Unveiling the Mind of the Machine: How Disclosing Algorithm Types Affects Consumers' Adoption of Algorithm-Based Products

Reto Hofstetter
University of Lucerne
Melanie Clegg
University of Lucerne
Emanuel de Bellis
University of Lausanne
Bernd Schmitt
Columbia Business School

Paper from the 50th Annual EMAC Conference, Madrid, May 25-28, 2021

Unveiling the Mind of the Machine: How Disclosing Algorithm Types Affects Consumers' Adoption of Algorithm-Based Products

Abstract

This research explores consumer perceptions of two different types of algorithms: pre-programmed algorithms, where rules are unchangeably predefined, and adaptive algorithms, which can adapt their rules. Five studies show disclosing a pre-programmed (vs. adaptive) algorithm to consumers harms their adoption of algorithm-based products, an effect explained by the lower perceived creativity of pre-programmed algorithms. However, disclosing a pre-programmed algorithm can also help product adoption, because these algorithms are perceived as more predictable. Which algorithm type is preferred is conditioned on output variability (defined as how diverse the output of a product is supposed to be). These findings show that consumer researchers should not only contrast algorithms with humans but also consider consumer perceptions of algorithms' working style. Our results advise managers how to communicate information about newly developed products.

Keywords: *algorithm; smart product; creativity*

Track: Innovation Management & New Product Development