

# Critical Implications of M-payments use on Healthcare

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**Abstract:** With m-payment, consumers could now operate cashless by providing an easy and convenient way to pay for products and services. The adoption of m-payment technologies and apps has been mixed, promoting many kinds of research. The studies explore factors, and their impacts influence the intention to use m-payments in China and thus affect the adoption of the same technology.

**Keywords:** M-payments; Intention to adopt mobile payments; User experience

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## 1. Introduction

In recent years, there has been a continued advancement in technology. Mobile and the banking sectors have been some of the beneficiaries of this rapid technological advancement as it has created nexus between the two. Such a nexus resulted in the created in the creation of m-payment. With m-payment, consumers could now operate cashless by providing an easy and convenient way to pay for products and services. The adoption of m-payment technologies and apps has been mixed, promoting many kinds of research <sup>[4,6]</sup>. Both studies explore factors, and their impacts influence the intention to use m-payments in China and thus affect the adoption of the same technology. While both of these researches demonstrate the reasons for the differences in the adoption of m-payment, the depth and width of their research vary, with both being useful depending on the needs of the users.

## 2. Case Study

### 2.1. Two articles' experimental M-payment studies

M-payments has seen a dramatic rise in the technological market over the years. Thus, the review by Kim, Mirusmonov, & Lee, an empirical examination of factors influencing the intention to use mobile payment, seeks to identify factors that influence the plan to use m-payment <sup>[4]</sup>. The goal is to determine how organizations can best exploit these factors and maximize the use of m-payment platforms.

The second study, the impact of mobility, risk, and cost on the users' intention to adopt mobile payments, is focused on the implications of m-payment technology to the users. How the mobility, the risk exposure, and cost incurred, affect the users. The study also aims to mitigate the impacts that may reduce the intention to use them-payment services while at the same time enhancing the adoption of the same technology.

## **2.2. Comparison of factors influencing the intention to use mobile payment**

When it comes to using technology, people go into categorizations of groups depending on the time of adoption, early and late adopters <sup>[4]</sup>. And for either group considered, several factors are influencing the confirmation of mobile payment. These factors go beyond the characteristics of mobile payment services.

Individual difference is a very crucial factor in the adoption of mobile payment. It is why the most innovative individuals tend to drift towards the approval of mobile payment. The knowledge of the m-payment also comes in handy as no user would ever fully adopt any technology without understanding it <sup>[4]</sup>. Therefore, those with adequate knowledge about the mobile payment often choose it faster than those with little understanding of the same.

The characteristics of mobile payment systems like mobility, reachability, compatibility, and convenience also add to the positive factors of adoption of mobile payment <sup>[4]</sup>. It is, however, not entirely up to these factors. The system may have all the attractive features and the users all the qualities that encourage adoption, but still, there be no adoption. It is because of perception, the perceived cost, risk, and mobility, and their associated impact also have pull when it decides to adopt mobile payments.

## **2.3. Comparison of the theory of planned behavior model**

Theories of acceptance of technology have always focused on explaining computer-usage behavior. The approaches take different points of view. With this in mind, Kim, Mirusmonov, & Lee, in their study, an empirical examination of factors influencing the intention to use mobile payment, incorporate both TAM and UTUAT <sup>[4]</sup>. The similarities between the two models allow for the restriction of factors to focus on during the study. The history of mobile technology development is also a factor that went into consideration in the study. In perceptions and beliefs, there is the expected trust that is accorded organizations serving for a lengthy period.

The second study focuses on the impact of the external factors that affect the adoption of mobile technology. Through TAM, in their study, the effect of mobility, risk, and cost on the users' intention to adopt mobile payments, the researchers limited the factors to selected few, mobility, risk, and expense. The external factors underwent testing against the primary variables that affect the intention to us as per the theory- perceived ease of use and perceived usefulness.

Though both studies appreciate the same theory, Kim, Mirusmonov & Lee borrow from one or two more approaches to cover all aspects of the acceptance of mobile payments <sup>[4]</sup>. Like the use of the UTUAT model to restrict the factors to the limited few while appreciating the smaller elements that may indirectly affect the intention to buy. On the other hand, settle on TAM and include provisions for emotional attachments that affect individual perceptions.

## **2.4. Study emotional factors and rational factors interact**

With mobile technologies festering in the community, it is essential to understand the elements of their acceptance and use. One crucial factor is emotions. Individual emotions guide the beliefs and attitudes which directly impact the decisions made. In both studies, there is evident interaction of emotion and rationale <sup>[6]</sup>. The communication is crucial to the intention of use as it can result as either positive or negative. The mobile payment systems come with convenience as a desirable characteristic, and it is a proper junction for rationality and emotions.

By controlling the external factors by theories in use, the studies can account for the associated emotions from the respective fields of study. Based on the impact beliefs and perceptions have on the intention of use, it is evident that emotions are a crucial factor, and there should be more concern on the same note <sup>[5]</sup>. The studies leave room for exploration of this aspect with relation to the adoption of mobile

payment and any other new technology.

## 2.5. Compare research models

The data collection methods, with regards to the participants of the research, were important. It ensured that the respondents and the methods through which they underwent for choosing could have a significant impact on the viability, verifiability, and quality of the output. Kim et al., appreciated this fact and had an initial sample population of 1700 prospective participants who all received questionnaires [4]. The final number was cut to 269 questionnaires because the rest had missing data or invalid responses. Though this was a sufficient number for the research, the method used to arrive at this final number did not have representative considerations in it. For any research, the data collected must be from a sample population that is as representative as possible. The research by Kim et al., fails in this aspect [4].

