



Course Syllabus

ME2096 ICT Innovation Study Project

KTH Royal Institute of Technology
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Course coordinator and teachers

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Course description and main content

This course covers two different fields with similar concepts, methods and/or tools: innovation and marketing. The course is based on student driven projects and case studies. During the course, students will have the opportunity to learn about innovation theories and marketing theories and practices, analyse real technical innovations in relation to business and societal settings, as well as to develop new knowledge, ideas, and strategies for innovation theory and marketing.

Intended learning outcomes

After passing the course, the students should be able to:

1. Apply, synthesise and evaluate previously acquired knowledge of innovations and marketing for a specific innovation area
2. Carry out a marketing analysis, make a decision about and design recommendations or justify decisions in a real environment
3. Choose between and apply relevant concepts and methods and/or tools as well as collect relevant data to implement a business analysis and make decision in a real environment
4. Apply concepts, methods and tools to identify and evaluate the value of an technological innovation in a sector, market and/or organisation and the innovation and commercial possibilities that they result in
5. Produce a professional text about a subject related to marketing analysis. With this, also write an academic text up to social science standard with references to the academic literature

Course structure

This course consists of 16 sessions, including 3 student-driven sessions (flipped classroom) and 1 live seminar presentation where students present their cases. The course framework includes an individual assignment and a group project carried out in collaboration with a company.

See full literature list and additional resources in canvas under *Modules > Course information > Literature and other resources*.

Digital Support (Canvas)

Additional, course-related, material and information will be made available in a Canvas course room for students registered on the course.

Language

The course language is English. This means that lectures, workshops, course literature and material, student presentations and reports is to be delivered in English.

Teaching Philosophy

The teaching philosophy is that of *learner-centered teaching*, which means:

- The teacher is facilitator and guide.
- Learners take responsibility for their own learning.
- Content is used and not just covered.
- Students teach others what they have learned.
- Students participate in self-assessments.

Participants' responsibilities

- Every student is expected to provide an input of not less than 160 working hours for this course.
- Students are expected to study related chapters and selected cases in advance.
- Learning to work in a team is both important and necessary. Individual students are responsible for, and expected to, do their part within their respective team's activities. Failing to participate in team activities will affect your grade!
- Plagiarism will be dealt with in accordance with the University rules. Any copying or unethical use of sources may lead to severe disciplinary actions.
- Students are required to engage and actively participate during the lectures and seminars.

Examination

- INL2 - Assignment, 2,0 credits, grading scale: A, B, C, D, E, FX, F
- PRO2 - Project, 4,0 credits, grading scale: A, B, C, D, E, FX, F

Formula used for combining the grades:

PRO2 \ INL2						
	A	B	C	D	E	F
A	A	A	B	B	C	F
B	B	B	B	C	C	F
C	B	C	C	C	D	F
D	C	C	D	D	D	F
E	C	D	D	E	E	F
F	F	F	F	F	F	F

Examination adapted to students with special needs

The following applies for students with functional variations who have a statement from KTH's FUNKA unit on recommended support measures during examination:

- Support measures under code R (i.e. adjustments relating to space, time, and

- physical circumstances) are granted by the examiner.
- Support measures under code P (i.e. pedagogical measures) are granted or rejected by the examiner after the examiner has been contacted by the student in accordance with KTH's rules. Normally, support measures under code P will be granted.

More information is available on [KTH's website](#).

INL2 – Individual assignment (related to ILO 1 and 4)

INL2 is an individual academic analysis of a specific innovation or marketing challenge within an ICT industry or technological field. The assignment develops through the flipped-classroom seminars and the subsequent individual report.

Students first explore an ICT field collaboratively and teach their peers through a group mini-lecture. Each student then develops an individual research question addressing one specific challenge within that broader field. The final report must be independently researched, analysed and written.

The assignment follows the progression:

ICT field → group mini-lecture → individual research question and feedback → individual report

Flipped-Classroom Mini-Lecture

The course includes three online flipped-classroom seminars with approximately 15 groups, normally five groups per seminar. Each group will focus on a specific ICT industry, market or technological field.

