

Why individuals switch to using mobile payment: A migration-theoretic, empirical study

Full Paper

Jakob Wirth

University of Bamberg
An der Weberei 5, 96049 Bamberg
jakob.wirth@uni-bamberg.de

Christian Maier

University of Bamberg
An der Weberei 5, 96049 Bamberg
christian.maier@uni-bamberg.de

Abstract

With mobile payment, individuals can buy goods and services through the use of a mobile device and wireless technology. Still, although the usage of mobile payment provides several advantages, such as a more convenient and faster paying-process, it is hardly used. Individuals rather stick with their current payment method, such as cash, EC card or credit card. In this study, we therefore try to find out, what factors would bring individuals to switch from their current payment method to mobile payment. We rely on the pull-push-mooring framework to depict the migration process from the current payment method to mobile payment. The results prove that dissatisfaction with the current payment method has a rather low influence on the intention to switch to mobile payment in comparison with other factors such as perceived usefulness or alternative attractiveness. Furthermore, switching costs have a negative influence on the intention to switch to mobile payment.

Keywords

Mobile payment, pull-push-mooring framework, intention to switch, migration, dissatisfaction, alternative attractiveness, perceived usefulness, switching costs

Introduction

Although cash can be copied or lost, it is still the most popular means of payment. Among others, Germans use cash for about 80 percent of the payment processes, followed by EC card and credit card (German Central Bank 2016). Mobile payment as another means of payment does not matter and is – in Germany – not used at all. Although most people carry their mobile device on their person and even if mobile payment might bring advantages over other payment methods such as a quick, comfortable payment process and reduced risk of losing cash, individuals do not switch from their current payment method to using mobile payment as their mean of payment.

Research in that respect has considered not switching from one to another status as a kind of user resistance behavior (Laumer et al. 2016). This means that individuals are shackled to a status quo, such as using cash payment, and thus do not switch to alternatives (Polites and Karahanna 2012). Although previous research provides plenty of reasons for such a behavior (Kim and Kankanhalli 2009), there is no research in the context of mobile payment that explains whether individuals are willing to switch using mobile payment (Lee and Joshi 2016). Due to that research gap, it is not known what factors might bring an individual to switch from their current payment method to mobile payment. In order to fill this research gap and provide an explanation for this behavior, the research question of this article is:

What determines whether individuals switch to using mobile payment?

To respond to that research question and thus to explain whether individuals switch to using mobile payment, we base on the renowned migration theory which is also known as pull-push-mooring framework (PPM, Lee 1966; Moon 1995). PPM has its origins in human geography and explains why an individual moves from one to another place. It has also widely been used in IS research (e.g. Bhattacharjee and Park 2014) to explain why some individuals switch to using a technology. We use it to explain what

determines individuals to switch from their current payment method to mobile payment. The migration theory posits that there are pull, push and mooring factors that foster/hinder the switching intention. Based on that and research in the stream of mobile payment, we consider dissatisfaction as a push factor and alternative attractiveness as well as perceived usefulness and perceived ease of use as pull factors to explain whether individuals switch to using mobile payment. In addition, switching costs are considered as a mooring factor. We then survey 267 individuals to test and evaluate our research model. Results reveal that dissatisfaction, alternative attractiveness and perceived usefulness directly influence the intention to switch to mobile payment. The results also indicate that switching costs influence how these factors have an impact on switching intention and hinder switching intention directly. In sum, these results contribute to research in the streams of mobile payment and the use and resistance related to technologies (e.g. Jeyaraj et al. 2006).

Theoretical Background

In this section, we provide information on PPM which is based on migration theory. In addition, we give information on how previous mobile payment research can be used in PPM. Therefore, we employed a literature review in the AIS basket of eight to search for factors that have a high fit to mobile payment.

Pull-Push-Mooring Framework

PPM is grounded in migration theory of human geography (Lee 1966; Moon 1995). It is used to explain why individuals move from their origin to their destination. Pull and push factors are those factors which drive individuals to leave their origin and to go to their destination. Pull factors on the one hand are those factors which are considered as advantages of the destination and which drag the individual towards the destination. They are considered as beliefs because individuals can only imagine advantages of the destination as they have not been there before, yet. Therefore, pull factors are based on imagination of possible advantages of the destination and not on experience. Push factors on the other hand are those factors which are considered as disadvantages of the origin and which move the individual away from the origin. Push factors are based on experiences because the individual is still located at the origin and therefore knows about disadvantages of the origin. Besides pull and push factors there are also mooring factors. They do not particularly refer to the origin or destination but can still facilitate or hinder migration. Thereby, these mooring factors directly influence the migration and how individuals transfer pull and push factors to migration, which means that they also have a moderating effect.