Data collection by Ying et al. also had the same problem. There was a random selection of participants from densely populated public areas in Chengdu, China [6]. If they answered that they had used m-payment before, then they were included in the research. Two hundred thirty valid questionnaires were eventually in use for the analysis of the research questions. With the two pieces of research failing on the issue of representativeness, it casts doubts over the reliability of the data. The two pieces of research should have instead used a stratified data sampling technique. Stratified data sampling techniques would have enabled the researches to put the respondents into different strata, hence ensuring representativeness. The strata should have included, the level of knowledge they have on m-payments, the periods of usage, the perceptions, gender, financial and social status, among other relevant to the population (Figure 1.). Doing this would have ensured that the researches were more representative.

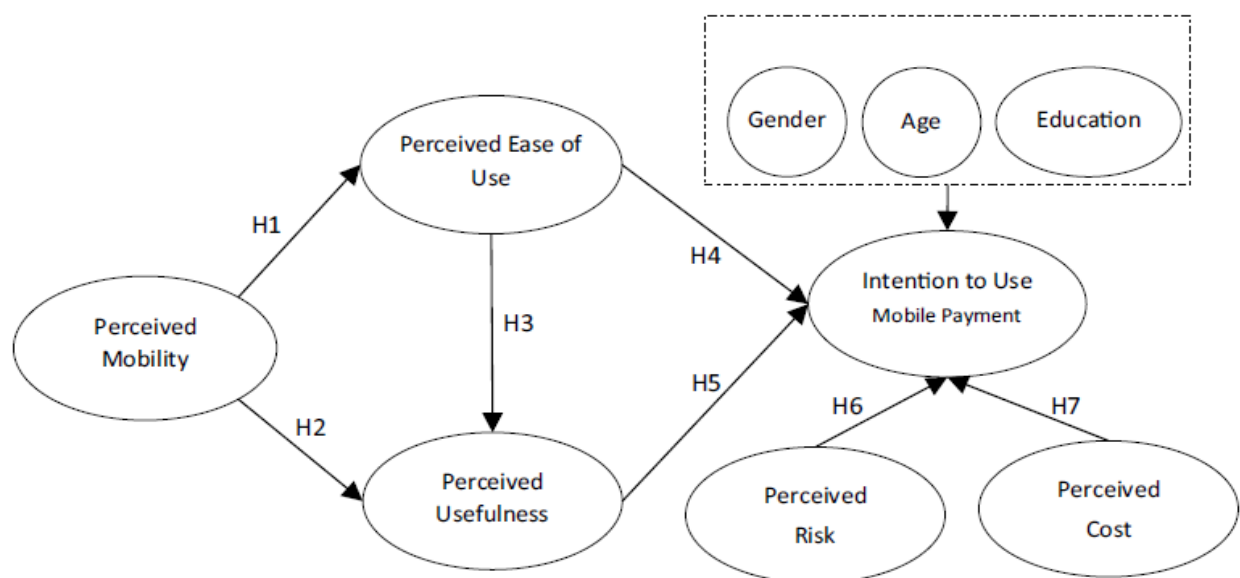


Figure 1. Research model

## 3. Discussions

### 3.1. Lessons from collected data

Data was collected through surveys and questionnaires as well as observations wherever applicable. From the collected information, it is apparent that perception and beliefs matter a lot in the use of any technology for that matter. Most people rely on what they know and what some term as common knowledge to guide their decisions when it comes to intentions to use new applications [3]. It is no surprise that a good percentage

of the population often uses some technologies because of the associated status quo or, at times, influence from members of the community, such result in misinformation as witnessed by volume of irrelevant or incomplete questionnaires.

It is also clear that collecting data on issues that require personal opinions can be very taxing and tedious. Collecting adequate information takes time, especially since a good number of people do not receive a keen interest in what happens socially in terms of technology and development. Such are the people that rely on trends and information from the more knowledgeable members of the community.

### **3.2. User experience in healthcare app**

Healthcare has always been a basic need, and in light of the pandemic at hand, it is prudent to improve the adoption of healthcare apps. Since the healthcare services can now undergo dissemination via mobile apps, the factors affecting the approval of mobile payment apps can primarily boost the adoption of healthcare apps as well <sup>[2]</sup>. After all, all apps should render services to people who remain the same regardless of the application.

However, with regards to the delicacy of healthcare, improving the User Experience in healthcare apps will mostly benefit by borrowing the model of study applied by Ying et al. and Kim and his colleagues, TAM. The model allows for the restrictive inclusion of factors that affect the perceived usefulness and ease of use of the end product <sup>[2]</sup>. As such, with studies aimed at improving the adoption of healthcare applications, the model allows for specialization into factors that will surely guarantee the approval of the healthcare apps as with the mobile payment systems.

### **4. Conclusion**

The world is in a technological era, with several applications undergoing development to attend to any number of human needs. It thus should not be an opening for developers to come up with app haphazardly. There is a need for adequate studies to come up with efficient applications for the user, not just applications without consideration of what draws the users. Mobile technologies have especially been helpful, with the one that stands out being m-payment. It has led to a focus on research by many pieces of research, the most conspicuous being the research done in 2010 and 2019, respectively <sup>[4, 6]</sup>. The importance of the two pieces of research should not undergo serious appreciation because while the former focuses on width (many factors), the latter focuses on depth (only three factors). They provide different perspectives for users of the research. Future research should, however, have a focus on ensuring that the data collection participants are representative rather than being random. The central argument is, therefore, that there is a need to balance between focusing on a few variables <sup>[6]</sup> and researching extensively on the many variables <sup>[4]</sup> that affect the use and adaptation of m-payment. There is also a need to ensure that the future research does not pick respondents randomly, as was used <sup>[6]</sup> or not, ensuring that the questionnaires are representative, as was the case with Kim et al. <sup>[4]</sup>.

### **Disclosure statement**

The author declares no conflict of interest.

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