An Empirical Study on Users’ Continuous Usage Intention of QR Code Mobile Payment Services in China

Shang Gao, Örebro University, Örebro, Sweden
Xuan Yang, Zhongnan University of Economics and Law, Wuhan, China
Hong Guo, Anhui University, Hefei, China
Jia Jing, Zhongnan University of Economics and Law, Wuhan, China

ABSTRACT

This article aims to investigate users’ continuous usage intention of quick response (QR) code mobile payment services in China. Drawing from UTAUT as theory foundation, this study integrates with literature on perceived risk and involvement to propose a research model and seven research hypotheses to examine user’s continuous usage of QR code mobile payment services. The research model was empirically tested with a sample of 215 users of QR code mobile payment services in China. The results indicated that five of seven research hypotheses were significantly supported. According to the results, performance expectancy, effort expectancy and social influence had significant positive direct impacts on users’ continuous usage intention of QR code mobile payment services. However, perceived risk did not have a negative effect on users’ continuous usage intention of QR code mobile payment services. This article contributes to the existing literature on continuous usage of mobile payment services.

KEYWORDS

Continuous Usage Intention, Involvement, Perceived Risk, QR Code Mobile Payment Services, UTAUT

1. INTRODUCTION

Along with the rapid development of Internet technology especially the mobile Internet technology, mobile e-commerce is getting more and more popular in peoples’ daily lives. And mobile payment is one of the important components in mobile e-commerce. Dahlberg et al. (2008) defined mobile payments as payments for goods, services, and bills with a mobile device by taking advantage of wireless and other communication technologies. Mobile payment enables users to pay for goods and services using their mobile devices wherever they go. Mobile payment has also been received great attention by organizations in China. For instance, Alipay, which is the largest online third-party payment service provider in China released its mobile payment service Zhifubao Wallet in 2013. Some new mobile innovations quietly poured into the market. The Quick Response (QR) code is one of technologies are being used for mobile payment services (Flood et al., 2013). To use QR code mobile payment services, users need to have a mobile app that has QR code scanning and generation functions on their mobile devices. Then, users can open the app to scan the QR code displayed by the merchants, enter the amount to be paid and complete the payment.
Electronic commerce organizations may achieve competitive advantage via the provision of mobile payment services to customers. However, the issues associated with appropriate mobile payment services usage are of critical importance. It is found that QR code mobile payment services is getting more and more popular in mobile industry in China (Zhu, 2018). According to the annual report from China Internet Network Information Center in 2016, more than 95% of China’s 731 million Internet users accessed the Internet via their smartphones, and half made offline, in-store mobile payments in 2016. There are tens of thousands of offline stores offering customers QR code as an option for mobile payment in China (Zhu, 2018).

While there has been extensive research on the adoption of online and mobile payment (e.g., (Shin, 2009, Rouibah et al., 2016)), limited attention has been given to the continuous use of mobile payment services, particularly with QR code mobile payment services. Many news agencies in China (e.g., ChinaDaily) reported that some users stopped using QR code mobile payment services in China due to some associated potential risks. For instance, QR codes can be used to infect smartphones with viruses, which then let the fraudster steal money from a victim’s mobile wallet, such as Alipay in China. Compared to users’ perception of a service at the initial adoption stage, users may have some additional concerns with the service at the post-adoption stage. Previous research (e.g. (Lim and Ting, 2014)) also indicated that the eventual success of a new IT relies more on the continuous use rather than initial adoption. Given the importance of IS continuous research and the scarcity of research on the continuous use of QR code mobile payment services, it is worth to investigate potential factors that impact users’ continuous usage of QR code mobile payment services in China.

The objective of this paper is to investigate users’ continuous usage intention (CUI) of QR code mobile payment services in China. Over the past years, Technology Acceptance Model (TAM) (Davis, 1989), has been widely applied to examine IT usage. Many previous studies have verified that the adoption behavior is determined by the intention to utilize a particular system (van der Heijden, 2004, Pavlou, 2003, Gao et al., 2014), which is determined by the perceived usefulness and the perceived ease of use of the system. However, the UTAUT (Unified Theory of Acceptance and Use of Technology) model (Venkatesh et al., 2003), which was developed from the TAM model, was better designed to account for 70% of variance in usage intention. In this study, a research model based on the UTAUT is proposed to examine users’ continuous usage intention of QR code payment services in China. The proposed research model is empirically tested using data collected from a survey of 215 users of QR code mobile payment services in China.

The remainder of the paper is organized as follows: the literature review is provided in Section 2. The research model and hypotheses are presented in Section 3. Section 4 provides the analysis of research methods and results. Section 5 provides a discussion of the survey results. In section 6, we conclude this research and point out limitations of this research.

2. LITERATURE REVIEW

The literature related to this research is discussed in this section.

2.1. Technology Diffusion Theory

An important and long-standing research question in information systems research is how we can accurately explain user adoption of information systems (DeLone and McLean, 1992). TAM, which is the extension of the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), appears to be the most widely accepted model. TAM focus on the perceived usefulness (PU) and perceived ease of use (PEOU) of a system and has been tested in some domains of E-business and proved to be quite reliable to predict user acceptance of some new information technologies, such as electronic commerce (Pavlou, 2003), online shopping (Gefen, 2003), mobile games (Gao et al., 2016) and mobile tourism services (Gao et al., 2012).
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