Master Seminar *Information Systems Research*

Topics - Summer Term 2023

Title	**Human vs. Algorithm – Individuals' Preferences for Receiving Feedback**
Goals	Co-evolving with technological advances, more and more tasks and decisions that were formerly made by humans are now replaced by algorithms. In work environments one of the tasks that algorithms take over is providing workers with performance feedback, e.g., through automated ratings. While there is hesitancy and concerns when using algorithms to evaluate workers in many organizations, such algorithms are widely used to manage workers on digital labor platforms. The seminar thesis first provides a structured review of relevant literature on the topic. Hereby, literature on individuals' preferences with regard to algorithmic vs. human evaluations will be reviewed. For instance, literature discusses algorithm appreciation vs. algorithm aversion as general individual traits and the self-serving bias in the context of performance evaluation (success vs. failure). The findings in prior literature build the foundation for the empirical part. In an own online experiment, the research model that was built will be tested. Thereby, this thesis aims to advance knowledge on the following research questions: - Which form of performance evaluation/ feedback do workers prefer – algorithmic or human – for which kinds of tasks under which conditions (e.g., failure vs. success)? - How do workers perceive algorithmic vs. human performance evaluation (e.g., in terms of fairness, satisfaction, willingness to continue working)?
Initial Readings (T = topic, M = method)	- **T**: Tong, S., Jia, N., Luo, X., & Fang, Z. (2021). The Janus Face of Artificial Intelligence Feedback: Deployment Versus Disclosure Effects on Employee Performance. Strategic Management Journal, 42(9), 1600–1631. https://doi.org/10.1002/smj.3322 - **T**: Hou, Y. T.-Y., & Jung, M. F. (2021). Who is the Expert? Reconciling Algorithm Aversion and Algorithm Appreciation in AI-Supported Decision Making. Proceedings of the ACM on Human-Computer Interaction, 5(CSCW2), 1–25. https://doi.org/10.1145/3479864 - **T**: Yalcin, G., Lim, S., Puntoni, S., & van Osselaer, S. M. J. (2022). Thumbs Up or Down: Consumer Reactions to Decisions by Algorithms Versus Humans. Journal of Marketing Research, 59(4), 696–717. https://doi.org/10.1177/00222437211070016 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Laura Schulze

Title	**What Matters Most? Success Factors for Workers on Digital Labor Platforms**
Goals	Digital labor platforms emerge as new ways for individuals to earn money. For instance, programmers can offer their services on Upwork and can choose to work for different clients on a job-by-job basis. While the opportunities for extra income and interesting jobs are attractive to many workers, securing attractive jobs is difficult due to fierce competition among workers on the platforms. The seminar thesis first provides a structured review of relevant literature on the topic. Especially, the factors that determine worker success will be derived from prior literature. Based on this foundation, an own empirical study in the form of an online experiment will be conducted. The identified success factors will be tested and their importance empirically determined. Thereby, this thesis aims to advance knowledge on the following research questions: - What are the success factors for workers on digital labor platforms? - How important is each of these factors for potential clients when deciding to hire workers?
Initial Readings (T = topic, M = method)	- **T**: Holtz, D. M., Scult, L., & Suri, S. (2022). How Much Do Platform Workers Value Reviews? An Experimental Method. CHI Conference on Human Factors in Computing Systems, 1–11. New Orleans LA USA: ACM. https://doi.org/10.1145/3491102.3501900 - **T**: Blyth, D. L., Jarrahi, M. H., Lutz, C., & Newlands, G. (2022). Self-Branding Strategies of Online Freelancers on Upwork. New Media & Society, 146144482211089. https://doi.org/10.1177/14614448221108960 - **T/M**: Hong, S. J., Bauer, J. M., Lee, K., & Granados, N. F. (2020). Drivers of Supplier Participation in Ride-Hailing Platforms. Journal of Management Information Systems, 37(3), 602–630. https://doi.org/10.1080/07421222.2020.1790177 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Laura Schulze

