

TU-E2013 Service Operations Management

SYLLABUS 2023

Version 1.1 (17.1.2023)

Instructors' contact information	Course information
<p>Pekka Töytäri, Professor of Practice, Aalto SCI, DIEM</p> <p>Mikko Heiskala, Doctoral Candidate, Aalto SCI, DIEM</p> <p>Risto Rajala, Associate Professor, Aalto SCI, DIEM</p> <p>Email: firstname.lastname@aalto.fi</p> <p>Office Hours: by appointment</p>	<p>Academic Year: 2022-20223</p> <p>Period: III-IV, first lecture 18.1.</p> <p>Session times (physical lecture): Wed 9:30-12 (unless otherwise announced)</p> <p>Language of Instruction: English</p> <p>Course Website: https://mycourses.aalto.fi/course/view.php?id=33642#section-0</p>

1. OVERVIEW

Service Operations Management course focuses on analyzing, designing, and managing services and service systems. Also, it focuses on the processes supporting sustainable value creation in service operations. For this purpose, the course develops the knowledge and skills needed to manage and develop operations in a world of advanced services.

The course covers the principles and constraints of service-centric operations across technology-based businesses. Through completing this course, students will learn to identify the key opportunities and challenges in the service business and novel ways of acquiring, developing, and implementing service solutions and managing complex product-service systems for improved efficiency, effectiveness, and sustainability. Also, the participants will learn the contemporary developments around networked, customer and value-focused, and digital platform-enabled value creation.

The course content is divided into six themes and modules, focusing on the fundamentals of the service economy, value creation by service, customer-centric service systems, scalable and efficiently implemented service solutions, networked value creation by digitalizing service ecosystems, and the institutional change of business beliefs, rules, and cooperative norms by service transformation.

There are six modules, each spanning two weeks.

- **Module 1: Value creation by service**
- **Module 2: Service economy**
- **Module 3: Customer-centric service systems.**
- **Module 4: Service solutions**
- **Module 5: Service ecosystems**
- **Module 6: Service transformation**

The course has visiting lecturers from industry and Aalto University research illustrating the prevailing industry trends and the theoretical contents of the course in practice.

2. PREREQUISITES

TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionsekonomi. Other industrial management courses are recommended.

3. LEARNING OUTCOMES

After the course the student understands what the design, analysis, and management of services and service systems entails and what are the processes supporting sustainable value creation in service operations.

The student develops knowledge of methods, and tools for developing and managing services in digitally enabled, networked, and value-driven industries.

The student learns about service-based business exchange, service value assessment, and transformation challenges from industry-specific examples of service processes.

4. ASSESSMENT AND GRADING

The course assessment is based on varied assignments, done both individually and in groups. There is no exam.

The assignments and their respective weight in the assessment are as follows (the assignments are described in more detail later):

Assignment	Notes	Weight
Course essay project	<u>Done in groups.</u> Each group applies the course theoretic concepts, models, and frameworks in the context of restaurant and food service business, to both design a restaurant concept of their own and to analyse the wider restaurant service industry. <u>DL is 23.4.2023</u> at the end of the course.	30%
Article review presentation	<u>Done in groups.</u> Each group prepares a presentation of 10-12min. This is given at the beginning of each lecture. This is followed by discussion of the paper with a discussant group.	10%
Discussant for Article review presentation.	<u>Done in groups.</u> Each group prepares to be a discussant for an article review presentation. Group prepares discussion points based on the article (what are key takeaways; what was unclear in the paper; what are potential connections to other course / service related topics).	10%
Article pre-reading	<u>Done individually.</u> Each student is expected to read a single pre-reading article before each lecture. Pre-readings are assessed in quizzes (see Quizzes). Reading the article + attending the lecture and listening to the presentation and discussion -> better chance of better Quiz score.	
Lectures	<u>Done individually.</u> Lecture participation and grasp of the presented learning content is assessed directly in Quizzes and in reflective learning diaries, and more indirectly in Course essay project.	
Quizzes	<u>Done individually.</u> There is a quiz <u>after each lecture</u> (11 in total). The quiz may cover issues from <u>both the lecture and the pre-reading</u> and assumes both have been studied.	15%

