



Research Article

Typology of Resistance to e Banking Adoption by Tunisian

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Abstract

Online banking is facing various types of resistance that may hinder its adoption by consumers. This paper aim to identify barriers to the origin of non-adoption of e banking and to provide a better comprehension of online bankig non adoption it is based on a survey of nearly 150 Tunisians bank customers non-adopters of e banking. This study identifies three groups of non- adopters of online banking: postponers, opponents and rejecters. The results indicate, first, that these groups of non- adopters differ significantly with respect to psychological barriers (tradition and vision). They highlight on the other hand that functional barriers (use value and risk) have no impact on resistance to e banking. The results provide managerial implications for Tunisian executives to better profile their customers.

Keywords: innovation, e banking, resistance to adoption, cluster analysis.

Introduction

Online banking is now a new distribution and communication channel through which customers can remotely conduct various operations (El Idrissi, 2005). However, despite its many advantages, e-banking is still faced with barriers that slow its use (Gouia et al , 2013). However, all customers do not react the same way to these barriers and different groups of non-adopters seem to exist. This study is justified among other things, by the fact that resistance to innovation adoption has not attracted much interest of researchers, in contrast to factors of its adoption. This lack of interest concerns both developed and developing countries (Hanafizadeh et al, 2014).

This study aims at identifying the different groups of Tunisian non- adopters of banking online and analyzing how differences between groups can be explained and interpreted. This paper reports the results of a survey of 150 private Tunisian customers nonusers of e-banking to validate our research hypotheses. We assume like Lee et al (2005) that differences in behavior are identifiable between non-users themselves and not between users and non-users.

Tunisian banks total 22 that have a banking rate of about 50%. The banking system has continued to expand, and it is even expected to reaches the level of an agency for 7000 inhabitants (8400 in 2009) (Amen Invest, 2011). On the other hand, the

number of credit cards increased from 2,082,905 million at the end of December 2009, to 2,346,165 cards at the beginning of 2010 (Annual Report APTBEF, 2010). Furthermore, 55% of active Tunisians are holders of a credit card (Amen Invest, 2011). The pace of banking automation has accelerated with the proliferation of ATMs. The number rose to 1608 during the first ten months of 2010, against 1,409 in December 2009. Moreover, the number of EPT installed in stores increased from 10,450 in 2009 to 11,843 units in 2010 (APTBEF, 2010).

On another level, more than 80 % of Tunisian commercial banks offer E-B (Nasri, 2011). Moreover, out of a population of nearly 10,732,900 inhabitants, the number of Internet users reached 4.2 million in June 30, 2012, representing a penetration rate of 39.1%, against 2,000, 68,000 users in June 2008. This penetration rate is high compared to the average rate in Africa of 15.6 % (Nasri and Charfeddine, 2012; Internet World Stats, 2012). However, although the supply of Tunisian banks in e-banking is well developed, the number of users of these services remains limited (Nasri and Charfeddine, 2012). Thus, there is a need to understand the phenomenon of non-adoption of e-banking and identify resistance factors of Tunisian consumers.

Theoretical Framework

Resistance takes place when the characteristics of an innovation conflict with consumer representations. We will review in the following the main barriers to the adoption of innovation and the main types of non-adopters.

Barriers to e-Banking Adoption

Different researchers have focused on understanding the strength of innovation and analyzed barriers to its adoption. Among the most famous, Ram and Sheth (1989) identified two types of barriers: functional barriers and psychological barriers.