Possible fields include:

- Artificial intelligence and generative AI
- Gaming
- Digital health
- Fintech and digital payments
- Cybersecurity
- Telecommunications and 5G/6G
- Cloud computing
- E-commerce
- Social media and digital platforms
- Internet of Things and smart-home technologies
- Smart mobility
- EdTech
- Streaming and digital media
- PropTech and smart buildings
- AR/VR and extended reality

Other ICT-related fields may be selected in consultation with the course teachers.

Each group will prepare a **mini-lecture of approximately 20 minutes**. The purpose is to teach the class about the selected field and analyse its main innovation and marketing challenges using relevant concepts and theories from the course. The activity is a

collaborative learning exercise and should not be confused with the separate PRO2 group project.

Groups are not expected to cover every aspect of the field. Instead, they should identify and analyse the issues they consider most important. The mini-lecture should normally address:

- the development and characteristics of the ICT field;
- important technologies, actors and market structures;
- key innovation dynamics and challenges;
- major marketing, commercialisation and customer-adoption issues; and
- relevant business-model, regulatory, sustainability or future strategic challenges.

Groups should make explicit use of relevant innovation and marketing theories from the course rather than provide only a descriptive industry overview.

At the end of the mini-lecture, each student will briefly present a provisional research question for their individual INL2 report. Students within the same group may share the same ICT field, but their research questions and subsequent analyses must address different analytical problems.

For example, students in a Generative AI group might investigate:

- How can generative-AI providers differentiate themselves in an increasingly competitive market?
- What determines customers' willingness to pay for generative-AI services?
- How does trust influence organisational adoption of generative AI?
- How does regulatory or copyright uncertainty affect commercialisation?
- How do platform ecosystems shape competition in the generative-AI market?

Each group will normally have approximately **30 minutes in total**:

- **20 minutes:** group mini-lecture
- **5 minutes:** presentation of individual research questions
- **5 minutes:** questions and feedback

The feedback provided during the seminar is intended to help students refine their individual research question before writing the report.

The Individual Report

Following the flipped-classroom seminar, each student develops their research question into an individual academic report.

The report should focus on one specific innovation or marketing challenge within the broader ICT field. The analysis should be supported by relevant technological, innovation and marketing theories and appropriate empirical evidence.

The report may consider market forces such as competitors, customers, suppliers, partners and other stakeholders, as well as broader issues including technological development, economic conditions, sustainability, regulation, digitalisation, business models and strategic approaches.

The introduction should explain the ICT field, establish the significance of the selected problem, introduce relevant theoretical perspectives and formulate a clear research question.

The main part of the report should present relevant empirical information and use concepts and theories from the course to analyse the selected challenge. Claims and factual information must be supported by appropriate sources.

The conclusion should answer the research question, summarise the main findings and, where appropriate, provide theoretically and empirically grounded marketing or strategic recommendations.

The report should also include references and an appendix relating the analysis to relevant insights from the course guest lecturers.

Checklist for the Report

The final report should:

- contain approximately **1,500–2,000 words**, excluding the cover sheet, references and appendices;
- include a minimum of **five scientific sources**, such as course literature and scientific articles;
- provide references or other evidence supporting factual claims;
- formulate a clear and focused individual research question;
- apply relevant innovation and/or marketing concepts and theories;
- demonstrate analysis rather than merely describe the ICT field; and
- develop conclusions that clearly answer the research question.

The report should normally contain:

- Cover sheet
- Introduction, aim and/or research question
- Theoretical framing
- Short method description
- Results/data and analysis
- Conclusion and recommendations where appropriate
- References
- Appendices

Formal Requirements

- Use Times New Roman or Calibri, size 12, with 1.5 line spacing.
- Use either the Harvard or APA referencing system consistently.
- Consult the KTH reference guide for further guidance.
- Submit all work by the stated deadlines. Late submission may result in a grade deduction.

The individual assignment should demonstrate the student's ability to move from a broad understanding of an ICT industry to an independent, theoretically informed analysis of a specific innovation or marketing challenge. It is assessed on the quality and depth of the analysis, appropriate use of course concepts and scientific literature, the quality of the evidence used, and the relevance of the conclusions and recommendations.