Title	**The Influence of Ethical Artificial Intelligence on Decision Making**
Goals	Artificial intelligence (AI) - based services incorporated into digital health apps like DermAssist or Ada Health are proclaiming to be alternatives when patients need first advice on a medical problem and want to check their symptoms. To increase user interaction and trust in these digital health apps, developers try to increase AI characteristics such as “responsibility” or “accountability” to retain ethical standards. However, we don’t know how these characteristics are interpreted by patients and how they might affect the relationships with other stakeholders such as physicians or peers of the patient. For this reason, the seminar thesis will deal with the question of “how do responsibility and accountability influence the decision-making of individuals?” The aim of the first part of this seminar thesis is therefore: - to analyze the state-of-the-art research and definitions of ethical AI characteristics such as responsibility and explainability in recent IS literature - and to identify possible use cases for AI incorporated into digital health apps The systematic literature review is the foundation of the empirical part. The goal of the empirical part is to design a quantitative study that allows gathering data regarding the questions above from the “real world” to complement the insights gained by the literature review. In an own online experiment, the research model that was built will be tested.
Initial Readings (T = topic, M = method)	- **T**: Asatiani, A., Malo, P., Nagbøl, P. R., Penttinen, E., Rinta-Kahila, T., & Salovaara, A. (2021). Sociotechnical Envelopment of Artificial Intelligence: An Approach to Organizational Deployment of Inscrutable Artificial Intelligence Systems. *Journal of the Association for Information Systems*, *22*(2), 325–352. https://doi.org/10.17705/1jais.00664 - **T**: Berente, N., Gu, B., Recker, J., & Santanam, R. (2021). Managing Artificial Intelligence. *MIS Quarterly*, *45*(3), 1433–1450. https://doi.org/10.25300/MISQ/2021/16274 - **T**: Mikalef, P., Conboy, K., Lundström, J. E., & Popovič, A. (2022). Thinking responsibly about responsible AI and ‘the dark side’ of AI. *European Journal of Information Systems*, 1–12. https://doi.org/10.1080/0960085X.2022.2026621 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. “Editor’s Comments: Opportunities and Challenges for Different Types of Online Experiments” MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Maximilian Grüning

Title	**The Dual Effects of Explainability on Technostress and Downstream Consequences**
Goals	Artificial intelligence (AI) is incorporated into innovative systems to improve the data-driven decision-making of its users. To facilitate the understanding and shed light on the black box of such AI-based systems, firms are progressively turning to explainable artificial intelligence (XAI) designs. However, we argue that explanations of the AI-based recommendations have not only positive but also negative consequences such as technostress. For this reason, the seminar thesis will deal with the question of "how does AI recommendation's explainability influence technostress and its downstream consequences?" The aim of the first part of this seminar thesis is therefore: - to analyze the state-of-the-art definitions and designs of explainability of AI in recent IS and computer science literature - and to identify strategies for coping with technostress from feature and information overload The systematic literature review is the foundation of the empirical part. The goal of the empirical part is to design a quantitative study that allows gathering data regarding the questions above from the "real world" to complement the insights gained by the literature review. In an own online experiment, the research model that was built will be tested.
Initial Readings (T = topic, M = method)	- **T**: Asatiani, A., Malo, P., Nagbøl, P. R., Penttinen, E., Rinta-Kahila, T., & Salovaara, A. (2021). Sociotechnical Envelopment of Artificial Intelligence: An Approach to Organizational Deployment of Inscrutable Artificial Intelligence Systems. *Journal of the Association for Information Systems*, *22*(2), 325–352. https://doi.org/10.17705/1jais.00664 - **T**: Berente, N., Gu, B., Recker, J., & Santanam, R. (2021). Managing Artificial Intelligence. *MIS Quarterly*, *45*(3), 1433–1450. https://doi.org/10.25300/MISQ/2021/16274 - **T**: Tarafdar, M., Cooper, C. L., & Stich, J. (2019). The technostress trifecta - techno eustress, techno distress, and design: Theoretical directions and an agenda for research. Information Systems Journal, 29(1), 6–42. https://doi.org/10.1111/isj.12169 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Maximilian Grüning

