

### **Overview**

Firms find themselves at the crossroads between digital innovation and transformation. New and emergent digital technologies, such as artificial intelligence, IoT, robotic process automation, or blockchain, offer new opportunities for the creation of new infrastructures, products, processes, business models and organizational forms, and reshape traditional ways of organizing and working. At the same time, digital technologies are also increasingly more affordable and accessible to everyone, embedding themselves into society and altering the ecosystems in which firms operate. This fusion of digital technology within firms' environments produces ongoing changes in customer expectations, the competitive landscapes, and regulation. Windows of opportunities are created for new entrepreneurial ventures and new ways of working. At the same time, the lowering of entry barriers and proliferation of new digital ventures, in some cases involving new platform business logics that have the potential to disrupt existing industries, puts established firms under significant competitive pressure to transform their legacy systems and reshape their business strategies and processes. But it is not only startups who innovate digitally and are leveraging the new opportunities provided by digital technologies, new ways of working, and the associated market changes. Large and small incumbents across different industries and geographies are embracing digital innovation activities, and as they scale them, transform their entire organization. Within and across organizations, digital technologies give rise to new ways of collaboration, leveraging resources, development, and deployment over open standards and shared technologies. Firms are moving from stand-alone organizations to open, collaborative ecosystems in which multi-firms' networks collaboratively innovate with partners, suppliers, customers, and even competitors.

This unit will introduce and discuss knowledge relevant to future organizational leaders, directors, senior managers, and other executive roles about managing digital technology in contemporary firms and leading technology-enabled change through digital innovation and transformation.

The unit will introduce key characteristics of digital technology relevant to strategic competition in the so-called digital age. It will discuss which technology-related resources and capabilities organizations require to maintain, improve, or change their business models. It will explain how digital innovation, transformation, infrastructure, and ecosystems must be managed. It will introduce both theory and practical examples of technology and innovation management in the lectures, and will use case studies and exercises to deepen that understanding in the practicals.

## Learning outcomes

### Students learn to...

- ...Apply discipline and technical knowledge and skills to analyse and evaluate technological influences on a range of managerial questions.
- ...Identify relevant technology management resources and capabilities.
- ...Select and evaluate different approaches to digital innovation management.
- ...Critically appraise different forms of digital transformation management.
- ...Identify key leadership challenges in managing artificial intelligence.
- ... acquaint themselves with the scholarship of world class research faculty in the areas of digital innovation and transformation.
- ... learn some of the leading issues, theories and methodologies that characterize research in in the areas of digital innovation and transformation.

## Contents

The following list of topic exemplifies the contents covered:

- The advent of the digital age
- Managing traditional technology versus managing digital technology
- Managing digital product, service, and process innovations
- Managing digital transformations
- Managing ethics, responsibility, and sustainability of digital technology
- Managing digital markets and ecosystems

## Required Readings

There is no textbook for this course. Relevant papers and other reading materials will be made available in advance via Moodle.

## Assessment

**Written Individual Exam (100%) of 60 minutes length.** The exam will be completed as an electronic take-home exam. More details will be provided during the course the semester.

## Schedule

The course runs in the **first half of the semester**. It will consist of seven weekly in-class lecture sessions of roughly 3h length (i.e., from 16:15 to about 19:15 with breaks, from October 13, 2026 to November 24, 2026) plus six practical sessions of roughly 1.5h length (i.e., from October 19, 2026 to November 30, 2026). Two practicals are offered (from 14:15 to 15:45 or from 16:15-17:45), please choose one to attend that suits your schedule best. All sessions will start “c.t.”, meaning that each session starts 15 minutes later than displayed in Stine (16:00 = 16:15). Please arrive on time.

## About the lecturer

Jan Recker joined the Universität Hamburg in 2021 as Nucleus Professor and holder of the chair for Information Systems and Digital Innovation, funded through the Excellence Strategy of the Federal and State Governments. He is also Adjunct Professor at the QUT Business School (Brisbane, Australia). Previously, he was Professor for Information Systems and Systems Development at the University of Cologne from 2018-2021, Full Professor for Digital Innovation at the School of Management at the QUT Business School in Brisbane, Australia, from 2016-2017, and inaugural holder of the Woolworths Chair of Retail Innovation and Full Professor of Information Systems in the School for Information Systems at QUT in 2012. He also held appointments as Adjunct Professor at the University of Agder (Kristiansand, Norway), Honorary Guest Professor at the International School of Software at Wuhan University, China, and Visiting Professor at the Polytechnic University Hong Kong. Jan Recker holds bachelor's and master's degrees in information systems from the University of Münster and a PhD in Information Systems from the Queensland University of Technology.

In his research, Jan Recker explores how organizations deal with the **opportunities and challenges of digitalization and artificial intelligence**. He usually works with particularly large organizations (such as Edeka, Woolworths, Volkswagen, SAP, Hilti, Commonwealth Bank, Federal Police, Lufthansa, Ubisoft, federal and state governments) or with particularly small organizations ("start-ups"). He studies how work in large organizations is transformed through digital innovations and AI, how products or processes can be digitalized, how startups bring new digital and AI offerings to the market, and how digital solutions can be used to achieve sustainable development goals.

Jan Recker's research has appeared in leading journals in information systems, management science, organization science, computer science, and social science. He has also written popular textbooks on scientific research and data analysis, which are in use in over 500 institutions in over 60 countries. He ranks as one of the most published information systems academics of all time. In 2019, he was named #1 Business Researcher under 40 years of age by the German publication Wirtschaftswoche. Jan Recker is one of the Universität Hamburg's most cited scholars.

## Contact details

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