Unboxing the black boxes of AI: Enlightening vulnerable consumers with the algorithmic processes of AI-based mental health applications

Danielle Ang
Toulouse School of Management
Camilla Barbarossa
Toulouse Business School
Andreas Munzel
Vlerick business school

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Abstract

Mental health disorders are a global health concern. AI-based mental health applications have emerged as a complementary solution to traditional psychotherapy. However, data collection concerns and the lack of subjective understanding of AI algorithms remain barriers to adoptions. Research indicated that detailed mechanistic explanations improve consumers' understanding of AI algorithm processes in data collection, reducing data collection concerns. However, mental health issues evoke psychological distress, which is a cognitive load that hinders information processing in complex tasks. In our paper, we challenge past evidence that most detailed explanation is always optimal, with the presence of mental health issues. In our first experiment, we demonstrated that detailed mechanistic explanations lead to higher subjective understanding and lowered data collection concerns, than with no explanations. In our second experiment, we showed that mental health issues moderate the effect of mechanistic explanations on subjective understanding. These preliminary results reveal a need to probe into the moderating effect of mental health issues in AI-based adoption solutions for mental healthcare. We offer managerial insights for marketers, on the optimal level of details in mechanistic explanations when communicating with vulnerable consumers.

Subject Areas: *Cognition, Consumer Behaviour, Information Processing, New Product Development and Launch, Recommendation Systems*

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