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Delegation of Decisions to Artificial Intelligence: A Conceptual and Empirical Investigation

Research-in-Progress

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Abstract

This paper examines the factors that influence people's decision to delegate their decisions to an AI artifact. Based on authority delegation literature, we identify antecedent variables of delegation and intend to test this in the context of using AI to make purchase decisions. We argue that algorithm awareness is a key determinant of algorithm delegation. This implies that consumers' understanding of the AI algorithms will influence their decision to delegate their purchasing decisions to AI systems. We intend to test our proposed model using mixed methods. Our potential contributions and directions for future research are discussed.

Keywords

Artificial intelligence, algorithm delegation, algorithm awareness, digital ecosystem.

Research Idea

The rapid development of ubiquitous artificial intelligence (AI) is creating unprecedented levels of disruption. Its pervasive nature is nurturing a state of perpetual connectivity across societies around the world. Any powerful technology has the potential to create good as well as harm. Rather than radically embracing or opposing this new reality, it is crucial to deeply understand it and to develop more holistic assessment approaches that go beyond performance gains. In this study, AI refers to getting computers to do things that are considered intelligent when done by humans or animals (McCarthy et al. 2006). The smartphone is a prime example of a 'paradox of technology', which can be simultaneously emancipating and enslaving. While these ubiquitous media devices afford us the liberty to communicate, socialize, and search for information in ways almost unthinkable a couple of decades ago, they can also facilitate the development of a variety of deleterious user behaviors and outcomes such as addiction. Therefore, digital literacy initiatives should not be limited to access and skills. It should also focus on understanding and evaluating the outcomes of an always-connected digital life. We must ask what is the actual impact and value to society? We must understand and broadly discuss what the associated risks and consequences of the diffusion of these technologies are. This way, we can collectively decide what risks we are willing to take to benefit from the affordances that digital ecosystems provide to create a smart, inclusive and sustainable future.

Delegating human decision-making on daily practices to algorithmic processes has become normal behavior shaped by continual interactions with technology in our everyday lives (Han and Yang 2018; Willson 2017). AI enablers like machine learning, deep learning, and natural language processing make it even easier to develop sophisticated algorithmic processes that facilitate the delegation of more complex human tasks to algorithms (Han and Yang 2018; Kepuska and Bohouta 2018; Marinchak et al. 2018). The increasing use of digital assistants on smartphones and autonomous vehicles is strong evidence that algorithm delegation, in general, is changing every aspect of our society and human life. Several studies have reported the benefits of delegating specific human tasks and decisions to AI algorithms at the individual and organizational levels (Brynjolfsson and McAfee 2017; Garbuio and Lin 2019; Haboucha et al. 2017; Kolbjørnsrud et al. 2016; Kumar et al. 2019; Lu et al. 2018). However, as investments in daily-use AI technologies grow, so does the number of people delegating their decision-making tasks to AI algorithms increase, hence understanding this behavior has become essential.

In this study, algorithm delegation refers to the act of letting algorithms (semi-)autonomously make decisions without the need for human knowledge or interaction. Our inability to understand and guide many of these algorithmic processes raises several concerns on the relationship we have with technology, especially the impact and consequences of their decisions on the entities they interact with (Willson 2017). Algorithm delegation comes with huge moral responsibilities one must not ignore. This is true for tasks as simple as sending a text message to the wrong person and getting fired, to tasks as complex as a self-driving car killing a pedestrian. Our question is, would people delegate as many decisions to algorithms if they were aware of the mode of operation of these algorithms? Would they be willing to deal with the consequences this could have on the people, processes, or things these algorithms interact with during execution? In this study, we argue that, algorithm awareness (human understanding of the algorithmic processes) will influence their decision to delegate certain decisions to algorithms. However, this relationship between awareness and delegation would be mediated by the complexity of the task/decision to be made, the digital skills of the user, the knowledge of the user in the subject area, the level of digital access, and the amount of control the user has over the algorithmic processes. [Figure 1](#) presents our proposed research model.

