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Resistance, motivations, trust and intention to use mobile financial services

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Abstract

Purpose – The purpose of this paper is to identify consumers' resistance and motivational factors affecting the intention of using mobile financial services. The paper also examines the impact of trust in the acceptance of such services.

Design/methodology/approach – To empirically apply the conceptual model and test the hypotheses, data are collected through a questionnaire involving 300 Tunisians non-users of mobile financial services and are analyzed using exploratory factor analysis and structural equation modeling.

Findings – The paper identifies one resistance dimension – tradition. The paper also identifies four motivational dimensions – compatibility, trialability, perceived enjoyment and system quality. Tradition has a negative and a significant impact on the intention to use mobile financial services, whereas compatibility, trialability and perceived enjoyment have a positive and a significant impact on intention to use such services. In addition, system quality has a significant and positive impact on trust.

Practical implications – These dimensions of consumer resistance and motivation should be viewed as the levers for improving the adoption of mobile financial services. Examining these factors can provide to financial service providers with valuable insights regarding which aspects of the service should be improved in order to implement mobile financial services. Furthermore, improvements in system quality allow firms to increase customer trust.

Originality/value – Through a multi-faceted framework, the study extends the literature on innovation acceptance, exploring consumer resistance, motivational factors and customer trust in the context of intention to use mobile financial services. The paper also builds on previous models, especially Rogers theory of innovations' diffusion (2003).

Keywords Trust, Intention to use, Mobile financial services, Motivations, Resistance

Paper type Research paper

Introduction

At the present, the continuous development of second, third and fourth generation of mobile devices in the telecommunications sector is enabling the emergence of a multitude of new products and services. Innovative devices such as iPods, smart phones and tablets make consumer lives easier and create new applications that provide an added value that is likely to change the future of how financial services are provided to consumers.

In this context, Meuter *et al.* (2005, p. 61) indicate that "technology is dramatically changing how services are designed, developed, and delivered." Among the increasingly widespread innovations, the more frequent one is the "use of self-service technologies" (Meuter *et al.*, 2005, p. 61) which is the case of mobile business (M-business) that has expanded trade to the financial and banking sectors (M-banking) allowing banks' customers to carry out distant financial operations, far from financial services providers through their mobile phones, such as balance inquiries, checking account history,

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cards and cheque books applications, loan applications, credit portfolio and securities monitoring, exchange rate and stock exchange monitoring, recharging phone accounts, bill payments, account to account money transfers at the national and international level.

In fact, the growing use of these services by financial institutions varies from one country to another. This is partly due to the technological level of operators and to the strategies of providers but mostly due to consumer resistance to these new services.

Mobile banking can better serve the needs of bank customers and promotes therefore the distinction between banks thanks to its ubiquity and immediacy (Tiwari *et al.*, 2006) that they provide to the consumer a better quality, availability and usability. In the literature, Barati and Mohammadi's (2009) work identifies the determinants of this innovation adoption, while other research studies such as Kuisma *et al.* (2007) and Laukkanen *et al.* (2007a, b, c, 2009) show the factors which have contributed to consumers' resistance to mobile banking or Kleijnen *et al.* (2009) that examined consumer resistance and its antecedents, explaining its "major components" namely: rejection, postponement and opposition. Also, Zhou (2011) studies the factors affecting the usage intention of mobile banking by examining the determinants of consumers' initial trust and perceived usefulness as the main indicators of this innovation adoption. However, to our knowledge, no research has been conducted to study at the same time resistance factors, motivational factors and the impact of trust in the context of intention to use mobile financial services.

Therefore, there is a need to carry out a survey considering both resistance or inhibitor factors (negative) and motivations or accelerator factors (positive) which affect the intention to use mobile financial services as well as the influence of customer trust. Hence, the objectives of this investigation are twofold:

(1) to identify resistance and motivation factors related to the intention of using mobile financial services; and

(2) to examine the impact of trust on the acceptance of mobile financial services.

The paper extends the existing literature by providing a more comprehensive model linking resistance factors to motivation ones. In addition, the study explores the added value of trust in the framework of mobile financial services acceptance. This research is structured as follows: first, a review of the literature on the constructs of resistance, motivations, intention to use, trust and the relationship between these constructs is conducted. Next, the paper discusses the research methodology used and the survey instrument chosen for data collection. Finally, the analysis of the findings is presented followed by a discussion and the managerial implications on mobile financial services.