PRO2 – Group project (related to ILO 1-5)

A case study report of a self-selected ICT innovation (draft of the report, presentation, feedback, and final report)

This is a group project that involves a *case study* of a real company. This assignment allows students to study real ICT innovations and the related entrepreneurship, and to evaluate the effects of a new ICT innovation in a market and an industry setting. You will learn how to use a systematic analytic approach to identify challenges which precedes a technological innovation or can occur for existing technological innovations, as well as how to overcome the challenges or work around them. The report will be presented as a written and professional report, as well as through a professional pitch during a seminar.

1. Group Formation

Students are responsible to build their own teams through Canvas. Each group need to have 5-6 members. See instruction in Canvas under *Assignment > Group formation*.

2. Chose the case

Your team is expected to find a company where you can study one of their ICT innovations and write about it in a report. The company must be willing to have at least one interview with the team. The role of your team is to be consultants that assists the company in analyzing, evaluating, and suggesting relevant developments of the particular technology. This will be presented in the form of a report that your team can give to the company in the end of the course.

3. The report

It is important that the report is reader friendly, but also contain the important aspects of the phenomenon. It should be easy and appealing for both course participants and the company to read the report. It should also be a good base for future decisions regarding the company's ICT development. One third of the report should include introduction, methods, and a theoretical framework. The introduction should introduce the company, the industry, the technology, as well as the type of innovation area that the technology belongs to. You should also include an aim and a research question in the introduction that you answer in the end of the report. The methodological section and a theoretical frame can be part of the introduction or presented in their own sections. The main part, about 3/5 of the report, is where the data is presented and analysed. You will strengthen your analysis and arguments in the report by referring to the scientific articles and other relevant sources that you presented in the theoretical frame. The guide to your analysis is the introduction and research question. Some data can also be placed in an appendix to which you can refer to in your text, which for example is good if the data that takes up a lot of words or space. Approximately 1/5 of the report is allocated to the conclusions. For more guidance of how to write, check the resource library under *Modules > Links and other important information > Literature and other resources*.

Method

In this assignment, you will study an ICT innovation within a specific company using the case study method. A case study is used to investigate a specific phenomenon, often focusing on an incident, a practice, a company, or an institution. Write a brief description of the case study method and the data you have used. For clarity, consider presenting your data in a table that includes the sources used. Your data can encompass various types of information, such as observations, website content, social media posts, interviews, reports (e.g., annual reports), advertisements, and newspaper articles. Ensure that you collect your data systematically. Provide a short description of what you collected and how you collected it. For further guidance

on writing the methodological section, refer to the resource library under Modules > Courset information > *Literature and other resources*.

Checklist when writing your report

- Should be 2000 – 3000 words, excluding cover sheets, table of content, references and appendices.
- Include a minimum of five scientific sources (e.g. course book and scientific articles).
- Make sure every statement or information has a reference or data for validation.
- The report should include following parts (but not necessarily these headings):
 - Cover sheet with a title of your study, the course name, and your full names
 - Short summary (abstract)
 - Table of content
 - Introduction to the phenomenon, aim and/or research question, theoretical framing, short method (case study and what data that has been used) description.
 - Results (data) and analysis
 - Conclusion (base it on your analysis and answer the research question from the introduction)
 - References
 - Appendix (if you need it)

4. Presentation

The teams will present their reports in the eight's session. During this session, the presenting team will adopt the role of a consultant team. A reviewing group will take the role of the company's executive group. Remaining students can also contribute with feedback or discussions. The presenters need to prepare a PowerPoint (max 5 slides) and discuss their reports' highlights for a maximum of 5-10 minutes. After each presentation, reviewers will orally give feedback (highlights from the written feedback) to the presenting students for a maximum of 5 minutes. There will also be an allotted 5 minutes for additional discussions where all participants can contribute.