	You have one (1) attempt at a quiz. There is a 20min time limit to complete the quiz after beginning the attempt. The quizzes consist of multiple choice or yes/no type of questions. The <u>DL is at 18:00 on Wednesdays</u> . Quizzes are scored automatically.	
Learning diaries	<u>Done individually</u> . There is one learning diary per module (6 in total) where students critically reflect their lecture participation and the module learning content (lectures, pre-readings, and other possible materials). Lecture participation gives points. <u>DL is on 10 am Fridays the week following the module.</u>	35%
	<i>NOTE: Although the assignment scores will be visible in MyCourses, MyCourses gradebook will not reflect your full and correct 'percentage score' i.e. you should not use it to estimate your performance or grade during or after the course. This is due technical limitations of MyCourses. Course staff will compile the grading outside of MyCourses and inform students of the grading in MyCourse separately.</i>	100%

5. COURSE DESIGN RATIONALE

The design of this course (and others) should be such that it facilitates the student in achieving the intended learning outcomes and allows a fair and transparent evaluation of the learning and its depth. Typically the delivery of learning content and materials caters to the former goal, while the assignments and tasks then serve both learning and its subsequent evaluation (at varied levels 'of depth').

The following table depicts the course design and the links from learning materials to the assignments and what level of learning we expect to evaluate with each assignment type. To get the better grade, the student should demonstrate both breadth of learning (i.e. grasp of the 'full' course learning content) and depth of learning.

Depth of learning (in order of increasing depth)	Learning content	Assignment type used in evaluation	Rationale
The student can recall, define, classify and/or describe main ideas and concepts in the learning content.	Lectures and article pre-readings	Quizzes with time limits	Quizzes are multiple choice or yes/no questions that are intended to evaluate whether the student has understood the main concepts and ideas presented in the readings and lectures. Time limit is introduced to incentivise students to prepare for the quiz (attending lecture, studying the pre-readings, making notes of both etc) and to discourage relying on their ctrl-f skills. Better prepared students get better scores and are more likely to have a better breadth of learning at this level of 'depth'.
In addition to	Article	Discussant	The better grasp the group & student has of the

<p>the above, the student can interpret and compare own understanding of the concepts with that of others</p>	<p>pre-readings</p>	<p>of Article review presentation & Individual study of pre-reading</p>	<p>pre-reading article content, the better they/she is able to take part in the discussion.</p> <p>And even if the student would have a poorer understanding, watching the presentation may help her to understand the content better and 'fix' possible mis-conceptions.</p> <p>Further, witnessing how others have organised and analysed the article content may help students to form new connections between its ideas and organise their understanding differently - especially if they had a good understanding of the content themselves.</p> <p>The above also applies to students that have just read the pre-reading article.</p>
<p>In addition to the above, the student can organise, compare and contrast the concepts, and evaluate their importance.</p>	<p>Article pre-reading</p>	<p>Article review presentation</p>	<p>A good article review is able to summarise its main ideas, organise its content and concepts for the audience in understandable form, and provide an evaluation and even critique of it if necessary.</p> <p>This level of understanding is more likely to take place when students can discuss the article and its contents in groups of peers, each offering their own interpretation of the content, when preparing the presentation.</p>
<p>In addition to above, the student can assess the learning content critically, and relate it to her earlier knowledge reflectively and/or critically.</p>	<p>Lectures, readings, and other learning material</p>	<p>Learning diaries</p>	<p>In the learning diary we expect the student to assess the learning content and its importance in general and personally. This requires capability to analytically draw connections to her prior knowledge, earlier course content and the like, and to evaluate these with justified arguments.</p> <p>Students on this course have varied backgrounds, in many ways. The reflective learning diary is intended to encourage you to make explicit connections to your earlier background and knowledge. Making these connections strengthen both the new learning and the 'old' existing knowledge. What this is, varies from person to person and a 'standard' assignment would not be as effective in assessing this.</p>
<p>In addition to above, the student can use and apply the learning content to design and construct a new service-system</p>	<p>All lectures, readings, and other course learning material</p>	<p>Course essay project</p>	<p>In the course essay project the student groups will design a new service-system concept using the concepts learned on the course, and then critically analyse it and the wider industry context of the concept.</p> <p>To be able to do this requires a very good grasp of the individual concepts, capability to apply and relate them to and in a realistic case context, and to understand the relationships of the theoretical concepts at varied levels of analysis.</p> <p>Again, forming this level of understanding and</p>

