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Algorithmic Decision Making [Working Title]

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Motivation and Aim:

In a survey depicted by the Bertelsmann Stiftung in 2018 over 64 % of the interviewed European citizens felt uncomfortable when computer systems make decisions about them without human involvement. The respondents desire more control over algorithms and demand a mandatory labeling, i.e. transparency about when, where and how computer-based decisions are made. Furthermore, algorithmic decisions should be easier to understand (Grymek and Puntschuh 2019). Moreover, in April 2021 the European Commission has published a proposal for the regulation of artificial intelligence (European Commission 2021).

The aim of this thesis is to provide an overview about the human perception algorithmic decision making and their interaction. Thereby, the following research questions should be considered: Under which circumstances do individuals prefer algorithmic decision making rather than making their own decision? Does human behaviour differ between interacting with algorithms or humans? What are empirical examples? Does the fairness perception differ between human and algorithmic decisions? How should algorithms be regulated?

References:

- European Commission (2017) Proposal for a Regulation laying down harmonised rules on artificial intelligence. Retrieved from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206, Accessed on 06/10/2021

- Grzymek, V., & Puntschuh, M. (2019). Was Europa über Algorithmen weiß und denkt. Ergebnisse einer repräsentativen Bevölkerungsumfrage. *Hg. v. Bertelsmann Stiftung. Gütersloh.* Retrieved from URL: https://www. bertelsmannstiftung. de/fileadmin/files/BSt/Publikationen/GrauePublikationen/WasEuropaUEberAlgorithmenWeiss UndDenkt.pdf, , Accessed on 06/10/2021

- Kleinberg, J., Lakkaraju, H., Leskovec, J., Ludwig, J., & Mullainathan, S. (2018). Human decisions and machine predictions. *The Quarterly Journal of Economics*, *133*(1), 237-293.

- Kordzadeh, N., & Ghasemaghaei, M. (2021). Algorithmic bias: review, synthesis, and future research directions. *European Journal of Information Systems*, 1-22.

- Malter, M. S., Kim, S. S., & Metcalfe, J. (2021). Feelings of culpability: just following orders versus making the decision oneself. *Psychological Science*, *32*(5), 635-645.