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UNDERSTANDING PERCEIVED VALUE OF MOBILE PAYMENTS: A QUALITATIVE STUDY

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Abstract

Mobile payment (MP) applications have long been deemed as a disrupting innovation within the payments landscape given the massive take up of smartphones worldwide. However, realizing such potential can only be achieved through a deep understanding of how consumers perceive value in such innovation. This study employed the perceived value theory to provide an in-depth interpretation of the different determinants of MP value as perceived by current and prospective consumers. A total of 23 interviews have been conducted with both adopters and nonadopters. The findings suggest that the convenience value of MP represents the major value-adding factor for adopters whereas the use of existing contactless card-based payment method represented the main benchmark with which nonadopters negatively valued contactless mobile-based payment methods. These findings provide a profound understanding of the perceived value theory within the context of MP and offer suggestions to MP applications providers.

Keywords: Proximity mobile payment, perceived value theory, technology adoption

1.0 Introduction

Smartphones appear to have achieved a massive success in terms of penetration rate among consumers worldwide. Earlier forecasts anticipated that mobile payments will be among the highly adopted mobile applications due to convenience advantages they bring to users as a result of the ubiquity of the mobile phone (Anckar and D'incau, 2002). Mobile payment (MP) is defined as “any payment where a mobile device is used to initiate, authorize and confirm an exchange of financial value in return for goods and services” (Au and Kauffman, 2008). The payment as a process is broadly

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classified into two main types, remote and proximity MP (Ondrus, 2015). The most common form of proximity MP is conducted through wallet apps by tapping the smartphone over a payment terminal. The terminal activates a Near Field Communication (NFC) session prompting the communication of card payment information stored in the smartphone's secure chip. Remote MP takes the form of an online transaction that use pre-stored or manually-entered payment information through mobile apps or mobile-based web browsers for checkout. Findings from academic and market research studies have consistently indicated that the uptake of MP is far below earlier projections. Although the adoption rate gap between mobile devices and their MP applications among consumers had been reported by studies dating back to a decade ago (e.g. Chen, 2008; Mallat, 2007), the same phenomenon has been addressed by more recent studies (Slade *et al.*, 2015; Johnson *et al.*, 2018). MP adoption in the UK does not seem to be an exception, where forecasts suggest that mass adoption of proximity MP will be less likely realized in the foreseen future (eMarketer, 2018). Given the rich landscape of commercially available proximity MP solutions in the UK, mainly including mobile wallet apps provided by global players such as Apple Pay, Google Pay and Samsung Pay (Gibbs, 2017), it could be argued that there is a need for a further understanding of the factors affecting consumers' decisions to take advantage of this market variety.

Commercial mobile wallet apps are marketed as a convenient and secure payment instrument that features a seamless user experience and enhanced security measures (Apple, 2018; Google, 2018). However, contrary to other emerging technology innovations that tackle previously unresolved issues, proximity MP is arguably a new form of payment that competes with existing widely used payment instruments mainly including cards and cash (Slade *et al.*, 2015). Such instruments have not only gained consumer's trust over time, but also introduced new convenient ways of conducting payments as in the case of contactless cards. Many previous studies attribute the low penetration of MP solutions to consumers' perceptions of seeing little or no value over existing traditional payment methods (Ondrus, Lyytinen and Pigneur, 2009; Pham and Ho, 2015). Indeed, theories from consumer behaviour literature postulate that the consumer's eventual choice behaviour is determined by the perceived value of a given product in comparison with other alternatives (Sheth, Newman and Gross, 1991). The richness of the concept of value as a highly subjective construct (Woodruff, 1997) suggests the need for a deeper understanding of MP value through eliciting insights

directly from consumers. Although recent MP adoption studies have offered some valuable insights about consumers' perceptions of value in MP, such studies were predominantly self-reported and quantitative in nature. This study attempts to fill this methodological gap by qualitatively investigating the perceived MP value dimensions and answering two central research questions: 1- What are the main determinants of value and their meaning as perceived by existing and prospective proximity MP consumers? 2- How these different determinants are interrelated?

This paper is organized as follows. Section 2 introduces the theoretical foundation of the study. In Section 3, the methodology used for investigation is described followed by a presentation of the findings in Section 4. The study concludes in Section 5 with a detailed discussion of the findings along with their theoretical and practical implications and provide future research suggestions.

