

MASTER THESIS

Course code	<i>GRAI011</i>
Course title	<i>Master thesis</i>
Type of course	<i>Compulsory</i>
Stage of study	<i>Graduate</i>
ECTS	<i>30; 8 hours of seminars, 2 hours of statistics consultations, 30 hours of consultations with supervisors, 774 hours of self-study,</i>
Coordinating lecturer	<i>Assoc. prof. dr. Virginija Poškutė, e-mail: virpos@ism.lt</i>
Study form	<i>Full time</i>
Course prerequisites	<i>Undergraduate diploma</i>
Language of instruction	<i>English</i>

The aim of the thesis is to provide an opportunity for Master degree candidates to refine, in some cases acquire, a range of skills at an appropriate level to do a quality research. A successful thesis is evidence that the candidate has acquired the minimum level of research skills and can therefore be accredited a Master degree. Upon the completion of the Master Thesis a student will have achieved the learning outcomes presented in Table 1.

Table 1. Master thesis learning outcomes

Course learning outcomes (CLO)	Study methods	Assessment methods
CLO1. Knowledge and its application. Graduate is able to define the research problem and the main goals of a Thesis in a concise way and integrate the theoretical knowledge obtained in the master studies.	Consultations, seminars, workshops, individual study, master thesis proposal and final thesis defense.	Written thesis proposal, thesis proposal defense, final master thesis defense, evaluation of an advisor, evaluation of a reviewer and defense committee.
CLO2. Research skills. Graduate is able to analyze critically, synthesize and assess research data necessary for the thesis development. He/she is also able to collect quantitative and/ or qualitative data and perform appropriate empirical analysis to solve the research problem.	Consultations, seminars, workshops, individual study, master thesis proposal and final thesis defense.	Written thesis proposal, thesis proposal defense, final master thesis defense, evaluation of advisor, evaluation of reviewer and defense committee.
CLO3. Special abilities. Graduate has the ability to develop a clear explanation and justification of the selected methodological approach and refer to published research on methodology to support the statement on its appropriateness, present a testable hypothesis, consistent with assumptions derived from literature review, and conduct (on an individual basis) an empirical research.	Consultations, seminars, workshops, individual study, master thesis proposal and final thesis defense.	Written thesis proposal, thesis proposal defense, final master thesis defense, evaluation of an advisor, evaluation of a reviewer and defense committee.
CLO5. Social ability. Graduate has the ability to develop the elaborated discussion to reveal the study findings in the light of prior	Consultations, seminars, workshops, individual study, master thesis proposal and final	Written thesis proposal, thesis proposal defense, final master thesis defense, evaluation of an

research in the field, compare the results with those reported by other investigators considering the questions that remain unanswered and suggest the additional further research perspectives by demonstrating proficiency in academic writing, proper literature citation and compilation of a reference list.	thesis defense.	advisor, evaluation of a reviewer and defense committee.
CLO6. Personal abilities. Graduate has the ability to plan the process of thesis writing in an autonomous manner, choose the direction of improvement and study in an autonomous manner. Graduate has the ability to use scientific research data, has experience in research work, and skills of systemic and strategic thinking necessary for autonomous professional activity and scientific research work.	Consultations, seminars, workshops, individual study, defense of a thesis proposal and final thesis.	Written thesis proposal, thesis proposal defense, final master thesis defense, evaluation of an advisor, evaluation of a reviewer and defense committee.

Master Thesis could be prepared by one or two students. If the thesis is developed by two students, they:

- must participate in thesis proposal and final thesis defences (if one of the students will not participate, they will be denied the right for the defence of thesis proposal and final thesis);
- have to be able to explain and justify any choices of methods and information, defend any part of the thesis, such as the literature review, data measurement scales, questionnaires, choice of sampling, data collection process and data analysis results;
- are responsible for academic integrity (e.g. plagiarism, copying another person's work);
- have to be competent to answer any questions the thesis defence committee members ask. Saying things like „I don't know what this means because my teammate did this part“ or „this part is not done because my teammate was supposed to do it“ will only get you penalty points;
- will be awarded the same grade for the thesis by supervisor, reviewer and the thesis defense committee members.

