

E-Payment Adoption: Evidence About Point of Sale in Vietnam

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ABSTRACT

The usage rate of Point-of-Sale (POS) e-payment services in Vietnam is still relatively low compared to other methods, despite their importance in daily e-commerce activities. This study presents a structural model for e-payment adoption specifically for POS. The model integrates various technology adoption theories of Technology Acceptance Model (TAM); Unified Theory of Acceptance and Use of Technology (UTAUT), as well as concepts such as perceived benefits, perceived risk, and trust. Data was collected from 195 participants who have used or intend to use POS for e-payment and analyzed using the Partial Least Squares–Structural Equation Modeling (PLS–SEM) method. The research findings demonstrated that factors of facilitating conditions, perceived benefits, effort expectancy, social influence, trust, and perceived risk have a significant structural relationship with e-payment adoption via POS. The study also provides insights for managers to enhance the acceptance and use of e-payment via POS and contributes to the exploration of factors influencing e-payment adoption in general.

KEYWORDS

Adoption, E-Payment, PLS–SEM, Point-of-Sale (POS)

INTRODUCTION

In the trend of comprehensive global integration in all aspects, smart technology application in the payment field is also a breakthrough in the Vietnamese market. The development of payment via point-of-sale (POS) systems has provided many opportunities for cashless payment development methods (Le, 2023). Accordingly, using payment via POS is a concern for individual customers. Banks use POS payments to collect service fees from payment acceptance units to increase profits and improve competitiveness. Previous studies on electronic payment (e-payment) indicate that three important factors influence consumer payment choices: consumer characteristics, e-payment method characteristics, and transaction characteristics (Stavins, 2022). The other technology adoption also influences consumer payment choices, which can indicate preferences, availability, and familiarity regarding payment methods (Hayashi & Klee, 2003), with new e-payment technologies.

In Vietnam, although the population is young, the proportion of people using bank cards to pay via POS system is not high. By 2025, the number of users in this segment will increase to 70.9 million; simultaneous mobile POS payments will increase from 28.6 million to 34.6 million (Statista, 2024). Vietnam has become a key player in the mobile POS payment sector. The launch of MoMo by

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M-Service and ViettelPay by Viettel, two major telecommunications providers in the country, signifies important domestic progress in mobile payments, and the use of mobile payments at POS has risen to 61% (Statista, 2024). National e-commerce development plan from 2021 to 2025, prioritizing policies and regulations to increase e-payment usage in online transactions. Besides, the plan aims to reduce the reliance on cash and prioritize the development of e-payment utilities such as electronic wallets (e-wallets), quick-response (QR) codes, and POS systems (Vietnam Net, 2023).

The acceptance and use of e-payment systems have received a lot of attention from scholars, especially through established theoretical models. One of these models is the technology acceptance model (TAM) introduced by Davis (1989). Along with its subsequent extensions—TAM2 was introduced by Venkatesh and Davis in 2000, and TAM2' was introduced by Venkatesh in 2000—the TAM series has been significant in explaining the factors influencing consumer perceptions of adopting e-payment systems. Furthermore, the unified theory of acceptance and use of technology (UTAUT) developed by Venkatesh et al. (2003) and its enhancement, UTAUT2, developed by Venkatesh et al. (2012), have been widely recognized for their comprehensive approach to studying the e-payment system adoption. These models are well-established in the field and are critically acclaimed for their robustness in examining the broader spectrum of technology adoption, specifically focusing on e-payment systems. In addition, e-payment adoption (PAA) is influenced by several factors such as perceived benefits (PEBs; e.g., Kim et al., 2009; Manrai & Gupta, 2020; Garg et al., 2024), perceived risk (PER, e.g., Pavlou, 2003; Park et al., 2004; Zhang et al., 2012), and trust (e.g., Gefen et al., 2003; Pavlou, 2003; Holsapple & Sasidharan, 2005). Many studies have focused on banking information systems (e.g., Nguyen et al., 2017), electronic banking (e-banking) systems (e.g., Pham et al., 2013; Nguyen et al., 2020), e-payment systems (e.g., Nguyen & Nguyen, 2016; Nguyen & Huynh, 2018; Yan et al., in press), mobile payment (m-payment) systems (e.g., Gupta et al., 2022; Cabanillas et al., 2024; Graziano et al., in press), and crowdfunding (e.g., Thottoli, 2022). However, there are limited studies on e-payment in the context of the POS, for example, Damayanti et al. (2020) and Luna et al. (2024). Hence, conducting in-depth research on e-payment via POS is an essential and meaningful study.

Based on the literature review of the TAM and UTAUT series and the related concepts of PEBs, PER, and trust, the theoretical model of PAA will be proposed, and hypotheses regarding e-payment in the context of POS are tested. This paper begins with an introduction, followed by a literature review and related works. Next, the theoretical model and research hypotheses are proposed. Then, a description of the research methodology is detailed, including details on sampling, data collection, and data analysis methods. Subsequently, the data analysis and research results will be presented, followed by research discussions of the findings. Finally, the conclusions will summarize the theoretical and practical contributions of the research, along with recommendations for future studies.

LITERATURE REVIEW

Background

Bank Cards

There are three kinds of bank cards. The *debit card* is the most popular card type for e-payment and is a tool that integrates the elements of an ATM with an e-banking service (Kim et al., 2010). Debit cardholders purchase items directly from their bank accounts rather than using cash or checks. In the debit card system, customers deposit money into their accounts and make payments at the time of purchase (Supriya et al., 2016). Besides this, online debit card requires electronic authorization for each transaction, while offline debit cards, similar to credit cards, allow transactions to be made over time until they are settled (Kim et al., 2010). The *credit card* is another type of e-payment that uses a card issued by a monetary institution to the cardholder to pay on the web or by electronic means without using cash. Credit cards are the most common type of e-payment (Kim et al., 2010). The

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