Literature review

Resistance to innovations

The aim of the innovation resistance theory is to "identify the major barriers which create customer resistance to innovations" (Ram and Sheth, 1989, p. 5). It is about consumers' reactions against innovation due to potential changes in a comfortable habit or to a conflict with their own beliefs. Indeed, the authors proposed two types of barriers: functional and psychological. The first type is related to the usage, value and risk, while the second one is related to tradition and image (as shown in Table I).

Impact of resistance on intention to use

According to Sripalawat *et al.* (2011), behavioral intention refers to the extent to which a person is ready to act and perform the expected behavior. As part of the research, the

Barriers/ dimensions	Definitions/characteristics
Functional barriers	Lack of adaptation/radical changes in working methods, consumers habits and practices (Ram and Sheth, 1989)
Usage	More learning efforts (Kuisma *et al.*, 2007)
	Hard to use/slowness:
	inadequate keyboard and display device: limitation of the device in processing a large amount of information and in displaying the entire bill (Laukkanen and Lauronen, 2005, cited by Laukkanen *et al.*, 2007c)
	small screens (Laukkanen *et al.*, 2007a)
	No monetary value (price) and lack of innovation performance (Ram and Sheth, 1989)
Value	Learning costs higher than profit (Dunphy and Herbig, 1995)
	Internet connection fees: more costly than beneficial (Kuisma *et al.*, 2007)
	Real or noticed risks (Laukkanen *et al.*, 2007b)
Risk	*Physical risk*: someone may get hurt (Ram and Sheth, 1989), customers worry about their privacy (Luarn and Lin, 2005), they worry about confidentiality and personal information (Laukkanen *et al.*, 2007b)
	Economic risk: believing to have made the wrong choice while selecting an innovation rather than waiting for a cheaper one (Ram and Sheth, 1989), fear of losing money (Laukkanen *et al.*, 2007b), fear to make mistakes while using a mobile phone to carry out financial transactions (Luarn and Lin, 2005)
	Functional risk: ability to function properly (Ram and Sheth, 1989), concerns about internet disconnection (Black *et al.*, 2001)
	Social risk: fear of being misjudged (Ram and Sheth, 1989)
Psychological barriers	Changes in behavior (Rammile and Nel, 2012)
	Changes in routine (Ram and Sheth, 1989)
Tradition	Inertia against the change of habits (Daniel, 1999)
	Incompatibility with existing values and standards as well as past experience (Ram and Sheth, 1989)
	Lack of tangible added value and new additional channels (Laukkanen *et al.*, 2009)
	Feeling uncomfortable when facing self-service technologies: frustration with technology-based systems (Parasuraman, 2000) "some degree of technophobia" (Meuter *et al.*, 2003, p. 900)
	Would rather carry out transactions with the help of staff members (Marr and Prendergast, 1993, cited by Laukkanen *et al.*, 2007d): social dimension and people interactions are important (Srijumpa *et al.*, 2007)
Image	Negative image (Ram and Sheth, 1989)
	Global image (Laukkanen *et al.*, 2007b)
	Negative perception resulting from image "it is hard to use" technology (Rammile and Nel, 2012, p. 89)

Table I.
Barriers to innovation

issue here is to have or not the intention to use mobile financial services. In this respect, Rammile and Nel (2012) explain the influence of customers' resistance to mobile banking on their behavioral intention through usefulness and ease of use constructs as mediator variables extracted from TAM theory that has been first introduced by Davis (1989) to present "the determinants of technology acceptance." Barati and Mohammadi (2009) suggest that if the resistance to mobile banking would increase, therefore the intention of using this service would decrease. Also, Laukkanen and Cruz (2010) argue that the functional and psychological barriers to innovation affect positively and significantly the non-adoption of mobile banking. Consequently, a negative relationship between the resistance to innovation and the intention of

using mobile financial services would be expected. Hence, we propose the following hypothesis:

H1. Resistance to innovation has a negative impact on the intention to use mobile financial services.

Incentives to use mobile banking

Unlike resistance factors, motivational ones are likely to speed up the adoption of mobile financial services, namely: internal factors related to innovation attributes that are extracted from Rogers' (2003) theory of innovations' diffusion and external factors favoring its acceptance (as shown in Table II).