2.0 Theoretical foundation

Technology adoption researchers have successfully employed the perceived value theory as a basis to explain adoption of different technologies. The basic assumption of this value-based approach suggests that value maximization is the common determinant of the consumer eventual behaviour (Kim, Chan and Gupta, 2007). Although the concept of perceived value from a consumer's perspective has been defined by many marketing researchers, Eggert and Ulaga (2002) identified three common definition elements. First, perceived value is a trade-off between a combination of multiple components of benefits and sacrifices as perceived by consumers in a market offering (Zeithaml, 1988). Second, value is recognized as a subjective construct where different consumers perceive different values in a given product. Finally, value is relatively perceived in comparison with available alternative market offerings in a specific use situation. The subjective nature of the concept of perceived value appears to be reflected in how researchers recognized its determinants. Whilst some researchers conceptualized value as a trade-off between quality and price (e.g. Dodds and Monroe, 1985), others suggested that value is a more complicated concept that needs to address other experiential dimensions beyond pure utilitarian goals (Holbrook and Hirschman, 1982; Sweeney and Soutar, 2001). Based on the theory of consumption values (Sheth, Newman and Gross, 1991), Sweeney and Soutar (2001) developed a generic framework that represents value as a combination of functional, emotional and social values. Although this theory is

recognised as a comprehensive representation of the different forms of value validated across a variety of disciplines (Sweeney and Soutar, 2001), it is argued that it failed to consider the costs involved in consumption (Kim, Chan and Gupta, 2007).

A limited number of recent contributions have started to utilize the perceived value theory as a means to understand consumer's adoption of MP. Cocosila and Trabelsi (2016) have investigated the adoption of proximity MP through an integrated value-risk model, where determinants of value included utilitarian, enjoyment and social values as benefits while the sacrifices side incorporated multiple facets of risk. Similarly, de Kerviler et al. (2016) have studied the adoption of in-store MP and information search. However, they dichotomized utilitarian benefits into convenience and economic benefits, hedonic benefits into enjoyment and experiential benefits along with the social benefits, in addition to privacy and financial risks as sacrifices. Both studies have empirically confirmed the significance of the positive effect of utilitarian, hedonic and social benefits as well as the negative effect of perceived risk on the eventual behaviour. Nevertheless, interrelationships between determinants of value were not validated by both studies. Following the same line of research, this study employs the perceived value theory as a point of departure to explore value of MP in terms of benefits and sacrifices. In doing so, we build on previous research and derive the determinants of the benefits side of value to include convenience, monetary, social and enjoyment (Sweeney and Soutar, 2001; Pura, 2005) in addition to perceived trust in provider (Kim, Xu and Gupta, 2012). For the sacrifices side, we include perceived risk in accordance with Sweeney, Soutar and Johnson (1999). The following subsections draw on previous studies to define and support the inclusion of these determinants within MP context.

2.1 Convenience value

Functional value was conceptualized as two separate components representing utilities derived from performance-related attributes and monetary value perceived in a product or service compared to alternatives (Sweeney and Soutar, 2001). Pura (2005) argues that the performance aspect of functional value is derived from the convenience of fulfilling a task. Convenience is one of the main value-adding features offered by mobile commerce applications (Anckar and D'incan, 2002). Service convenience comprises four dimensions, namely time, place, acquisition and use (Brown, 1990). While time and place convenience involve the elimination of temporal and spatial limitations of service access, acquisition and use convenience are related

to how acquiring and using the service is effortless. In particular, the ubiquity of MP has been considered as the main advantage offered over other online and offline payment methods (Zhou, 2013). Following this perspective, this study defines convenience value as the consumers' perceived utility from the ease of registration and use of MP as a service accessible anytime and anywhere.

2.2 Monetary value

Monetary value is the other component of functional value referring to the value a consumer receives for money paid at an acceptable price level (Sweeney and Soutar, 2001; Pura, 2005). Pihlström and Brush (2008) suggest that all mobile services save time and money, therefore a monetary value could be attached to their use. This assumption is supported by de Kerviler, Demoulin and Zidda (2016), where they found a positive relationship between the economic benefits of money saving and using a smartphone for information search and payment for shopping. Drawing on this argument, this study defines monetary value as the consumer's perceived utility of the money savings resulting from using MP apps compared to other payment methods.

