Module description: Frontiers of Technology

Module Code	w.MA.XX.FOT.24HS
ECTS Credits	3
Language of Instruction/Examination	English
Module Description	In theory, everybody loves technology. But when you ask CIOs (chief information officers) why they invest in AI, 66% will tell you that they only do it because they worry their competition is doing it too, and 61% will tell you that it's all just because of FOMO (fear of missing out) (Ardoq, 2024). In light of these pressures, the module "Frontiers of Technology" will prepare students to make management decisions regarding technologies in a more informed and relaxed manner. We will leverage academic lectures, guest lectures by business consultants, as well as student group work to address the following questions: What are the opportunities and challenges of current and future technologies? How can businesses take advantage of technologies without being harmed by FOMO and hype? Which behavioral patterns drive technology adoption? What purposes do technologies serve? And how can we design and implement technologies in ways that address stakeholder needs?
Organizational Unit	Center for Int. Industrial Solutions
Module Coordinator	Thorsten Busch
Program and Specialization	• International Business
Legal Framework	Academic Regulations MSc in International Business dated 10.12.2015, Appendix to the Academic Regulations for the degree program in International Business, first adopted on 12.02.2016
Module Category	**Module Type** Compulsory Elective
Prerequisite Knowledge	None
Contribution to Program Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence
Contribution to Program Learning Objectives	**Professional Competence** • Knowing and Understanding Content of Theoretical and Practical Relevance • Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance • Evaluate Content of Theoretical and Practical Relevance **Methodological Competence** • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation **Social Competence** • Written Communication • Oral Communication • Teamwork & Conflict Management • Intercultural Insight & Ability to Change Perspective **Self-Competence** • Self-Management & Self-Reflection • Ethical & Social Responsibility • Learning & Change

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Module Learning Objectives	Students... • gain an understanding of what technology is (i.e., the ontology of technology). • appreciate the contexts that technologies are embedded in, including international business, culture, and social change. • critically assess the opportunities and challenges of current and future technologies. • raise their awareness of how social phenomena such as hype cycles and FOMO influence managers' decision-making with regard to technology. • gain insights into technology foresight methods, i.e., how to assess how technologies may develop in the future. • will hear from industry experts from the consulting industry about how they evaluate technologies in business contexts. • gain insights into how technologies should serve a purpose and how stakeholder needs play a central role in technology management. • learn how to take stakeholder needs into account when designing and implementing technology solutions in business. • will form groups to create a consulting project in which they apply their theoretical knowledge to practice.
Module Content	• Technology: What it is and what it is not • Technology and international business: management, culture, social change • Opportunities and challenges of current and future technologies • Understanding technology hype cycles and FOMO • Technology foresight • Technology consulting • Purpose(s) of technologies • Stakeholders of technologies in business contexts • Technology design and implementation methods
Links to other modules	This module is linked to the following modules:
Digital Learning Resources	• Teaching Videos • Teaching Materials • Practice and Application Exercises (with Key) • Case Studies (with Key)
Methods of Instruction	• Lecture • Problem-Oriented Teaching • Interactive Instruction • Exercises • Project Work • Case Studies Social Settings Used: • Group Work • Individual Work

Type of Instruction		Classroom Instruction	Guided Self-Study	Autonomous Self-Study
	Lecture	4 h	-	
	Excercise	2 h	-	
	Project Work	14 h	-	
	Seminar	12 h	-	
	Total	**32 h**	**0 h**	**58 h**

Performance Assessment	End-of-module exam	Form	Length (min.)	Weighting
	-			
	Permitted Resources			

	Others	Assessment	Format	Length (min.)	Weighting
	Talk/oral presentation	Grade	Gruppenarbeit	30	40.00
	Written Assignment	Grade	Einzelarbeit	0	60.00