THESIS TOPIC

The topic of the thesis could be related to one of the following organizational sustainability constructs:

- **Product / Service innovations for sustainability** - the novelty and meaningfulness of new products and services introduced in the market.
- **Market innovativeness and sustainability** - the newness of approaches that companies adopt to enter and exploit the targeted market.
- **Process sustainability** - the introduction of new production methods, new management approaches and new technology that can be used to improve production and management processes.
- **Behavioral / HR teams sustainability** - behavioural sustainability demonstrated through individuals, teams and management to enable the formation of a sustainability oriented culture, organizational behavior, human resource management, knowledge management, the overall internal receptivity to new ideas and sustainability.
- **Strategic sustainability** - an organisation's ability to manage ambitious organisational objectives, and identify a mismatch of these ambitions and existing resources in order to stretch or leverage limited

resources creatively.

Examples of Master's thesis topics:

- *Impact of Industry 4.0 Technologies on Sustainability in Lithuanian Engineering Sector*
- *Assessing Artificial Intelligence Solution in Processes' Automatization in Banking*
- *Robotic Process Automation Effect on Employee Competencies in the Financial Sector*
- *The Role of Artificial Intelligence Tools in The Architecture, Engineering, & Construction Industry*
- *Digital Transformation of Manufacturing Operations: Impact on Value Creation*
- *Developing Innovation Capability in IT Company*
- *Exploring Consumer Perceptions of the Boundaries of Innovation*
- *Big Data Analytics' Implementation Constrains in Agriculture Business*
- *Barriers for the Adoption of Artificial Intelligence Tools by Multinational Retail Organizations*

THESIS STRUCTURE, VOLUME AND FORMATTING

The Master thesis structure and recommended volume of each part are the following:

- Title Page
- Abstract (200 words)
- Santrauka (200 words)
- Table of Contents (1-2 pages)
- List of Figures and/or List of Tables (1 page)
- List of the main concepts' definitions (1 page)
- Introduction (1000 words)
- Literature Review (5000- 6000 words)
- Research Methodology (2000-3000 words)
- Empirical Research Results (2000-3000 words)
- Discussion (4000-6000 words)
- Conclusions (1000 words)
- References
- Appendices

Master thesis should be between **15000 - 20000 words** long. Pages count excluding the Title page, Abstract, References and Appendices.

Master thesis should be formatted according to the APA style requirements (provided on e-learning platform), written in British English Times New Roman 12pt size with 1,5 space between the lines.

Figures and tables should be set within the text. All figures and tables should have their own number and title. The style of citations should be consistent with APA 7th ed. style requirements. Before including figures and tables, please do think about what each figure or table is adding to the reader's understanding of the text. The additional figures and tables should be provided in Appendices. You should discuss and provide your conclusions on the information provided in figures and tables! Do not leave the information provided in figures and tables to be analysed by the reader. It is your job!

ACADEMIC ETHICS & PLAGIARISM PREVENTION

Plagiarism is incompatible with academic ethics of ISM University of Management and Economics community. The plagiarism prevention embraces the norms of respect for intellectual propriety and failure to comply with this principle of academic honesty is considered to be a serious breach of academic ethics. Plagiarism is an intentional or unintentional (due to ignorance) submission of published or unpublished work or its parts of another person/s as your own without acknowledging its source appropriately. In order to prevent plagiarism in master thesis, student is allowed to upload the interim version of the thesis paper to the content matching system and access the content similarity report two weeks before the final master thesis submission deadline.

The final thesis version uploaded to the final submission folder must be the same as uploaded to the content matching system. However, after accessing the content similarity report, the student has an option not to upload the final thesis to the final submission folder (and do that after improving thesis next semester). Any thesis that is identified by the software as containing > 10% of similar material will be closely examined for plagiarised material by the Programme Director. Note that a thesis containing < 10% of similar material should not automatically be presumed to lack plagiarised material.

