



**KTH Industriell teknik
och management**

PURCHASING & SUPPLY CHAIN MANAGEMENT

ME2054 (6 credits)

Course syllabus

Period 3, spring term 2024

Course description and background

Supply chain management concerns the monitoring and supervising flows of raw materials, semi-finished components and finished products in a complex network of companies. Hence, the challenge of supply chain management concerns integrating and synchronizing these flows across independent companies worldwide, and ultimately ensure fast and cost-effective deliveries. Many experts believe that competition is being played no longer between individual firms, but between value chains and therefore on how well supply chain management is able to coordinate firms.

SCM is typically defined as the triple functions in organizations: purchasing, logistics and operations. In this course, the focus will be on the purchasing activities and how these are actually arranged/synchronized within the company as well as outside with external partners.

Learning outcomes

After the course, the student should be able to apply basic techniques and theoretical perspectives within the area of supply chain management. Specifically, the following learning objectives are expected to be achieved:

- LO1. Synthesize and explain the implication of the purchasing function for inventory management, transport management, and operations.
- LO2. Apply mathematical models to compute optimal purchasing spending.
- LO3. Apply mathematical models to propose best portfolio of suppliers and relationship management strategies.
- LO4. Apply costing models to analysis purchasing spend and evaluate supply chain strategies.
- LO5. Analyze, synthesize, and explain how different organizational structures can impact the purchasing and supply chain management functions in companies.
- LO6. Describe in detail a topic of choice from the course, e.g., supplier performance measurement, risk management, sustainability in purchasing, costing, and pricing etc.
- LO7. Illustrate and construct a relevant research question to be addressed in the project, through a synthetic analysis and elaboration of the course topics.
- LO8. Apply a systematic literature review within the purchasing topic, to identify main works and constructs from previous studies.
- LO9. Create a framework synthesizing the identified/screened literature.

Eligibility

6.0 credits (hp) in Industrial management (e.g., ME1003 Industrial Management or ME1314 Introduction to Industrial Engineering and Management) or equivalent and a total of at least 120 credits (hp).

Documented proficiency in English B or equivalent.

Examination and Grading

There are four assignments to be handed in, the first three are case studies, 3.5 credits (hp) (SEM), the last is a project work, 2.5 credits (hp) (PRO). The four assignments will be graded on scale of 0-100 points. The final score is the weighted sum of the four assignments, where the first three have a weight of 20% each (totally 60%) and the last, the individual project work, 40%. The number of points will determine the final score as in the table below:

Points	Score
91-100	A
81-90	B
71-80	C
61-70	D
51-60	E
41-50	Fx
0-40	F

About Fx grade

According to KTH guidelines, the grade Fx offers a limited possibility to achieve Pass (E) in a part of a course that is subject to grading in a situation where the student has Failed. Fx is a grade in its own right and is registered in the Swedish national university study merit system LADOK. To raise a grade from Fx to E (Fx can never be raised to the grades A-D), supplementary work is required. The supplementary work is defined by the senior course tutor and shall be handed in no later than six weeks after the original grade has been issued, but – in the case of written exams - still before the next ordinary written exam.

SEM - 3,5 credits

There are three assignments to be handed in and thereby discussed in occasion of three seminars. The three assignments are mostly of quantitative nature, but qualitative discussions about the pros and cons of the techniques applied is expected.

CASES 1, 2, and 3

The cases to be solved by the students are available through the CANVAS website and the Harvard Business Review website. Students are expected to solve the cases by applying the techniques reviewed during the lectures. The assignments to be handed in will consist of the following parts:

- A short **WORD** report of maximum 4 pages excluding references. The report must follow this structure:
 - **Method.** Explain the main steps of the approach used.
 - **Results and discussion.** Report the results obtained and discuss pros and cons and potential implications.
 - **References.** Remember to cite in text and add a list of references in the report using Harvard style will need to be added.
- An **EXCEL** file with the solution.
- A **POWER POINT** presentation following the main lines of the report.

