ISM seminar ISM-E5001

Three elective areas of specialization in Master's program:

Business Analytics
Information Systems Science
Supply Chain Management

Spring 2023

Contents

- **Schedule**
- **Thesis work**
- **Research plan**
- **Information search**
- **Role of theory**

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ISM seminar – basic information

Thesis supervisor(s)

- You may contact directly supervisor(s) who work on your topic area, see **https://mycourses.aalto.fi/course/view.php?id=36975&section=3**
- You need to designate your seminar group (ISS, SCM/Logistics or Business Analytics) and supervisor (PhD level faculty member).

In case you are unsure about who could supervise your topic, please contact

- Matti Rossi (matti.rossi@aalto.fi) – Information Systems (ISS)
- Katri Kauppi (katri.Kauppi@aalto.fi) – Supply chain management
- Merja Halme (merja.halme@aalto.fi) - Business Analytics
- Liao Zhiqiang (zhiqiang.liao@aalto.fi) - ISM thesis seminar coordinator

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Schedule

Group meetings

- **3 Introductory lectures to all seminar participants**

- **After the introductory lectures, we meet when needed by group [not weekly]**

  - *SCM/ Katri Kauppi: Monday 13.15-15.00*
  - *BA / Merja Halme: Tuesday 13.15-15.00*
  - *ISS / Matti Rossi: Wednesday 15.15-17.00*

- **Please double check the schedule of each session in MyCourses**

ISM Thesis seminar requirements (3cr)

Mandatory for major studies

Grading: Pass/fail

- Starting from 01.08.2022

Compulsory requirements:

1: Two presentations given by you

(Research plan and final thesis presentations)

2: Discussant/opponent to ONE plan and ONE thesis presentation

The thesis seminar is meant to be taken during the 2nd year of master's studies and earliest during the first year's spring.

For more information see: https://mycourses.aalto.fi/course/view.php?id=36975#section-0

Thesis evaluation

- **Grading 1-5**
- **Based on the rubric available in MyCourses -> Materials**
- **Done using evaluation form available in MyCourses -> Materials**

Master's Thesis

- **(smallish) independent piece of academic work**
- **Takes time and effort**
- **Applying what has been learned earlier**
- **Combining previous knowledge into larger entity**

Project, that will be completed within a given time, according to a plan!

Master's Thesis Requirements

Quantitative measures

- Usually takes between 4-8 months
- Length varies: 70-120 pages (including everything)

Qualitative measures

- Research topic suitably defined
  - *Clear research problem*
  - *Challenging objectives, and making sure the thesis meets them*
- Good reporting
  - *Logical flow of text, technicalities and styles in order, easy to read and understand*

Most important requirement

- Research should aim at a scientific contribution, such as, a conceptual or mathematical model and/or a sound application of theory

Identify the topic and research problem

Searching for the thesis topic

Literature

- Course material, recent articles and books

- Media

Research reports

- Master's theses, licentiate theses, doctoral dissertations

Bachelor's thesis

- Own thesis, other students' topics

(Summer) job

Company thesis assignments

Own interests!

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How to choose a topic?

Does the topic interest you?

Do you have experience on the topic?

Why is it worth studying the topic?

- Does the topic have theoretical relevance?

- Does the topic contribute to practice?

Is it possible to study the topic?

- Focused enough (to avoid a too light or narrow-minded approach)

- Availability of source material and data (qualitative or quantitative)

Is the topic current or new?

Is there a potential conflict e.g. with the confidentiality? Can you solve it?

Define and specify your topic

A reasoned, specified area that you are able to manage

Specify objectives

- You should be able to reach the objectives in the required time frame and effort

- Be realistic!

- Think how to measure the accomplishment of your objectives!

Factors Affecting the Selection of Topic

General criteria

- **Focusing the topic**
  - *avoiding superficial and narrow discussion*
  - *opportunity for versatile analysis and evaluation of causalities*
- **Doing the work**
  - *data and material available*
  - *applicability of research methods*
- **Significance**
  - *applicability and potential usage in business*
  - *theoretical contribution*

Own capabilities

- **Skills and knowledge etc.**
  - *industry knowledge*
  - *knowledge of the topic*
  - *modeling skills and willingness*
- **Motivational level**
  - *goals*
  - *project duration*
- **Managing "conflicts of interest"**
  - *negotation skills*
  - *separate company report might be needed*

Reseach plan

It is important to make a research plan on the research topic already in early phase of the process

A written plan makes communication between the supervisor and the student much easier

Supervisor needs to approve your research plan before you book your presentation slot

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Different parts of a research plan:

Motivation

- Why this research is worth doing? Who is going to benefit from it? Why it is interesting?

