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Persuasive Robots Acceptance Model (PRAM): Roles of Social Responses Within the Acceptance Model of Persuasive Robots

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Abstract

In the last years, there have been rapid developments in social robotics, which bring about the prospect of their application as persuasive robots to support behavior change. In order to guide related developments and pave the way for their adoption, it is important to understand the factors that influence the acceptance of social robots as persuasive agents. This study extends the technology acceptance model by including measures of social responses. The social responses include trusting belief, compliance, liking, and psychological reactance. Using the Wizard of Oz method, a laboratory experiment was conducted to evaluate user acceptance and social responses towards a social robot called SociBot. This robot was used as a persuasive agent in making decisions in donating to charities. Using partial least squares method, results showed that trusting beliefs and liking towards the robot significantly add the predictive power of the acceptance model of persuasive robots. However, due to the limitations of the study design, psychological reactance and compliance were not found to contribute to the prediction of persuasive robots' acceptance. Implications for the development of persuasive robots are discussed.

Keywords

Author Keywords: Persuasive robots; Technology acceptance model (TAM); Social responses; Partial least square (PLS); Human-robot interaction (HRI)

KeyWords Plus: TECHNOLOGY ACCEPTANCE; PSYCHOLOGICAL REACTANCE; CONSUMER ACCEPTANCE; USER ACCEPTANCE; INFORMATION-TECHNOLOGY; LEARNING-ENVIRONMENT; INTERNET; TRUST; TAM; RESTORATION

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