



Thesis Handbook

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UMD14

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I INTRODUCTION

A thesis is one of the important requirements to be fulfilled for obtaining an MSc degree. It demonstrates the author's ability to perform a research study. Moreover, the UMD participant independently communicates a body of professional knowledge with a scientific content to a knowledgeable audience. It is called a 'thesis' because it describes a research study in which an original, logically arranged collection of data, arguments, and conclusions are presented. An expert and professional audience may challenge the thesis. Data needs to be verifiable and arguments and conclusions need to face the test of objective criticism. This does not imply that conclusions need to be final and absolute. They must, however, be defendable, based on sound arguments, standing up to professional criticism because it presents up-to-date knowledge in a particular field. This may sound like a daunting task, but – in practice – it is not. All that is needed is a well thought-out concept, a set of verifiable data, sound reasoning, and the ability to critically analyse what you are doing.

The research process for the UMD thesis is divided into three main steps:

- The research proposal
- Data collection and data preparation
- Data analysis and thesis writing

The design of the research proposal starts with the first course on Research Methods and Techniques (RMT) on 19 March and ends with the submission of the final proposal on 11 June 2018. During this process you will be supported by the RMT courses, the Research workshops and a thesis supervisor.

Most of the research proposals will foresee primary data collection. This will take place during the fieldwork period from 25 June to 20 July. You will receive permission (or not) from your Research Workshop coordinator to leave for fieldwork. This permission is based on the quality of your research proposal.

The analysis of the collected data and the writing of the thesis is the last part of the thesis process. This will take place from 23 July until 5 September (first final thesis submission date), 29 October (second final thesis submission date) or 29 November (when the final thesis submission is due).

Important dates and deadlines

Dates 2018	Events
3-5 January	Thesis Topic and Problem Statement
19 – 23 March	RMT 1: research question
26 – 29 March	Colloquium 1 week
3 – 20 April	Research Workshop 1
20 April	Submission draft research proposal (Chapters 1+2)
16 – 20 April	Colloquium 2 week
30 April – 23 May	RMT 2 (on Mondays, Tuesdays, Wednesdays)
3 May – 1 June	Research Workshop 2 (on Thursdays and Fridays)
28 - 30 May	Colloquium 3 week
28 – 30 May	RMT training on questionnaire and interviews

11 June	Submit full research proposal (Chapter 1, 2 and 3 +draft data collection instruments)
15 June	"GO" – "NO GO" decision for fieldwork
11 - 20 June	RMT 3 workshops
21 - 22 June	Preparation for Fieldwork
25 June – 20 July	Field work
23 July – 5 September/29 October/ 26 November	Data Analysis Period and Thesis Writing
13 - 15 August	Colloquium 4 week
17 August	Submission draft thesis
5 September	First Submission of final thesis
12-14 September	Thesis defense
29 October	Second Submission of final thesis
26 November	Last Submission of final thesis
22 September	Closing ceremony

This research project is a step in your academic career which will help you to learn how to organize your thinking for academic research, and in itself is part of a learning process. The length to aim for is "equivalent to a published paper". About forty pages of single spaced text, plus figures tables, table of contents, references, etc. is generally what is expected. In practice, most theses try to do too much and become too long. Cover your topic and try and keep to the point and avoid digressing from the main issues.

From the outset of writing your proposal make sure that you use some systematic way of recording notes and reference information.

II STEPS IN WRITING THE UMD THESIS

Step 1: Research Proposal

The objective in writing a proposal is to describe what you will do, why it should be done, how you will do it and what you expect will result. Being clear about these things from the beginning will help you complete your thesis on time. A vague, weak or fuzzy proposal can lead to a long, painful, and often unsuccessful thesis-writing exercise. A clear, well thought-out, proposal forms the backbone for the thesis itself. Especially the coherence between the research question, the conceptual framework, the operationalization of concepts and the research technique and data collection method is of great importance

1.1. What to Expect in a Research Proposal: overview and timing

A basic structure of a proposal outline is as follows. Many features match those of the final thesis. Therefore, thorough preparation of your research proposal has a significant impact on (the quality) of your final thesis.

- | | |
|---|--|
| 1 | Introduction |
| | Background |
| | Problem statement (Including academic and practical relevance) |
| | Research objectives |
| | Provisional research question(s) |
| | Scope and limitations |
| 2 | Literature review |
| | State of the art of the theories/concepts of the study |
| | Conceptual framework |
| 3 | Research design and methods |
| | Revised research question(s) |
| | Research objective, strategy and methodology |
| | Sample size and selection |
| | Data collection methods |
| | Data analysis methods |
| | Operationalization: variables, indicators |
| | Reflexion on validity and reliability |
| | References |
| | Annexes |
| | Research instruments |
| | Time scheduling |

The proposal writing starts with the first RMT course on 19 March 2018 and ends with the submission of the finalised proposal on 8 June 2018. The proposal writing is divided into four different steps:

1.1.1. First Draft Proposal

Your first (outline) research proposal is an initial write up containing the background as to why you want to do this research, what its relevance is; the problem statement and the provisional overall research question. This will be further discussed during RMT 1. On 14 March you submit your problem statement and objective. Based on this proposal a thesis supervisor will be assigned to you. On 29 March 2018 you submit this first draft proposal.

Box 1. First (outline) research proposal

Sections to be covered	No. of pages
Background	1,5 – 2 pages
Problem statement	
Research Objective	
Provisional research question(s)	

1.1.2. Second Draft Proposal

The second draft proposal consists of the first two chapters of your thesis. Chapter 1 is the elaborated version of the first draft proposal. You elaborate on the background and the problem statement, possibly support those sections with existing data. You will be supported by your thesis supervisor.

Chapter 2 is the theoretical chapter of your thesis. This chapter will be developed during research workshop 1. You will have to select literature (also from the specialisation readers) that is relevant for your topic.

The second research proposal should cover the sections presented in the box below. The total number of pages should be approximately 15 - 20 pages. On 20 April 2018 you submit the second draft research proposal.