5. Feedback

In addition to the teacher's feedback, peer assessments will be an important part of this assignment. Each team will be assigned by canvas to review other teams' submitted report drafts. The reviewers are expected to have analysed the drafts and prepared written and oral feedback before the seminar where the report is presented. It is important that participants keep to the deadlines so that reviewers have enough time to review the drafts. Giving feedback is a good way to contribute to other students' learning, but also a way to develop your own writing skills (learning by analysing others' writing).

Written feedback – Checklist

- ✓ Does the report follow the instructions (see *The report* section)?
- ✓ Does the title fit the content?
- ✓ Is there an interesting introduction? Does it make you curious? Do you understand the phenomena? Is there a problematisation and a research question?
- ✓ Are terms and concepts used correctly?
- ✓ Have relevant data been used?
- ✓ Is an analytical ability displayed and has a research question (or problematisation) been answered?
- ✓ Is the report logic and rational? Is it reader friendly? Do you like to read it? Is it understandable?
- ✓ Is the report self-supporting in that you can read the text without needing further information?

- ✓ Are the formalities correct (e.g., references, number of pages, etc.)?
- ✓ Is the language good?
- ✓ Do you as an executive group find the report useful when it comes to making a decision regarding the technology?
- ✓ Any further recommendation to improve the report?

6. Contribution diary

Additional to the team report, each team member shall write a contribution diary where the own contributions are described. Each diary needs to have between 250 and 500 words stating what you have contributed with to the group work. This assignment is designed to comply with students' ethical obligations (see course syllabus), and to give participants the possibility of reflecting about the own strengths and weaknesses in projects and groups.

NOTE

- All reports are expected to use the Times New Roman/Calibri, size 12, normal 1.5 line spacing.
- The reports are expected to follow the Harvard Referencing System or APA referencing System for in-text referencing and the list of references at the end of the report. See the [KTH reference guide](#) for further instructions.
- Late submissions will result to (letter) grade deduction, so submit in good time.

Grading criteria

The grading of the course will be based on two types of examination activity:

- INL2 - Assignment, 2,0 credits, grading scale: A, B, C, D, E, FX, F. This assignment is directly connected to learning outcome 1 and 4.
- PRO2 - Project, 4,0 credits, grading scale: A, B, C, D, E, FX, F. This assignment is directly connected to learning outcome 1-5.

NOTE: To complete the course, students must pass both of these two assignments.

INL2 - Individual Assignment

Grade FX (Fail)

The assignment is incomplete or requires substantial revision before credit can be awarded.

The report lacks a sufficiently clear individual research question or does not adequately address a relevant innovation or marketing challenge within the selected ICT field.

There is insufficient understanding or application of relevant course concepts, theories, literature and evidence.

Grade E (Pass)

A relevant ICT industry, market or technological field is identified and appropriately introduced.

A specific innovation or marketing challenge within the field is identified and formulated as a clear individual research question.

Relevant technological, innovation and/or marketing concepts from the course are used to analyse the selected challenge.

The report identifies and discusses relevant actors, market conditions, risks and/or opportunities associated with the selected problem.

The analysis leads to conclusions that address the research question and, where appropriate, includes relevant marketing or strategic recommendations.

The report demonstrates a basic ability to move beyond description towards analysis, although some important aspects may be treated only partially.

The individual analysis and problematisation demonstrate an acceptable degree of independence.

Scientific literature, data and other relevant sources are used to support factual claims and the analysis, although some gaps or inconsistencies may remain.

The report follows the main assignment instructions and is sufficiently structured and understandable.

Grade C

All requirements for Grade E are met.

The research question is clearly focused and provides a suitable basis for an independent analysis of the selected ICT challenge.

Relevant concepts, frameworks and theoretical insights from the course are selected appropriately and applied consistently throughout the analysis.

The report demonstrates a clear understanding of the relationship between technological development, innovation and marketing within the selected field.

The analysis examines the problem from relevant perspectives and demonstrates adequate depth rather than relying primarily on description.

Conclusions and recommendations follow logically from the analysis and clearly address the research question.

The report demonstrates independence in its problematisation, theoretical choices and interpretation of evidence.

Scientific literature, empirical information and other relevant data are consistently used to support claims and provide a solid basis for the analysis.

The report is clearly structured, coherent and written to an appropriate academic standard.