Motivations, intention to use and trust

Researchers such as Tornatzky and Klein (1982) and Rogers (2003) found that relative advantage is an important factor among the most significant ones in determining the adoption of innovations. Moore and Benbasat (1991) developed a measure of relative advantage which affects the rate of innovation diffusion. Al-Gahtani (2003) indicates that relative advantage affects positively and significantly computer adoption and use. Also, Kolodinsky *et al.* (2004) assume that the likelihood of e-banking adoption increases with the relative advantage provided. Lin (2011) states that consumers have a positive attitude toward mobile banking when they perceive clear advantages.

Incentives	Definitions/characteristics
Relative advantage	"Better than the idea it supersedes" (Rogers, 2003, p. 229, 240)
	Costs savings, social prestige or other benefits (Al-Gahtani, 2003)
	Immediate, practical and affordable for consumers, accessible in real time, anytime 24/24, 7/7 outside working hours and no need to go anywhere (Laukkanen *et al.*, 2007a)
Compatibility	Matching "existing values," "past experiences"(Rogers, 2003, p. 240)
	Compatible with consumers lifestyle and preferences (Lin, 2011)
	Compatible with individual needs to be adapted to a more familiar environment (Ilie *et al.*, 2005, cited by Lin, 2011)
Trialability	"May be experimented" (Rogers, 2003, p. 266)
	Being able to test and assess benefits (Kolodinsky *et al.*, 2004)
	Learn how it works through experimentation (Al-Gahtani, 2003), minimizes "fears of the unknown" (Tan and Teo, 2000, p. 10), removes uncertainty (Al-Gahtani, 2003)
Facilitating conditions	"The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system" (Venkatesh *et al.*, 2003, p. 453)
	External conditions help users to overcome obstacles in order to use new information technologies (Lu *et al.*, 2003)
	Related to operating time, familiarity with the mobile device and users technological skills (Barati and Mohammadi, 2009)
	Related to the ability to handle mobile phones (Zhou *et al.*, 2010)
Perceived enjoyment	Pleasant to use (Davis *et al.*, 1982)
	Pleasure and satisfaction (Nysveen *et al.*, 2005)
System quality	Overall system performance (DeLone and McLeann, 2003)
	System stability, acceptable response time, friendly interface, ease of use (Rai *et al.*, 2002)
	"network speed" (Gu *et al.*, 2009, p. 11610)

Table II.
Incentives to innovation use

Therefore, it is expected that the intention of using mobile financial services will increase with the relative advantage provided. Hence, *H2*:

H2. Relative advantage has a positive impact on the intention to use mobile financial services.

Compatibility is also one of the major determinants of behavioral intention (Rogers, 2003). Scott *et al.* (2008) argue that the more compatible the innovation is, the greater the likelihood of its adoption. Lin (2011) suggests that when customers realize that mobile banking services are compatible with their lifestyles and preferences, they are more likely to adopt them. Indeed, "greater compatibility between individual needs and technological innovation is preferable because it allows the innovation to be interpreted in a more familiar context" (Ilie *et al.*, 2005, cited by Lin, 2011, p. 254). Al-Gahtani (2003) supports that compatibility affects positively and significantly computer adoption and use. Wessels and Drennan (2010) found that compatibility has a strong direct effect on the intention to use mobile banking. Therefore, it is expected that the intention of using mobile financial services would increase with compatibility. Hence, *H3*:

H3. Compatibility has a positive impact on the intention to use mobile financial services.

Furthermore, trialability is an important factor in the innovation adoption process (Rogers, 2003). Indeed, according to this author, it allows consumers more comfortable with innovation. Atkinson (2007) shows that innovation that can be tried previously is adopted more quickly than another that cannot. To Al-Gahtani (2003, p. 60), the personal trial of an innovation can exclude uncertainties and "give it meaning" allowing the discovery of "how it works under one's own conditions." Likewise, Tan and Teo (2000, p. 10) argue that giving consumers the possibility to experiment the innovation can reduce some "fears of the unknown." That is why, Kolodinsky *et al.* (2004) assume that the likelihood of e-banking adoption increases with its testing and Park and Chen (2007) confirm a positive relationship between trialability and user adoption. Besides, Chung and Holdsworth (2012) found that trialability is an important predictor of the behavioral intention to adopt mobile commerce among the young generation in different cultures. Then, it is expected that the intention of using mobile financial services would increase with the likelihood of testing it. Hence, *H4*:

H4. Trialability has a positive impact on the intention to use mobile financial services.