Grading of the reports and presentations will be based on the following:

- **Language and structure:** The text has to be well written and the text-structure following the recommendations given in this course plan.
- **The problem & solution:** The text has to contain an understandable analysis of the problem and proposed solutions with explanations and reasonable arguments. The report should also include reflection on assumptions and limitations to the analysis and proposed solutions.
- **Theories application:** the text has to show clearly that you are able to use the concepts and models learnt in the course to analyze the problem and the proposed solution. **Min 3 additional references!**
- **Limitations:** the text should also show awareness and critical thinking in terms of any limitations experienced with the used concepts and models.
- **Presentation:** performance during presentation and defense of the solution to the case.

Solutions to the cases will be presented and discussed in groups in scheduled seminars (see important dates). Students will be split into groups and asked to join one of the scheduled seminars above.

Students need to use CANVAS to sign up their respective groups. Additional instructions will be given during the introductory lecture. Attendance and active participation in the three seminars are mandatory. If not possible to attend, please contact the teacher.

Final grade for these three assignments is on a scale from A to F (and Fx).

Project Work

This assignment is to be written **individually** by each student taking the course ME2054 purchasing and supply chain management.

Make an in-depth analysis of one area related to purchasing by performing a literature review. To achieve depth, it is recommended to focus on a specific aspect of the topic of your choice. Example of topics will be given during the introductory lecture.

- **Introduction.** Summarize shortly the problem, RQ and the purpose of your analysis. Use previous literature as a benchmark of the problem you are undertaking.
- **Methodology.** Explain how the relevant literature related to the RQ formulated was searched. What databases and what keywords were used?
- **Analysis.** Report here your results to the study.
- **Discussion and conclusion.** Summarize your main results, giving emphasis on the potential implications for the companies studied, the contribution to existing theoretical frameworks you looked into and finally the limitations of your analysis.
- **References.** Put here the list of references you used. Use Harvard style for citations as well as for creating your reference list.

The report needs to be anchored in the course and should go beyond the contents of the lectures. You will therefore need to find and use **additional references** (at least 8) in this assignment. Examples are: **scientific articles, books**, etc. A limited use of gray literature is allowed (max 1-2).

The page-header must state your name and email address. The report should be min 6 and max 8 pages. If the report is longer, additional pages will not be considered. List of references and pages for appendix are not counted. The referencing style to use is Harvard Referencing System, in-text referencing (with page number) and a list of your references in a separate page. Format to use is the following:

- Time New Romans 12,
- Line Spacing 1,
- Use Appendix for figures and tables.

Grading of the report and its presentation will be based on the following:

- **Language and structure:** The text has to be well written and the text-structure following the recommendations given in this course plan.
- **Theoretical problem identified & RQ:** The introductory text has to contain a critical analysis of current knowledge within a specific topic. The RQ should be well linked to this text and be well formulated/clear.
- **Literature Review:** How well your literature review was performed. Potential pros and cons of the method applied. How deep the material has been reviewed/analyzed? How well the concepts are presented, elaborated, and framed?
- **Discussion and Conclusion.** Contribution, practical and scientific ones are important. Also, how the results of the literature review in relation to existing theories is important. Limitations have to be discussed.
- **Presentation:** performance during presentation and defense of the solution to the case.

Solutions to the cases will be presented and discussed in groups in scheduled seminars (see important dates).

Course literature

- *References distributed during the course.*

Code of Conduct

Peer evaluations will be used to account for unequal participation in group tasks, and will weigh on the participation component. In addition, any violations of the codes of conduct will be reported to the responsible in charge. Students are invited to review KTH's handbook and recommendations:

<https://www.kth.se/en/student/studentliv/studenttratt/fusk-och-plagiering-1.323885>
<https://www.kth.se/en/student/studentliv/studenttratt/disciplinamnden-och-disciplinara-atgarder-1.38425>

Delivery of assignments and reports shall be punctual, with delays subject to penalties in the corresponding grades. If not justified, final grade to be reduced by 10% for each day of lateness.

Course examiner, responsible and lecturer:

Luca Urciuoli luca.urciuoli@indek.kth.se

Telephone	+46 8 790 76 51
Fax	+46 8 790 67 41
Visiting address	Lindstedtsvägen 30 – Stockholm
Administrative officer	Christer Lindholm

Other Teachers

More information about guest lecturers will be provided by the main teacher.