2.3 Enjoyment value

Also termed as emotional or hedonic value, enjoyment value refers to the utility acquired by consumers from the capability of a product or service to trigger feelings or affective states (Sheth, Newman and Gross, 1991). As an important determinant of technology acceptance and use, Venkatesh et al. (2012) defined hedonic motivation as the "fun or pleasure derived from using a technology". Researchers have suggested that consumer motivations to adopt technologies are not only driven by the utilitarian values, i.e. convenience and monetary, but also consider technologies as sources of enjoyment. Previous studies found a significant positive relationship between enjoyment perception and the perceived value of MP (Koenig-Lewis *et al.*, 2015; Cocosila and Trabelsi, 2016). Consistent with these conceptualizations, this study defines enjoyment value as the positive feelings that consumers derive from interacting with their MP app when conducting a payment transaction.

2.4 Social value

Social value is defined as the product or service ability to enhance social self-image and interpersonal communication (Sheth, Newman and Gross, 1991; Sweeney and Soutar, 2001). The social aspect here addresses how appreciation from important others with regards to the use of a given service is perceived by the concerned individual. Within this context, social value was found to significantly affect the

consumer's intention to use mobile apps (Wang, Liao and Yang, 2013). Similarly, perceived value of proximity MP was found to be positively affected by social value (Cocosila and Trabelsi, 2016). Therefore, this study recognizes social value as a source of self-appreciation perceived from the impression conveyed by peers in a social context with regards to the use of MP.

2.5 Trust in provider

Trust entails the willingness to be vulnerable to the actions of another party based on positive expectations toward the future behaviour of that party (Mayer, Davis and Schoorman, 1995; Zhou, 2013). Trust is a central notion in distant commercial relationships lacking direct personal communication where perceptions of uncertainty become dominant (D Harrison McKnight, 2001). This is particularly applicable to online financial services where the risk of potential monetary loss resulting from information misuse becomes a major concern. Perceived trust in online vendors was found to positively influence the perceived value of online shopping on the basis that trust reduces the nonmonetary cost of risk (Kim, Xu and Gupta, 2012). Although value-based MP adoption studies have largely ignored the effect of perceived trust on perceived value, this study anticipates that the perceived trustworthiness of a MP provider will have an impact on the perceived value of MP as a financial service conducted over smartphones.

2.6 Perceived risk

Perceived risk is defined as “the consumer's subjective belief of suffering a loss in pursuit of a desired outcome” (Pavlou, 2003). Perceived risk has received a great deal of attention by MP adoption researchers. Whilst some researchers verified a direct negative effect of perceived risk on adoption intention (e.g. Chen, 2008; de Kerviler et al., 2016), others included perceived risk as a nonmonetary cost into their perceived value model (e.g. Cocosila and Trabelsi, 2016). Therefore, this study defines perceived risk as the consumer's belief of uncertainty regarding the security of their information and the reliability of using a mobile device when paying for goods or services.

3.0 Methodology

3.1 Data collection

A qualitative approach using semi-structured interviews was employed due to the exploratory nature of this study (Creswell, 2007), where extant literature offered very

little understanding about the exact meaning of the determinants of value within MP context. Snowball sampling technique was utilized by asking participants invited through university research groups and social contacts to share the invitation with other potential participants. The selection criteria were set to include participants who have used a smartphone and are residents of the United Kingdom. No restriction was made on previous MP experience so that both adopters and nonadopters are included.

3.2 Interviews

Interviews were conducted between November 2017 and April 2018. The interview guide was first piloted with two PhD students. Their comments were taken into consideration to rephrase and elaborate on questions that were not fully understood. Invited participants were first briefed about the aim of the study and were asked general demographic questions. Each determinant of the perceived value was then defined to participants followed by questions about their own perceptions about the presented determinant. This method allowed participants to define each component in their own words and contextualize their answers around the use scenarios of MP from a perspective of value, i.e. whether they would perceive the given determinant as value-adding or value-inhibiting to the payment experience. Generally, the nature of the questions was designed to be open-ended to allow a room for participants to elaborate on their answers. Probing questions were used to provide further insights for other factors that might have not been anticipated in the beginning.