Barati and Mohammadi (2009) indicate the importance of facilitating conditions in adoption of mobile services. In their work, perceived ease of use and usefulness constructs are used as mediator variables in the relationship between facilitating conditions and behavioral intention to use. Venkatesh *et al.* (2003) demonstrated that facilitating conditions have a significant direct effect on behavioral intention and usage. Zhou *et al.* (2010) argue that mobile banking, as a new service, requires from users certain skills and even some financial resources so that they can connect to wireless internet and adopt or use such service. Therefore, it is expected that the intention of using mobile financial services would increase with the availability of

some conditions facilitating the adoption such as being familiar with mobile technologies or having the necessary technological and financial resources. Hence, *H5*:

H5. Facilitating conditions have a positive impact on the intention to use mobile financial services.

Recently, many studies include hedonic motivation to explain technology adoption such as fun, enjoyment and perceived enjoyment (Chtourou and Souiden, 2010). Curran and Meuter's (2007) study confirmed that hedonic is more important than utility in the adoption of self-service technologies. For Davis *et al.* (1992, cited by Venkatesh, 2000, p. 351), perceived enjoyment is "defined as the extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use." This concept affects adoption process of new product/technology (Nysveen *et al.*, 2005; Chtourou and Souiden, 2010; Antón *et al.*, 2013). Sun and Zhang (2006) found that the acceptance of technologies by consumers is facilitated by the enjoyment felt. Venkatesh (2000) employed ease of use construct as a mediator variable between perceived enjoyment and behavioral intention to use technologies and argues that the system ease of use goes hand in hand with the enjoyment felt when using it. Indeed, those who enjoy using information systems are more likely to have the intention to adopt them (Davis *et al.*, 1992, cited by Sun and Zhang, 2006, p. 629). Nysveen *et al.* (2005) state that perceived enjoyment affects positively the intention to use mobile chat services for female users than men users. Hanudin *et al.* (2012, p. 10) found that perceived enjoyment is strongly related to mobile banking use. They explain that "mobile phone is viewed as an entertainment gadget to some individuals; therefore enjoyment can play an essential role in expounding mobile banking use." Thus, it is expected that when a consumer feels that using mobile financial services can be enjoyable; this will encourage him to have a positive intention of using this service. Hence *H6*:

H6. Perceived enjoyment has a positive impact on the intention to use mobile financial services.

Lee and Chung (2009) show that system quality significantly affects consumers' trust that is essential in the context of technology acceptance. To these authors, since salespersons are absent, the quality of their systems becomes the window through which first impressions are formed. For McKnight *et al.* (2002a, b), when consumers discover the high quality of a system of a particular vendor, they are more likely to trust in his competence, integrity and benevolence and they would be ready to deal with him and spend money. Zhou (2011, p. 530) has established the relationship between system quality and initial trust, which is the first stage of trust development and related to a previous experience. He argues that mobile banking is virtual, thus it leads great uncertainty and risk. Therefore, "poor system quality may lead users to feel that service providers have not spent enough effort and investment on mobile banking. This will affect their evaluation on the credibility and benevolence of service providers." Vance *et al.* (2008, p. 74) found that system quality constructs namely: the navigational structure and the visual appeal "significantly predict the extent to which users place trust in mobile commerce technologies." Then, it is expected that the system quality of mobile financial services could have an impact on consumer's trust. Hence, *H7*:

H7. System quality has a positive impact on customer trust.

McKnight *et al.* (2002a, p. 304) indicate that trust in the web site affects positively intention to use it. Indeed, "trusting beliefs assure the consumer that the vendor is both able (because of competence) and willing (due to benevolence and integrity) to deliver the goods/services purchased." Gu *et al.* (2009) suggest that trusting a bank allows consumers to see the value of mobile banking and encourages them to use it. Gefen *et al.* (2003) associate high levels of trust with high levels of intention to use. Zhou (2011) affirms that initial trust supports usage intention. Aydin and Ozer (2005) note that trusting the other leads to a positive behavioral intention toward him. Similarly, trusting and relying on a certain brand favor some positive buying intentions toward it (Lau and Lee, 1999). To Pavlou (2003), trust affects positively consumers' attitudes which influence behavioral intentions by decreasing fears about opportunistic behavior. This later covers "unfair pricing, conveying inaccurate information, violations of privacy, unauthorized use of credit card information and unauthorized tracking of transaction" (Gefen *et al.*, 2003, p. 55). Consequently, there is a positive link between trusting financial institutions and the intention of using their mobile financial services. Hence, *H8*:

H8. Customer trust has a positive impact on the intention to use mobile financial services.