Title	**Investigating the Influence of Workers' Control over Monitoring Practices in the Gig Economy**
Goals	Digital labor platforms (DLPs) mediate between workers offering their services and clients requesting and paying for it. The range of services varies greatly and includes online work (e.g., filling out surveys on Prolific, or tagging images on Amazon Mechanical Turk) as well as offline work (e.g., driving on Uber or delivering food via Lieferando). Platform companies are faced with the tension of opening their platform to maximize user engagement, on the one hand, as well as establishing control mechanisms to ensure the quality of these interactions on the other hand. One technique applied to ensure the quality of provided services on DLPs is referred to as monitoring, i.e., the application of digital surveillance mechanisms by employers (here: the platform companies) to record the activities of workers. To investigate these monitoring practices, this seminar paper conducts a systematic review of the existent literature on platform monitoring in the gig economy. Consecutively, this paper empirically investigates the influence of one of the main dimensions of monitoring, the workers' control, on the workers' acceptance, i.e., answering the following research question: - How does the ability of workers to control the platform's monitoring mechanisms influence the willingness to accept them?
Initial Readings (T = topic, M = method)	- **T:** Liang, C., Peng, J., Hong, Y., & Gu, B. (2022). The Hidden Costs and Benefits of Monitoring in the Gig Economy. Information Systems Research. https://doi.org/10.1287/isre.2022.1130 - **T:** Xu, H., Teo, H.-H., Tan, B. C. Y., & Agarwal, R. (2012). Research Note—Effects of Individual Self-Protection, Industry Self-Regulation, and Government Regulation on Privacy Concerns: A Study of Location-Based Services. *Information Systems Research*, 23(4), 1342–1363. https://doi.org/10.1287/isre.1120.0416 - **T**: Karwatzki, S., Dytynko, O., Trenz, M., & Veit, D. (2017). Beyond the Personalization–Privacy Paradox: Privacy Valuation, Transparency Features, and Service Personalization. Journal of Management Information Systems, 34(2), 369–400. https://doi.org/10.1080/07421222.2017.1334467 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Jonas Nienstedt

Title	**The Influence of Platform Input Control Signals on User Conversion**
Goals	Digital platforms facilitate transactions between actors that otherwise would not have interacted. As such, content platforms like YouTube, eduki.com, or Studydrive provide content creators and content recipients to exchange digital goods. Prior research provides extensive arguments on the competitive advantage of cross-side network effects resulting from large user bases on both sides. For instance, in an app store, users benefit from a large amount of available apps while developers have great incentive for developing new apps if they perceive a high amount of potential users. However, while common examples for platforms as multi-sided markets (e.g., app stores, Lieferando, or Uber) contain distinct user sides, users on content platforms can take both roles, content creator and content recipient. At Studydrive, it is common to both, share own study materials as well as use the shared materials of other users. Hence, in order to utilize network effects, a platform's ability to convert content recipients into creators is critical to its sustained success. In a similar context,input control as antecedent on the user's adaption of platforms has been shown to be an important factor. As a rigorous foundation, this seminar paper provides a structured literature review on this matter. Building on this literature review as well as signaling theory, this seminar paper further contains an own online experiment to empirically investigate: - What is the role of ofsignaling of input control for the conversion of content recipients into creators?
Initial Readings (T = topic, M = method)	- **T**: Adam, M., Croitor, E., Werner, D., Benlian, A., & Wiener, M. (2022). Input control and its signalling effects for complementors' intention to join digital platforms. *Information Systems Journal*, n/a(n/a). https://doi.org/10.1111/isj.12408 - **T:** Hukal, P., Henfridsson, O., Shaikh, M., & Parker, G. (2020). Platform Signaling for Generating Platform Content. *MIS Quarterly*, 44(3), 1177–1205. https://doi.org/10.25300/MISQ/2020/15190 - **T:** Spence, M. (1973). Job Market Signaling. The Quarterly Journal of Economics, 87(3), 355. https://doi.org/10.2307/1882010 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" *MIS Quarterly* (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Jonas Nienstedt