Research problem

- What is the research problem of this research (preferably in one sentence)

Earlier research

- How this research problem has been approached in earlier research found in literature? What kinds of viewpoints have been used by these other researchers?

Aims of the study

- What are the concrete aims of this study? (it often makes sense to have separate – although related, of course – aims for the theoretical and empirical parts of the study)

Research methodology

- What are the research methods used in the study?
- It is recommended (although not compulsory) to have empirical part in the master's thesis

Structure of the thesis

- How is the research report structured = What is the purpose and meaning of each part?

Thesis Structure

Before Introduction Chapter

- Abstract; (Preface or Foreword); Table of contents; Lists of tables, figures and appendixes

Introduction

- Motivation (theoretical and managerial), including research gap
- "Research question(s)
- Your approach

Earlier literature / Literature review / Theory

- Discussion on relevant theories and previous studies
- Model or framework; "the contribution"

Empirical part

- Data source, methods, data analysis, results

Discussion

- Empirical findings
- Reflecting to earlier research

Conclusions

List of references and Appendixes [Make sure you use a reference software, such as Mendeley]

Finding information

Library services

Electronic journal services

- https://aalto.finna.fi/Browse/Journal?lng=en-gb

- Sciencedirect, Emerald; ProQuest; EBSCO;

- ISI -> http://isiknowledge.com/

- Scopus: https://www.scopus.com/search/form.uri?display=basic&zone=header&origin=#basic

Library: http://lib.aalto.fi/en/

Library e-resource tutorial: https://learningcentre.aalto.fi/en/

Obs: These work from school LAN, or by using library proxy!

Always useful:

scholar.google.com

Youtube: a good source for learning statistics

Support for writing the thesis

- Services offered by Starting Point of Wellbeing, see: https://into.aalto.fi/display/enopisk/Starting+Point+of+Wellbeing

- Courses & workshops: https://into.aalto.fi/pages/viewpage.action?pageId=328008

- Language center: https://into.aalto.fi/display/enopinnot/Written+communication+in+Finnish

- Reading old theses for ideas: https://aaltodoc.aalto.fi/

- BSc thesis tutorial videos: https://mycourses.aalto.fi/course/view.php?id=23125

  - These were developed for BSc but a lot of the same tips on writing, referencing etc. will apply to MSc thesis too!

Some other suggestions

- **Make use of the resources available to you, e.g. data or possibility for survey or interview, when determining your thesis topic**

- **Read literature with your research question in mind**
  - Mark or summarize the content that you would cite.
  - Think about why your research is different from prior studies
    - ➢ *These differences lead to your theoretical and practical contribution*

- **Read a couple of highly-rated MSc theses in a similar area of your thesis topic**

Ethical issues

Ethical issues

A thesis is <u>not</u> a collection of summaries, quotations, plagiary, or opinions

- You should not copy-paste any parts from scientific articles!

Do not plagiarize

   - Use correct referencing instead

Do not fabricate or falsify data, research procedures, or data analysis

Code of Research Conduct example:

AIS Code of research conduct
https://cdn.ymaws.com/aisnet.org/resource/resmgr/Admin_Bulletin/AIS_Code_of_Research_Conduct.pdf

Types of violations against Code of Academic Integrity

Misconduct in science or arts

Cheating

Uncredited use or plagiarism

- quotations or word-for-word citing without clear indication
- minor changes to the source text, for instance, changing a few words or the word order
- inadequacies in citing
- copy and paste
- direct translation from the original without indicating the direct quotation
- collusion

Autoplagiarism

Fabrication

Misrepresentation (falsification)

Misappropriation

1) Source: **Aalto University Code of Academic Integrity and Handling Violations Thereof (into.aalto.fi)**

Turnitin software

Turnitin software (http://www.turnitin.com) used at Aalto University detects plagiarism.

