

DIGITAL TRANSFORMATION

Course manual (2019)

Course coordinator: M. Taghi R. Zadeh

Welcome to the course Digital Transformation. Here, you find information about the course. Course material is available on Canvas.

Learning objectives

The primary objective of this course is to provide students with the knowledge and skills to analyze various organizational and management dimensions of digital transformation in businesses. We seek to meet this objective by enhancing students' understanding of different cases of digital technologies. At the end of this course, students are expected to be able to:

- explain why and how some companies survive digital transformation, while others do not;
- understand how challengers/start-ups play a role in shaping the new competitive landscape for established companies;
- discuss the effect of digital technologies' characteristics on firm strategy;
- evaluate the effects of organizational elements including management, business models, ecosystem, identity, and design on companies' digital transformations;
- design strategies for incumbents to take advantage of digital transformation, for example creating/joining platforms, on the basis of relevant theories and case studies.

Course description

Digital technologies, digitalization, and digitization represent the fundamental technological developments of our time (like steam-engine to the industrial revolution). The World Economic Forum recognizes digital technological advancements as the main force of the current industrial revolution. As digital technologies such as Cloud technology, AI, IoT, and more recently Blockchain unfold, traditional industries converge (e.g., telecom, information, media, and entertainment, financial sectors) and new types of markets become more popular (e.g., multi-sided markets). New competitive landscapes—created by challengers/start-ups and driven by digital—call for a strategic response of established business players. Established companies change their organizational and managerial approaches, particularly regarding design, inter-firm collaborations, and business models. Addressing developments made by digital, in this course, we will deal with the questions of how companies embrace such a transformation through implementing a portfolio of strategies. These strategies include re-organizing businesses, engaging in new business eco-systems, monitoring and building relationships with start-ups, and so forth. Cases from the real world in finance, telecommunication, IT, media, and entertainment, and health industries will be discussed in the course.

Course schedule

Session	When	Where	Topics/description	Technology case	
1*	Wed 30 Jan	09:00 - 9:45	Theil C1-4	Introduction: Digital and business	General
		10:00 -10:45	Theil C1-4	Why to transform	General
		11:00 - 11:45	Theil C1-4	Group formation	
Deadline	Thu 4 Feb	18:00	Working-agreement completion (no grading!)		
2*	Wed 6 Feb	13:00 - 13:45	Theil C1-4	(Industry guest lecturer)	IT and Energy
		14:00 - 14:45	Theil C1-4	Organizing for digital transformation	
		15:00 - 15:45	Theil C1-4	Seminar 1	
Tutoring	Thu 7 Feb	13:00 - 16:00	T7-30	Group project idea presentation and discussion (10 minutes per group)	
Deadline	Sat 10 Feb	18:00	Canvas	Group assignment case introduction (submission required)	
3*	Wed 13 Feb	13:00 - 13:45	Theil C2-2	Era of ferment in (digital) technology and business model innovation	Business Model Innovation
		14:00 - 14:45	Theil C2-2	Seminar 2	
		15:00 - 15:45	Theil C2-2	IoT and urban planning (Guest lecturer)	
4*	Wed 20 Feb	13:00 - 13:45	Theil C2-2	Platforms and ecosystems 1	Cloud, Fog, and edge computing
		14:00 - 14:45	Theil C2-2	Digitization in wholesale banking (Industry guest lecturer)	FinTech
		15:00 - 15:45	Theil C2-2	Seminar 3	
5*	Wed 27 Feb	09:00 - 9:45	Theil C1-5	HR analytics (Industry guest lecturer)	HR analytics (LinkedIn, MS, McKinsey)
		10:00 -10:45	Theil C1-5	Platforms and ecosystems 2	
		11:00 - 11:45	Theil C1-5	Seminar4	
6*	Wed 27 Feb	13:00 - 13:45	Theil C1-5	Corporate governance	RegTech, LegalTech
		14:00 - 14:45	Theil C1-5	Platforms and ecosystems 3	
		15:00 - 15:45	Theil C1-5	Seminar 5	
Deadline	Sat 2 March	18:00	Canvas	Group assignment deadline (submission required)	
7*	Wed 6 Mar	09:00 - 9:45	Theil C1-5	Group assignment presentation session 1	
		10:00 -10:45	Theil C1-5	Group assignment presentation session 2	
		11:00 - 11:45	Theil C1-5	Group assignment presentation session 3	
8*	Wed 6 Mar	13:00 - 13:45	Theil C1-5	Group assignment presentation session 4	
		14:00 - 14:45	Theil C1-5	Group assignment presentation session 5	
		15:00 - 15:45	Theil C1-5	Group assignment presentation session 6	

* Mandatory session

Session 1

Topics:

Introduction: Course organization, group formation, background on strategy, organization, and digital technologies

Mandatory readings

Leodolter, W. (2017). 'Chapter 3: Elements of an Organization's Infrastructure—Relevant Existing and Expectable Technologies'. In *Digital transformation shaping the subconscious minds of organizations: innovative organizations and hybrid intelligences*. Cham, Switzerland: Springer. (This eBook is available for download through university library website.)

Galunic, C. (2017). 'Digital Journey', INSEAD Knowledge. available at <https://knowledge.insead.edu/leadership-organisations/the-digital-journey-6921>

Background readings

Rogers, D. (2016), 'Chapter 1: The five domains of digital transformation', in *The digital transformation playbook*. Columbia University Press, p. 278.