Functional Barriers

Functional barriers emerge when consumers perceive significant changes after the adoption of an innovation. Ram and Sheth (1989) divided functional barriers in use, value and risk. The use barrier relates to the incompatibility of innovation with the past consumer experiences and habits. Therefore, the consumer needs a long time to accept it. This barrier relates to ease of use including the complexity or similarity to the concept or ease of use associated with the technology innovation acceptance model, which are two closely related concepts. It corresponds to the most common reason of customers' resistance to innovation (Sheth and Ram, 1989). Laukkanen et al (2007) found that incompatibility of innovation with the practices, habits and past experiences is an obstacle to the adoption of mobile banking. The value barrier relates to the monetary value of an innovation referring to the assumption that if innovation does not offer a high performance-price there is no incentive for consumers to adopt it (Ram and Sheth, 1989). Lian and Yen (2013) have argued that the value barrier is the main obstacle to consumers' acceptance of innovation. Gerrard et al (2006) found that risk is the main factor that explains why consumers do not adopt e-banking. In addition, Ram and Sheth (1989) identified four types of risk. The first is physical, i.e. bodily or material concerns inherent to innovation. The second is economic: the higher the cost of innovation is, the greater perceived risk. The third is functional: innovation does not work reliably or correctly or it is defective. Finally, the last type of risk is a risk to the social status of the consumer who uses online banking that may be affected if the technology is perceived negatively by others.

Psychological Barriers

Psychological barriers often result from a conflict with consumers' prior beliefs. They include tradition and image (Ram and Sheth, 1989). Tradition barrier involves changes that innovation can generate in consumers' daily routines. If these routines

are important to the consumer, tradition barrier is probably high. Laukkanen et al (2008) found that changing routines involves resistance to e-banking adoption. Image barrier relates to the identity of innovations such as product category, brand and country of origin. If the consumer has a negative impression of the country of origin or brand or the product, they reject innovation. Laukkanen et al (2008) found that an unfavourable impression implies a resistance to e-banking adoption.

The Typology of Resistance to Innovation Adoption

Different types of non- adopters of e-banking have been identified. Lee, Kwon and Schuman (2005) identify two groups of non-users: persistent non- adopters and non- adopters exploring the use of innovation. Resistance to e-banking leads consumers to respond in one of three forms: direct rejection (rejecters), postponement (postponers) and opposition (opponents) (Szmigin and Foxall, 1998). This categorization is based on intention of adoption (Laukkanen et al , 2008). This typology has been studied in Tunisia by various researchers including Gouia et al. (2013) and Abdel Aziz El Badraoui (2011) and Mzoughi and Msallem (2013).

The Rejecters

Rejecters correspond directly to those who reject innovation. Rejection is defined by Rogers (2003) as the decision not to adopt an innovation. Direct rejection is the extreme form of innovation resistance (Kleijman, et al, 2009). When there is a direct rejection of an innovation by consumers, corporate responsibility is to change it then resubmit it to the market. Rejection may take place either when innovation does not offer an advantage, or when its use is seen as complex, difficult or risky (Szmigin and Foxall , 1998). Pousttchi and Schurig (2004) identified two types of rejection: active rejection and passive rejection. The first takes place if innovation is first considered and it was rejected. As

for the second it takes place if innovation is never adopted or implemented.

Postponers

Postponers correspond to those who delay the adoption of innovation (Kuisma et al , 2007). Most often this seems to be caused by situational factors such as waiting for the right time to become able to adopt innovation or to ensure that the product works effectively (Cornescu and Adam, 2013). Szmigin and Foxall (1998) note that the delay can be transformed into acceptance or rejection after some time

The Opponents

Opposition refers to a type of rejection, but in this case the consumer is willing to test, try and assess innovation before definitively rejecting it (Mirella et al , 2009). However, the reasons for innovation opposition may relate to habits, situational factors or cognitive style that may lead consumers to reject the new product or service. Opposition takes place when consumers perceive a disadvantage in relation to innovation (Szmigin and Foxall , 1998).

Given the above, we hypothesize that barriers to adoption change from one type of non-adopters to another and that there are differences between different types of non- users of e-banking:

H 1: Non- users of e-banking differ in the use barrier.

H 2: Non-users of e banking differ in the value barrier.

H3: Non-users of e banking differ in the risk barrier.

H4: Non-users of e banking differ in the tradition barrier.

H5: Non-users of e banking differ in the image barrier.

The Research Methodology

We will specify in what follows our data collection, measurement scales and data

processing techniques mainly EFA and cluster analysis.