Title	**Thinking Fast or Slow? The Importance of Automated and Deliberate Cognition When Guiding User Behavior**
Goals	Cyber-attacks have a big economic impact and result in the loss of sensitive data. Much of the organizational effort to prevent cyber-attacks is concerned with behavioral interventions, e.g., educating users or making them more aware of cyber risks, and research is concerned with how to design behavioral interventions. Here, the dual-process theory gives important insights into cognitive processing. The theory states that a piece of information can be processed by either a "fast" or "slow" cognitive process, resulting in either rash or considerate behaviors. This thesis aims to advance the knowledge on the research question of - whether information security messages can nudge users to more secure behaviors, either by influencing their gut reaction (i.e., System 1) or by invoking critical thinking (i.e., System 2). The seminar thesis first provides a structured review of relevant literature on the topic. Hereby, literature on behavioral economics, nudging, and information security will be reviewed. The findings in prior literature build the foundation for the empirical part. In an own online experiment, the research model that was built will be tested.
Initial Readings (T = topic, M = method)	- **T**: Moravec, P. L., Kim, A., & Dennis, A. R. (2020). Appealing to Sense and Sensibility: System 1 and System 2 Interventions for Fake News on Social Media. Information Systems Research, 31(3), 987–1006. https://doi.org/10.1287/isre.2020.0927 - **T**: Zimmermann, V., & Renaud, K. (2021). The Nudge Puzzle: Matching Nudge Interventions to Cybersecurity Decisions. ACM Transactions on Computer-Human Interaction, 28(1), 1–45. https://doi.org/10.1145/3429888 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Richard Henkenjohann

Title	**How Much Do Peers Influence Our Privacy Behavior?**
Goals	Insights from psychology and behavioral economics show that individual behavior is greatly influenced by the behavior and opinions of peers (i.e., Bandwagon effect). User interface designers make use of these effects and implement social components in their products, well knowing how they nudge people to certain behaviors. This way, bandwagon nudges can increase product sales by demonstrating high demand from other users. But can this effect also be used to trick users into "harmful" privacy behaviors? To examine this, this thesis aims to advance the knowledge on the following research question: - What is the effect of peers (e.g., bandwagon effect, herd behavior, or social norms) on privacy behaviors (e.g., data sharing and disclosure)? The seminar thesis first provides a structured review of relevant literature on the topic. Hereby, the literature on behavioral economics and privacy research will be reviewed. The findings in prior literature build the foundation for the empirical part. In an own online experiment, the research model that was built will be tested.
Initial Readings (T = topic, M = method)	- **T**: Adjerid, I., Acquisti, A., & Loewenstein, G. (2018). Choice Architecture, Framing, and Cascaded Privacy Choices. Management Science, mnsc.2018.3028. https://doi.org/10.1287/mnsc.2018.3028 - **T**: Acquisti, A., John, L. K., & Loewenstein, G. (2012). The Impact of Relative Standards on the Propensity to Disclose. Journal of Marketing Research, 49(2), 160–174. https://doi.org/10.1509/jmr.09.0215 - **M**: Karahanna, E., Benbasat, I., Bapna, R., and Rai, A. 2018. "Editor's Comments: Opportunities and Challenges for Different Types of Online Experiments" MIS Quarterly (42:2), pp.iii–xi. - **M**: Shadish, W. R., Cook, T. D., and Campbell, D. T. 2002. Experimental and quasi-experimental designs for generalized causal inference, Boston, Houghton Mifflin.
Supervisor	Richard Henkenjohann