			<p>demonstrating it in the scope of the course project both benefit from groupwork among peers.</p> <p>To balance the cognitive load with the scope of the course and the course essay project, we have chosen a case context that should be relatively (and relatively uniformly so) familiar to all students. Cognitive load should be in the learning and applying of the new theoretic concepts, not in getting familiar with a new case context.</p>
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6. SCHEDULE

NOTE: This schedule may still change during the course. However, at most only minor changes are expected. Any changes will be updated ONLY in MyCourses.

Date	Topic	Lecture Pre-readings <i>Read before each lectures. Check other possible additional materials from MyCourses.</i>	Individual assignments DLs You should also read the pre-reading article before each lecture.
Module 1: Value creation by service			
18.1.	Customer goals and service value propositions	Read the syllabus (see MyCourses front page)	Wed Jan 18th 18:00: M1Q1: Value creation by service quiz
25.1.	Customer value research and value creation by service	Eggert et al (2018) "Conceptualizing and communicating value in business markets"	Wed Jan 25th 18:00: M1Q2 Value creation by service quiz
			Fri Feb 3rd 10:00: MODULE 1: Learning diary "Value creation by service"
Module 2: Service Economy			
1.2.	Service economy and productivity	Möller (2010) "Characteristics of services" Pre-learning podcast: Paul Lillrank & Mikko Heiskala, Services, Service Economy and Service Productivity, see MyCourses (no article presentation)	Wed Feb 1st 18:00: M2Q1 Service economy quiz
8.2.	Service economy in open production systems	Frei (2006) "Breaking the trade-off between efficiency and service"	Wed Feb 8th 18:00: M2Q2 Service economy quiz
			Fri Feb 17th 10:00: MODULE 2: Learning diary "Service economy"
Module 3: Customer-Centric Service Systems			
15.2.	Customer experiences in service	Lemon Verhoef (2016) "Understanding customer experience throughout the customer journey"	Wed Feb 15th 18:00: M3Q1 Customer-centric service systems quiz
22.2.	NO LECTURE - EXAM WEEK		

			Fri Mar 3rd 10:00: MODULE 3: Learning diary "Customer-centric service systems"
Module 4: Service Solutions			
1.3.	Modularity of service solutions	Sturgeon (2002) "Modular production networks: A new American model of industrial organization"	Wed Mar 1st 18:00: M4Q1 Service solutions quiz
8.3.	Case from solution business	Rajala et al (2019) "The next phase in servitization transforming integrated solutions into modular solutions"	Wed Mar 8th 18:00: M4Q2 Service solutions quiz
			Fri Mar 17th 10:00: MODULE 4: Learning diary "Service solutions"
Module 5: Service Ecosystems			
15.3.	Service ecosystems	Adner (2017) "Ecosystem as a structure"	Wed Mar 15th 18:00: M5Q1 Service ecosystems quiz
22.3.	Ecosystem design workshop 09:00 - 12:00	Adner (2022) "Sharing value for ecosystem success" Read the ecosystem design toolkit handbook (see MyCourses).	NOTE: Wed Mar 22nd 9:00: M5Q2 Service ecosystems quiz
			Fri Mar 31st 10:00: MODULE 5: Learning diary "Service ecosystems"
Module 6: Service Transformations			
29.3.	Service transformation as an institutional change	Bhakoo Choi (2013) "The iron cage exposed"	Wed Mar 29th 18:00: M6Q1 Service transformations quiz
5.4.	Industry example of an institutional change	Koskela-Huotari et al (2016) "Innovation in service ecosystems - breaking, making, and maintaining"	Wed Apr 5th 18:00: M6Q2 Service transformations quiz
			Fri Apr 14th 10:00: MODULE 6: Learning diary "Service transformations"
Group DLs: Course essay project DL Tuesday 23.4. Article review presentation & discussant files DL: Before corresponding lecture.			

