

# Chapter 14

## Exploring Generative AI as Personally Effective Decision–Making Tools: A Thought Experiment

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### **ABSTRACT**

*So much of automated decision-making is common in everyday modern life, but it is often hidden in applications, in processes (searches, academic assessments, loan processes, job applications, and others), in self-driving electronic vehicles, and others. Generative AIs have come to the fore and have been used to enhance human decision-making. This work explores whether generative AI tools may be of use for automated decision-making based on first-hand experimentation across a range of queries. The idea is that there is human oversight over decision-making in everyday usage of generative AI, but what would happen if the decision-making were automated and followed-through on based on a fully automated process? How well would that work in this thought experiment? Would the individual be amenable? Why or why not? In terms of surprises and outlier results, are the responses far out or more centralized? Are the decisions practical? Are the decision-making insights valuable or not?*

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## INTRODUCTION

Artificial intelligence is a generalized term that refers to a class of technologies that emulate human intelligence, across a range of human capabilities and performances. The advances in AI have meant that the current usable definitions are less so: “Going back to definitions—at least today—there is no single universal definition that captures the essence of AI” (Brauner, Hick, Philipsen, & Ziefle, 2023, p. 03).

Researchers propose “refining the current legal definition of AI when pinpointing the role of algorithms in the advent of ubiquitous computing, data analytics and deep learning” (Karanasiou & Pinotsis, 2017, p. 170). A recent tool has emerged known as “generative AI” tools, which may take textual and / or visual prompts and output text, visuals, multimedia, and other digital contents. The generative AI tools that are widely available to the public are not controlled by deterministic algorithmically-applied rules. Rather, these tools are trained on big data, and the learning is nuanced and machine-based. The process of machine learning, often based on neural networks, can be opaque. Depending on the fine-tuning of the respective models, there can be a wide range of surprises.

Computational decision aids are conceptualized as supports for people to accomplish tasks reliably and adaptably (Mosier & Manzey, 2019). Automated decision-making (ADM) exists often in contexts where there are a known range of potential outcomes. ADM refers to “instances in which algorithms or an AI are used to collect, process, models (sic) and use data to make automated decisions” (Araujo, Helberger, Kruikemeier, & De Vreese, 2020, p. 612). These systems use feedback to continually learn and improve. Historically, there have been expert systems, recommender systems, decision systems, and others, that have brought computation into the decision-making process. ADM systems are most common in “banking, insurance, and travel and transportation” but also emergent in healthcare, utilities, and agriculture (Harris & Davenport, 2005, p. 3). Automated decision systems are applied in manufacturing for quality controls, to enable “variation reduction, capacity increase, cost and cycle time reduction, and end-to-end traceability of the transaction or product” (Patterson, Bonissone, & Pavese, 2005, p. 275). These tools benefit predictive maintenance by anticipating a future failure mode (Bousdekis, Lepenioti, Apostolou, & Mentzas, 2019, p. 607). AI-informed decision support is used for job recruitment (Parviainen, 2022) and personnel selection (Langer, König, & Busch, 2021), to support manager work. Automated decision-making may be found in supervisory control systems (Cetiner, Muhlheim, Flanagan, Fugate, & Kisner, 2014). They are in automated office systems, with managerial decision supports (Darwish, Saki, Sahraei, Zakrifar, Talebi, & Branch, 2014). They are in enterprise resource planning systems (Babu & Sastry, June 2014). They are applied in customized teaching and learning across knowledge maps (Uglev, 2014).

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