- It compares student materials with over 20 billion web pages, over 220 million submitted student papers and over 100 million scientific articles and books
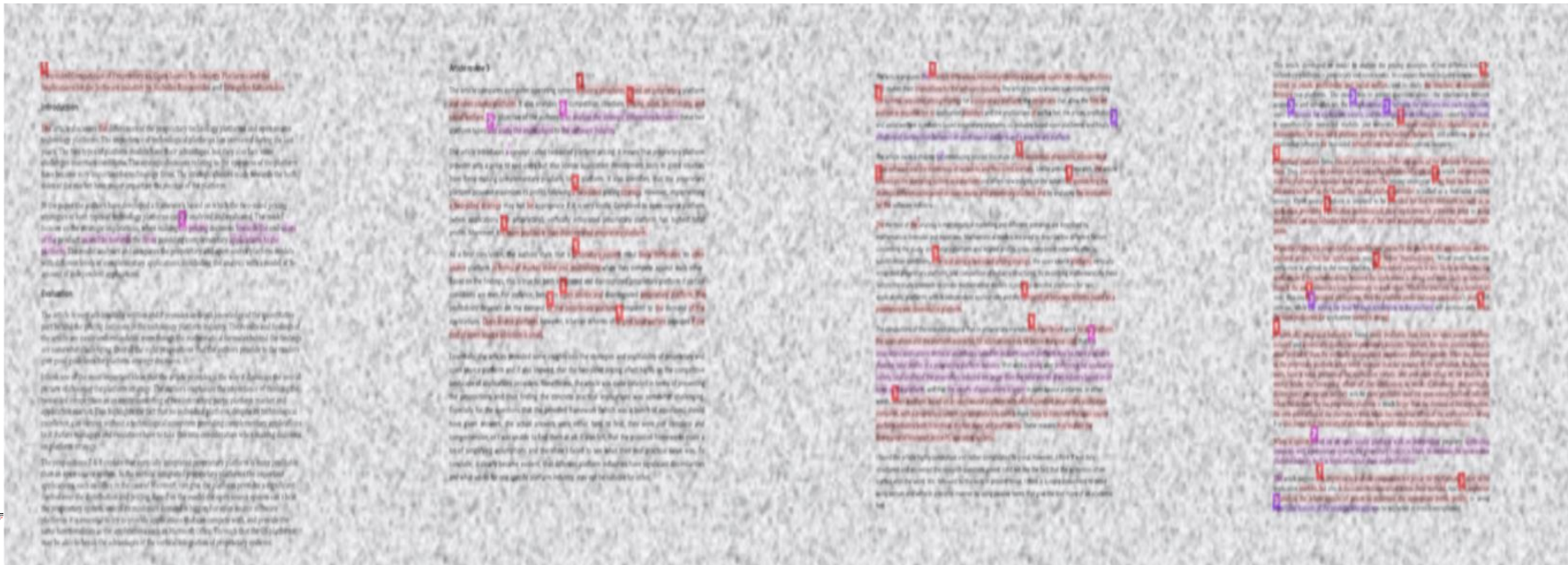
You can use Turnitin yourself to check that you have remembered to cite everything correctly. Check:

http://www.turnitin.com

Don't copy and paste!

Examples from article reviews written by students. Colored parts are copy and pasted (detected by Turnitin-software). Unfortunately some of the students failed

| OK | Still OK, but depends | Not good at all: **FAIL** | Unforgivable: **FAIL** |

You can quote, but you must indicate the source!!!

What to do in practice?

First of all, follow the rules of referencing source materials.

Indicate clearly in your thesis, which parts are from earlier research and which findings and conclusions are from your own study, for example:

Parthasarathy and Bhattacherjee (1998) examined individual characteristics…	This study concentrated on…
…user acceptance of information systems (Lee & Lee, 2003; Venkatesh & Morris, 2000).	Based on this research, …
Holland et al.'s (2002) study showed that…	Our/This study showed that…

(However, don't put "This study/Based on this research.." in the beginning of every sentence. Think about the style and how the reader understands your text)

You can use direct quotes from source materials, but put them inside quotation marks/use italics/indention and remember the reference.