Data Collection

Data collection was conducted through a survey of a sample of 150 Tunisians who do not use online banking. Face-to-face interviews using a questionnaire is the data collection method most suitable for this type of investigation. A pre-test was carried out with nearly fifteen participants to ensure clarity and understanding of the topics surveyed. Respondents were asked to indicate their level of agreement or disagreement to statements given on a scale of 1 "strongly disagree" to 5 "strongly agree".

Measurement Scales

The literature identified 23 items that summarize the barriers to online banking adoption (use, value, risk, tradition, and image).

The Exploratory Factor Analysis

On the basis of an exploratory factor analysis (EFA) and using a principal components analysis (PCA) with a varimax rotation, we eliminated items that have factor loadings lower than 0.5. Following the purification of our measurement scales, three items were removed and 20 items retained.

Cronbach 's alphas vary between 0,894 and 0,577 which indicate acceptable reliability levels of our exploratory study (Nunnally, 1967). Kaiser- Meyer- Olkin's sampling adequacy measure is adequate (KMO = 0.816) and the Bartlett's sphericity test ($p < 0.001$) confirm that the factor analysis is appropriate. The EFA results are reported in the appendix.

The Cluster Analysis

Cluster analysis is a technique used to identify groups of individuals or objects that share common attributes (Baillargeon, 2003). Classification of non- adopters of e-banking was conducted using the method of dynamic clusters and SPSS-18 software. This method may generate a partition from data on which there no a priori hypotheses.

Presentation of Results

The purpose of this classification is to understand resistance to e-banking adoption by dividing non-adopters into three groups, depending on the intention of adopting e-banking and then identify how resistance differs between these groups. This typology was carried out following the work of Laukkanen et al, (2008), Abdelaziz El Badraoui (2011) and Gouia et al (2013). The results obtained are reported in Table 1 below.

Table 1: Typology according to the intention of adopting e banking

| | Number | Percentage |
|----------------|---------------|-------------------|
| Group 1 | 71 | 47,33 |
| Group 2 | 44 | 29,33 |
| Group 3 | 37 | 24,66 |
| Total | 150 | 100,0 |

The distribution of the 150 respondents who reject the adoption of online banking indicates that 71 belong to the first group: these are the people who intend to adopt e-banking in over a year (opponents), 44 belong to the second group: those who intend to adopt e-banking in a year

(postponers) and 37 who do not intend to adopt e-banking (rejecters) as shown in Table 2 above. The results of the differences between the three groups by analysis of variance (ANOVA), is reported in Table 2.

Table 2: Characteristics of the three groups

| Items | G1: Opponents | | G2 : Postponers | | G3 : Rejecters | | Total | | F | Sig |
|-------------------|------------------|----------|--------------------|----------|-------------------|----------|-------|----------|-------|------|
| | Mean | Std. dev | Mean | Std. dev | Mean | Std. dev | Mean | Std. dev | | |
| Use barrier | 2,26 | 1,35 | 2,76 | 1,50 | 2,38 | 1,35 | 2,43 | 1,42 | 3,29 | 0,04 |
| Value barrier | 1,97 | 1,35 | 2,85 | 1,67 | 1,88 | 0,89 | 2,21 | 1,43 | 8,56 | 0,00 |
| Risk barrier | 3,80 | 1,26 | 3,15 | 1,52 | 3,65 | 1,17 | 3,58 | 1,37 | 7,59 | 0,05 |
| Tradition barrier | 3,77 | 1,45 | 2,53 | 1,56 | 3,67 | 1,27 | 3,38 | 1,55 | 16,47 | 0,00 |
| Image barrier | 3,99 | 1,22 | 2,77 | 1,59 | 3,75 | 1,16 | 3,61 | 1,42 | 13,27 | 0,00 |

The results in Table 2 show that the identified three groups of non-adopters significantly differ in the tradition barrier ($F = 16.47$ and $p = 0.00$) and image ($F = 13.27$ and $p = 0.00$). As for the risk barrier ($F = 7.59$), use ($F = 3.29$) and value ($F = 8.56$), they showed no significant differences between the three groups. Therefore, hypotheses H1, H2 and H3 are rejected and H₄ than H₅ are verified..