Based on that knowledge, IS research used this theoretical lens to explain why and how individuals develop switching intentions (Bansal et al. 2005; Bhattacharjee and Park 2014; Chang et al. 2014; Xu et al. 2014). Among others, research has used that theory to explain why individuals switch from one technology to another technology or why they switch from one service provider to another service provider. Related to that, this research at hand will use PPM to explain switching intention from ones' current payment method to mobile payment. We therefore postulate that pull, push and mooring factors determine whether individuals hold intentions to switch from their current payment method to mobile payment. Information about mobile payment as well as possible pull, push and mooring factors are given in the following section.

Mobile Payment

Mobile payment is defined as paying goods, services or bills by the usage of a mobile device (e.g. smart-phone or smartwatch) which is taking advantage of wireless communication technology (Dahlberg et al. 2008). It can be considered as a subset of mobile commerce (Kourouthanassis and Giaglis 2012). However, whereas mobile payment is about using the technology of a mobile device to pay goods, services or bills with a mobile device, mobile commerce is about any transaction, which is done via a mobile network. It therefore also includes shopping online via a mobile device whereas mobile payment is about the paying process via a mobile device.

Mobile payment fosters the fast, convenient, safe and simple way to conduct the paying process by using a mobile device (Liébana-Cabanillas et al. 2014). Individuals can use mobile payment in different scenarios, e.g. parking fees, tickets, physical goods or transport fares (Dahlberg et al. 2008). Through the

proliferation of mobile devices such as smartphones or smartwatches, mobile payment is considered as one of the most promising possibilities in the area of paying processes (Liébana-Cabanillas et al. 2014).

However, mobile payment is not used by the majority of individuals. A recent survey has even shown that in Germany, mobile payment is used by none of the potential customers (German Central Bank 2016). Hence, mobile payment needs to offer additional benefits in comparison to the current payment method such that individuals will intend to switch to mobile payment (Dahlberg et al. 2008). Applying PPM, these additional benefits are represented by pull factors. In addition, there are also push and mooring factors. Finding out, how these factors determine the intention to switch from ones' current payment method to mobile payment will be necessary for a better explanation what would lead to more usage of mobile payment. This is important for industry and individuals who would take advantage of more mobile payment usage (Liébana-Cabanillas et al. 2014).

Taking the lens of PPM, pull factors refer to factors, which are assumed as advantages of the destination. In this study, pull factors refer to advantages of mobile payment. Previous research in the context of mobile commerce, which also includes mobile payment, has used **alternative attractiveness** as an advantage of the destination (Bansal et al. 2005; Chang et al. 2014) so that we next use it as a pull factor for mobile payment as well. Alternative attractiveness is defined as the perception of an individual about the availableness of viable alternatives in the marketplace (Jones et al. 2000). Therefore, in the context of mobile payment, alternative attractiveness refers to in how far mobile payment is considered as an at least equivalent option for payment processes.

Two other pull factors which are usually used in IS research are **perceived ease of use** as well as **perceived usefulness** which are the main factors of the technology acceptance model (Davis 1989). Perceived ease of use refers to the perceived degree of ease associated with the use of a particular technology (Venkatesh et al. 2012). Hence, in the context of mobile payment it refers to the perceived degree of ease of using the technology to conduct mobile payment. Perceived usefulness has often been proven as the strongest factor influencing the decision to adopt and switch to a new technology (Bhattacharjee and Park 2014; Venkatesh et al. 2012). It refers to the perceived degree to which the usage of a technology will result in any benefits (Venkatesh et al. 2012). In the context of mobile payment, perceived usefulness therefore refers to the perceived degree to which the usage of a technology to conduct mobile payment will result in any benefits.

An often used push factor is **dissatisfaction** which has been used extensively by previous research as a push factor (e.g. Bhattacharjee and Park 2014; Xu et al. 2014). Dissatisfaction is thereby defined as a users' overall evaluation of prior first-hand experience where customers' expectations are not fulfilled by the products' performance (Bhattacharjee and Park 2014; McKinney et al. 2002). Dissatisfaction in this research therefore relates to dissatisfaction with the current payment method, e.g. because it takes more time to pay by cash or EC card, because of waiting for exchange or because one does not remember the secret number.