Referring to your sources 1(3)

- **The main point of using references is to show what is your own thinking and what is borrowed or even literally cited**

- **Aim at referring the <u>original</u> source if it is available: the list of references should contain only the sources that you have actually read**

- **The common facts in the discipline need no references**

- **Use quotation marks (or indented text in small fonts or italics) if you cite word-by-word**

- ***If you use another person's writings without mentioning your source, it is a scientific fraud, i.e. plagiarism!***

Referring to your sources 2(3)

- **In social sciences, the references are normally within the text (Kangasharju and Majapuro1999, 107). No footnotes or endnotes are used as references.**

- **One reference covers usually one paragraph at most; in these cases, the reference will be in the end of the paragraph after the dot. Otherwise, the reference will be in the sentence before the dot. (Kangasharju and Majapuro 1999, 107)**

- **Notation = the last name of the author (OR the beginning of the name of the publication..., if there is no author) + year of publication (+ page(s))**
  - *Kivijärvi and Saarinen 2002, 10*
  - *Korhonen et al. 2000, 15 - 18 (if 3 or more authors)*

- **If you refer consecutively more than once to the same source, you can use ibid. + page(s)**

Referring to your sources 3(3)

You should mention references also for figures and tables

If you refer to electronic documents

−The name of author and the year when the document has been written (or downloaded). Note! In the list of references, you should also mention the URL address, and date when the page was last accessed.

If there is no author,

−A few words from the title of the document (Note! In the list of references you should use the whole title), the URL address, the date when the document was last accessed).

If you refer to interviews

−	The name of interviewed (unless promised anonymity!, then e.g. Quality Manager in Company A), the date, an interview; e.g. (Dahlberg 5.10.2006, an interview)

According to guidelines, you can not build a sub-chapter on one source only!

Personal Data and Research ethics

Researchers collecting personal data must comply with appropriate legislation, ethical principles of research in the humanities and social and behavioural sciences and Aalto guidelines on the processing of personal data in scientific research.

PLEASE READ CAREFULLY

https://www.aalto.fi/en/services/how-to-handle-personal-data-in-research

Research and Personal Data

Personal data is a broad concept under the EU's General Data Protection Regulation (GDPR)

- **"Personal data" is <u>any data about living people from which they can be identified</u>**

  - ➤ If you collect <u>information from or of persons</u>, consider it as personal data
  - ➤ Exception: anonymised data
  - ➤ Note pseudoanonymized data is personal data

Personal data = any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person

For example, voice (interview data), image (photos in workshop, videos), ip address (interview online), name, phone nbr, interview content if you can detect from it who the person is, MEG images, dental records, blood samples etc.

> Anything where someone can now or in the future detect who the person is

Special category personal data (sensitive data)

Race and ethnicity
Genetics
Sexual orientation
Religion
Political information
Membership of a trade union
General health

Resources on research ethics

Research ethics and Integrity at Aalto University

•https://www.aalto.fi/en/research-art/research-ethics-and-research-integrity

FINNISH ADVISORY BOARD ON RESEARCH INTEGRITY

•**https://www.tenk.fi/en**

Social media as a special context

There is a question of informed consent when using social media data

- How to ensure participants know they are being studied?

Who are the participants, do we know if they are e.g. minors?

Platform owner regulations, copyright questions

If planning on using social media data, discuss the issue with your supervisor!

Role of theory

How can theory be useful?

Usually used to:

- Help design a research question
- Interpret the data
- Propose explanations of the underlying causes or influences of observed phenomena

Provides complex and comprehensive conceptual understandings of things that cannot be pinned down, e.g:

- how organisations operate
- why people interact in different ways

No 'one best theory' – depends on for example what you want to study (individual /organizational behavior, process performance etc.)

What Theory is Not *(Sutton & Staw, 1995)*

- **References are Not Theory**
  - **E-markets will lead to lower prices (X, 1988, Y, 1992, Z, 2001)**
  - **No logic is presented to explain why.**
- **Data are Not Theory**
  - **Data describe which empirical patterns were observed; theory explains why**
- **Lists or Variables or Constructs are Not Theory**
  - **Most research deals with: And the winning variable is? However the key issue is why a particular set of variables are expected to be strong predictors.**

What Theory is Not *(Sutton & Staw, 1995)*

- **Diagrams are Not Theory**
  - **They rarely explain why the proposed connections will be observed**

- **Hypotheses (or Predictions) are Not Theory**
  - **Hypotheses are concise statements about what is expected to occur, not why it is expected to occur.**