3.3 Sampling and coding

Interview recordings were transcribed and content-analysed using Nvivo 11 software. Data analysis involved labelling segments of the transcripts with codes that were then categorized under a main theme. An initial set of themes was developed based on the theorized determinants of value. Codes that could not fit under an existing theme were categorized under a new theme. Coding took place in parallel with data collection, allowing the interview guide to evolve as further themes emerge. The sampling continued until a data saturation point has been reached where no new codes could be identified. A total of 23 participants were interviewed, Table 1 provides a summary of the characteristics of the participants.

4.0 Findings

Given the unconditional sample selection with regards to prior proximity MP experience, the interviews involved both adopters and nonadopters. Less than a third

of participants (30%) have ever used their phone as a proximity payment method. All of them have used native wallet apps provided by mobile device manufacturers such as Apple Pay and Android Pay to make payments.

| Measure | Group | Frequency |
|------------|----------------------|-----------|
| Age | 18-24 | 4 |
| | 25-34 | 11 |
| | 35-44 | 6 |
| | 45-54 | 1 |
| | 55-60 | 1 |
| Gender | Male | 16 |
| | Female | 7 |
| Occupation | Full-time Employment | 12 |
| | Full-time student | 10 |
| | Retired | 1 |

Table 1. Demographics of the participants

4.1 Convenience value

Convenience of proximity MP was mainly identified by the participants in terms of the ubiquity of the mobile phone. Ubiquity meant that they carry their phones all the time with a multitude of applications that they use on the move. The fact that mobile payment applications coexist with other frequently used applications on the same device was perceived among adopters as a convenient alternative payment method that saves them the cognitive effort of minding their wallets. They also mentioned that making a payment through a mobile app saves them the effort of getting cards or cash out of a physical wallet. In addition, some adopters considered using proximity MP for small amount purchases as another convenience factor. Their reasoning could be attributed to two aspects, saving the time of handling coins and exerting less cognitive effort to quickly pay for small amounts.

“... I am in a rush, I don’t have to worry about carrying something else on me, so it’s already there in my phone and I always have my phone... because everything I need is on my phone” (P1)

“using contactless Apple Pay is very convenient especially in the café or for buying something really small from a grocery shop. I use it especially when the value of the purchase is very small below 10 pounds I tend just to use my mobile straightaway” (P2)

Although some of the nonadopters acknowledged the convenience of MP in terms of the ubiquity of the phone, however they added that proximity MP offer little or no convenience value over the contactless card. Many nonadopters perceived MP apps as less convenient and more time consuming than the contactless card based on

perceptions of complexity involved in MP mainly including the need to find and launch an app.

“I haven’t investigated thoroughly how it would work I mean my worries that to use it I’d have to first get into login to the phone and then I’d have to start an app you know by the time I’ve done this I’d have wasted time while the card seems to work without requiring a PIN code most of the time...so there’s not a great push factor I guess to use the phone” (P16)

4.2 Monetary value

Almost all participants stated they see no financial value in return for using proximity MP. Adopters went further to say that using proximity MP has caused them to overspend due to the ease of access to payments compared to using cash. In addition, the intangibility of the amount of money spent using proximity payments appear to have increased their expenditure compared to handing in actual cash.

“I buy a coffee or this sort of thing, just with one click, I find it easy comparing with cash because if I don’t have cash sometimes I would rather not to buy a coffee...” (P8)

Likewise, nonadopters did not perceive any potential savings from using proximity MP. They elaborated on this by explaining that they would spend the same amount regardless of the payment method.

“...it all comes from the same place so probably I see it’s kind of the same thing however where I am paying for it, it is still coming out of my account” (P5)

In terms of monetary cost, most participants saw no extra cost associated with using MP similar to the case of other payment methods in terms of transaction cost. Moreover, other elements of cost such as network charges and mobile phone cost were not mentioned.

“The charges that you will incur normally for a phone payment are going to be incurred for any sort of online or mobile payment. So I don’t think there’s any additional costs” (P12)

4.3 Enjoyment value

In general, the findings suggest that the enjoyment value is closely associated with the degree of the perceived convenience of proximity MP apps rather than being a strong value proposition on its own. In addition, the app design aesthetics was considered by some adopters as a factor that could possibly lead to some affective states. Adopters

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expressed their enjoyment of using proximity MP in terms of how easy and fast it is to complete the payment as well as the app sound notification received when the payment is successful.