CONTENT OF THE THESIS

TITLE PAGE. Title Page is the cover page of the whole thesis and it should include (please see *Appendix 4* for the example):

- The title should be written using all capital letters, centered within the left and right margins, and spaced about 3 cm from the top of the page.
- Below the title, at the vertical and horizontal center of the margins, place the following five lines (all centered):
 - Line 1: A Thesis
 - Line 2: Presented to the Faculty
 - Line 3: ISM University of Management and Economics
 - Line 4: in Partial Fulfillment of the Requirements for the Degree of
 - Line 5: Master of Management

Center the following three lines within the margins:

- Line 1: by
- Line 2: [name under which you are registered in the University Studies Office]
- Line 3: [month, day, and year the thesis is submitted;

The text on the Title Page should be Times New Roman, size 12, double space.

ABSTRACT. Abstract is the first substantive description of the paper read by an external reader. You should view it as an opportunity to set accurate expectations. The Abstract is a summary of the whole thesis as it presents all the major elements of your work in a highly condensed form. Also the Abstract often functions, together with the thesis title, as a stand-alone text. This section is not merely an introduction in the sense of a preface, preamble, or advance organizer that prepares the reader for the thesis. In addition to that function, it must be capable of substituting for the whole thesis when there is insufficient time and space for the full text.

The Abstract can not exceed one page and it usually is about 150-200 words. The structure of the Abstract should mirror the structure of the whole thesis and should represent all its major elements. For example, if your thesis has six chapters (introduction, literature review, methodology, results, discussion, conclusion), there should be one or more sentences assigned to summarize each chapter.

The most common error in abstracts is failure to present results. The primary function of your thesis (and by extension your Abstract) is not to tell readers what you did, **it is to tell them what you discovered**. Other information, such as the account of your research methods, is needed mainly to back the claims you make about your results. Approximately the last half of the Abstract should be dedicated to summarizing and interpreting your results. The good practice to adopt: write it last!; identify the problem, aim and objectives; outline the research methods; state the main findings; indicate the main recommendations; include the key words; keep to one paragraph.

TABLE OF CONTENTS. Table of Contents should provide the reader with the exact structure of the whole paper. The Table of Contents should list the chapter headings, appendices, references and the pages on which they can be found. The headings should be specific - directly related to the research problem and context.

INTRODUCTION. Introduction is the first major chapter of the thesis. It should set out the background of the research study and address the following areas:

- Relevance of the Topic
 - What is the background and/or the context of research?
 - What is the main subject of research?
 - Why is this subject important in **theoretical terms**?
 - Why is this subject important in **practical terms**?
- Research Question, Aim and Objectives
 - What is the central research question that the thesis will address?
 - What is the central research aim that you will try to achieve in the paper?
 - How will the set research aim be reached? Through what specific objectives?
- Research Design
 - What research design is going to be used in the thesis?
- Sequence of the Thesis
 - What topics are going to be discussed in each of the chapters?
 - How do the chapters of your thesis relate to each other?

Research question, aim and objectives should be formulated to produce a congruence. **The sequence of objectives should conform to the sequence of the thesis sections.**

LITERATURE REVIEW. Literature Review is a description of the literature relevant to a particular field or topic. It gives an overview of what has been said, who the key writers are, what are the prevailing theories and hypotheses, what questions are being asked, and what methods and methodologies are appropriate and useful. As such, it is not in itself primary research, but rather it reports on other findings. Generally, the purpose of a review is to analyze critically a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles. This part of the thesis, as well as all the other parts of the thesis, should be started by introductory/opening paragraph in which the author

presents the aim and an overview of the key structural parts of the analysis. Generally, the Literature Review follows this structure:

- Opening paragraph where you present the aim and an overview of the key structural parts of the analysis.
- Introduction where you:
 - define or identify the general topic, issue, or area of concern, thus providing an appropriate context for reviewing the literature;
 - point out overall trends in what has been published about the topic; or conflicts in theory, methodology, evidence, and conclusions; or gaps in research and scholarship; or a single problem or new perspective of immediate interest;
 - establish the writer's reason (point of view) for reviewing the literature; explain the criteria to be used in analyzing and comparing literature and the organization of the review (sequence); and, when necessary, state why certain literature is or is not included (scope).
- Body of the Literature Review. The body of the literature review usually reflects the constructs under investigation framework aiming to justify the proposed hypotheses. This is the thesis part where you:
 - group research studies and other types of literature (reviews, theoretical articles, case studies, etc.) according to common denominators such as qualitative versus quantitative approaches, conclusions of authors, specific purpose or objective, chronology, etc.;
 - summarize individual studies or articles with as much or as little detail as each merits according to its comparative importance in the literature, remembering that space (length) denotes significance;
 - provide the reader with strong "umbrella" sentences at beginnings of paragraphs, "signposts" throughout, and brief "SO WHAT?" summary sentences at intermediate points in the review to aid in understanding comparisons and analyses;
 - discussing each concept under analysis, first provide the comparative examination of the definitions and rationalize the chosen definition for the thesis, then provide the information how the concept has been measured in previous studies, and finally outline how the concept will be measured in this thesis;
 - conclude this part by providing the conceptual framework and hypotheses summary.
- Conclusion where you:
 - summarize major contributions of significant studies and articles to the body of knowledge under review, maintaining the focus established in the Introduction;
 - clearly and concisely state **the research problem** and **hypotheses** (if required);
 - evaluate the current "state of the art" for the body of knowledge reviewed, pointing out major methodological flaws or **gaps in research**, inconsistencies in theory and findings, and areas or issues pertinent to future study. Please note that here **you are making a significant contribution** to science by pointing what other scholars have failed to notice, have not considered, or assessed inaccurately in their works;
 - organize the conclusive statements in a systemic way to match the proposed organization logic of this part in the opening paragraph.

RESEARCH METHODOLOGY. This part of the Master Thesis shall offer a clear explanation and justification of the selected methodological approach and refer to published research on methodology to support the statement on its appropriateness. Research Methodology follows the following structure:

- Research aim and objectives
- Research theoretical model and hypotheses
- Research design
- Research instrument
- Research sample
- Data collection method
- Research process
- Data analysis methods

Research aim and objectives. The research aim usually coincides with the objective of the thesis that relates to an empirical research execution – what specific thesis objective does the empirical research aim relate to? The research objectives indicate the steps the research aim will be achieved.

Research conceptual framework and hypotheses. The research conceptual framework and hypotheses are to be presented based on the literature reviewed.

Research instrument. It is essential that the results of the research are reliable and valid. This is generally achieved through construct validity, internal validity and external validity and reliability. Construct validity defines the degree to which a scale actually measures what it is intended to measure. Content validity is achieved by using measures from validated studies, that is only the scales that have been successfully used in the past and are suggested to be good indicators have to be used in the study. Therefore the research instrument framework should be provided referring to the valid sources of the valid scales.

Research design. The research design aims to answer the question: What is your overall research strategy? Students are to describe the basis of research methodology by explaining and justifying:

- Survey - measurement method and justification of why measures are appropriate;
- Experimental Designs – stimuli and/or instructions – pretests of stimuli if available;
- Case Study – target company/situation determination analysis (show the method and criteria you use to choose the companies/situations you are analyzing and justify how they are the most appropriate to address your research question);
- Secondary Data – the identification of original source appropriateness for current research;
- Qualitative Research - the justification of the scope of content analysis, expert interviews or focus groups;
- Other - as appropriate and approved by your supervisor.

Research sample. Students are to explain how they intend sampling the target population and why they have chosen that sampling approach. Regardless of the research type it is unlikely to collect data from the whole target population, in which case students will need to collect data from a sample of the target population. There are a number of sampling techniques that could be used, including: random sampling, simple random sampling, stratified sampling, cluster sampling, systematic sampling, quota sampling, and convenience sampling.

Data collection method. Students are to explain the chosen data collection method appropriateness for the research aim, identify, describe, and justify the chosen data collection techniques (interviews, questionnaires, documents, observation, phone, mail, Internet, other).

Research process. Students are to discuss the process of gathering the research data in detail indicating the research process issues (timing, length, etc.).

Data analysis methods. Students are to explain how they will analyse the collected data, outline the limitations and potential problems, and explain why their work is valid and reliable.

Ethical Considerations. Students should provide respondents' content to

participate in the research. GDPR documents (respondent content forms) are provided on e-learning platform.

