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Determinants of the Acceptance of Mobile Payment Systems by E-Merchants

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ABSTRACT

To be effectively deployed, a mobile payment (m-payment) system must be provided by e-merchants and accepted by e-consumers. Although the problem of acceptance of m-payment systems by e-consumers has been widely researched, there are few studies about what actually motivates e-merchants to adopt and deploy these systems in their businesses in the first place. The goal of this research was to discover the behavioral intentions of e-merchants to adopt and deploy an m-payment system. The interviews approach was applied to 347 e-merchants randomly selected from among the whole population of 47,457 independent business units selling goods online in Poland. The PLS-SEM method was applied to determine the relationship between variables. Unexpectedly, perceived risk was not a significant factor influencing e-merchants' intention to adopt an m-payment system. The e-merchants' behavioral intention was significantly impacted by the expected usefulness, perceived ease of deployment and use, perceived cost and price, and hedonic motivation.

KEYWORDS

E-Merchants, Intention of Use, Mobile Payment System, Online Shops, Payment Adoption

INTRODUCTION

Worldwide e-commerce continues to develop quickly. In 2017, the e-commerce share of retail sales in China exceeded 20%, while in Korea and the UK – 15%, in the US – 10%, and in Germany, France, Japan, and Brazil it was between 5%-10% (Meeker, 2018). In many countries, e-commerce growth is accelerating; e.g., in the USA, year/year 2016/2017 growth was 16%, while a year before it was 14%. Currently, a trend to initiate e-commerce transactions from smartphones instead of computers is observed. In 2017, the usage of mobile apps devoted to shopping increased 54% year/year, while the average mobile app usage has grown only 6% (Klotzbach, 2017). When shopping online with a mobile device, the best way to pay is provided by m-payment systems, i.e., any payment system that is installed on a mobile device such as a smartphone, tablet, smartwatch, or other wearable. In 2016, transactions conducted via such systems were estimated to total US $41.8 billion globally, comprising 8.6% of all non-cash transactions (Bose & Mellado, 2018).

For an m-payment system to be effectively deployed, two conditions must be met: (1) the system must be provided to consumers as a payment option by e-merchants, i.e., merchants selling on-line, and (2) the system must be accepted by e-consumers when completing their on-line transactions. The problem of acceptance of m-payment systems by e-consumers that has been widely investigated. In

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2015, Dahlberg et al. presented a critical literature review (Dahlberg et al., 2015) on this problem. Dahlberg et al. concluded that there is no need to conduct additional research on the acceptance of m-payment systems by e-consumers because we still do not know much about the acceptance of m-payment systems by e-merchants. In addition, they noted that it is unclear what determines the decisions of e-merchants to deploy m-payment systems in their businesses. Dahlberg et al. strongly encouraged scientists to collect data from the real world, i.e., to collect data about real m-payment systems from real e-merchants.

Teo et al. (2005) interviewed randomly selected businesses to explore inhibitors and facilitators of m- payment adoption in Australia. They found that some businesses were reluctant to trial m-payments before mass acceptance.

Mallat and Tuunainen (2008) conducted an exploratory study dominated by a qualitative methodology in Finland to organize determinants of merchants' adoption intention. They found lack of standardization and critical mass, as well as complexity of m-payment systems to be among the main adoption barriers.

Van Der Heijden (2002) interviewed 13 executives in Sweden and the Netherlands who were directly responsible for the deployment of mobile payment systems. They found that ease of use is important in establishing a merchant's acceptance of an m-payment system.

Lai and Chuah (2010) also attempted to explore merchant adoption, although they conducted their interviews with industry experts rather than with the merchants themselves.

Silenzi's doctoral research (Silenzi, 2012) involved interviews with managers from 15 international companies. He found that the key benefits of m-payments for merchants is in facilitating purchases from unbanked users, increasing impulse purchases, and developing new business models.

Guo and Bouwman (2016) proposed a framework for the analyses of the m-payment ecosystem. Starting from a set of propositions, they conducted in-depth interviews to analyze the multifaceted nature of the Chinese m-payment market. They identified the connection between the adoption process and the business ecosystem configurations.

Mondego and Gide (2018) provided a comprehensive review of studies on consumers published between 2013 and 2017 in which trust was one of the main variables in their research models. The findings of this preliminary study suggest that trust does indeed impact the consumers intention to adopt the m-payment system. However, various authors in consumer intent research reports have suggested that trust is positively related to other factors such as perceived usefulness, ease of use, and perceived risk. Consequently, trust is known to be associated with the acceptance or adoption of the m-payment systems by consumers. Yang et al. (2015) suggests that "in the current stage of China's online payment systems evolution, consumers have built up trust first as an antecedent of their perceived risks". The significance of these factors is also consistent with the results of qualitative research conducted on e-merchants (Możdzyński, 2018).

Liébana-Cabanillas et al. (2016) revealed that merchants have an overarching affinity for financial institutions providing m-payment services and that lack of knowledge and lack of critical mass are the dominant barriers of merchants' adoption of m-payment systems. As a preliminary study, only basic statistical analysis has been conducted.

Liébana-Cabanillas et al. (2017) found that the lack of information on the new payment tools significantly hinders their adoption. As a preliminary study, this research only included a basic statistical analysis.

Ligon et al. (2019) found that low rates of adoption were due to demand-side factors or taxes. Specifically, they found direct evidence that demand-side factors such as a perceived lack of customers wanting to pay digitally and concerns that records of mobile payments might increase tax liability impacted merchant adoption of m-payment systems.

The literature review led to the conclusion that the authors of papers mentioned above do not distinguish e-merchants selling on-line from merchants selling in brick-and-mortar shops in the context of acceptance of mobile payments. On the other hand, the technology acceptance models