Theoretical framework 1(2)

Theoretical background, a base for thoughts, a point of support

- *Previous information based on scientific discussion*
- *Can also be a target that is reached for (new theory)*
- *A tool that offers a research aspect on the object and gives concepts and terminology to analyze it*
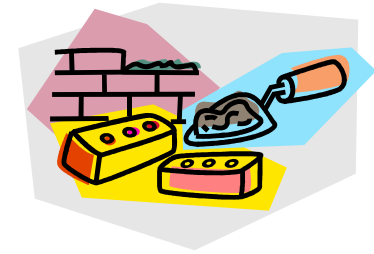
  (Kangasharju ja Majapuro 1999, 51-52)

A theoretical framework

- *Structures the research problem*
- *Gives concepts to examine the problem*
- *Models the problem in general level*
- *Links the study into the previous scientific research*

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Theoretical framework 2(2)

There is no such thing as one and only theory or framework!

- *Depends on the angle of view*
- *Applicable, reasoned choice*

The selected point of view on the research problem, encouraged by the literature, gives a realistic shape for your research

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Theories most used in SCM

Trammel et al. (2020) public procururement research	Gligor et al. (2019) SCM research	Spina et al. (2010) purchasing research
TCE	RBV	TCE
Economic theory	TCE	RBV
Principal-agent theory	Game theory	KBV
New public management	Institutional theory	Contingency theory
Public Choice theory	Contingency theory	Game theory
Institutional theory	Organizational theory	RDT
Grounded theory	Agency theory	SET
Agency theory		Agency theory
		institutional theory

Theories used in descending order in the reviewed set of papers in each review article

Theory of theories

Theory for analysing and describing

- classifications, typologies (e.g. Iivari et al. 2000)

Theory for explaining

- "grand theories" (e.g. contingency theory, agency theory, resource based view)
- "interpretive" theories

Theory for predicting

- e.g. Moore's law

Theory for explaining and predicting

- e.g. TAM, DeLone & McLean (1992) IS success model

Theory for design and action (design theory)

- E.g. Markus et al. (2002) for emergent knowledge processes

Source: Gregor, Shirley (2006), The Nature of Theories in IS, *MIS Quarterly*, Vol. 30, No. 3. p. 611-642

Further reading

- **Shirley Gregor: The Nature of Theory in Information Systems – MISQ (30) 2006.**

- **Wanda Orlikowski: Research commentary: Desperately seeking "IT" in IT research - A call to theorizing about the IT artifact – ISR June (12:2) 2001.**

- **Sidorova, A., Evangelopoulos, N., Valacich, J.S., & Ramakrishnan, T.: Uncovering the intellectual core of the information systems discipline. Management Information Systems Quarterly, 32(3), 2008, pp. 467-482.**

- **Gligor, D., Bozkurt, S., Russo, I., & Omar, A. (2018). A look into the past and future: theories within supply chain management, marketing and management. Supply Chain Management: An International Journal.**

- **Touboulic, A., & Walker, H. (2015). Theories in sustainable supply chain management: a structured literature review. International Journal of Physical Distribution & Logistics Management.**

- **Research Methods for Operations Management by Edited by Christer Karlsson, Routledge, Taylor & Francis Ltd, 2016, pages 336.**

How to proceed?

- **Read the Intro lecture materials**
- **Identify your topic area**
- **Think about a research question in the area you've chosen**
- **Find a supervisor, agree the topic and RQ with your supervisor**
- **Attend seminar sessions**
- **Start writing a research plan**
  - **Be sure to read (again) the sections on Ethics and Role of theory in "Intro lecture 1"**
- **Present plan in seminar**
  - **Do NOT leave this until you're halfway done with the thesis!**
- **Conduct a literature review**
- **Talk/communicate with your supervisor(s) regularly and show them the written work**
- **Collect empirical data, continue writing,..**
- **Present results in seminar**

Contact information

MyCourses:
https://mycourses.aalto.fi/course/view.php?id=31522

ISM thesis coordinator:

- Liao Zhiqiang (zhiqiang.liao@aalto.fi)

Seminar group supervisors:

- BA / Merja Halme: merja.halme@aalto.fi
- ISS / Matti Rossi: matti.rossi@aalto.fi
- SCM/ Katri Kauppi: katri.kauppi@aalto.fi