If Internet surveys are used for data collection, the rule of one questionnaire filled in from one IP address should apply. Under request, the advisor or anyone formally assessing the thesis should be granted access to the data management webpage in order to check the authenticity of the source and numbers of submitted questionnaires. Accessed data can be used only for preventing plagiarism and cheating. If anonymity of sources is required, the accessing person is obliged to maintain it. The same is applied to qualitative data. Students, upon the request, should be ready to provide the original records of data.

EMPIRICAL RESEARCH RESULTS. In the Empirical Research Results chapter you should report the empirical research findings, based on collection and analysis of primary and secondary data sources. This part of the thesis should be started by introductory/opening paragraph in which the author presents the aim and an overview of the key structural parts of the analysis. Typically it is suggested to organize this chapter around answering the main research question and/or testing the hypotheses. Make sure you follow some key guidelines and/or a clear pattern when presenting your research results. Some results will need to be presented in a narrative form while others in tables, graphs and figures. You only need to summarize and emphasize the most significant findings of your research. Irrelevant details or any discussion of the theory should not be included in this chapter.

If you have collected quantitative data, you are required to submit the CD with SPSS or Excel files of initial data. Printed version of initial data is not required and you do not need to include it in the thesis. If you see the need to include some raw results in your thesis, please do that in the Appendices. Still it is advised to include only processed and summarized data in the Appendices.

If you have collected qualitative data, you should provide scripts of interviews and focus groups in a summarized way (for example, data matrix or structured descriptions) in Appendices. All transcripts should be in English. If data is confidential, you should find ways to anonymize the source and not the data.

DISCUSSION. Discussion serves to bring the research to an end, one that follows logically from the central theme of the thesis and the topical paragraphs. This part of the thesis should be started by introductory/opening paragraph in which the author presents the aim and an overview of the key structural parts of the analysis. The discussion section should be designed to mirror the thesis objectives what makes the discussion a cohesive narrative. The discussion should be elaborated to reveal the study findings in the light of prior research in the field. The results should be compared with those reported by other investigators considering the questions that remain unanswered and suggesting the additional further research perspectives. Usually this chapter:

- synthesize the literature review and empirical research findings in a meaningful way;
- overview the significant findings of your empirical research;
- consider your findings in the light of existing research studies (as reviewed in the Literature Review chapter);
- state what are the **implications of your study for current theory**;
- state what are the **managerial implications** of your study;
- examine research findings that fail to support or only partially support your hypotheses;
- name the limitations of the study that may affect the validity or the generalizability of the results;
- provide future research recommendations.

CONCLUSION. A conclusion reinforces the findings of the literature review and empirical research and generally enhances the validity of the arguments and positions taken by the writer. Conclusion of all the thesis should be presented in a systemized way by summarizing the main points in three parts: literature review, empirical research, and discussion. Generally the author in the conclusion:

- does not introduce new facts or ideas that belong in the chapters discussing the findings;
- does not reword the Introduction and present it as the conclusion.

REFERENCES. References is a list of sources that you used in your thesis. Make sure that all the sources listed in the thesis are included in the References and vice versa. References list should be prepared according to the APA guidelines.

References should include 30-50 academic (peer-reviewed) sources.

APPENDICES. Appendices may include figures and tables or any additional information that would have interrupted the flow of the main body of the thesis. Make sure that you refer to each appendix and explain what it contains in the main text of the thesis.

ROLE OF THE THESIS ADVISOR

The task of the thesis advisor is to guide you through the thesis writing process. Active guidance is understood as sharing experience; providing examples (best practices) and support in research design, analysis of research data, and general issues.

In general, the advisor is expected:

- meet with you after each important chapter submission;
- consult you on the thesis requirements and draw up a general thesis writing plan;
- advise you on finding/formulating the research topic, goal and hypotheses;
- advise you on writing each part of the thesis;
- provide feedback and comments about the quality of each thesis chapter.

In general, the advisor is NOT permitted to:

- provide you with (a list of) sources/ literature;
- correct or edit the grammar/ writing style;
- formulate entire sentences or parts of the thesis;
- teach methods of statistical data analysis;
- suggest precise formulations of text (problem, aims, objectives, hypotheses, etc.).