Besides pull and push factors, there are also mooring factors. These factors do not particularly refer to the origin or destination but can still influence the intention to switch. They usually moderate existing pull and push factors but can also directly facilitate or hinder the intention to switch (Lee 1966; Moon 1995). Previous research has shown that **switching costs** are the main mooring factor (Bansal et al. 2005; Polites and Karahanna 2012; Xu et al. 2014). Switching costs refer to costs which are associated with changing services and include economic, psychological, physical, and emotional sacrifices (Burnham et al. 2003). Switching costs refer to actual economic costs such as the initial time and effort required to initiate the usage of a product or service, respectively a payment system (Burnham et al. 2003; Jones et al. 2000). In the context of mobile payment, they therefore relate to any costs, which come up when switching from ones' current payment method to mobile payment such as costs associated with setting up the technology to use mobile payment.

Therefore, dissatisfaction with the current payment method can be considered as a push factor and alternative attractiveness as well as perceived usefulness and perceived ease of use can be considered as pull factors. In addition, switching costs refer to mooring factors. These factors might influence the intention of an individual to switch from ones' current payment method to mobile payment, which would also answer our research question. However, based on the named literature, previous research has not integrated these factors in a mobile payment context by applying PPM to consider in how far the factors

determine the switching intention of an individual. Yet, this would be necessary to find out what drives individuals to switch from their current payment method to mobile payment such that individuals and the industry can take advantage of mobile payment (Liébana-Cabanillas et al. 2014). We have therefore created a research model, drawing on PPM including the mentioned variables to explain the intention to switch from ones' current payment method to mobile payment.

Research model

In this research, we aim to identify factors that determine the intention to switch from ones' current payment method to mobile payment. Based on previous research on mobile payment as well as on studies in the field of IS who have used PPM, we have identified factors which might influence the intention to switch. In addition, we added age, gender and the current payment method as control variables. In the following, we provide information on our hypotheses.

Pull factors. Alternative attractiveness refers to in how far an individual thinks that there are alternatives available which are at least equivalent to the current option (Jones et al. 2000). Hence, in the context of mobile payment, individuals who rate alternative attractiveness to be high consider mobile payment as an alternative option in contrast to their current payment method, which is at least as suitable as their current payment method. Therefore, individuals who rate alternative attractiveness to be high should have a higher intention to switch to mobile payment because they consider it at least as an equivalent, maybe even as a superior option in contrast to their current payment method. Thus, in line with previous research (Chang et al. 2014; Lai et al. 2012) we consider alternative attractiveness to be a pull factor and hypothesize the following:

H1: The higher the alternative attractiveness of mobile payment, the higher the intention to switch.

Perceived ease of use refers to the perceived ease of using a particular technology (Davis 1989). It has been used extensively in prior studies where it was shown that perceived ease of use often has a significant positive effect on the adoption of a new technology (Davis 1989; Venkatesh et al. 2012). The effect of perceived ease of use has also already been proven in the context of mobile payment whereas the results have somewhat been mixed (Slade et al. 2015; Thakur 2013). When using mobile payment, individuals need to use a certain mobile device and therefore a technology, to conduct the paying process. The ease of use associated with the mobile payment process, including using the technology, should therefore also have an influence on individuals to switch from their current payment method to mobile payment. We therefore consider perceived ease of use as a pull factor. The more easy to use the mobile payment is the more likely should individuals switch to mobile payment. We therefore hypothesize the following:

H2: The higher the perceived ease of use of mobile payment, the higher the intention to switch.

Perceived usefulness has often been shown as being the most influential factor on the adoption of using a technology (Bhattacharjee and Park 2014; Davis 1989; Venkatesh et al. 2012). It refers to in how far using a particular technology will result in any benefits. Adapting it to the context of mobile payment, perceived usefulness refers to in how far using mobile payment will result in any benefits, such as having a faster, more secure and more convenient paying process (Liébana-Cabanillas et al. 2014). Therefore, perceived usefulness is considered as a pull factor. Individuals who think about switching to mobile payment will evaluate in how far conducting their future payment processes via mobile payment will result in any benefits. Building on previous research which has integrated perceived usefulness, one can expect that only if there will be any benefits for individuals, then they will intend to switch to mobile payment (Dahlberg et al. 2008). Therefore, in case individuals think that mobile payment will e.g. be faster, more secure, or more convenient to use, individuals should also be more likely to switch to mobile payment to gain such benefits. We therefore hypothesize the following:

H3: The higher the perceived usefulness of mobile payment, the higher the intention to switch.