Box 2. Second draft research proposal

Section	No. of pages	Sections to be covered
Chapter 1	5 pages	Background Problem statement Research objectives Provisional research question(s) Significance of the study Scope and limitations
Chapter 2	10-15 pages	State of the art of the theories/concepts of the study Conceptual framework
References		

1.1.3. Final research proposal

The final research proposal should cover the sections presented in the box below. It is an improvement of the second draft proposal and includes the chapter on research methodology. This third chapter will be developed during RMT 2 and the Research Workshop 2.

The total number of pages should be approximately 20 to 25 pages. In the annex the research instruments are added, including interview guides, questionnaires, observation guides etc. Another annex presents the time schedule for the fieldwork.

Box 3. Final research proposal

Section	No. of pages	Sections to be covered
Chapter 1	5 pages	Background Problem statement Research objectives Provisional research question(s) Significance of the study Scope and limitations
Chapter 2	10-15 pages	State of the art of the theories/concepts of the study Conceptual framework
Chapter 3	5 Pages	Revised research question(s) Research strategy Research methodology Operationalization: variables, indicators Sample size and selection Data collection methods Data analysis methods Validity and reliability
		References Annexes Research instruments Time scheduling

1.2. What to expect in a Research Proposal: Content

In the following section, we will elaborate a bit more about what should be included in each of the sections in the research proposal. Please note, most of the information here also applies subsequently to the “thesis writing” step and it will not be repeated.

1.2.1. The Introduction

Background

A good title will tell the reader about the topic but it cannot tell the whole story. Follow the title with a strong introduction. The introduction provides a brief overview that tells a reasonably well informed (but perhaps non-specialist) audience what the proposal is about. It might be as short as a single page, but it should be very clearly written, and it should let the reader assess whether the research is relevant to his or her own work. With luck it will retain the reader's interest.

What is your research about? Provide background information on the topic of your study. When you are going to evaluate the impact of a particular programme for instance, explain what the programme is about. The background information should also show the relevance of your research topic.

Problem Statement

You start to describe what problem (issue) you are planning to focus on. A UMD thesis often deals with problems that arise in the policy practice of the participant. Before policy makers can decide on what action to take they need to be fully informed about the nature and the extent of the problem. Academic research can contribute to a better understanding of the problem.

You need to begin with a general topic and then narrow it down into a researchable specific problem statement. Your problem statement will lead automatically to your research objectives and research question(s). The problem statement should also show the academic relevance of the topic and the orientation of the research. Sufficient reference contemporary academic literature should be included to show this academic relevance. The thesis topic may also have societal or practical relevance. This can be underpinned by referring to policy documents, evaluation studies, statistical information etc.

Research Objectives

In your research objective you describe the ultimate aim of the research. Depending on the level of academic knowledge that exists on your research topic, the aim will be of a lower or a higher level.

Hierarchy of research aims¹

Aim	Example questions
Exploration	What happened in case A? How do actors A and B experience phenomenon XYZ?
Explanation	Why has X happened? Under which conditions will A lead to B?
Testing	Has A increased more or less in year t than in year t-1? Is subject A more prone to change than B?

In the case that hardly any knowledge exists the aim may be “to explore”. For most research topics in the UMD theses, a considerable amount of academic literature exists. We can say that in those cases there is no need to explore or describe any further. In most cases, the research aim will therefore be “to explain” or eventually “to test”.

For the UMD thesis the challenge consists in setting the aim at the right level considering the existing academic knowledge and considering the time limitation of the thesis period.

Provisional Research Question(s)

A good research question addresses the supposed relationship between “variables” (at least two). Variables can be the concepts or phenomena that you want to study. The main research question should be coherent with the research objective (at the

¹ Based on the presentation by Prof. dr. Sandra van Thiel, 24 March 2014

same level). An explanatory question should have a dependent and an independent variable. The main research question can be supported by sub-research questions. The number of sub questions depends on the number of variables in the main question and on the number of lower level objectives necessary to answer the main question.

The sub-questions should be coherent with the main question to the extent that together, they should provide an answer to the main question.

In the first drafts the question is still provisional and will (most often) be revised after the literature study.

Scope and Limitations

Describe what you will cover in the study and what not, what is within the scope and what is beyond. Limitations might be of financial character, logistical, you might have problems with objectivity when you are for instance assessing a project that you have been involved in yourself etc. These limitations are not necessarily problematic, as long as you are aware of them and develop (and describe the) strategies to overcome these limitations. Also in the conclusions you have to reflect on the limitations and in how far they have influenced your findings.

1.2.2. Theory Review

State of the Art of the Theories/Concepts of the Study

The purpose of the theory review is to situate your research in the context of what is already scientifically known about a topic. It need not be exhaustive; it needs to show how your work will benefit the whole. It should provide the theoretical basis for your work, show what has been done in the area by others, and set the stage for your work.

In a theory review you should give the reader enough feeling of the theoretical literature that he/she feels confident that you have found, read, and assimilated the main academic literature in the field. It should probably move from the more general to the more specific studies, but need not be exhaustive, sticking only to the most relevant studies.

The literature review is of theoretical nature and should be based on academic literature: scientific articles, books or book chapters from an edited scientific book or any publication of a renowned authority in the specific study area. It does not include policy documents from national governments or international organisations. At least 15 referenced sources should be used in the literature review.

The literature review should give an overview of the existing arguments and debates in the international theory. It should not be mixed with information on the country and situation to be studied.

The Conceptual Framework

Theories are composed of concepts linked by relationships.² The chapter on theory review concludes with a conceptual framework. This should be presented as diagram picturing the expected relations between the main concepts of the study. The focus of the study should be clear from the conceptual framework. The conceptual framework is the guiding model for the empirical part of your research.

² Gilbert, 2006, Researching social life, p.21. Sage Publications, London

1.2.3. Research Design: strategy, methodology and analytical techniques.

This section should make clear to the reader how you intend to approach the research question and which research design (strategy, methods and techniques) will be employed to address the problem. The chapter should consist of a coherent sequence of choices. The findings in the theory review will probably lead to a revision of the research objective and the research question. The (revised) research question will lead to the choice of a certain research strategy, methods and techniques.