“Weirdly, when I moved from iPhone to Samsung, and because Samsung is just a lot easier, I now get a little bit of joy in comparison ... and I will get that very satisfying buzz” (P7)

Similarly, nonadopters mainly derived their perception of enjoyment from convenience-related facets including ease of use and quick access.

“That would depend very much on how easy it is to use the app, if it is not very intuitive or it’s got a bad layout that would be quite frustrating and annoying” (P15)

4.4 Social value

The findings indicate that the perception of social value is associated with the self-social image attained among close social groups. Participants perceived the social image as the impressions that their peers would have for them as being up-to-date with new technologies that serve a good purpose. They also perceived that using proximity MP will enhance their social interaction within their peer social groups with MP experience.

“...it would make me look like everyone else in a way that I was accepting that things are safe and that I was using technology in a purposeful way” (P4)

“I was talking to friends ... and a few of them do use mobile payments and I had to say I hadn’t used it before so I suppose if I did use it I would be similar to them” (P15)

However, some participants noted that they do not see a significant social value attached to using MP in general because they think it’s irrelevant to their old age group. Others went further to associate a negative social aspect as they anticipate that using proximity MP might be perceived as a kind of showing off.

“Although if I was younger I might, me five years ago I would probably care a bit more” (P7)

“...they might see it as showing off, I am not convinced that it’s necessarily wholly positive” (P6)

4.5 Perceived trust

Participants perceived trust in proximity MP service providers through three main dimensions: the provider’s business size, whether they are a regulated entity, and their

reputation. A clear majority of participants considered the size of the provider as an important aspect of trustworthiness. The size was mentioned within the context of how popular the providers' products are, thus giving an indication about the level of trustworthiness in terms of how many people are already trusting their products.

"...if it [the company] is big then lots of people use it and because lots of people use it that generates a sense of confidence" (P21)

"When I saw like Apple, my first reaction was hang on, this is not their specialty. So initially there was a bit of mistrust there but now everyone seems to be using them I am kind of realizing they are going to be OK" (P5)

The findings further suggest that financial services providers are considered trustworthy because they are strictly regulated by a central regulatory body. Although the most popular MP apps are provided by technology companies, however most participants were more inclined to trust well-established financial institutions such as banks and card schemes. In addition, some participants considered the newly emerging online-based challenger banks as trustworthy because they are regulated.

"... they're safe because it is a regulated market so no service could offer this without being regulated and to be regulated certain standards have to be upheld..." (P3)

"I think when I learned about Monzo, this mobile bank, first thing I looked at FCA (Financial Conduct Authority) and they seem to be approved by the FCA and that encouraged me" (P17)

Reputation of the provider was mentioned by some participants as another aspect of trust. They perceived reputation in terms of whether a provider has encountered data breaches or security issues in the past.

"has there been any big news reports about massive data breaches in that company... if you were to hear that kind of thing that would very much put me off" (P19)

Most participants confirmed that trust in the provider of mobile payments reduces their perception of risks associated with MP. In particular, adopters have associated the security features of their MP wallet app with trust in provider.

4.6 Perceived risk

Although some adopters have mentioned that they are aware of the potential risks involved in using proximity MP, the findings indicate that perceptions of risk were higher among nonadopters. Whilst adopters described the potential risks as being

avoidable or less likely to stop them from continuing to use proximity MP, nonadopters seem to perceive these risks as a major barrier. Participants identified risks under three main categories as follows.

Identity and payment information theft was mentioned by many participants as a consequence of different incidents, including loss or theft of the phone, hacking into the phone either directly or through wireless networks, or as a result of a mass security breach targeting the provider's system. Surprisingly, mobile phone loss was the most mentioned potential risk among participants despite their awareness of the security measures equipped with their phones compared to contactless cards. Moreover, many participants were particularly influenced by the news of mass cyber-attacks that some well-known service providers have encountered in recent years.

“My main risks would be if your phone got stolen people can potentially, especially if you haven't got a password on your phone which in this day and age is naïve, but people can then very easily make payments” (P12)

“we have seen recently significant data breaches in various forms...apple is a big company, google is a big company that makes them big targets” (P19)

Privacy concerns were considered by some participants as another risk pertaining to the way MP service providers would deal with stored payment information. Participants seemed to be highly influenced by the increasing media reports of data misuse by some technology service providers and the fear of unauthorized sharing of their sensitive information with third parties.

