307-340.

– *Quoting articles from magazines and newspapers:*

For articles with mention of the author the following information is required:

- Surname of the author (without any title)
- First name(s) of author (either written out or abbreviated)
- Year
- Title of the article

- Name of newspaper or magazine
- Volume, issue

> Franke, Nikolaus, Shah, Sonali (2003): How Communities Support Innovative Activities: An Exploration of Assistance and Sharing Among End-Users, in: Research Policy, Vol. 32, Issue 1, S. 157-178

If you use numerous works of an author with the same publication year, distinguish the citations by adding a small letter at the end of the year. (e.g. 1981a, 1981b).

> WTO (1981a), p.25
>
> WTO (1981b), p.85

– *Quoting from URL (Publications on the World Wide Web)*

References to publications on the World Wide Web are cited separately in the bibliography. The year corresponds to the last review by the author.

> EUROSTAT (1998): http://europe.eu.int/en/comm/eurostat/eurostat.html, European Statistical Office, last reviewed on 5.12.1997
>
> OECD (1997): http://www.oecd.org, last review on 5.12.1998

9 FAQ

Some questions we get asked frequently and would therefore like to clarify.

Do I need to find a topic on my own?

→ No. Our website usually lists some available topics and the assistants often have ideas as well. Of course you can also approach the assistants with your own suggestions for topics.

Can I submit a business plan that I am writing for a start-up as a master's thesis?

→ No. A master's thesis is the solution to a general problem. Perhaps it is possible to generalize a particular aspect of it. Talk to an assistant about it.

How often do I need to revise the proposal so that I receive an approval for supervision?

→ Writing and editing a scientific work is an iterative process. Generally, the proposal and outline are revised several times. The number of revisions, however, does not decide the approval for supervision. You will receive an approval when we are convinced that you are able to identify a problem and to structure a possible solution, thus composing a high-quality thesis.

Proposal, Application - why these hurdles?

→ We have one goal: You should have every opportunity to complete a good thesis. This means that misunderstandings should be avoided whenever possible – ideally right from the beginning. This application process should ensure that you are on the right track.

Can I hand in my thesis to my supervisor for pre-correction before the final submission?

→ No. You are responsible for the thesis, and must decide when it is done on your own. We will support you in all important decisions and steps in the process (see also "6. Role of the supervisor").

Is it true that you can only receive an A (grade), if you write an empirical thesis?

→ No. You will receive an A if you have done very good work - whether theoretically or empirically. However, it has been shown that some students find it easier to demonstrate their own performance and contributions in empirical works.

How often do I have to report to my (co-) supervisor?

→ That is for you to decide. Generally, there is more intense contact in the beginning, and then less frequent contact throughout the rest of the process.

How important is the appearance of the thesis? Is it worth it to spend a lot of money for color prints and leather bindings?

→ No. Of course the work should be clean and neatly bound, but this is sufficient. Even with an exaggerated effort you cannot make a bad thesis any better.

Will I get any feedback on my thesis?

→ Yes, of course. Make an appointment with your supervisor for a final feedback session. We will be happy to go over the strengths and weaknesses of your thesis after it has been assessed, so that you can take away as much as possible from the experience.