Measuring the Impact of Digital Technology on Consumer Behavior Using Machine Learning: A Case Study of Saudi Arabia Research-in-progress*

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Abstract

Digital technology has profoundly reshaped consumer behavior, influencing purchasing decisions and interactions with businesses. This study investigates the impact of digital technology on consumer behavior in Saudi Arabia. Grounded in the UTAUT2 framework, the research integrates Digital Trust and Personalization as key mediating factors. A mixed-methods approach is employed, combining quantitative surveys conducted through social media platforms with qualitative interviews involving industry leaders. The study develops an AI-driven predictive model to anticipate consumer behavior, offering valuable insights for businesses and policymakers. The findings aim to enhance digital marketing strategies, improve customer engagement, and support data-driven decision-making, contributing to the evolution of Saudi Arabia's digital economy.

Keywords: machine learning, consumer behavior, e-commerce, Saudi Arabia