Revised Research Question(s)

After completion of the theoretical chapter further insights might lead to the reformulation of the research objective and the research question. Also the sub-questions need reformulation if the main question changes. Or the sub-questions need further specification even is the main question remains the same.

Operationalization: Variables, Indicators³

The concepts from the conceptual framework in chapter two need to be operationalised. Operationalization is a process of translating theoretical concepts and jargon into realistic measurements that respondents can recognize.

Operationalization consists of three steps:

1. The definition of the concepts to measure. These are the same concepts that appear in the main research question and in the conceptual framework.
2. Indicators: the realistic measurements
3. Values (scores)

³ Based on the presentation by Prof.dr. Sandra van Thiel, 24 march 2014

Example: citizen participation in local decision-making

Concept	Definition	Indicators	Values
Citizen participation in local decision making	Degree to which citizens play a part in the local decision making process, either on invitation or on their own initiative	-Number of citizens present at meetings where decisions are made (=number) -Presence at different stages of the decision making process (yes/no) -Degree to which citizens' opinions or arguments are included in decision (yes/no and text fragments)	The more presence (yes, number), the better participation The more and/or verbatim repetition of citizens' opinions or arguments in final decisions, the more participation

The indicators will be used in formulating questions for primary data collection by using them in specific questions that will be asked through different instruments (interviews, surveys, focus group discussions etc.).

For secondary data analysis, the operationalization from concept to indicator is helpful to code the texts that you are analysing.

Operationalization of concepts into indicators does not need to be complete if the concepts used are composed of a large number of components. Choose, and argue your choice, only those that you think are most relevant for your study. If you work with existing primary data, then your operationalization will be limited by the data available.

The example above is in the form of a table. This may be helpful, but is not necessary. The risk of using a table is that you formulate more indicators than you can actually measure in your research. A well-argued explanation of which variables and indicators you will use can help you to remain focused.

Research strategy

Depending on the nature of your research question you have to choose for a certain research strategy or a combination of strategies. For the UMD thesis the choice is between the following designs: Survey, (quasi) experiment, case study and the use of secondary data/ existing data sets. In Chapter 3, you should describe the strategy that you will apply and argue your choice for a certain research design. This should be coherent with the research question.

Data collection & Sample Size and Selection

In this section you describe your data collection method, your sample size, characteristics and selection. Depending on your research strategy you will use quantitative or qualitative data collection, or a combination of both. You have to describe which data collection method(s) you will use and why. Here you also describe who your respondents are and how you have selected your sample (respondents). What criteria you have used, is it a probability sample, purposive sample, do you only

interview key informants and why? Also describe the size of your population and why you have selected that number of respondents.

Validity and Reliability

Validity: you have to show how you are ensuring that the strategy, methodology and research instruments that you have selected will measure what they intend to measure. This means that the strategy, methodology and instrument, as well as the operational definition, must be logically consistent.

Reliability: high reliability means that if you measure something today with your instrument, you should get very much the same results some other time, or when someone else would conduct the study (assuming that what or who you are measuring has not changed). This also implies that you describe clearly, in your methodology, all the steps you take during the research process.

Data Analysis Techniques

This should explain in some detail how you will manipulate the data that you assembled to get at the information that you will use to answer your question. It will include statistical or other techniques and the tools that you will use in processing the data. It should also include an indication of the range of outcomes that you could reasonably expect from your observations.

1.2.4. References

Only books or articles which are used i.e., cited in the text, are given as full references at the end in the bibliography. Do not list those which are read but not actually used in the thesis. All references must be cited in the text with the right in-text citation format.

Order the references alphabetically according to the Author's last name. Use the standard format, explained in the IHS Reference Guide.

Annexes:

Research instruments

In the final research proposal all the research instruments that are going to be used to collect the data in the field are presented. These can be interview guides, questionnaires, points for the discussion for focus groups discussions, observation guides, case study protocols etc.

Time Schedule

This part needs you to give a schedule planned for your whole thesis work, basically from the time you hand in your research proposal till the final submission of your thesis. Be realistic in your planning, and do try to follow what you have planned.

1.3. Research Proposal Assessment Criteria

The following criteria are considered by the supervisors in assessing the merits of a research proposal:

1. To what extent is the research question relevant, focused and researchable?
Are the research objective and the research question consistent with the level of academic knowledge presented in chapter 2.
2. To what extent has a coherent and relevant conceptual model been developed based on the theoretical review and in support of the research

- question? To what extent has the conceptual model been operationalised in clear, argued and researchable indicators.
3. To what extent is the research design appropriate and clearly articulated?
 - a) A clear and argued choice for and description of the research strategy, coherent with the research question.
 - b) An argued choice for and description of a set of data collection methods that are coherent with the operationalization and the research strategy.
 - c) A clear description of the challenges faced in terms of validity and reliability and the strategies applied to overcome these challenges.
 - d) Are the sources of information (human, archival (institutional), library etc.) well thought out and appropriate?
 - e) Are the data collecting instruments coherent with the operationalization and the description of methods? Will the data collection instruments lead to the necessary data to answer the research question? Is the sampling adequate in this respect?
 - f) Is the planned analysis of the collected information clearly outlined and appropriate?
 4. Is the time scheduling feasible considering the time allocated for fieldwork and thesis writing?

Step 2: Fieldwork

Fieldwork as a part of social science research brings the researcher close to the subject of research. It is a dynamic process where there is an exchange between the researcher, participants, stakeholders, gatekeepers, the community and the larger socio-political context in which the research problem is situated. You will basically follow what you have planned in your research proposal to conduct the data collection part of your research.

From 3 to 28 July, the participants will conduct their fieldwork in order to collect data for their thesis. They will have four weeks of fieldwork and are expected to return in the weekend of 29 and 30 of July. During and after coming back from the fieldwork, participants should start analysing their collected data.

Fieldwork is mostly conducted in participant's home country, or, in consultation with the thesis supervisor and programme manager, in the Netherlands or a third country.

The following highlights some of the issues you should pay attention to during your data collection activities.