Push factor. Dissatisfaction refers to an individual's evaluation in how far the expectations of the individual are fulfilled by a products' performance (Bhattacharjee and Park 2014; McKinney et al. 2002). Dissatisfaction as a push factor therefore relates to an individuals' dissatisfaction with her current payment method. Individuals who have a poor experience with their current payment method are likely to be dissatisfied with that payment method. They will therefore be more likely to look for alternatives, such

as mobile payment, which might result in a higher grade of satisfaction. Therefore, individuals who are dissatisfied with their current payment method should have a higher intention to switch to mobile payment. Thus, in line with previous research (Bhattacharjee and Park 2014) we hypothesize the following:

H4: The higher the dissatisfaction of the current payment method, the higher the intention to switch.

Mooring factor: Mooring factors are neither disadvantages of the origin nor advantages of the destination but are considered as factors, which still facilitate or hinder the switching intention. Switching costs have been identified as one of the major mooring factors (Bhattacharjee and Park 2014). They refer to one-time-costs individuals need to undertake to conduct the switch (Burnham et al. 2003). Individuals are usually shackled to their status quo and therefore switching costs will deter them to leave their current status and to enter a new status (Polites and Karahanna 2012). Therefore, in this case, switching costs will deter an individual to switch from their current payment method to mobile payment. Also, previous literature has shown that switching costs are negatively related to switching intention (Bansal et al. 2005; Xu et al. 2014). We therefore hypothesize the following:

H5: The higher the switching costs, the lower the intention to switch.

Besides their direct influence on the switching intention, mooring factors are also believed to moderate the influence of pull and push factors (Lee 1966; Moon 1995). Switching costs as a mooring factor thereby also have the potential to moderate the influence of existing pull and push factors (Bansal et al. 2005; Moon 1995). Individuals, who think that the pull factors alternative attractiveness, perceived ease of use as well as perceived usefulness are high, are hypothesized to also have a higher intention to switch to mobile payment. However, when there are high switching costs, then the influence of these pull factors might be diminished because the individual tries to avoid having high switching costs (Polites and Karahanna 2012). Therefore, in the presence of high switching costs, the influence of pull factors on switching intention might be diminished. In addition, the same should also apply to push factors. The relation of individuals' dissatisfaction to their intention to switch should be lower when they are confronted with high costs of that switch. Individuals might then be more likely to rather stay dissatisfied in their status quo than to switch to a possible better alternative. In line with previous research (Bhattacharjee and Park 2014), we therefore hypothesize the following:

H6: The higher the switching costs the lower the influence of (a) alternative attractiveness, (b) perceived ease of use, (c) perceived usefulness and (d) dissatisfaction on the intention to switch to mobile payment.

To prove our research model we have conducted a quantitative study. The methodology therefor is presented in the following section.

Methodology

To investigate our research model we have conducted a quantitative survey. The survey was conducted in November 2016, published for three weeks. Participants were gathered by posting a hyperlink on different social network sites, such as Facebook or XING. Additionally, the hyperlink was distributed via paper-print calls for participants in a street-intercept method with the help of nearby shops to increase the range of the possible participants. We recruited 267 non-users of mobile payment, meaning that they do not use mobile payment at the moment and have not used it before. As can be seen in the demographics in Table 1, half of the participants is using cash payment as their current main payment method, followed by 44.2 percent who use the electronic cash card (EC card).

Gender	Male	41.6%	Age	Mean	24.93 years
	Female	58.4%		St.d.	6.76
Current main payment method	Cash payment	EC card	Credit card	Cheque	Money card
	49.8%	44.2%	6.0%	0.0%	0.0%

Table 1. Demographics of the participants

Participants were asked to answer questions based on the constructs as depicted in our research model. Answers were given on a 7-point-likert scale. The used items are depicted in Table 3 in the Appendix.

Results

The measurements presented in Table 3 were used to evaluate the research model empirically. To validate the hypotheses, we transferred the research model into a structural equation model. As our research model includes negative perceptions, such as dissatisfaction, which result in skewed distributions, we used the partial least squares method and SmartPLS 3.2.5 (Ringle et al. 2014). We initially tested whether the results are affected by common method bias (CMB) and then evaluated the measurement and structural model.

