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Towards a Better Understanding of Technology Acceptance in the Consumer Context: An Empirical Study of Proximity Mobile Payment Adoption in Hong Kong
進一步理解消費者對創新科技的接受行為： 以近端移動支付在香港的採用情況作為實 證研究

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ABSTRACT

With the popularity of mobile phones and drastic advances in mobile technology, more and more functions today are carried out by mobile phones. One of the latest developments is to integrate payment systems into mobile phones for bill settlement – these kinds of systems are commonly called mobile payment (m-payment) systems. M-payment systems can be classified into two main categories, namely remote and proximity. The remote type is not location dependent, customers can pay a bill anywhere without direct contact with merchants or a point of sales (POS) machine. Unlike the remote type, the proximity type is location dependent, which means that one has to interact with a POS machine to settle the bill. Various m-payment solutions have been developed and are available on the market, but most are of the remote type. It was not until the rapid diffusion and development of Near Field Communication (NFC) technology that proximity m-payment systems have become popular in the market. In addition, there is also a growing trend of using smartphones to perform financial transactions, such as peer-to-peer (p2p) mobile payment, interbank mobile payment and mobile wallet operations. Understanding the drivers and barriers of proximity m-payment adoption can help us to gain a better understanding of the adoption factors of these similarly evolving innovations.

This research aims at identifying, enriching and evaluating the variables that affect proximity m-payment adoption with reference to the Hong Kong context. The theoretical framework proposed in this study is adapted from the Diffusion of Innovations (DOI), Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT, UTAUT2) and previous studies. To my knowledge, only limited academic studies are focused on proximity m-payment

and most of the previous empirical studies are based on remote-type scenarios, therefore, this research attempts to fill this gap. On top of the commonly proposed independent variables; trust, security risk and innovation transparency are introduced in this research to study their impacts on the intention of proximity m-payment adoption from the consumer perspective. A sequential mixed-methods approach is applied in this research: not only is a questionnaire designed and distributed to collect quantitative data but interviews are also conducted with potential adopters in the initial stage for enhancing the questionnaire design. Hypotheses are made and tested in this research by utilizing the Partial Least Square – Structural Equation Modeling (PLS-SEM) method.

Unlike the typical results suggested in earlier research, this paper reports that perceived usefulness does not play a significant role in my proposed model. An extended analysis on this insignificant effect is conducted in this paper with suggested measures for future studies. My findings suggest that compatibility is the most influential factor among the tested variables, which implies that consumers are focusing on how the solutions fit into their daily lives. Besides, trust, social influence and innovation transparency also have moderate effects on the intention to use proximity m-payment. To my knowledge, my study is among the first to empirically investigate the effect of innovation transparency on proximity m-payment adoption. In addition, I have introduced regulation as a control variable in my research to see how it affects the results of my research. As far as I know, regulatory control is not often studied in empirical studies of technology adoption and my research reports that it is statistically significant on trust only.

I suggest that future research should pay more attention to these significant factors – perceived usefulness, compatibility, trust, social influence and innovation transparency. In terms of practical contributions, solution providers should put additional effort into enhancing the compatibility of their solutions with a focus on consumers' daily life and necessities. Improving customers' trust in their products and lowering product ambiguity can also help improving consumers' intention to adopt their solutions. The effects of regulatory control on various exogenous variables are also noteworthy and warrant investigation in future research. A specific section for discussing my findings in relation to the proximity m-payment development in Hong Kong is also provided.

Keywords: Consumer Adoption, Innovation Adoption, Innovation Ambiguity, Innovation Transparency, Electronic Payment, Mobile Commerce, Mobile Payment, Partial Least Square, Product Knowledge, Proximity Mobile Payment, Structural Equation Modeling, Technology Acceptance Model.