A relationship between you and the advisor:

- any initiative has to come from the student and NOT from the advisor;
- the advisor should challenge you to strive for a higher quality level and recommend to you what can be improved – but the advisor shall NOT do anything what would be considered as an attempt to co-author the thesis;

- as the advisor will be asked to grade the quality of the thesis as well as the level of cooperation – any active role in the thesis writing process would be considered as a violation of academic integrity/ conflict of interest;
- the advisor should provide feedback on the submitted parts of the thesis within 5 working days (if not agreed otherwise).

Coordination between the advisor and the administration/program director:

- the advisor has to report to the program director if you do not fulfill the requirements on time/ violate the regulations on thesis writing. In case of disregard, the advisor will be made personally responsible for any problems which occur;
- the advisor is NOT responsible for the incorrect usage of sources, incorrect reporting of data, and copyright infringements made by you.

IMPORTANT. The advisor may refuse to evaluate the work if the work was prepared without the advisor's participation.

ASSESSMENT OF THE THESIS

The final grade of the Master Thesis includes the advisor, reviewer, and thesis defence committee grades.

Advisor	20%
Reviewer	20%
Thesis Defence Committee	60%

The advisor evaluates the content of the Master Thesis and may provide information of the writing process of the Master Thesis. The reviewer evaluates the content of the thesis.

Each thesis defence committee member evaluates the defence according to the following criteria:

Content of the Master Thesis
Defence presentation of the Master Thesis
Answers to the defence committee members questions

The Commission of Studies may decide to deny the right for the defence of the final thesis if at least one of the following points can be applied to the thesis or its preparation process:

- thesis topic or research proposal was not approved by the programme director;
- the submitted thesis is not based on the theme that has been defended and approved;
- the student did not meet the deadlines for work preparation;
- the student fails to submit the thesis in due time (the student loses the right to defend it in the current year);
- the thesis is negatively evaluated by the supervisor and / or reviewer (s);
- violations of academic ethics (plagiarism, etc.) have been identified by the Committee of Ethics;

- the thesis does not comply with the formal requirements (structure, scope of the thesis or its parts, data of the empirical research are not included in the appendices, etc.).

The written comment of the reviewer will be available to students by e-mail not later than two days before the scheduled defence of the thesis. The reviewer's comment is provided solely for the student and his / her self-preparation for the thesis defence; the reviewer's comment may not be discussed with the supervisor, ISM academic staff, or other members of the evaluation commission. The questions provided in the review and the identity of the reviewer are only revealed during the defence of the thesis.

During the defence of the thesis the author presents the work briefly, specifying the research problem, aims, objectives, analysis of the situation and / or literature review, research methodology, obtained results, reliability of the applied methods, introduces and justifies the conclusions, makes recommendations. After the summary of the reviewer and / or the supervisor comments, the student answers the reviewer's questions, questions of the members of the final theses evaluation commission and other persons participating in the defence and fulfils other requirements for the defence of the final thesis. If the reviewer and / or supervisor of the thesis does not attend the defence meeting, their feedback is read by one of the members of the thesis evaluation commission.

The members of the final thesis evaluation commission will follow the same criteria as in the final thesis review when assessing thesis and its defence. In addition, the completeness and validity of the answers to the questions, demonstration of the knowledge of the topic, methods, results, practical applicability, limitations, fluency and clarity of the language are assessed in the defence. A member of the evaluation commission will provide a single grade summarizing the evaluation of both the thesis and the defence.

After the public defence of the final theses, the final theses evaluation commission will evaluate the final theses in a closed meeting. Only the members of the final theses' evaluation commission participate in the closed meeting. In exceptional cases, persons invited by the chairman of the evaluation commission (e.g. a representative of the Ethics Committee) may attend. Only members of the theses' evaluation commission (including the chairman) have the right to evaluate the thesis.

On the decision of the programme director, the final theses defence results are announced at the end of one-day defence or at the end of all study programme semester defence. The results of the final thesis are announced to the students individually on my.ism.It system and / or personally. **The decision of the final thesis evaluation commission is collegial, final and not subject for appeal.**