2.1. Documentation of Data Collection Processes – Keep a Research Diary

Always keep a notebook with you during your fieldwork. No matter what kind of data collection strategy you have chosen, well documented fieldwork progress overviews may provide you with invaluable notes for your data analysis stage. Any information that could provide context and clarity to a secondary user should be provided.

Specifically, documentation for qualitative data should include:

- Details on setting (of interviews, surveys, observations, etc.)
- Details on selection of targeted subjects
- Instructions given to respondents

- Any problems that arose during the selection and/or data collection process and how they were handled

2.2. Pre-test and Pilot Study

Usually, conducting pre-tests or pilot studies is a good way to uncover potential problems with all aspects of a research project. You may want to revise your interview questions or survey questionnaires after the initial pre-tests. It is also necessary to include both data entry and documentation so that it reveals unanticipated difficulties in record layouts, naming conventions, etc.

2.3. Refine your Research Question

Although not preferred, it frequently happens that you only realize that it is impossible to answer your proposed research questions until once you are there in the field, mostly after a pre-test interview with some key informants. Any changes of this kind it goes without saying, should be fully documented should it happen.

2.4. Data Entry

During the process of collecting your data in the field, it is a good idea to start archiving your data. To reduce the error occurred during the archiving process, it is important to employ a data collection strategy that separates clearly the original data from the archived data entry. Make sure it is possible in your later data analysis stage you can always go back to the original data record to check. Please note that transcribing data from a questionnaire or interview schedule to an actual data record can introduce several types of errors, including typing errors, codes that do not make sense and records that do not match. Before leaving for fieldwork, participants will be instructed on data entry in SPSS (Software for statistical analysis) and Atlas Ti (Software for qualitative data analysis)

Step 3: The Thesis

The Master thesis is the demonstration of your ability to conduct original research and present the written results. Your thesis is a research project that you have spent considerable time in preparatory research (theory review), research design, data collection (primary data collection and or existing primary and secondary data), analysis (statistical or qualitative examination of the data), and finally presentation and synthesis (examination of the results in the context of your hypothesis and literature review). Each of these individual parts will consume considerable time and effort.

3.1. What Does a Good Thesis Look Like?

Through its research, a good thesis is a piece of work that adds to the knowledge in a given area. Obviously, the range and depth of impact of a thesis and the amount of new knowledge it generates are dependent on its internal quality and consistency. The choice of the subject may play a role here.

A good thesis is also a good story, a story that captivates the reader through its concept, the way that concept is worked out, and the scope of the conclusions drawn at the end. Not even the most abstract scientific subject needs to succumb to a dull description. Any thesis that fails to keep the reader's attention is missing something. So: writing a good thesis implies captivating the professional reader regardless of the subject.

A good thesis should be more than a descriptive story. It should present in-depth insights and an in-depth analysis of a particular problem/question.

A common flaw in theses, as in oral presentations, is the lack of clarity in the author's line(s) of thought, your argument. It is a frustrating experience for a reader/reviewer to be forced to deviate from a potentially interesting piece of work because the author's reasoning can no longer be followed. Therefore, the story should be clear and concise and evolve in a logical way.

3.2. Thesis Structure and Content

A basic structure of a thesis outline is as follows.⁴ You will notice that many components are similar to the research proposal outline, although one is written before you conduct your research, and the other is written after several revisions but based on what you have in your proposal, and after you have analysed your data. The only real difference in structure is that you change "expected results" to "research findings" and "discussion and conclusions" in the paper, and usually leave the budget and scheduling out of the paper. The following will highlight the major differences in between these sections in proposals and thesis contents.

⁴ The structure is to be used as a guideline and is open to flexibility. Depending on the type of research supervisors can decide upon a different structure whenever required.

	Thesis summary
Chapter 1	Introduction
	Background
	Problem statement
	Research objectives
	Provisional research question(s)
	Scope and limitations
Chapter 2	Theory review
	State of the art of the theories/concepts of the study
	Conceptual framework
Chapter 3	Research design and methods
	Revised research question(s)
	Operationalization: indicators for the concepts used
	Research strategy and methodology
	Sample size and selection
	Data collection methods
	Validity and reliability
	Data analysis techniques
Chapter 4	Presentation of data and analysis
Chapter 5	Conclusions: answering the research questions
	Linking back to the theory
	(Recommendations)
	References
	Annexes: research instruments and time scheduling

3.2.1. Thesis Summary

This section should give a brief summary of the "information" the thesis contains. Its purpose is to give readers a quick indication of the basic content of the thesis. It should "stand on its own" and be a self-contained document. The summary should be very concise in length, no more than 600 words. Use the most precise and relevant words to best express the content. For more info on the content and the need for the summary see Appendix C.

3.2.2. Chapter One: Introduction

The introduction should *introduce* the thesis. This is not a summary of the thesis. It is not a brief version of each chapter. It is an introduction to the topic. Introduce the subject. In *general* terms, what does your study address? Why is it important? Where does it fit in the overall field? After a description of the background in which the problem or the question is defined, you should go directly to your research question. You can include in the introduction a clear statement of your hypothesis and how you are going to address it (hypotheses are not obligatory). It should be remembered that the reader must be able to recognize the problem/question and understand why its solution/answer is worthwhile (rationale). The definition of the problem/question and resulting scope and aim/objectives set the stage for the range and depth of all that follows.

Throughout the introduction you should use citations from the research literature to support your study. These citations should include but not be limited to research presented in the Theory Review.

3.2.3. Chapter Two: Theory Review

The purpose of the literature review is to concisely demonstrate your level of understanding of the research related to your project. In this chapter the theoretical background of the research is discussed. The description of the background should be placed in the context of existing academic literature on the subject. You should not discuss all of the literature in depth. Rather you should group your literature according to some general topics and only discuss specific studies if they are “landmark” studies for your area of research. It is possible to discuss case studies from literature review to elaborate this further. This literature review should have been revised and updated from the one in your research proposal period. It should end with the conceptual framework as used.