Grade A

All requirements for Grade C are met.

The report presents a well-defined and analytically interesting research question addressing a significant innovation or marketing challenge within the selected ICT field.

Relevant theories and concepts from different parts of the course are integrated in a theoretically grounded and convincing analysis.

The student demonstrates a high degree of independence in selecting, applying and critically interpreting theories, literature and empirical evidence.

The analysis demonstrates substantial depth and examines the selected challenge systematically from multiple relevant perspectives.

The student develops clear and well-supported interpretations and insights rather than merely applying concepts mechanically.

The line of reasoning is coherent and persuasive, with a clear connection between the research question, theoretical framework, evidence, analysis and conclusions.

Conclusions and strategic or marketing recommendations are insightful, relevant and strongly grounded in the preceding analysis.

The report generates relevant independent insights into the innovation and/or marketing challenges associated with the selected ICT field.

Scientific literature and other evidence are used extensively and meaningfully, with sources accurately cited and effectively integrated into the argument.

The report is well structured, precise and reader-friendly and demonstrates a high academic standard.

Grades D and B

Grade D: The student meets the criteria for Grade E but only partially meets the criteria for Grade C.

Grade B: The student meets the criteria for Grade C but only partially meets the criteria for Grade A.

PRO2 - Group Project

Grade FX (Fail):

- Minimal work required before credit can be awarded.
- The assignment is incomplete or significantly lacks understanding and application of course concepts.

Grade E (Pass):

- A real ICT innovation within a company is identified, described, and evaluated.
- Relevant technological and marketing-oriented challenges are identified, described, and evaluated.
- A marketing analysis is carried out, and recommendations regarding the commercial possibilities are designed.
- The report synthesizes the studied field, technology, analysis, and recommendations per the assignment instructions but lacks some basic knowledge or features.
- The analysis is partial, with suggestions for improvement included, but important aspects are not adequately treated.
- The report and/or problematization are partially autonomous.
- References and data are used to validate information and claims, but there are gaps or inconsistencies.

Grade C:

- All requirements for Grade E are met.
- Concepts, frameworks, and theoretical insights from the course content are applied in a complete analysis of the strategic problems associated with the phenomenon.
- The report and problematization are autonomous, containing sufficient knowledge, an adequate analysis, and relevant features for suggested improvements.
- The analysis demonstrates adequate depth and understanding of the subject matter.
- References and data are consistently used to validate information and claims, providing solid support for the analysis.

Grade A:

- All requirements for Grade C are met.
- Insights from different parts of the course are provided as sound managerial advice regarding complex innovation and marketing strategic challenges.
- The report offers a theoretically grounded argumentation based on relevant literature and combines several sources meaningfully.
- Demonstrates the ability to autonomously use theoretical concepts and ideas to develop knowledge on the subject by providing own interpretations and reflections systematically, detailed, and coherently, and by approaching the subject from different perspectives.
- The line of reasoning is clear and strengthens the argument of the report.
- The report creates new relevant insights and ideas related to challenges associated with the studied technology, innovation, and business setting.
- The report is well-structured and reader-friendly from both an academic and industry perspective.
- Extensive use of references and data to validate information and claims, with all sources accurately cited and integrated into the analysis.

Grade D and B:

- Grade D: The student meets the criteria for Grade E but only partially meets the criteria for Grade C.
- Grade B: The student meets the criteria for Grade C but only partially meets the criteria for

Additional Notes for Grading Process for PRO2:

- Timeliness: Late submissions will result in a letter grade deduction.
- Formatting: Reports should use Times New Roman/Calibri, size 12, normal 1.5 line spacing, and follow the Harvard or APA referencing systems.
- Presentations: Should highlight the report and be engaging, as well as timely.
- Feedback: Should be constructive and relevant feedback, addresses all key aspects of the report, be clear and understandable feedback, as well as be delivered through professional and respectful communication.
- Feedback Incorporation: Students must incorporate, and document feedback received in their final reports, demonstrating how suggestions were used to enhance the report.
- Attendance in sessions is required: Failure to attend sessions without a valid reason will result in a grade deduction.