Common method bias. We used several techniques to determine whether CMB might distort the results (Chin et al. 2012). Among others, we used the Harman's Single-Factor Test, which reveals that in our data, less than 25 percent is explained by one factor, and the Unmeasured Latent Marker Construct techniques, which indicates that the method factor explains a delta of R^2 of 0.008 resulting in a ratio of 1:125. By comparing these results with previous research investigating CMB, we can summarize that we observe no signs of CMB influence.

Measurement model. We measured beliefs and intention with reflective indicators, so that we next validate content validity, indicator reliability, construct reliability and discriminant validity. First, we ensured *content validity* as we used items that have proven to be robust in prior research and just adapted them to the mobile payment context. The adaptation was finally discussed with potential mobile payment users and within the research team. Second, *indicator reliability* indicates the rate of the variance that comes from the latent variables. To explain more than 50 percent of the variance of a latent variable by the indicators, each value should be at least 0.707 (Carmines and Zeller 2008). This condition was fulfilled (see Table 3) and all loadings are highly significant. Third, the quality at the *construct level* was determined with the concepts composite reliability (CR), which should be higher than 0.7, and average variance extracted (AVE), which should be higher than 0.5 (Fornell and Larcker 1981). Table 2 shows that both criteria are fulfilled. Fourth, *discriminant validity* describes the extent to which measurement items differ from one another (Campbell and Fiske 1959). Therefore, the square root of AVE is contained on the diagonal of latent variable correlation (Table 2). As these values are greater than the corresponding construct correlations (Fornell and Larcker 1981; Hulland 1999), we can state that this requirement has been fulfilled and the measurement model is valid.

	Mean	St.d	AVE	CR	1	2	3	4	5	6
1 Switching intention	2.87	1.66	0.912	0.969	0.955					
2 Alternative attractiveness	2.99	1.56	0.731	0.931	0.714	0.855				
3 Perceived usefulness	3.80	1.69	0.781	0.935	0.675	0.755	0.884			
4 Perceived ease of use	5.36	1.33	0.811	0.945	0.142	0.097	0.249	0.901		
5 Switching costs	4.09	1.25	0.779	0.914	-0.29	-0.24	-0.250	-0.35	0.883	
6 Dissatisfaction	1.79	0.95	0.846	0.943	0.402	0.329	0.334	-0.03	-0.03	0.920

Note: Square root of AVE (bold) is listed on the diagonal of bivariate correlations.

Table 2. AVE, CR and bivariate correlations

Structural model. We used the coefficient of determination (R^2) and significance levels of each path coefficient to evaluate the structural model. Figure 1 indicates that the identified pull, push, and mooring factors explain 60.5 percent of the variance of intention to switch to mobile payment. Concerning the path coefficients, results reveal that alternative attractiveness, perceived usefulness, switching costs and dissatisfaction have significant impacts on intention to switch and switching costs moderates the influence of alternative attractiveness, perceived usefulness, and dissatisfaction on intention to switch. Moreover, results reveal that the control variables have no impact on the intention to switch to mobile payment. We also determine the strength of effect and identified that the push factor dissatisfaction as well as the mooring factor have both a small effect size (0.06). Contrary pull factors have a strong effect size (0.46).

Post-hoc analysis. Our results reveal that perceived ease of use has no direct impact on switching intention and this relationship is, moreover, not influenced by switching costs. In order to understand this, we searched for similar results and identified that this is common for research in that stream (Laumer et al. 2016). In line with previous research, perceived ease of use has an indirect influence on switching intention via perceived usefulness. We tested this with a bootstrapping method (Preacher and Hayes 2004) and with the three-step approach of Baron and Kenny (1986) and both techniques revealed

that the influence of perceived ease of use is mediated by perceived usefulness on switching intention. Thereby, perceived ease of use has a significant positive indirect effect on switching intention.