3.2.4. Chapter Three: Operationalization and Research Design

This chapter describes the operationalization and research design that are used to answer the research question, and discusses them. It starts with the research questions, which are revised and fine-tuned by the theory review. The chapter includes information on the research strategy, data collection methods, instrument, the sample size of the study (number of respondents) and the way they are approached (if relevant: the sampling method). This chapter also describes in detail how the data is analysed. Limitations of the study should also be mentioned. Compared to the chapter three of your proposal: you should adjust the chapter to the characteristics of the research as implemented.

A general guideline is that you should discuss your methods and techniques in sufficient detail that another researcher could take your data and duplicate your results. One of the expectations of performing original research is that someone in the future will do further research on this topic. Such a researcher should be able to use your methodology without having to consult any other source.

3.2.5. Chapter Four: Research Findings and Analysis

This is a narrative presentation of your findings. This is where you present your statistics, tables, figures, etc. that show what the specific findings of your study are. You will have to “prepare” your data to present findings that relate to your research question, rather than presenting ‘raw data’ you collected from the field. For data from a questionnaire, this means that you have to aggregate your data on indicator level to variable level. For qualitative data from interviews, this means that have to code and re-code your interviews in order to create categories at variable level.

You start with a description of the phenomenon, case or situation that you have studied. Then the description of the sample follows: Who were included in the samples and what are their main characteristics?

A description of the findings is not enough. A proper analysis along the lines of the relation between the concepts in the conceptual framework should take place. For statistical analysis this means the use of analytical statistics (t-test, X square,

ANOVA or regression analysis). For qualitative research, this means proper coding and to search for and show trends and patterns in the categories of data that explain the relation between the variables in the research question.

Now that you have presented the results, you should discuss them. What, specifically, do the results mean? How can they be interpreted? Can they be interpreted in multiple ways? What do the findings tell you about the applicability of your conceptual model in your particular research? Do not claim more for your results than the data really shows. Avoid speculation.

3.2.6. Chapter Five: Conclusions

This chapter should begin with a concise restatement of your study's purpose along with any relevant and concise background information. When you have formulated hypotheses you should restate each of your hypotheses. In this chapter you have to answer your research question(s), making use of the evidence you presented in chapter 4.

The conclusions should also include an objective discussion on suitability, validity, importance, etc., and how the work fits into the existing body of knowledge and how it compares to the conceptual framework (mentioned in chapter 2).

Finally, the conclusions are drawn. This implies an answer to the research questions, an outline of the way the study has added to the existing body of knowledge, and, if applicable, the thesis gives recommendations for possible solutions to the problem presented in the first chapter.

The conclusions should be followed by some projections with suggestions for further research, bearing in mind that good research always poses new problems/questions/challenges. It is important to specify these new research questions and draw conclusions on how to further develop the topic being studied.

In chapter five you can, but are not obliged to, include recommendations for policy practice. Be aware that also these recommendations should be based on your research findings.

3.2.7. References

For the layout of the references the Harvard System is used (see IHS reference Guide).

3.2.8. Annexes:

Research instruments

In the final thesis all the research instruments that have been used to collect the data in the field are presented. These can be interview guides, questionnaires, points for the discussion for focus groups discussions, observation guides, guides for using film as a data collection methods etc.

Step 4: Thesis Defense

Thesis Defense will take place on 12-14 September for those who submit at the first thesis submission date, that is 5 September. It will be a question and answer session, which will involve the thesis supervisor, second reader and a chair-person that moderate and monitor the thesis defense session.

All students will defend their final thesis. Those who submit the final thesis after the first thesis submission date, that is 29 October or 26 November 2018, will defend their thesis either at IHS or from their home countries, via Skype or any other conference call medium. The supervisor, second reader and a chair person will be present at the defense.

III THESIS FORMAT, SUPPORT AND GRADING

Thesis Format

It has been long and widely accepted by the research community, regardless of the field of interest that research reports (of which a thesis is an example) benefit from a rather uniform format, for many reasons. The most important of these are: clarity, conciseness, logic, comparability, and “ease of publishing”. Generally, the distribution of pages of each chapter in your thesis should be as follows:

Table 2: Thesis pages' distribution

Section:	No. of pages (approx.)
Title page	1
Summary	1
Foreword; abbreviations	1
Table of contents, list of tables and figures	1
1. Introduction	5
Background	
Problem statement	
Research objectives	
Provisional research question(s)	
Scope and limitations	
2. Literature review/ theory	10-15
State of the art of the theories/concepts of the study	
Conceptual framework	
3. Research methodology	5
Revised research question(s)	
Research approach and techniques	
Operationalization: variables, indicators	
Sample size and selection	
Validity and reliability	
Data collection methods	
Data analysis methods	
4. Presentation of data and analysis	20-30
5. Conclusions	3-5
Answering the research questions	
Linking back to the literature	
(Recommendations)	
References	
Annexes: research instruments and time scheduling	

The total length of the thesis should be between 40 and 60 pages (excluding annexes), with “Times New Roman” font type and 12 font size.

Thesis Support

RMT course provides a brief introduction of research methods and techniques, and your research workshop and supervisor will guide you more closely through the thesis

process. Due to the limited time for the RMT course the coverage for each research strategy, method or technique is rather short. Participant should spend more time to study the specific method they would be using in their own time.

Thesis Supervision

Supervisors are assigned by the examination committee around 3 April. The supervisor should then contact the participant in order to arrange initial discussions on the proposal. Participants cannot start their fieldwork before the supervisor has approved the thesis proposal. For participants conducting their fieldwork abroad, they need approval from their supervisors before being allowed to travel.

The role of a thesis supervisor is to oversee the quality of the work of the participant. A MSc. degree suggests that students are able to produce a scientifically acceptable thesis. The supervisor may do suggestions for improvement of the thesis. However, the quality of the UMD thesis and the choices made within it are entirely the responsibility of the UMD participant.

The supervisor is not supposed to formulate parts of the thesis, nor should she or he edit the work in detail. This has nothing to do with a lack of interest in the work, but to ensure that the thesis should be entirely the product of the participant.