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Classroom Attendance Requirement	80% The format will be adapted to meet specific requirements during the semester and decided on by the lecturer. There will be a mixture of on-site and online teaching (synchronous, asynchronous for guest lectures, or similar), self-study, and group work. Active participation during lectures (online/offline), group work, etc., and individual preparation beforehand are expected. Full attendance during the seminar is mandatory.
Compulsory Reading	- Loeb, Z. M. (2023). "Computers Enable Fantasies" – On the Continued Relevance of Weizenbaum's Warnings. Librarian Shipwreck blog, January 23. Link: https://librarianshipwreck.wordpress.com/2023/01/26/computers-enable-fantasies-on-the-continued-relevance-of-weizenbaums-warnings/ - Jacobs, K. (2022). Toronto Wants to Kill the Smart City Forever, in: MIT Technology Review, June 29. Link: https://www.technologyreview.com/2022/06/29/1054005/toronto-kill-the-smart-city/ - LaGrandeur, K. (2023). The Consequences of AI Hype. AI & Ethics (pre-print). Link: https://doi.org/10.1007/s43681-023-00352-y - Agre, P. (1997). Toward a Critical Technical Practice. Lessons Learned in Trying to Reform AI, in: Bowker, G. C., et al. (Eds.): Bridging the Great Divide. Social Science, Technical Systems, and Cooperative Work, New York, London: Psychology Press, 131–157. Link: https://pages.gseis.ucla.edu/faculty/agre/critical.html - Mari, A., Mandelli, A., & Algesheimer, R. (2024). Fear of Missing Out (FOMO) on Emerging Technology: Biased and Unbiased Adoption Decision Making. University of Zurich, Department of Business Administration. UZH Business Working Paper Nr. 401. Link: https://doi.org/10.5167/uzh-257769 - Agre, P. (2000). Notes on Critical Thinking, Microsoft, and eBay. Link: https://pages.gseis.ucla.edu/faculty/agre/notes/00-7-12.html - Ardoq (2024). CIO Report: Emerging Technology Adoption 2024. Navigating AI risks, Rewards and ROI. Link: https://content.ardoq.com/emerging-technology-adoption-report - Costanza-Chock, S. (2020). Design Justice. Community-led Practices to Build the Worlds we Need. Cambridge, MA: MIT Press. https://direct.mit.edu/books/book-pdf/2248508/book_9780262356862.pdf - Spinuzzi, C. (2005). The Methodology of Participatory Design. Technical Communication, Vol. 52/No. 2, 163-174. Link: https://repositories.lib.utexas.edu/handle/2152/28277 - Karpf, D. (2018). 25 Years of Wired Predictions: Why the Future Never Arrives, in: WIRED, September 19. Link: https://www.wired.com/story/wired25-david-karpf-issues-tech-predictions/ - Loeb, Z. M. (2021). Against Technological Inevitability – On 20th Century Critics of Technology. Librarian Shipwreck blog, November 18. Link: https://librarianshipwreck.wordpress.com/2021/11/18/against-technological-inevitability-on-20th-century-critics-of-technology/ - Filion, P., et al. (2023). Urban Neoliberalism, Smart City, and Big Tech: The Aborted Sidewalk Labs Toronto Experiment. Journal of Urban Affairs, Vol. 45/No. 9, 1625-1643. Link: 10.1080/07352166.2022.2081171 - Amrute, S., et al. (2022). A Primer on AI in/from the Majority World. Data & Society. Link: https://datasociety.net/library/a-primer-on-ai-in-from-the-majority-world/ - Friedman, B., et al. (2002). Value Sensitive Design: Theory and Methods. University of Washington School of Computer Science and Engineering Technical Report 02-12-01. Link: https://faculty.washington.edu/pkahn/articles/vsd-theory-methods-tr.pdf
Recommended Reading	- Cave, S., et al. (eds., 2020). AI Narratives. A History of Imaginative Thinking About Intelligent Machines. Oxford: Oxford University Press. - Crawford, K. (2021). Atlas of AI. New Haven, CT: Yale University Press.
Comments	IMPORTANT : Please be aware that the module may be taught partly online (e.g., guest lectures, synchronous and asynchronous teaching, self-study, group work).