Into the Mind of the Machine: Perceptual and Behavioral Consequences of Pre-Programmed and Adaptive Algorithms

The backbone of today's digital technologies are algorithms. For consumers, however, the inside of technologies constitutes a black box, as they are frequently uninformed about the modus operandi of the implemented algorithms. Since this lack of understanding can prevent consumers' adoption of technologies and claims for more transparency become louder, companies begin to account for this information deficit by providing details of the implemented algorithms to consumers. Up to now, it remains unclear, how consumers respond to the communication of what is inside the mind of digital technologies. Integrating literature on computer science and consumer behavior, we open the black box and inform consumers about two fundamentally different algorithm types: adaptive and pre-programmed. A series of correlational and experimental studies shows that adaptive algorithms are perceived as more creative whereas pre-programmed algorithms are perceived as more predictable. This drivers consumers' preferences for the distinct algorithm types in different technologies. This research contributes to our understanding of how consumers perceive algorithms and provides novel implications for marketing management of technologies and the communication of product characteristics.