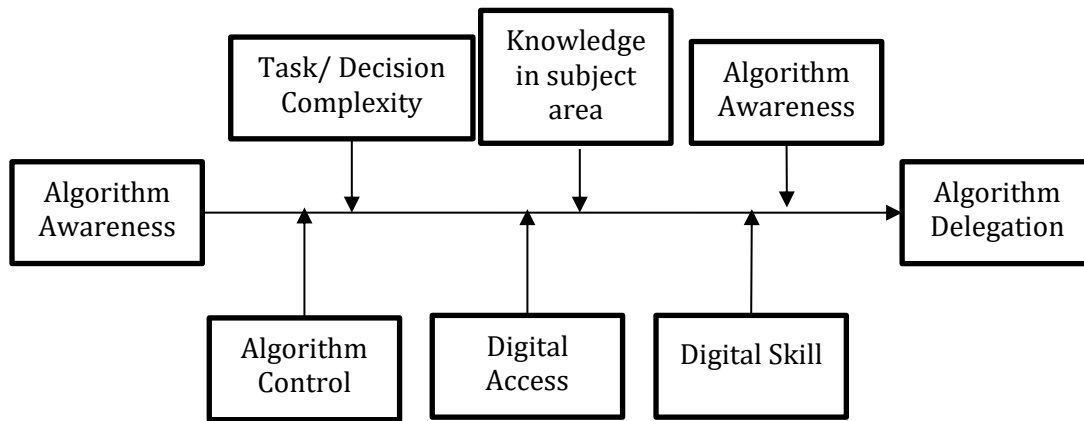


Figure 1. Research model

References

- Brynjolfsson, E., and McAfee, A. 2017. "The Business of Artificial Intelligence," *Harvard Business Review*.
- Garbuio, M., and Lin, N. 2019. "Artificial Intelligence as a Growth Engine for Health Care Startups: Emerging Business Models," *California Management Review* (61:2), SAGE Publications Sage CA: Los Angeles, CA, pp. 59–83.
- Haboucha, C. J., Ishaq, R., and Shiftan, Y. 2017. "User Preferences Regarding Autonomous Vehicles," *Transportation Research Part C: Emerging Technologies* (78), Elsevier, pp. 37–49.
- Han, S., and Yang, H. 2018. "Understanding Adoption of Intelligent Personal Assistants: A Parasocial Relationship Perspective," *Industrial Management & Data Systems* (118:3), Emerald Publishing Limited, pp. 618–636.
- Kepuska, V., and Bohouta, G. 2018. "Next-Generation of Virtual Personal Assistants (Microsoft Cortana, Apple Siri, Amazon Alexa and Google Home)," in *2018 IEEE 8th Annual Computing and Communication Workshop and Conference (CCWC)*, IEEE, pp. 99–103.
- Kolbjørnsrud, V., Amico, R., and Thomas, R. J. 2016. "How Artificial Intelligence Will Redefine Management," *Harvard Business Review* (2).
- Kumar, V., Rajan, B., Venkatesan, R., and Lecinski, J. 2019. "Understanding the Role of Artificial Intelligence in Personalized Engagement Marketing," *California Management Review* (61:4), SAGE Publications Sage CA: Los Angeles, CA, pp. 135–155.
- Lu, H., Li, Y., Chen, M., Kim, H., and Serikawa, S. 2018. "Brain Intelligence: Go beyond Artificial Intelligence," *Mobile Networks and Applications* (23:2), Springer, pp. 368–375.
- Marinchak, C. L. M., Forrest, E., and Hoanca, B. 2018. "The Impact of Artificial Intelligence and Virtual Personal Assistants on Marketing," in *Encyclopedia of Information Science and Technology, Fourth Edition*, IGI global, pp. 5748–5756.
- McCarthy, J., Minsky, M. L., Rochester, N., and Shannon, C. E. 2006. "A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955," *AI Magazine* (27:4), p. 12.
- Willson, M. 2017. "Algorithms (and the) Everyday," *Information, Communication & Society* (20:1), Taylor & Francis, pp. 137–150.

