

## Unveiling Influence of Irritation and Privacy Lies on Customer Choice Between Service Robots and Human Staff in Fashion Stores

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**Introduction:** When customers interact with service robots in fashion retail stores, they may experience emotional irritation, including annoyance, dissatisfaction, and anger. This can occur when the service robot fails to provide helpful responses to the customers' requests, such as providing irrelevant or repetitive answers, taking too long to process their requests, or performing complex shopping tasks poorly. While the use of Artificial Intelligence (AI) can improve performance and generate innovative solutions, it also raises concerns about data privacy and the potential for fashion retailers to compromise customers' personal information, including usernames, passwords, cell phone numbers, birthdays, credit card or banking information, geolocation, and email addresses. This can lead to customers feeling uncomfortable and irritated, spontaneously sharing falsified personal details, and unauthorized third parties obtaining without explicit consent. However, empirical research has rarely been done on how customers react to feeling irritated by service robots in fashion retail settings. Thus, this study investigated the influence of customers' mistrust (H1a), complexity (H1b), and fear of financial loss (H1c) on their irritation levels when interacting with robots. Furthermore, the study examined whether this irritation might lead to customers' intention to falsify personal information (i.e., privacy lies) (H2a) and preferring human staff over service robots (and vice versa) (H2b) in fashion stores. Finally, the study investigated whether customers who fabricated personal information for the service robot are likelier to prefer the robot over human staff.

**Theoretical Background:** In this study, Festinger's (1957) theory of cognitive dissonance was utilized to explain the psychological discomfort experienced by individuals when they hold conflicting beliefs, attitudes, or behaviors. The theory posits that customers have a natural inclination towards internal consistency and seek to reduce the discomfort caused by conflicting cognitions. Specifically, the theory sheds light on customers' negative emotional reactions, such as irritation, during service encounters. Moreover, the theory helps to understand why customers generate irritation towards service robots, leading to the fabrication of personal information, also known as privacy lies.

**Methods and analytic strategies:** The study used a comprehensive approach with these steps: (1) developing a video-based stimulus and written scripts; (2) conducting content analyses and a pretest to select the final stimulus; (3) executing an online consumer panel survey for data collection; and (4) applying Structural Equation Modeling (SEM) using R v. 4.3.0 to test the hypotheses (H1a – H3). We proposed the following hypotheses: Customers' mistrust (H1a), complexity (H1b), and fear of financial losses (H1c) in a robot positively influence the level of irritation they anticipate experiencing; the level of irritation expected when using a service robot

positively influences their intention to lie to protect their privacy (i.e., privacy lies) (H2a) and preference for choosing human staff over robots; and customers' intention to lie to preserve privacy influences their preference for using a service robot rather than human staff. We created a written script, edited the video files, and recorded dialogues using voice volunteers to develop a video-based stimulus. The main test consisted of a subtitled introduction followed by a 2-minute conversation between a service robot and a customer, focusing on sales inquiries. Further, data was collected through a web-based survey administered to U.S. consumer panels recruited via a market research firm. A total of 474 responses were collected, with a balanced gender distribution (51.1% females) and an age range of 18 to 92 (median age: 40). Respondents' annual household income ranged widely, with the median falling in the \$60,000-\$79,999 bracket. All scale items were modified from existing scales and measured on a 5-point Likert-type scale. To this end, this study proposes a research model for service robots in fashion shoe stores (see Figure 1).

**Results:** To evaluate the adequacy of the measurement, we conducted Confirmatory Factor Analysis (CFA) for the five study constructs. The CFA results indicated that the final measurement model demonstrated satisfactory fit indices:  $\chi^2(136) = 4449.14, p < 0.001$ ; CFI = 0.980; TLI = 0.974; RMSEA = 0.044 (90% C.I. 0.032 – 0.056); and SRMR = 0.039 (Hooper, Coughlan, & Mullen, 2008). The results of the SEM supported the relations depicted in our model:  $\chi^2(136) = 4449.14, p < 0.001$ ; CFI = 0.952; TLI = 0.941; RMSEA = 0.067 (90% C.I. 0.058 – 0.077); and SRMR = 0.080. The parameters were estimated using the MLM method. All path coefficients were significant ( $p < 0.05$ ) and thus supported all hypothesized relations (Figure 1 and 2). Specifically, mistrust ( $\beta = 0.293, p < 0.01$ ) (H1a), complexity ( $\beta = 0.421, p < 0.001$ ) (H1b), and fear of financial losses ( $\beta = 0.187, p < 0.05$ ) (H1c) positively influenced customers' irritation significantly. In turn, the irritation significantly influenced the privacy lies ( $\beta = 0.564, p < 0.001$ ) (H2a) and customers' preference to use human staff rather than a robot ( $\beta = 0.507, p < 0.001$ ) (H2b). Further, the privacy lies influenced customers' preference to use a service robot rather than human staff ( $\beta = -0.442, p < 0.001$ ) (H3).

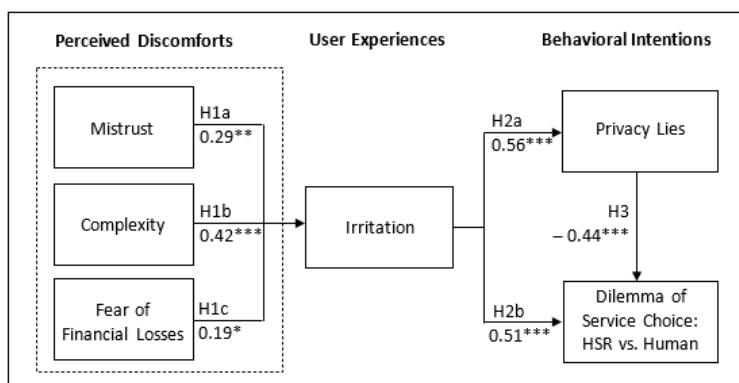


Figure 1. Research Model (R.v.4.3.0)

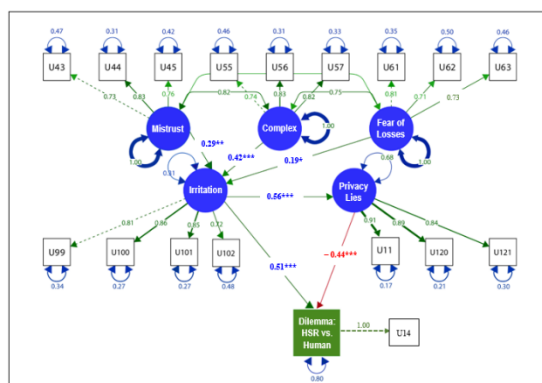


Figure 2. SEM Plot (R.v.4.3.0)

**Conclusion/Implication:** The findings of this study offered theoretical insights into the influence of irritation and privacy lies on customer choice between service robots and human staff in fashion stores. Furthermore, the applied theory of cognitive dissonance provided insights into customers' decision-making processes when choosing between human staff and service robots, and vice versa. For the managerial implication, this study establishes a link between irritation and privacy lies, highlighting the role of negative emotional responses (i.e., irritation) in interaction with the robots. It also sheds light on the consequences of customer irritation, as individuals may resort to falsifying personal information to protect their privacy. Lastly, continuous monitoring and evaluation of customer experiences with service robots are essential. By gathering customer feedback and addressing their concerns promptly, fashion companies can adapt their strategies and improve the performance of service robots, thereby enhancing customer satisfaction and loyalty.

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