JOHANNES GUTENBERG UNIVERSITÄT MAINZ

Chair of Digital Economics
Prof. Dr. Florian Hett

Seminar
"Topics in Digital Economics"

(Summer 20)

MIEPP, Research Module Public Policy

6 Credits

(Kevin Bauer, Yann Girard, Axel Haus, Florian Hett, Tobias Waldenmaier)

Content of the seminar

This seminar deals with the economic effects of digitalization. It covers four different areas in which digitalization creates novel challenges for policy and business. Students should map their topic into an economic framework to analyze and discuss the issue at hand and derive potential implications. The seminar is co-taught with experts from the respective areas.

Baseline Literature

- Shapiro Carl, and Hal R. Varian. *Information rules: a strategic guide to the network economy.* Harvard Business Press, 1998.
- Belleflamme, Paul, and Martin Peitz. *Industrial organization: markets and strategies.* Cambridge University Press, 2015.
- Goldfarb, Avi, and Catherine Tucker. "Digital economics." *Journal of Economic Literature* 57.1 (2019): 3-43.

Organization and Timeline

Depending on the number of students we will form groups where each group works on one topic, holds a joint seminar presentation, and submits a joint seminar paper.

- Tuesday, April 28, 2020, 10-12am: Kick-Off meeting and allocation of topics (JGU Mainz, Room RW6)
- Friday, June 19, 2020: 10am-8pm: Seminar presentations (Solactive AG Office, Frankfurt) [TBC]
- Friday, July 10, 2020: Deadline for handing in seminar papers (sent by e-mail to digital.economics@uni-mainz.de)

There is a joint grade for the written paper, which has to fulfill the usual formal requirements described here: https://digital.economics.uni-mainz.de/files/2019/03/Formal-Requirements.pdf

Topic 1: Computer-Machine Interaction: Does the use of artificially intelligent recommendation systems erode social behavior? (Dr. Kevin Bauer, SAFE)

This seminar paper should deal with the question whether decision makers are more likely to rely on algorithmic recommendations if it allows them to diffuse responsibility of their actions. As an example, consider a manager who wants to deny a promotion to an employee. If a machine provides support for his intended decision, he could use the machine recommendation as an excuse and avoid being held responsible. In other words, the recommendation of an intelligent system could be encroached as a moral wiggle room (Dana, Weber, & Kuang, 2007; van der Weele, Kulisa, Kosfeld, & Friebel, 2014). If this is the case, the deployment of algorithmic recommendations may, among other things, exacerbate moral hazard problems in principal agent related settings. As a consequence, the use of machine learning software, such as neural networks could potentially impede economic processes. This is particularly important considering that these technologies are omnipresent today (e.g. the use in application processes, the use in the evaluation of creditworthiness, performance evaluations …).

Kevin Bauer completed his doctorate in 2018. His doctoral thesis focuses on the empirical analysis of economic relations. During his doctoral studies, he began another Master's program in information systems with a focus on machine learning and artificial intelligence. After his doctorate, Kevin Bauer joined the TechQuartier as an AI specialist, where he continues to work as an external consultant for AI-related topics. Since 2020, Kevin Bauer has been working as a postdoctoral researcher at Leibniz SAFE in the research group Digitization in the Financial Industry.

Topic 2: Data, algorithms, and competition (Dr. Yann Girard, DIW Econ)

In the digital economy, the analysis and economic use of large amounts of data (“big data”) are becoming increasingly important. The instruments used for this purpose are usually called “algorithms”. The use of algorithms brings economic benefits to market participants. However, concerns have been expressed that the use of algorithms can negative affect competition and increase the risk of economically undesirable behaviour such as collusion. The seminar paper should analyse how algorithms can impact competition in general and provide an in depth economic evaluation based on an actual competition law case in one of these areas. The following two reports should serve as an introduction to the topic: French Autorité de la concurrence and German

Bundeskartellamt (2019). „Algorithms and Competition“ and Monopolkommission (2018). „Algorithms and collusion“, XXII. Hauptgutachten, Wettbewerb 2018)

Dr. Yann Girard is manager and senior researcher at DIW Econ. He is an expert in applied economic analysis, digitisation and regulation. He has specific expertise in the analysis of markets, competition, regulation, incentive systems as well as digital-, behavioural- and network economics. He is an experienced project manager and provided policy advice for public and private clients, among others, through evaluation or economic impact assessments. His industry experience covers different economic areas and markets like electricity, telecommunication, transportation, media and advertisement. Yann Girard has received his Ph.D. from Goethe University-Frankfurt/Main, Germany, and has a Master (Diplom) in Economics (Johannes Gutenberg University-Mainz, Germany) and a Master in Business Administration (Colorado State University, USA).