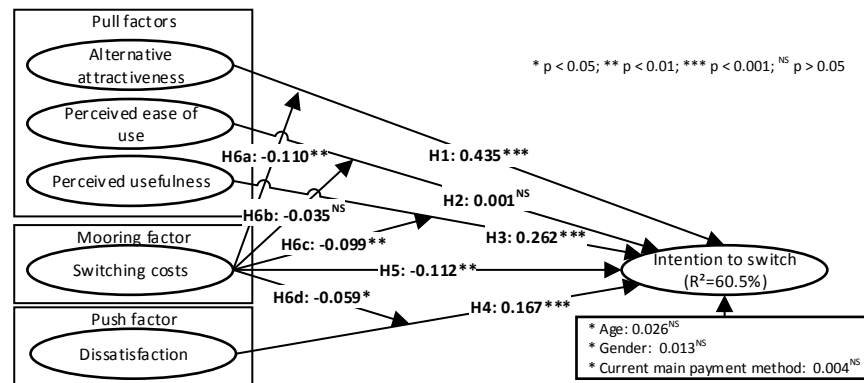


Figure 1. Structural model

Limitations of this study. This study has been conducted via a cross-sectional survey. Therefore, only correlations and no causal effects could be identified (Kim and Malhotra 2005). Still, as several of our hypotheses could also be proven by similar studies in the past, we do not think that this limitation mainly distorts our results. Furthermore, there is a high correlation between perceived usefulness and alternative attractiveness. Even though the measurement model is valid, a further refinement and distinction of both constructs might be used in future studies. In addition, the usage of the constructs is not based on a coherent theory. Therefore, other constructs, such as privacy concerns, could yield to different results. However, the combination of the constructs is based on previous literature where similar constructs have been used. Therefore, we think that our results are still valid and provide contributions as posed in the following section.

Discussion and Contributions

Existing practical evidence shows that individuals have mainly not switched from their current payment to mobile payment, yet (German Central Bank 2016). This means that individuals do not benefit from a faster, secure and convenient way of paying through a mobile device (Liébana-Cabanillas et al. 2014). Therefore, the goal of this research was to identify factors, which determine the intention of an individual to switch from her current payment method to mobile payment. Based on PPM we have identified factors that drive an individual's intention to switch. To enhance mobile payment which is seen as one of the most promising possibilities in the area of paying processes (Liébana-Cabanillas et al. 2014), one can rely on our results and try to improve the mentioned factors. A discussion of the results is given below.

Push factor has a low influence on switching intention: In particular, we have implemented dissatisfaction with the current payment method as a push factor. Dissatisfaction has been used by previous research, showing that it mainly drives the intention to switch to an alternative (e.g. Bhattacharjee and Park 2014). Our research has also shown that the higher the dissatisfaction the higher the intention to switch. However, a detailed analysis has proven that the effect size of dissatisfaction on intention to switch is rather low. In addition, the average value of dissatisfaction is below four and therefore comparatively low. Hence, our results indicate that dissatisfaction of individuals is a driver for the switching intention, however, not the main driver. Furthermore, the results also show that individuals do not seem to be highly dissatisfied with their current payment method. Hence, research on mobile payment should not solely consider dissatisfaction with the current payment method as the main driver for usage of mobile payment, as research in similar contexts have done so (Bansal et al. 2005; Chang et al. 2014; Cheng et al. 2009). One should rather rely on other factors, which drive the intention to switch to mobile payment.

Pull factors have a high influence on switching intention: Next to dissatisfaction, our research has identified further factors influencing the switching intention. In line with previous research, alternative attractiveness (Chang et al. 2014; Lai et al. 2012) and perceived usefulness (Davis 1989; Venkatesh et al. 2012) have been identified as key factors of switching intention. Perceived ease of use

does not significantly influence intention to switch which is consistent with previous research (Laumer et al. 2016) showing that perceived ease of use in some cases does not have a significant influence on technology adoption, or, in this case, on switching intention. However, a post-hoc analysis has shown that the influence of perceived ease of use on intention to switch is fully mediated by perceived usefulness. Hence, the results indicate that individuals rate perceived ease of use to be important, but they think that the higher the perceived ease of use the higher the perceived usefulness. Therefore, perceived ease of use of mobile payment should be included when researching on intention to switch to mobile payment. However, one must then also include perceived usefulness to catch the indirect effect of perceived ease of use on intention to switch. With these results we contribute to the literature on mobile payment (Alshare and Mousa 2014; Dahlberg et al. 2008; Liébana-Cabanillas et al. 2014) that pull factors are the main drivers of the intention to switch to mobile payment. As pull factors are factors which the individual can only assume but has not experienced, yet (Lee 1966; Moon 1995), we contribute to the research stream of mobile payment by showing that if one wants to persuade another individual to switch to mobile payment, one needs to show the advantages of mobile payment, e.g. expressed by perceived usefulness. It is not sufficient to hint on disadvantages of the current payment method but one needs to call attention on the advantages of mobile payment. Otherwise, individuals will likely not switch from their current payment method to mobile payment.