These relationships are shown in Figure 1.

Methodology

Measurement tool

The tool used in the survey, is a questionnaire, developed by the existing literature review. As shown in Table III, all the variables included in the study are adapted from the literature, refined based on the financial context and translated in French.

Choosing the Tunisian MobiFlouss service

As the choice of the investigation field is limited to two mobile financial services operating in Tunisia, we selected the Tunisian post office's service "MobiFlouss" which is more developed than the (M-Dinar) of the International Arab Bank of Tunisia.
"MobiFlouss" service is provided by the post office for all e-Dinar SMART cardholders and GSM Tunisiana customers (a private telecommunication operator in Tunisia).

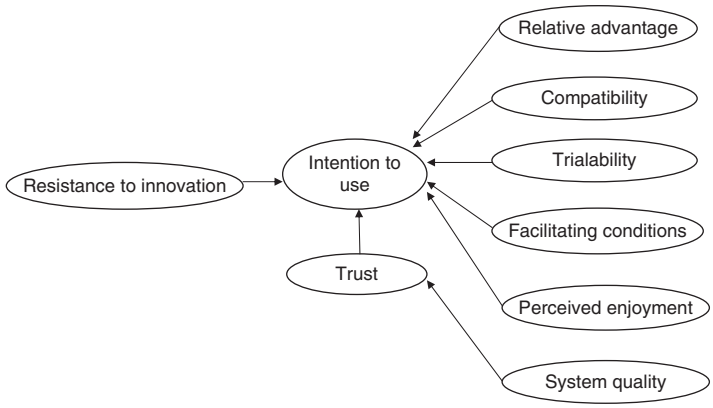

Figure 1.
The proposed model

Table III.
Measurement of variables

Constructs	Measurement items
Resistance	(1) Usage barrier: Adapted from Kuisma *et al.* (2007) In my opinion, MobiFlouss services are easy to use In my opinion, the use of MobiFlouss services is convenient In my opinion, the use of MobiFlouss services is clear In my opinion, the use of MobiFlouss services is fast In my opinion, the introduction of PIN is easy (2) Value barrier: Translated from Rammile and Nel (2012) The cost of MobiFlouss services is affordable In my opinion, MobiFlouss is a convenient way to manage my financial transactions In my opinion, the use of MobiFlouss services helps me better monitor my financial transactions In my opinion, MobiFlouss is useful for my financial transactions (3) Risk barrier: Translated from Rammile and Nel (2012) I think my money could be stolen easily if I use MobiFlouss I do not feel completely secure when providing personal information while using MobiFlouss I am worried when using MobiFlouss because other people could access my account I do not feel secure sending my personal information via MobiFlouss MobiFlouss system is not secure MobiFlouss systems could be attacked or hacked (4) Tradition barrier: Translated from Rammile and Nel (2012) I prefer to carry out my financial transactions through the means provided by the post office rather than using MobiFlouss I am so used to the means provided by the post office to do my financial transactions that I find it difficult to move to MobiFlouss (5) Image barrier: Translated from Laukkanen *et al.* (2007b, c) I have a very positive image of MobiFlouss services In my opinion, the new technology is often too complicated to be useful I have the impression that MobiFlouss services are hard to use

(*continued*)

Table III.

Constructs	Measurement items
Relative Advantage	MobiFlouss will allow me to carry out financial transactions more efficiently
Adapted from Lin (2011)	MobiFlouss will allow me to carry out financial transactions faster
	MobiFlouss would be a convenient way to perform financial transactions
	MobiFlouss would help me manage my financial transactions
Compatibility	MobiFlouss would be compatible with my lifestyle
Adapted from Lin (2011)	Selecting MobiFlouss matches the way I like to manage my financial transactions
	Selecting MobiFlouss to perform financial transactions matches the way I do my job
Trialability	Before deciding to select or no MobiFlouss, I would like to use it on a trial basis
Translated from Park and Chen (2007)	Before deciding to use or not MobiFlouss, I would like to try it first
	I would like to be allowed to use MobiFlouss long enough to check its performance
	I know where to go to try in a satisfactory manner MobiFlouss various uses
Facilitating conditions	I have the required skills to use MobiFlouss
Adapted from Venkatesh *et al.* (2003)	I have the required knowledge to use MobiFlouss
	If I have trouble using MobiFlouss, there will be professionals to help me
Perceived enjoyment	I think I would enjoy using MobiFlouss
Adapted from Venkatesh (2000)	I think using MobiFlouss would be pleasant
	I think I would have fun using MobiFlouss
System quality	MobiFlouss design is appropriate for this kind of services
Translated from Ahn *et al.* (2007)	MobiFlouss provides easy access to information
	MobiFlouss provides a fast response and transactions processing
	MobiFlouss protects personal information privacy
	I can use MobiFlouss whenever I want
	MobiFlouss provides features are relevant to these services
	MobiFlouss transactions are errors free
	MobiFlouss creates an audiovisual experience
Intention to use	I plan to use MobiFlouss in the future
Translated from Lin (2011)	I will most likely use MobiFlouss in the future
	I think it is better for me to use MobiFlouss
Trust	MobiFlouss, would be trustworthy
Adapted from Kim *et al.* (2008)	I think that the post office is up to its promises and commitments
	I think that the post office takes into account my interests