“I am a little bit cautious at the moment and of course the other thing now...is all of the information that is coming out about our data through Facebook, so in general my sense of trust in these providers has just dived” (P21)

Reliability of the mobile phone was mentioned by some participants in terms of the limitation of the phone battery life. They associated the risk of being unable to access their money with potential battery outage.

“my phone runs out of power this happens a lot...If my phone runs out of power, which is likely to do, I have no money” (P10)

4.7 Existing alternatives

In addition to the factors that were initially included in this study, existing alternative payment methods posited itself as a strong value-inhibiting factor of proximity MP. An overwhelming majority of nonadopters referred to the contactless card as a benchmark to judge the convenience of proximity MP. This appears to be linked to

the belief that extra steps would be involved to initiate the payment app as opposed to the contactless card that is always ready for payment.

“In fact I feel having to take out my phone and unlock the phone, hit the app, and hope it all works, will probably be less convenient and less efficient than just taking out my wallet and my card” (P3)

“I don’t think that you could get more convenience than [contactless card], unless you put a microchip in your wrist” (P21)

More interestingly, some nonadopters expressed their willingness to consider using proximity MP if a clear benefit is offered over using a contactless card despite the perceived risks they mentioned. Consequently, the degree to which an added value is perceived from using proximity MP appear to have a significant effect on minimizing both the impact of the perceived risks and the attractiveness of existing payment alternatives.

“The main barrier that needs to be overcome is that I don’t see enough other reason to try to overcome them [the risks]. Those risks can be mitigated, I don’t get enough value out of taking those risks” (P10)

“I just haven’t really understood how it will benefit me over what I am doing at the moment” (P23)

4.8 Lack of knowledge

A further new value-inhibiting factor pertaining to the lack of sufficient information about the setup and use of proximity MP emerged among nonadopters. Lack of information about the different parties involved in the MP system and the payment process was explicitly mentioned by nonadopters.

“...when I want to use my phone to pay, I don’t know I’ll have to start an application or something I am not even sure how does it work” (P13)

“It is a matter of not feeling like I understand what I am signing up to” (P22)

The increasing popularity of the contactless card among consumers has consequentially led to high acceptance rate of proximity MP among merchants, as both payment methods utilize the same underlying NFC technology (Madureira, 2017). However, some nonadopters have differentiated between acceptance of contactless card payment and proximity MP due to insufficient information about the latter.

“I wouldn’t know if I would have to place a mobile phone on a ... card machine or on a separate thing I am not entirely sure” (P15)

“at the minute I assume that 95% of shops will accept the contactless card but my assumption is probably they are only 50% will accept the NFC payment”

(P16)

Contrasting what adopters described about the convenience of using proximity MP, lack of knowledge was also implied in nonadopters perceptions about the extra steps involved in using proximity MP as mentioned earlier. This explains the reason behind perceiving proximity MP as more time consuming at checkout than using a contactless card. In addition, lack of information about the similarity of the technology that underlies both contactless cards and proximity MP among some nonadopters appears to negatively influence their perception of MP acceptability in favor of contactless cards.

5.0 Discussion and future research

This study contributes to MP perceived value literature by introducing contextualized interpretations of the determinants of value as contrasted by both adopters and nonadopters. Table 2 outlines the items emerged for the different value determinants based on participants’ identifications.

| Value determinant | Identified item |
|-----------------------------|---|
| Convenience | Ubiquity of mobile phone Quick and easy payment For small amount payments |
| Monetary | Does not help to save money Occasional overspending due to ease of access Involves no additional cost |
| Enjoyment | Quick and easy Satisfying sound notifications following successful payments Intuitive layout |
| Social | Look like others Purposeful use of technology |
| Perceived trust in provider | Provider size Regulated provider Provider reputation |
| Perceived risk | Phone loss or theft Phone battery outage Mass data breach Privacy misuse |
| Existing alternatives | Contactless card convenience No clear benefit over contactless card |
| Lack of knowledge | No idea how MP works MP involves many extra steps Less accepted than contactless card |

Table 2. Determinants of value

The study further provides a preliminary evidence about the significance of these determinants and their interrelationships. As a starting point of investigation, determinants from the perceived value theory in addition to perceived trust and risk were employed.

