21E00052 Data-Driven Business

SYLLABUS

December 04, 2023

Instructor's contact information	Course information
Henri Schildt Henri.schildt@aalto.fi Heli Helanummi-Cole Heli.helanummi-cole@aalto.fi Teaching Assistant: Milja von Lerber Student meetings by appointment, please email.	M.Sc. course (E) 2023-2024, Period 3 (08.01.2024 – 08.02.2024) The course is in English https://mycourses.aalto.fi/course/view.php?id=37336

1. OVERVIEW

The purpose of this course is to help the participants understand the changes created by digitalization in the domain of organizations, management, and strategy. After taking the course, the students will be able to analyze how digital data flows can be used to optimize existing operations and create new products and services. Students will work in teams to analyze industry-level changes brought by digital technologies and develop data-enabled service concepts and associated business models.

2. PREREQUISITES

This course is open to all master's level students. Some elementary background knowledge in strategic management is desirable but not necessary.

3. LEARNING OUTCOMES

The students should develop broad basic understanding of contemporary use of data analytics, machine learning, and big data in creation of services and products as well as managing processes within and across organizations. The specific learning points are:

Knowledge and theory:
- Basic understanding of key technologies: generative AI, machine learning, cloud computing, Internet of Things, digital platforms, and API ecosystems.
- Understanding of basic design principles in digital business, including modularity.
- Understanding and ability to analyze "digital disruption" of industries and to create realistic scenarios potential development paths.

- Understand how and why digital technologies are influencing business models, ecosystems, and platforms.
- Ability to analyze and design business models enabled by digital data.
- Understanding the function of data scientists and business analytics in corporations and understanding how professionals and activities are typically organized and used.
- Understanding how and why companies are adapting their organizational structures, culture, and practices to take advantage of new digital technologies.

4. ASSESSMENT, GRADING, EXAM FEEDBACK

The course grading is based on four criteria:
1. Participation and contributions in the classroom conversations (10%)
2. Group assignments, including peer evaluation (20%)
3. Individual pre-session assignments (20%)
4. Individual final assignment (50%)

Participation in the lectures and exercise classes is optional, but it influences the grade. The students are allowed to miss one session without penalties and after that they incur -1% penalty to the participation score for each additional session they miss.

5. ASSIGNMENTS

Individual pre-assignments for sessions 3, 5, 8, and 10, at 9am before the session.

Group assignment: Digital and data strategies for a start-up company.
Max 20 points, deadline on **Sunday 11.2. at 9pm.**

Final Individual assignment: Analyzing and responding to industry changes.
Max 40 points, deadline on **Friday 16.2. at 9pm.**

6. READINGS

The readings are assigned for each session, please see the schedule below.

7. SCHEDULE

The lecture schedule is displayed in the table below. Attending the lectures is optional. All teaching is done in a physical classroom (no Zoom/Hybrid).

Session	Date	Topic	Readings and preparation	Assignments Due
#1	Mon 08.1.	Digital disruption and digital transformation (HS + HHC)	*Data Imperative Chapter 1 (optional)	None
#2	Thu 11.1.	Datafication of business (HS)	*Data Imperative Chapter 2 *Guest Speaker: ???*	
#3	Mon 15.1.	Data analytics and AI (HHC)	*Data Imperative Chapter 6 *Podcast #1: The AI Podcast Ep. 1, Deep Learning 101 *Podcast #2: The AI Podcast Ep. 70, Capital One	Pre-assignment 1
#4	Thu 18.1.	Digital modularity and ecosystems (HS)	*Data Imperative Chapter 4 *Case study: Uber x Google Maps https://dcase.net/view?name=uber *Case study: ChatGPT plugins -- https://openai.com/blog/chatgpt-plugins	
#5	Mon 22.1.	Generative AI and the future of work (HS)	*Financial Times; Generative AI exists because of the transformer, https://ig.ft.com/generative-ai/ (log in with your Aalto account) *Dell'Acqua et al. (2023), Navigating the jagged edge… https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4573321	Pre-assignment 2
#6	Thu 25.1.	Digital strategies and platforms (HHC)	*Data Imperative Chapter 3 (optional) *Cusumano et al. 2020. The Future of Platforms. MIT Sloan Management Review, 61(3). *Case study: Tagwalk (FT)	
#7	Mon 29.1.	Data: legal and ethical perspectives (HHC)	*Case/Debate on big data: Risse (2021) The Fourth Generation of Human Rights: Epistemic Rights in Digital Lifeworlds. Harvard Kennedy School Faculty Research Working Paper Series. Rattner (2023) Full Speed Ahead on A.I. Our Economy Needs It. New York Times, July 10, 2023. Acemoglu and Johnson (2023) Big Tech Is Bad. Big A.I. Will Be Worse. New York Times, June 9, 2023.	Pre-assignment 3
#8	Thu 1.2.	Generative AI ecosystem and strategic impact (HS)	Luoma & Schildt 2023 working paper "What is your strategy for generative AI?" *McKinsey -- What every CEO should know about Generative AI, https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/what-every-ceo-should-know-about-generative-ai	Pre-assignment 4
#9	Mon 5.2.	Agile organizations and digital transformation process (HS)	*Data Imperative Chapter 5 *McKinsey report: Unlocking Success in Digital Transformations *Spotify engineering culture video: https://youtu.be/Yvfz4HGtoPc?si=oJAk2ujk5mVFzCdK	
#10	Thu 8.2.	Self-managed organizations and digital work (HHC with Jori Mäkkeli)	Martela, F. (2019). What makes self-managing organizations novel? Comparing how Weberian bureaucracy, Mintzberg's adhocracy, and self-organizing solve six fundamental problems of organizing. Journal of Organization Design, 8(1), 1-23.	
Group pres.	12.-13.2.	Group assignment presentations (HS+HHC)	Please book your slots in MyCourses Slot 1: 12.2. 9.00-11.00 (T004) Slot 2: 12.2. 13.00-15.00 (Väre Q202) Slot 3: 13.2. 13.00-15.00 (T003)	

8.   COURSE WORKLOAD

Classroom hours	24h
Class preparation	56h
Individual assignments	40h
Group assignments	40h
Total	160h (6 cr)

9.   ETHICAL RULES

Aalto University Code of Academic Integrity and Handling Thereof
https://into.aalto.fi/pages/viewpage.action?pageId=3772443

10.   OTHER ISSUES

- **Participation in the sessions is optional**
- Please register via Sisu
- Course materials will be available on MyCourses
- Please read session #1 slides carefully for all kinds of practical information