Using e-Dinar SMART allows in real time, anytime and anywhere via mobile phone and prepaid Tunisiana phone lines, the payment of any bill (water, electricity, internet, etc.) and money transfer from an account to another. However, M-Dinar, provided by BIAT can be used by anyone aged over 18 years and having an M-Dinar account. It allows in real time, anytime and anywhere via mobile phone the access to money transfer from and to M-Dinar accounts.

Sampling and data collection

Data are collected through direct and online questionnaire which is accompanied by an information booklet about MobiFlouss, the target population consists of those who are more than 18 years old and never used MobiFlouss. This mixed approach used to collect data has been chosen in order to increase the information amount and the return rate without missing responses. Similar characteristics pertaining to both samples are kept in order to reduce bias.

In the absence of a comprehensive survey framework, we chose to use the method of non-probability sampling by quota. In order to have a representative sample of the Tunisian population, we checked in our survey three criteria on which we based quotas related to age, gender and Tunisiana GSM line holders and non-holders. In all, 300 respondents have been involved: they were split into five different age groups involving men and women among Tunisiana customers and non-customers (according to INS estimate and Tunisiana 55 percent market share). A five-point Likert-type scale with answers ranging from "strongly disagree" to "strongly agree" was used. The detailed characteristics of the sample are shown in Table IV.

Age group	Gender	Number	Tunisiana customers	Number
18-24 years	Men	67	Yes	37
			No	30
	Women	68	Yes	37
			No	31
25-34 years	Men	25	Yes	14
			No	11
	Women	26	Yes	14
			No	12
35-44 years	Men	20	Yes	11
			No	9
	Women	21	Yes	12
			No	9
45-54 years	Men	16	Yes	9
			No	7
	Women	17	Yes	9
			No	8
55 years and +	Men	20	Yes	11
			No	9
	Women	20	Yes	11
			No	9
Total				300

Table IV.
Sample characteristics

Data analysis and results

Data analysis was carried out in two stages: exploratory factor analysis (EFA) followed by confirmatory factor analysis.

EFA

EFA with varimax rotation is used to determine the dimensions of our constructs. The results of factor analysis are shown in Table V.

As indicated in the table, KMO is >0.5 and therefore acceptable; Bartlett test is significant and the explained variance is good, so data are appropriate for factor analysis. The Cronbach's value of all constructs is acceptable and shows that these variables have a good internal reliability (>0.7).

Confirmatory factor analysis

Confirmatory factor analysis is used to validate the factor structure and then to test hypotheses. It implied the elimination of the items measuring the image barrier because of their low squared multiple correlations (SMC) value and also provided further evidence about scales reliability which is summarized in Tables VI and VII that show a good convergent validity and a discriminant one.

But beforehand, multi-normality data tests are performed using levelling asymmetry tests (skewness <3), (Kurtosis between -2 and 2) and Mardia criterion (<3). Results have shown that criteria were met.

We note that all ρ are higher than 0.7 and these results are in compliance with previous results. In addition, Fornell and Larker ρ convergent validity is higher than 0.5 (extracted average variance). However, the ρ_{vc} of the system quality can be explained by the choice of the sample (non-users of MobiFlouss). These measurement scales are therefore reliable.

We note that the convergent validity of each construct is higher than the squared correlations with other constructs, which verifies the discriminant validity of our model variables.