The supervisor has 32 hours available for the supervision. This includes reading the draft documents and the face-to-face meetings with the candidate. The candidate is entitled to at least one round of feedback per thesis chapter.

Problems can arise during the preparation of the thesis and the supervision by the supervisor. If needed, participants should not hesitate to contact the programme manager for help.

Second reader

Each thesis will also have a second reader. The second reader will first read the final research proposal. Thesis supervisor and second reader will decide on the GO-NO GO decision. They both have to agree that the proposal is suitable for field work. In any other case, the decision will be a no-go.

Apart from the research proposal, the second reader will also comment on the final draft thesis and will assess the final thesis.

Thesis Assessment Criteria and grading

For the thesis assessment, the supervisor and the second reader will make use of the rubrics that have been developed for the UMD thesis. The rubrics are attached to this document.

The thesis is graded by the supervisor and the second reader and eventually one of the academic directors as third reader. The exact grading procedures are in the examination regulations clause 9.

More Recommended Readings for RMT

- Burns, R.B., 2000. Introduction to research methods. Sage, London.
- Brewerton, P, & Millward, L. 2001, Organizational research methods: a guide for students and researchers. Sage, London.
- Creswell, J.W., 2003, Research design: qualitative, quantitative, and mixed method approaches. Sage, Thousands Oaks CA.
- Gilbert, N., 2006. Researching social life. Sage Publications, London.

APPENDIX A: INFORMATION ON PLAGIARISM

What is plagiarism?

Plagiarism is theft. Plagiarists steal another persons' intellectual property for their own benefit.

One of the main purposes of writing papers and the final thesis is to learn for yourself how to formulate clearly reasoned arguments and analyses. For your thesis you must use scientific articles, papers and/or books to support your argument and develop your conceptual understanding and framework, making sure you cite the sources you use. It is irrelevant whether you consult these sources in a library or on the internet. There is of course nothing wrong with using insights expressed in articles or from documents on the Internet to develop your theoretical chapter. However, there is a huge difference between 'using' and 'copying'. To take text from articles or papers written by others without referring to the source and without using quotation marks, either by 'cutting and pasting' from electronic documents or by literally transcribing passages, is plagiarism, and therefore cheating. Even if the passages you have copied only make up a relatively small part of your thesis it is still cheating.

How will plagiarism be checked?

The thesis has to be uploaded on Blackboard under Safe Assignments, which automatically screens for plagiarism. A low score does not automatically mean that the thesis does not contain any plagiarism. In cases of doubt thesis supervisors and second readers will also check through other means to see whether the thesis contains any plagiarism.

Sanctions

Plagiarism is a very serious offence. Under Clause 11: Procedures during examination of the UMD Admission and Examination Regulations clause 11.4 describes which sanctions follow in cases of plagiarism:

11.4. Plagiarism is an offence that is taken very seriously. Plagiarism in papers that participants prepare for grading of courses is treated as cheating. Plagiarism in the final thesis will count as a failure of the MSc. Programme. Participants may be granted a Post Graduate Certificate for courses passed.

APPENDIX B: IHS COPY RIGHT FORM

In order to allow the IHS Research Committee to select and publish the best UMD theses, participants need to sign and hand in this copy right form to the course bureau together with their final thesis.

Criteria for publishing:

1. A summary of 300 to 500 words should be included in the thesis.
2. The number of pages for the thesis is about 60.
3. The thesis should be edited.

Please be aware of the length restrictions of the thesis. The Research Committee may choose not to publish very long and badly written theses.

By signing this form you are indicating that you are the sole author(s) of the work and that you have the right to transfer copyright to IHS, except for items cited or quoted in your work that are clearly indicated.

I grant IHS, or its successors, all copyrights to the work listed above, so that IHS may publish the work in *The IHS thesis series*, on the IHS web site, in an electronic publication or in any other medium.

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Please direct this form and all questions regarding this form or IHS copyright policy to:

The Chairman, IHS Research Committee Burg. Oudlaan 50, T-Building 14 th floor, 3062 PA Rotterdam, The Netherlands	j.edelenbos@ihs.nl Tel. +31 10 4089851
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APPENDIX C: PREPARE A THESIS SUMMARY

In order to improve the quality of the summaries and to standardize how they should be produced the IHS-Research Committee has developed the following short guideline to be followed by all UMD MSc students when preparing their thesis summaries.

What is a summary?

A summary is a condensed version of a longer piece of writing that highlights the major points covered, concisely describes the content and scope of the writing, and reviews the contents of the piece in an abbreviated form.

A summary is a longer abstract that contains an overall resume of the thesis.

A summary should contain:

Introduction to the topic of the research (problem statement)

Main objective (s) of the research

Presentation of the Methodology used

Presentation of the main finding(s)

Presentation of the main conclusion(s) and or recommendation(s)

Length of the summary: Maximum 600 words

Length of the title of the thesis: maximum 20 words

Give 5 key words that characterize your research. They will be used to identify your thesis in a database.

Below an example is given of a summary that fits the above format.

Canadian buildings turn green: an investigation of the role of municipalities in implementing green roof technology in Kingston and Halifax⁵

Simmons, Marney 2006

Summary

This thesis argues for the creation of green roof policy in the Canadian municipalities of Halifax, Nova Scotia and Kingston, Ontario.

The purpose of this thesis is to provide an understanding of the need for municipal planning strategy policy changes in order to move green roof technology from its present nascent stage to an urban standard in Canada. Therefore, the research questions are: What is inhibiting the use of green roof technology in mid-sized Canadian cities such as Halifax and Kingston when there is so much documented proof of a global environmental crisis? What lessons can we learn from successful European case studies? What municipal planning instruments are needed to encourage broader use of green roof technology in Canada?

The research methods include three elements: 1) conferences, lectures, interviews and a green roof design course; 2) background literature research; and 3) site visits.

The informants are experts involved with real property assessment and management, urban land acquisition and development, the design and planning of urban space, remediation of urban environmental issues, educators and finally roofing industry representatives and project managers.