Topic 3: Are robo advisors disrupting the world of asset management? (Dr. Axel Haus, Solactive AG)

In recent years, so-called robo advisors have gained in importance and are one of the predominant disruptive trends in the asset management industry. Based on a changing demand behavior of a new client generation, increasing reluctance to pay high fees, and access to new technologies, the trend towards more automated investment solutions is likely to continue. This seminar paper should analyze how technology affects the financial world and how human-computer interactions are effectively employed in asset management. Further, different methodologies used of robo advisors should be explained. The papers “The Effect of Humanizing Robo-Advisors on Investor Judgments” (Hodge, Mendoza, and Sinha, 2018) and “Robo Advisors: quantitative methods inside the robots” (Beketov, Lehmann, and Wittke, 2018) serve as literature references.

Axel Haus works in the research department of Solactive AG, a financial services company that provides indices for different asset classes (e.g. equity, fixed-income and commodity indices). Prior to that, he was Head of Investment Office and Senior Investment Strategist at Deutsche Bank. He received his Ph.D. in Economics from the Goethe University of Frankfurt, where he conducted research in the field of Venture Capital, Entrepreneurial Finance, Innovation, and Patent Litigation.

Topic 4: Data portability, open source and open data - threat or opportunity for car manufacturers? (Dr. Tobias Waldenmaier, Mercedes-Benz Digital Business Development)

Modern passenger cars collect and process vast amounts of data. These include, among many others, information about location, vehicle movement, the vehicle’s immediate environment and its interior. Since 2019, CLEPA, the European Association of Automotive Suppliers, demands universal access to this data:

„As digitalization is transforming the automotive industry, Connectivity and the use of in-vehicle data are the main drivers for the creation of new and innovative mobility services. The way connectivity is established determines the access to such new but also existing business models, such as repair and maintenance services. Currently, in-vehicle data are controlled and exploited commercially by vehicle manufacturers (VM). Other market participants, such as automotive suppliers, but also independent repair shops, insurance companies, parking space providers etc. depend on VMs to make data available and are therefore in a disadvantageous position. We argue that for a competitive market to be created for the benefit of businesses and consumers, […] unmonitored access to vehicle data and resources [must be granted and] third parties must be allowed to process data in the vehicle and to interact directly with the driver." (https://clepa.eu/mediaroom/clepa-position-paper-on-access-to-in-vehicle-data-and-resources/)

The seminar paper should analyze the potential impact "independent and unmonitored access to vehicle data by third parties" has on premium vehicle manufacturers' (such as Mercedes, BMW, Audi) competitive positioning. The line of argument should take reference to the concept of „commoditization of complements" (see, e.g., Shapiro/Varian) and compare the vehicle manufacturers' situation to recent moves by Facebook (https://stratechery.com/2019/portability-and-interoperability/)

.Dr. Tobias Waldenmaier works as Senior Digital Strategist and Project Lead within Mercedes-Benz Digital Business Development, where he helps business units shape the future of mobility by leveraging the power of data analytics and data-driven business models. Throughout his career, Tobias has felt most comfortable at the intersection of strategy, data analytics and finance. In a prior capacity, he advised German blue chip companies in the fields of corporate finance, risk management and M&A. More recently, Tobias worked as a strategy consultant helping banks and asset managers set up data-driven marketing/distribution strategies and build new (digital) business models. His academic interests cover Financial & Behavioral Economics, Industrial Organization and applied Econometrics.

Tobias holds a PhD in Economics and a MSc. in Quantitative Economics, both from Goethe University Frankfurt am Main, Germany, as well as an undergraduate double degree in International Business Administration from ESB Reutlingen, Germany and Universidad Pontificia Comillas (ICADE) Madrid, Spain.