Constructs/dimensions	KMO	Bartlett test (signification)	Explained variance (%)	Cronbach's α
Resistance to innovation	0.841	3,656.316 (0.000)	70.374	
Usage dimension				0.870
Value dimension				0.854
Risk dimension				0.922
Tradition dimension				0.749
Relative advantage	0.756	479.446 (0.000)	66.796	0.833
Compatibility	0.717	457.938 (0.000)	79.369	0.869
Trialability	0.658	548.799 (0.000)	61.820	0.847
Facilitating conditions	0.518	161.289 (0.000)	56.148	0.779
Perceived enjoyment	0.628	324.156 (0.000)	69.997	0.767
System quality	0.852	721.858 (0.000)	63.440	0.824[a]
Intention to use	0.734	609.984 (0.000)	84.364	0.907
Trust	0.564	197.495 (0.000)	61.424	0.783

Table V.
Measurement scale dimensions

Note: [a]Three items are eliminated: MobiFlouss protects personal information privacy, MobiFlouss transactions are errors free, MobiFlouss creates an audiovisual experience

Constructs	Jöreskog ρ	ρ_{vc}
Resistance		
Usage	0.875	0.584
Value	0.854	0.662
Risk	0.934	0.704
Tradition	0.862	0.759
Relative advantage	0.828	0.546
Compatibility	0.873	0.698
Trialability	0.874	0.704
Facilitating conditions	0.782	0.643
Perceived enjoyment	0.800	0.586
System quality	0.829	0.495
Intention to use	0.910	0.771
Trust	0.784	0.644

Table VI. Jöreskog ρ and the convergent validity of measurement model variables

	Risk	Usage	Tradt	Value	S qual	R adv	Comp	Trb	Compl	Ples	I use	Trust
Risk	*0.704*											
Usage	0.062	*0.584*										
Tradt	0.049	0.104	*0.759*									
Value	0.092	0.248	0.089	*0.662*								
S qual	0.121	0.492	0.049	0.300	*0.495*							
R adv	0.039	0.275	0.084	0.608	0.315	*0.546*						
Comp	0.072	0.259	0.120	0.540	0.170	0.508	*0.698*					
Trb	0.01	0.032	0.003	0.057	0.047	0.042	0.030	*0.704*				
Compl	0.06	0.394	0.228	0.063	0.169	0.080	0.118	0.014	*0.643*			
Ples	0.092	0.388	0.178	0.434	0.452	0.266	0.298	0.036	0.170	*0.586*		
I use	0.067	0.269	0.095	0.259	0.284	0.139	0.269	0.083	0.120	0.335	*0.771*	
Trust	0.076	0.028	0.000	0.061	0.067	0.032	0.036	0.011	0.011	0.065	0.042	*0.644*

Table VII. Discriminant validity of model variables

Model fit

Absolute indexes, GFI (0.905) and AGFI (0.869) are close to if not higher than 0.9. RMR (0.059) and RMSEA (0.073) are lower than 0.08. These indexes are generally good. Incremental indexes NFI (0.917), CFI (0.947) and TLI (0.935) are rather good since all values are higher than 0.9. With regard to parsimonious indexes, standardized χ^2-values are in compliance with standards and therefore are rather good ($1 < 2.599 < 3$). Overall, these indexes are satisfactory and show a rather good quality of model adjustment.

Hypotheses testing

To test relationships, CR absolute values have to be higher than 1.96 and p-values have to be lower than 0.05. The results of structural model analysis show that all hypotheses are supported excluding *H1.1*, *H1.2*, *H1.3*, *H2*, *H5* and *H8*. Test results are summarized in Table VIII.

Discussion and managerial implications

This study provides important contributions to the field of mobile financial services for financial institutions. It extends the literature related to innovation acceptance through a multi-faceted model that enriches previous ones especially Rogers' (2003) theory of

Hypotheses	Estimation	CR	*p*-value	Conclusions
H1: Resistance → Intention to use				
H1.1: Usage barrier → Intention to use	0.093	1.699	0.080	Rejected
H1.2: Value barrier → Intention to use	0.032	1.410	0.096	Rejected
H1.3: Risk barrier → Intention to use	−0.043	−1.173	0.241	Rejected
H1.4: Tradition barrier → Intention to use	−0.087	1.963	0.050	Accepted
H2: Relative advantage → Intention to use	−0.103	−2.197	0.028	Rejected
H3: Compatibility → Intention to use	0.187	4.023	0.000	Accepted
H4: Trialability → Intention to use	0.155	3.514	0.000	Accepted
H5: Facilitating conditions → Intention to use	0.024	0.554	0.580	Rejected
H6: Perceived enjoyment → Intention to use	0.223	4.700	0.000	Accepted
H7: System quality → Trust	0.211	3.695	0.000	Accepted
H8: Trust → Intention to use	0.062	1.052	0.293	Rejected

Table VIII.
Results of hypotheses testing

innovations' diffusion. Indeed, it explores what is behind the intention to use mobile financial services by testing at the same time the impact of several incentive factors including some of the five innovation attributes of Rogers (2003), the impact of Ram and Sheth (1989) innovation resistance theory of the five barriers and the effect of customer trust. Thus, the investigation helps financial institutions to emphasize motivational factors that may mitigate their customers' distrust and to face their resistance which is an important issue that has often been neglected by the literature dealing with innovation.