5.1 Theoretical implications

The findings suggest that convenience is the key positive determinant of proximity MP value as perceived by adopters. However, nonadopters were heavily influenced by their contactless cards experience that seem to be blocking any need to look for alternatives. This finding was evident from the lack of information exhibited by most nonadopters about scenarios of use and merchant acceptance of existing MP services as opposed to adopters. In addition, nonadopters who recognized the convenience of MP have questioned the need for a new method that, at its best, duplicates the convenience of contactless cards without offering a tangible benefit. These findings suggest the salient direct value-inhibiting effect of existing alternative payment methods on perceived value of proximity MP. Indirect effects were also evident from the negative influence on perceived convenience and the positive influence on lack of knowledge. Although previous studies confirmed the negative effect of attractiveness of alternatives on perceived value of other technologies (Lin *et al.*, 2012), this factor has been largely overlooked in value-based MP adoption research. In addition, previous research on Internet banking indicated that lack of information increases uncertainty and perceptions of risk (Kuisma, Laukkanen and Hiltunen, 2007), however the above findings further suggest that lack of knowledge poses a negative effect on perceived convenience and value of proximity MP. Therefore, this study suggests including both alternative payment methods and lack of knowledge as sacrifice factors in future value-based MP research.

Enjoyment and social benefits were fairly recognized by adopters and nonadopters, however they placed less emphasis on their effect on MP value as compared to convenience. More specifically, enjoyment was derived mainly from convenience related aspects rather than being a prominent value determinant as indicated by previous studies (de Kerviler, Demoulin and Zidda, 2016). This could be attributed to the utilitarian nature of MP services where participants placed more emphasis on fulfilling the payment task while recognizing the emotional aspect as a by-product of how the task was fulfilled. Similarly, social value appears to be more recognized by the youngest age group, suggesting the less predictive effect of social value among

other age groups. Moreover, in line with previous studies (Pura, 2005), contrasting between the components of functional value, i.e. convenience and monetary values, has proved to be important. Contrary to convenience, the findings suggest that proximity MP does not provide any significant monetary value as perceived by participants due to not seeing any difference in terms of cost and spending across all payment methods. Therefore, the findings of this study suggest that future value-based MP research should recognize convenience and monetary values as separate constructs.

In accordance with previous research, perceived risks related to the phone as a device subject to being lost or out of charge along with other general privacy concerns were found as another value-inhibiting factor mainly visible among nonadopters. Nevertheless, their narratives also implicate that the negative effect of these risks appears to be less observed compared to the effect of existing alternatives on MP value. This finding was evident in two aspects. First, from the willingness demonstrated by some nonadopters to 'mitigate' these risks should they perceive an additional benefit not offered by current payment methods. Second, by acknowledging the effectiveness of the extra security measures provided by the mobile phone, i.e. fingerprint and passcode authentication, in comparison to contactless cards in case of loss or theft. Thus, taking into consideration the importance of trustworthiness of MP service providers as a risk-inhibiting factor confirmed by most participants, this study concludes that the central value-inhibiting factor remains in the existing alternative payment methods.

5.2 Practical implications

In light of these findings, this study suggests that a more effective communication of the benefits provided by MP services is needed. Contrasting the functional advantages of MP in terms of usability and security features as compared to contactless cards could possibly lead to a better understanding of the limitations of the latter. Moreover, the largescale deployment of the major MP wallet apps in the UK such as Apple Pay couldn't be possible without the involvement and support of the main financial institutions. Therefore, highlighting this central role of financial institutions as highly trusted entities could effectively enhance perceptions of trust in the providers of these wallet apps. Finally, MP wallet providers should start to rethink the value proposition of their solutions in comparison with existing market offerings. The superiority of smartphones lies in their extended computing, communication and display capabilities

that are not available in traditional payment instruments. By taking advantage of these resources, extra functionalities could be added to enrich the payment experience and bring more visible benefits while maintaining a level of convenience that matches that of the existing instruments as a minimum.

5.3 Limitations and future research

The qualitative nature of this study presents the limitation of the small sample size. Therefore, care must be taken in generalizing the findings to a wider population. A possible extension of this study could be through a quantitative follow-up study that takes into consideration the generated items to guide item selection. Also, the high subjective nature of value means that different consumers perceive values from different perspectives. Therefore, future studies could include personal characteristics such as innovativeness to gain more insight about how personality traits affect perceptions of value. Lastly, since these findings were validated within MP context, further research is needed to investigate their applicability to other technologies.

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