

Influence of Factors on Intention to Use Self-Service Checkout Technology in Sri Lanka's Modern Trade Sector: The Moderating Role of Technology Anxiety

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This study examines the factors influencing consumer intention to adopt Self-Service Checkout Technology (SSCT) in Sri Lanka's modern trade sector, with a particular focus on Perceived Ease of Use (PEOU) and the moderating effect of technology anxiety. While SSCT has become a mainstream technological advancement in global retail markets, its adoption in Sri Lanka remains limited to only two Keells Super Market outlets, indicating a significant research gap in understanding consumer behavioral drivers of acceptance.

Grounded in the Technology Acceptance Model (TAM), this study explores the role of PEOU-including dimensions such as speed, functionality, customer satisfaction, convenience, and simplicity-in shaping consumer behavioral intention toward SSCT adoption. Additionally, the study investigates how technological anxiety moderates this relationship, potentially hindering consumer confidence in using automated systems. A structured survey was conducted among 218 respondents, representing a cross-section of retail consumers in Sri Lanka. Hypothesis testing was carried out using statistical analyses to assess the positive effects of PEOU on behavioral intention and the moderating role of technology anxiety.

Findings confirm that PEOU plays a critical role in SSCT adoption, as consumers are more likely to embrace technologies perceived as simple, intuitive, and efficient. However, technology anxiety significantly moderates this relationship, particularly among individuals with limited digital literacy or minimal prior exposure to self-service technology. Respondents with higher levels of technology anxiety exhibited reduced confidence in using SSCT, despite acknowledging its ease of use, reinforcing the psychological barriers to adoption.

Among the dimensions of PEOU, speed and convenience had the strongest impact on consumer intention to use SSCT, with faster transactions and independent purchasing experiences emerging as key adoption drivers. Functionality-measured by error-free scanning, diverse payment options, and seamless system operation-also played a crucial role, enhancing both trust and ease of use perceptions. Additionally, customer satisfaction and simplicity contributed to positive attitudes, reinforcing user confidence and willingness to adopt SSCT.

This study makes a theoretical contribution by integrating technology anxiety into the TAM framework, extending its applicability in understanding consumer behavior in emerging markets. From a practical perspective, the findings provide actionable recommendations for Sri Lankan retailers, emphasizing the need for; User-centric SSCT interface designs with multilingual support and enhanced error-handling capabilities; On-site customer assistance to mitigate technology-related anxieties; Consumer education initiatives, including interactive demonstrations and promotional campaigns, to increase awareness of SSCT benefits; Strategic measures to create positive first-use experiences, ensuring greater consumer confidence and trust in SSCT adoption.

As Sri Lanka's modern retail sector evolves, the study highlights the importance of addressing both cognitive (PEOU) and emotional (technology anxiety) factors to accelerate technology adoption. Future research could extend these findings by exploring demographic influences, such as age and education, on PEOU and technology anxiety, or by conducting longitudinal studies to analyze evolving consumer attitudes as digital literacy improves over time.

Keywords: *Behavioral Intention, Modern Trade, Perceived Ease of Use, Self-Service Checkout Technology, Technology Acceptance Model, Technology Anxiety*