7. COURSE WORKLOAD

Learning content	Lecture attendance hours + lecture self-reflection and notes	10 x 2h + 10 h 1 x 3h + 1.5 h	34.5 h
	Reading pre-reading material for the class + other learning content	9 x 2 h + 12 h	30 h
Assignments	Learning diaries	6 x 3 h	18 h
	Quizzes	11 x 0.5 h	5.5 h
	Preparing to be pre-reading presentation discussant (as part of group=	8h	8h h
	Preparing pre-reading presentations (as part of group)	12 h	12 h
	Group essay project (as part of group)	30 h	30 h
	Total 137,5h (5 cr)		138 h

8. ETHICAL RULES

See: [Aalto University Code of Academic Integrity and Handling Thereof.](#)

9. OTHER ISSUES

- Registration to course is done in Sisu and is obligatory
- Course MyCourses-pages will be the source for news, changes to course schedule etc.
 - Subscribe / follow course Announcements forum on MyCourses.
- If your question is not personal or private - and could benefit other students as well post the question on the general course discussion forum. If the issue is personal/private contact course staff directly.
- When contacting course staff by email preferably use your Aalto email and:
 - A. **begin your email title with "TU-E2013:"**
 - B. **include your student number and full name (both first and last) in the email.** This will ensure email won't get lost among the many others we receive.
 - C. And send your email to both Pekka Töytäri and Mikko Heiskala.

10. COURSE FACULTY

Pekka Töytäri - Module 1, Module 5

Pekka Töytäri is Professor of Practice at Aalto University. His research and teaching focus on value-based strategies in business markets, including business model innovation, service-based value creation, and networked value-based exchange in the context of digitalization and institutional change. Pekka has extensive international business management, research program management and research experience with highly cited publications in top tier journals. He is responsible teacher for the course practicalities with Mikko Heiskala.



Paul Lillrank - Module 2

Paul Lillrank is professor of Service and Quality Management at Aalto University. Professor Lillrank has conducted research in several service industries, such as software, telecom, airlines and retailing. During the recent past his focus has been in healthcare. He has been a pioneer in introducing industrial management methods to the study of healthcare service production. He has co-founded The Institute of Healthcare Engineering, Management and Architecture (HEMA), and The Nordic Healthcare Group (NHG), a consultancy. His current research interests are in Healthcare Operations Management, particularly operating modes, process coordination and knowledge integration, and regional supply systems.



Mikko Heiskala - Module 3

Mikko Heiskala (doctoral candidate) works as an hourly teacher at Aalto University, School of Science, Department of Industrial Engineering and Management (TU-E2013) and Department of Computer Science (CS-E5310, multiple times Top5 small course at CS). His research interests include digital platforms and digitalisation, as well as service and product mass customization, configuration, and modeling. He has near 30 publications on these topics.

He is responsible teacher for the course practicalities with Pekka Töytäri.



Risto Rajala - Module 4

Risto Rajala is an Associate Professor and Head of Department of Industrial Engineering and Management at Aalto University. His research interests include management challenges related to technology firms' service operations. Professor Rajala studies the system-level changes linked with the transformation of technology industries toward service-based value creation. His current research focuses on services supporting the sustainability of industrial operations, management of complex service systems, digital transformation of technology industries, and business models of the circular economy. His past projects have investigated the management of product-service hybridity in the construction business, payor-provider integration of healthcare services, and the effects of modularity on industrial solution providers' ambidextrous performance.



Esko Hakanen - Module 5

Esko Hakanen is a postdoctoral researcher at the Department of Industrial Engineering and Management. His research interests include ecosystems and platforms in service-driven industries.