In fact, the main barrier to the intention to use mobile financial services is a tradition barrier. Thus, customers are struggling to change their habits, behaviors and interact with the service provider through its mobile services offer. Results indicate that they continue to use the service provider to carry out their financial operations. This finding is probably explained by a form of inertia, resisting any habit changes (Daniel, 1999) or by a social dimension and the need for human interaction (Srijumpa *et al.*, 2007) with staff members. It may be also explained by the newness of the online payment service in Tunisia, so this reluctance can be attributed to the unfamiliarity of consumers with such a "brand new" service (Antón *et al.*, 2013).

Surprisingly, usage, value and risk barriers on mobile banking adoption are insignificant. In fact, consumers found this new service neither difficult to use (Rammile and Nel, 2012) nor expensive. Furthermore, they perceive that this offer is not risky (Rammile and Nel, 2012) probably due to the advanced technology employed and the high safety of access codes that is assured by the financial institution.

On the other hand, banks should emphasize incentive factors to boost the use of their mobile services. Indeed, the service compatibility with the consumer work and lifestyle must be highlighted in the promotional communications. Then, to succeed in this initial phase, financial institutions should give the opportunity to their customers to use this new service on a trial basis in order to encourage them to become familiar with it. Besides, as perceived enjoyment has a positive and significant impact on the use of mobile services, financial services providers should take into account the emotional aspect to provide the hedonic value or consider mobile phones as an entertainment gadget in order to develop such applications.

Moreover, system quality seems to be important to gain customer trust. That is why; the interface should have a suitable design for mobile banking and an easy access to information in addition to a rapid response, secured, uninterrupted and error free.

This shows not only the importance of the engineers' work on the supply of mobile services but also the importance of after-sales services.

However, trusting mobile banking and its provider does not seem to affect the intention to use it, which is probably due to the importance of tradition barrier or to the launch phase of MobiFlouss services that were not sufficiently widespread and consequently this can also be explained by the respondents' unfamiliarity with such services. Therefore, much effort should be made to persuade consumers to adopt such services. This may highlight the crucial role of customer service and the sensitivity of this innovation.

Limitations and future research directions

Studying resistance to technology-based banking and motivational factors is a promising field. However, our findings cannot be generalized as they relate to a specific sample; MobiFlouss, a brand new service and one sector (financial). In addition, our sample involves only respondents from the capital city, Tunis. Findings may be different in other areas where third generation services are not widespread.

The findings of this investigation can provide a new direction toward further research by exploring other options. Thus, a similar study could be done in other economic sectors. Also, researchers in this area can introduce in the model moderating social demographic variables: age, gender, occupational status, income or education level as well as cultural variables. In addition, it would be interesting to group consumers into the five categories of innovation adoption namely: innovators, early adopters, early majority, late majority and laggards or grouping consumers into users or non-users, familiar or non-familiar with new mobile financial services. Also, additional work can use the two dimensions of trust namely: trust in mobile financial services and trust in providers and examine if one dimension is more important than the other in the context of mobile banking. Finally, future research can explore the relationship between trust and innovation resistance.

Conclusion

Currently, M-banking gives new opportunities for growth for financial services providers. In this research, we have identified resistance and motivational factors in order to provide managerial directions on how to accelerate consumer intention for using this new service and to allow financial institutions and their customers to benefit from this innovative means of banking.

The results of our survey showed that the main factor of resistance to the adoption of mobile financial services is tradition barrier. It lies mainly in the resistance to change imposed by the use of this service on customers used to tangible branch location. The results also revealed that the main factors accelerating the intention of using this service are its compatibility with customers' needs, behavior and habits, the opportunity to use it personally on a trial basis, the emotional aspect through the pleasure felt when using it and the system quality which has a positive impact on customers' confidence in mobile service providers.

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