Westerman, G., Bonnet, D. and McAfee, A. (2014) 'Chapter 1: Are you ready?' in *Leading Digital: Turning Technology Into Business Transformation*. Boston, MA: Harvard Business Review Press. Available at <http://www.leadingdigitalbook.com/wp-content/uploads/2014/10/FREE-CHAPTER-DOWNLOAD.pdf>

Session 2

Topics:

Organizing for digital transformation: Vision, strategy, structure

Mandatory readings for seminar

Khanagha, S., Ramezan Zadeh, M. T., Mihalache, O. R., et al. (2018). 'Embracing Bewilderment: Responding to Technological Disruption in Heterogeneous Market Environments'. *Journal of Management Studies*, **55**(7), pp.1079–1121.

Dattée, B., Alexy, O. and Autio, E. (2017) 'Maneuvering in Poor Visibility: How Firms Play the Ecosystem Game when Uncertainty is High', *Academy of Management Journal*, **61**, pp. 466–498. doi: 10.5465/amj.2015.0869.

Background readings

Hacklin, F., Battistini, B. and von Krogh, G. (2013) 'Strategic Choices in Converging Industries', *MIT Sloan management Review*, **55**, pp. 1–13.

Westerman, G., Bonnet, D. and McAfee, A. (2014). 'Part III: BACK AT THE OFFICE: A Leader's Playbook for digital transformation'. In *Leading Digital: Turning Technology into Business Transformation*. Boston, MA: Harvard Business Review Press. (Chapters 9 to 12)

Rogers, D. (2016) *The digital transformation playbook: Rethink your business for the digital age*. New York: Columbia University Press (Columbia Business School Publishing).

Session 3

Topics:

Era of ferment in digital innovation life cycle

Enablers and inhibitors of (Business Model) Innovation in digital economy

Mandatory readings for seminar

Anderson, P. and Tushman, M. L. (1990) 'Technological discontinuities and dominant designs: A cyclical model of technological change', *Administrative science quarterly*. JSTOR, **35**, pp. 604–633.

Amit, R., & Zott, C. (2012). Creating value through business model innovation. MIT Sloan Management Review, 53(3), 41-49.

Background readings

Eggers, J. P. and Park, K. F. (2018) 'Incumbent Adaptation to Technological Change: The Past, Present, and Future of Research on Heterogeneous Incumbent Response', *Academy of Management Annals*. Academy of Management, **12**, pp. 357–389. doi: 10.5465/annals.2016.0051.

Volberda, H., van den Bosch, F. & Heij, K. (2017). Reinventing Business Models: How Firms Cope with Disruption. Oxford University Press. Chapter 1-4

Session 4

Topics:

Platforms and ecosystems 1: network effects, platform design and launch, and platform competition

Mandatory readings for seminar

Altman, E. J. and Tushman, M. L. (2017) 'Platforms, Open/User Innovation, and Ecosystems: A Strategic Leadership Perspective', in *Advances in Strategic Management*, pp. 177–207.

Cennamo, C., Ozalp, H. and Kretschmer, T. (2018) 'Platform Architecture and Quality Tradeoffs of Multihoming Complements', *Information Systems Research*, **29**, pp. 461–478.

Background readings

Jacobides, M. G., Cennamo, C., and Gawer, A. (2018). 'Towards a theory of ecosystems'. *Strategic Management Journal*, **39**(8).

Thomas, L. D. W., Autio, E. and Gann, D. M. (2014) 'Architectural leverage: putting platforms in context', *The Academy of Management Perspectives*. Academy of Management, **28**, pp. 198–219.

Parker, G. G., Van Alstyne, M. W. and Choudary, S. P. (2017) *Platform Revolution: How Networked Markets Are Transforming the Economy and How to Make Them Work for You*. W.W. Norton.

Session 5

Topics:

Platforms and ecosystems 2: Platform players, platform metrics, and strategy

Mandatory readings for seminar

Rietveld, J., and Eggers, J. P. (2018). 'Demand Heterogeneity in Platform Markets: Implications for Complementors'. *Organization Science*, **29**(2), pp.304–322.

Meyer, T. and Cennamo, C. (2018) 'Digital Transformation and the Value of Incumbents' Complementary Assets: The Substitution Effect of Digital Platforms', *SSRN Electronic Journal*. doi: 10.2139/ssrn.3218170.

Background readings

Parker, G. G., Van Alstyne, M. W. and Choudary, S. P. (2017) *Platform Revolution: How Networked Markets Are Transforming the Economy and How to Make Them Work for You*. W.W. Norton.

Session 6

Topics:

Corporate governance challenges associated with digital transformation, RegTech and the financial industry, regulatory technology beyond finance - LegalTech
Platform regulation

Mandatory readings for seminar

Enriques, L. (2017). Financial Supervisors and RegTech: Four Roles and Four Challenges. *Revue Trimestrielle de Droit Financier*, 53.

Simpson, B. (2016). Algorithms or advocacy: does the legal profession have a future in a digital world?. *Information & Communications Technology Law*, 25(1), 50-61.

Background readings

Arner, D. W., Barberis, J., & Buckley, R. P. (2017). FinTech and RegTech in a Nutshell, and the Future in a Sandbox. *Research Foundation Briefs*, 3(4), 1-20.

Praduroux, S., de Paiva, V., & di Caro, L. (2016). Legal Tech Start-ups: State of the Art and Trends. In *Proceedings of the Workshop on 'Mining and REasoning with Legal texts'*

collocated at the 29th International Conference on Legal Knowledge and Information Systems.

Good luck!