Background literature covers some of the most critical environmental issues facing municipalities today and some of the government initiatives that have proven less

⁵ <http://www.queensu.ca/surp/Executive%20Summary%20-%20Simmons.pdf>

than successful. A review of green roof history, success and adaptability supports the need for green roof policy in urban planning documents.

Major findings and analysis cover the following categories:

- 1) urban environmental challenges
- 2) education
- 3) green roof financial considerations/implications, and
- 4) the need for Canadian policy.

Environmental challenges stem from a global environmental crisis. Human health depends on clean water and air; however, both commodities everywhere are becoming spoiled. Municipalities have a moral obligation to provide healthful, safe environments to both current and future generations. Despite the fact that they are equipped to implement strategies of change, they could handle their responsibility better. A key impediment to more widespread use of green roof technology is lack of information. Accessible information about the technology needs to become part of educational programmes, not only to promote further research, but also to dispel the mystery that surrounds any new technology. Among the many benefits of implementing green roof technology are improved human health and substantial energy savings over time; however, the technology will not become mainstream without educational strategies, research, standardization, policy and legislation. The need for green roof policy is impeded by a general lack of understanding of a whole systems approach to sustainable urban development and planning and a lack of knowledge about the effective green alternatives available to the design and building professions. Municipal administrators have the tools to encourage better use of vertical space on buildings in order to increase collective environmental benefits and to prevent further consumption of open natural space. They need to engage with both public and private organizations to integrate research of green roof technology with that of other energy-saving measures to create cleaner, more healthful environments and long-term societal benefits.

Green roof policy development is an effective way to protect future land use decisions and to foster widespread benefits.

Keywords: Canada; urban planning; roofing; sustainable development; environmental aspects

APPENDIX D: RUBRICS FOR THESIS ASSESSMENT

Item	Grade					
	Unacceptable	Insufficient	Pass	Sufficient	Good	Excellent
	< 4.0	4.0 – 5.4	5.5 – 6.4	6.5- 7.4	7.5 – 8.4	8.5 - 10
Problem statement; research objective & research question	The research question is a policy question or a common question leading to a descriptive thesis. AND The research question is broadly formulated. Sub questions do not answer the main question. AND The research question, problem statement and research objective are not connected.	The research question is a policy question or a common question leading to a descriptive thesis. OR The research question is broadly formulated. Sub questions do not answer the main question. OR The research question, problem statement and research objective are not connected.	The research question is an academic question (exploratory, explanatory or testing). The question is broadly formulated; sub-questions only partially answer main question. The research question, problem statement and research objective are somewhat connected	The research question is an academic question (exploratory, explanatory or testing). The research question is focused; sub -questions together answer the main question. The research objective and research question emerge logically from the problem statement.	As in Sufficient + well embedded in the existing academic debate.	As in Good + related to the existing academic debate in an innovative way.
	The description of academic and practical relevance as well as the significance, scope and limitations are absent	No mention is made of the academic and practical relevance. The significance, scope and limitations are described in a general way.	The academic and practical relevance of study are mentioned in general terms. The significance, scope and limitations are described in a general way.	The academic and practical relevance are well explained and connected to the study. The significance, scope and limitations are described in general terms	The academic and practical relevance of the study are well explained and tailored to the study The significance, scope and limitations section is detailed and specific for the study.	The academic and practical relevance of the study are well explained and tailored to the study. The significance, scope and limitation section is detailed and specific for the research.

						The innovative contribution of the study is explained.
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Item	Grade					
	Unacceptable	Insufficient	Pass	Sufficient	Good	Excellent
	< 4.0	4.0 – 5.4	5.5 – 6.4	6.5- 7.4	7.5 – 8.4	8.5 - 10
Theory review & conceptual framework	Based on policy documents and non academic reports only	Less than 10 academic resources, mainly based on non-academic reports and policy documents	At least 10-15 academic sources are used. Sources are readings from the UMD courses or suggested by the supervisor.	A minimum of 10-15 academic sources are used, at least partly resulting from student's own search	A minimum of 15 academic sources, to a large extent resulting from student's own search. All texts are relevant to the study	A minimum of 15 academic sources, mostly resulting from student's own search. All texts are relevant to the study. The combination of sources gives an innovative theoretical background to the study
	The theoretical review contains mostly concepts unrelated to the research subject and question. There is no line of argument: only summaries of concepts/theories The conceptual framework is absent	One or more key concepts are missing in the theoretical review Weak line of argument, mostly summaries of concepts/theories Conceptual framework has either too many or not enough concepts in relation to the research question and theoretical review. Concepts are wrongly connected	The main concepts of the research are theoretically explained The argumentation shows at least a minimum of funnelling towards the conceptual framework. The conceptual framework explains relations between key concepts, based on at least a minimum of theoretical convergence.	The main concepts and their relations are theoretically well explained. The argumentation shows clear and explained choices of theories. The conceptual framework explains relations between key concepts, based on solid theoretical convergence.	The main concepts and their relations are theoretically well explained The explanation of the choice for theories shows an in depth understanding of the academic field The conceptual framework is clearly explained; the theoretical convergence is well focused and tailored to the study	The main concepts and their relations are theoretically well explained The explanation of the choice for theories shows an in depth understanding of the academic field The conceptual framework shows a well explained, innovative way to converge theoretical concepts in this study

