


Chapter 9

The Impact of AI-Driven User Experience in Digital Payment Systems: A Nordic Gen Z Perspective

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ABSTRACT

This chapter explores the impact of Artificial Intelligence (AI) integration on the User Experience (UX) within digital payment systems, focusing on Nordic Generation Z consumers. Using the Stimulus–Organism–Response (S-O-R) model, the study draws on qualitative data from Finnish participants to trace the consumer journey from technological stimuli to internal cognitive states and behavioural responses. The findings show that Gen Z views AI as an essential element of modern financial services, setting high expectations for performance and convenience. Participants balance the efficiency of automation against potential financial risks and conditional trust. A distinctive cultural element shapes these responses: Finnish consumers prefer AI-driven self-service autonomy as long as human assistance remains available. These insights underscore the importance of AI-driven payment experiences that are culturally sensitive and capable of fostering user trust.

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INTRODUCTION

The financial services sector has undergone a profound transformation, moving beyond basic digital transactions to an era dominated by AI-driven Digital Payment Systems (Ramrakhiani & Shrivastava, 2024). This shift elevates customer experience by integrating intelligent capabilities across various functions, including personalised recommendations, fraud detection, and virtual support (Nayak, 2025; Chauhan et al., 2025). From a UX perspective, these AI applications enable anticipatory, context-aware interactions that reduce user effort and enhance overall satisfaction (Alexander & Sarrafzadeh, 2004). This technological evolution is rapidly redefining how consumers engage with payment services globally.

To effectively analyse the multifaceted interaction between AI features and user acceptance, this chapter employs the established Stimulus–Organism–Response model (Mehrabian & Russell, 1974). The S-O-R model provides a structured approach to understand how the external “stimulus” such as AI features, influences the individual’s internal cognitive and emotional “organism” state (e.g., trust, risk perception, ease of use), ultimately shaping their behavioural “response” (Irimia-Diéguez et al., 2025; Elangovan & Babu, 2024). Key to this process are mediating factors such as trust and outcome expectancy, which significantly shape adoption intentions in digital payment contexts (Glavee-Geo et al., 2025).

While extensive research exists on UX in digital payments, few studies specifically investigate the perspective of Gen Z, particularly in technologically mature markets. Gen Z, as digital natives, possesses unique expectations, demanding hyper-personalised, frictionless experiences and exhibiting low tolerance for delays (Gutfreund, 2016). The Nordic countries, including Finland, represent a crucial context for this study due to their advanced digital infrastructure and high adoption rates (Arvidsson, 2019). Although Gen Z engages heavily in digital financial activity, concerns about data privacy and perceived risk remain relevant (Xu et al., 2010). Thus, a gap exists in understanding how the complex AI stimulus influences the trust and behaviour of this critical demographic in this specific, advanced setting.

This chapter aims to address this gap and answer a research question: *How do complex AI-driven features of digital payment systems influence the perceptions and behavioural responses of Nordic Generation Z consumers?* More specifically, the objective of this chapter is to examine the impact of AI-powered digital payment systems on the trust, satisfaction, and subsequent behaviour of Nordic Gen Z consumers. By linking qualitative data to the S-O-R framework, this study aims to contribute both theoretically, by demonstrating the influence of a cultural moderator (the Nordic context) on the S-O-R chain, and managerially, by providing actionable insights for designing trustworthy and effective AI-enabled payment services. The

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