Switching costs as mooring factor shackles individuals to the status quo such that they resist using another IT: In line with previous research (Bhattacharjee and Park 2014) we have shown that switching costs directly hinder switching intention. Hence, when researching on mobile payment one needs to consider switching costs as an antecedent of switching intention. For example, by asking directly for switching costs or also by considering previous experiences with mobile payment or similar knowledge on mobile technology, which could diminish switching costs. Furthermore, switching costs serves as a moderator such as it diminishes the influence of alternative attractiveness, perceived usefulness and dissatisfaction on switching intention. Hence, research on mobile payment (Dahlberg et al. 2008; Liébana-Cabanillas et al. 2014) should also ask in how far the influence of pull and push factors might be diminished in the presence of mooring factors, such as switching costs. Therefore, to increase the number of individuals using mobile payment, one not only needs to pay special attention to pull factors but also needs to make sure that mooring factors such as switching costs are as low as possible to keep the influence of pull and push factors on switching intention as strong as possible. Moreover, previous research emphasizes that it is a kind of user resistance behavior when individuals do not use new technologies (Lee and Joshi 2016). Research in the stream of resistance has mainly focused on the context of mandated IT use and revealed different behavioral patterns indicating user resistance, such as employee grumbling (Laumer et al. 2014). In this respect, we contribute that not switching to using a new technology depicts a kind of resistance behavior when using voluntary technologies, such as mobile payment.

Conclusion

In this study, we have investigated factors driving the intention to switch from current payment methods to mobile payment. Through using PPM, we have identified that perceived usefulness and alternative attractiveness as pull factors are the main drivers of switching intention. Perceived ease of use, although being a pull factor, did not directly influence switching intention, however, its influence is fully mediated by perceived usefulness. Besides, also dissatisfaction and switching costs influence the switching intention of individuals. Furthermore, switching costs also moderate the influence of alternative attractiveness, perceived usefulness and dissatisfaction on switching intention such that the higher the switching costs the lower the influence. We therefore contribute to current theory and practice that when trying to convince individuals to switch from their current payment method to mobile payment, one needs to especially consider pull factors such as alternative attractiveness. Furthermore, switching costs must not be too high, otherwise the influence of pull and push factors on switching intention is diminished.

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Appendix

Construct	Item	Loading
Intention to switch (Chang et al. 2014)	I am considering switching from my current payment system.	0.961
	The chance of my switching to another payment system is high.	0.975
	I am determined to switch to mobile payment.	0.929
Alternative attractiveness (Lai et al. 2012)	Compared to my current payment system there are other mobile payment systems with which I would probably be equally or more satisfied.	0.708
	Using mobile payment would make me feel enjoyment.	0.917
	Using mobile payment would make me feel excited.	0.817
	Using mobile payment would make me feel pleasant.	0.898
	Using mobile payment would make me feel interested.	0.916
Perceived usefulness (Venkatesh et al. 2012)	I think that mobile payment will be useful in my daily life.	0.933
	Mobile payment would help me save time as compared to traditional payment systems.	0.873
	Mobile payment might increase my productivity.	0.835
	Overall, I will find mobile payment useful in my payment transactions.	0.891
Perceived ease of use (Venkatesh et al. 2012)	Learning how to use mobile payment is easy for me.	0.919
	My interaction with mobile payment systems would be clear and understandable.	0.936
	I would find mobile payment easy to use.	0.877
	It is easy for me to become skillful at using mobile payment.	0.870
Switching costs (Kim et al. 2006)	Signing up for a mobile payment system is inconvenient.	0.855
	Signing up for a mobile payment system takes up too much time and effort.	0.923
	Entering required information to join a new payment system is annoying.	0.869
Dissatisfaction (Bhattacharjee 2001)	How do you feel about your overall experience with your current payment method?	
	... very displeased.	0.887
	... very frustrated.	0.947
	... absolutely terrible.	0.924

Note: Answers were given on a 7-point-likert scale (1 strongly disagree to 7 strongly agree).

Table 3. Items and Loadings