Item	Grade					
	Unacceptable	Insufficient	Pass	Sufficient	Good	Excellent
	< 4.0	4.0 - 5.4	5.5 - 6.4	6.5- 7.4	7.5 – 8.4	8.5 - 10
Research design & methodology	The description of the design & methodology is not clear. Important components are absent	The description of the methodology is structured, but components are not, or wrongly explained. Decisions made in the choice of research strategy and data collection methods lead to invalid results	The description of the methodology is structured. Each component is explained in a general way. The choices made for research strategy and data collection methods contribute to validity and reliability of the results	The description of the methodology is structured. The explanation of the components is somehow tailored towards the study. The choices made in the research design are correct and contribute to validity and reliability of the results References are made to methodological literature.	The methodology is explained in a detailed, structured way and fully tailored to the study. The choices made in the research design are correct and contribute greatly to validity and reliability of the results. Validity and reliability measures in the design and methodology, as well as shortcomings in the design and implementation are briefly explained References are made to methodological literature.	The methodology is explained in a detailed, structured way and fully tailored to the study. The choices made in the research design are correct and contribute greatly to validity and reliability of the results. The explanation on validity and reliability measures in the design and methodology, as well as of the shortcomings in the design and implementation show an in-depth understanding of research methodology. References are made to methodological literature.
	Operationalisation absent or totally disconnected from the conceptual framework	Not all concepts of the conceptual framework are operationalised or operationalised wrongly. Too many indicators remain at conceptual level Too many indicators are	All concepts are operationalised. Different indicators are used for dependent and independent variables Most indicators are clear and measurable	All concepts are operationalised. Different indicators are used for dependent and independent variables All indicators are relevant. Most indicators are clear and	All concepts are operationalised. Different indicators are used for dependent and independent variables All indicators are relevant, clear and measurable.	The operationalisation is to the point. Different indicators are used for dependent and independent variables. A maximum of the meaning of the concepts is captured

		irrelevant for the study		measurable		through a minimum of indicators. All indicators are clear and measurable
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Item	Grade					
	Unacceptable	Insufficient	Pass	Sufficient	Good	Excellent
	< 4.0	4.0 – 5.4	5.5 – 6.4	6.5- 7.4	7.5 – 8.4	8.5 - 10
Data & data analysis	The description gives no evidence of being based on data collected/used. The description is not relevant in relation to the conceptual framework and research questions.	The description of data is broad and not selective towards the conceptual framework and research question. Data are only described and not analysed ⁶	The description and analysis of data is mostly relevant for the conceptual framework and the research question. Some analysis is present. ⁷	The description and analysis of data is mostly relevant for the conceptual framework and the research question. Solid data analysis. ⁸ At least some interpretation and understanding of the outcomes	The description and analysis of data is selective and has a strong relation with the conceptual framework and the research question. Solid and coherent analysis. At least some interpretation and understanding of the outcomes in relation to the theory	The description and analysis of data is selective and has a strong relation with the conceptual framework and the research question. Solid and coherent analysis. Clear interpretation and understanding of the outcomes in relation to the theory
Triangulation (For case studies)	The research strategy is a case study but no mention is made of triangulation as a measure for validity. Data are not based on different sources	Data triangulation is described as measure for validity. Not all three sources are mentioned or presented in the data description and analysis	Data triangulation is described as measure for validity. The three sources of data are described and partially analysed	Data triangulation is described as measure for validity. The three sources of data are described and analysed, and somewhat related to each other.	Data triangulation is described as measure for validity. The three sources of data are described and analysed and related to each other	Data triangulation is described as measure for validity. The three sources of data are described and analysed, related and interpreted coherently.

⁶ In studies based on qualitative data, general descriptions of outcomes are illustrated by quotes from interviews. Clear coding and recoding, grouping classifications, typologies, scenarios and relations are absent. In studies based on quantitative data only descriptive statistics are used.

⁷ In studies based on qualitative data coding is used to classify and group on a lower level of analysis. In studies based on quantitative data, data are partially analyzed through the use of correct statistical tests.

⁸ In studies based on qualitative data coding and recoding is used to group and classify to find patterns and relations at variable or conceptual level. In studies based on quantitative data, correct statistical tests are used at conceptual level.

Item	Grade					
	Unacceptable	Insufficient	Pass	Sufficient	Good	Excellent
	< 4.0	4.0 - 5.4	5.5 - 6.4	6.5- 7.4	7.5 – 8.4	8.5 - 10
Conclusions and recommendations	The conclusions are not related to the data analysis. The research question is not answered. The recommendations are not rooted in the data analysis and conclusions	The research question is not completely answered. The recommendations are not rooted in the data analysis and conclusions.	The research question is answered based on the data analysis, at least partially supported by evidence. At least some reflection upon the theory and conceptual framework. Recommendations are at least somewhat connected to the conclusions and the data analysis	The answer to the research question is clearly based on the data analysis. At least some reflection upon the theory and conceptual framework. Recommendations are somewhat connect to the conclusions and the data analysis	The answer to the research question is clearly based on the data analysis. Strong reflection upon the theory used and on the conceptual framework. Recommendations are well elaborated and clearly rooted in the conclusions.	The research question is answered and based on the answer there is a strong reflection upon the theory used and on the conceptual framework. If appropriate, a new conceptual framework is proposed. Recommendations for both further research and for policies are well elaborated, clearly rooted in the conclusions
Quality of the thesis report	Thesis is badly structured. Information appears in wrong locations. Level of detail is inappropriate throughout	Main structure is incorrect in some places. Placement of material in different chapters illogical in many places. Level of detail varies widely	Main structure is correct. Placement of material in different chapters is partially logical. Level of detail varies widely	Main structure is correct. Hierarchy of sections is mostly correct. Placement of material in different chapters is partially logical. Level of detail appropriate in a number of places	Most sections have a clear and unique function. Hierarchy of sections is mostly correct. Ordering of sections is mostly logical. Most information occurs in the correct place. In most places level of detail is appropriate.	Well-structured: each section has a clear and unique function. Hierarchy of sections is logical. All information occurs at the correct place. Level of detail is appropriate throughout.
	Formulations in the text are often incorrect/ inexact inhibiting a correct interpretation of the	Vagueness and/or inexactness in wording occur regularly and affect the interpretation of the	The text is ambiguous in some places but it does not inhibit a correct interpretation of the text. Referencing is	Formulations in text are predominantly clear and exact. Referencing is correct	Formulations in the text are clear and exact as well as concise throughout the thesis.	Textual quality of the thesis is such that it could be acceptable for a peer reviewed journal.

	text. Referencing is absent or incorrect	text. Referencing is incorrect	mostly correct		Referencing is correct	Referencing is correct.
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Disclaimer:

These rubrics have been tested internally during UMD 12. On 21 March 2018, these rubrics are still subject to external review. In the case major changes are recommended by the external reviewer, these will be communicated with sufficient time to all students and supervisors.