Characteristics of Tunisian Opponents

The results show that the image barrier (3.99) is the main obstacle to the adoption of e-banking for opponents followed by risk (3.80) and tradition (3.77). Thus, risk and psychological barriers as perceived by respondents are the most important determinants for the opposition to the adoption of e-banking offered by Tunisian banks. However, use (2.26) and value (1.97) have the lowest means and are not obstacles to the adoption of e-banking for opponents.

Characteristics of Tunisian Postponers

The results indicate that risk (3.15) is the sole determinant of resistance to e-banking adoption for postponers. Value (2.85), image (2.77), use (2.76) and tradition (2.53) have the lowest means. Thus, postponers do not consider the value, image, and use tradition as significant barriers to the adoption of e-banking.

Characteristics of Tunisian Rejecters

The results indicate that image (3.75) is the biggest obstacle for the adoption of e-banking for rejecters followed respectively by tradition (3.67) and risk (3.65). Risks and psychological barriers are determinants of resistance to the adoption of e-banking for rejecters. Use (2.38) and value (1.88) have the lowest means and they do not determine resistance to the adoption of e-banking for Tunisian rejecters.

Summary of Results and Discussion

E banking is facing different types of resistance that may hinder its adoption by Tunisian customers. This study, conducted on a sample of 150 customers, enabled us to test the relevance of some variables from the literature for the study of resistance to the adoption of e banking in the Tunisian context. Following the typology of Tunisian non- adopters according to the intention of adopting e-banking, we found that the three groups of non- adopters, postponers, opponents and rejecters differ significantly with regard to psychological barriers (image and tradition). Functional barriers (risk, use and value) were perceived differently by the three groups of non-adopters.

The results of Laukkanen et al. (2008) indicate that the three groups of Finnish

non- adopters of e-banking i.e. postponers, opponents and rejecters differ significantly in terms of use, value, tradition and image barriers. However, the risk barrier may not be a source of differences between the three groups of non- adopters.

Comparing the results we obtained with the results of previous research, reproduced in Table 3 below, we report the following.

El Badraoui and Abdel Aziz (2011) and Gouia et al (2013) found that the three groups of non- adopters in Egypt and Tunisia (postponers, opponents and rejecters) differ significantly with respect to use, value and image barriers. Risk and tradition barriers did not lead to significant differences between the three groups of non- adopters, neither in Egypt nor in Tunisia.

Table 3: Comparison of results

| Barriers | Ben Brahim (2014) | Gouia et al. (2013) | El Badraoui and Abdel Aziz (2011) | Laukkanen et al. (2008) |
|-----------|-------------------|---------------------|-----------------------------------|-------------------------|
| Use | | * | * | * |
| Value | | * | * | * |
| Risk | | | | |
| Tradition | * | | | * |
| Image | * | * | * | * |

Recommendations and Managerial Implications

Banks are encouraged to adopt marketing strategies that can reduce reluctance of Tunisian consumers to adopt e-banking. Bank managers may encourage free simulation of e-banking. They may encourage customers to try to use the web-based system using fictitious accounts and focused on the fact that e-banking is secure, explicitly mentioning the used security techniques. The benefits of this service are to be highlighted during advertising and communication campaigns to reduce the perceived negative image of e-banking.

Limitations and Future Research

The limitations of this study relate to the classification of non-adopters of online banking using cluster analysis because this method is sensitive to multicollinearity problems, there is no formal statistical test for determining whether the proposed clustering solution is the best and interpretation of the groups is subjective. It would be very interesting to extend this quantitative research by including other variables as genre and revenue, increasing sample size and conducting a qualitative study of nearly customers who previously used and then abandoned e-banking. This is to identify reasons for giving up on the use of the system.

Appendix: The results of the exploratory factor analysis (EFA)

| Items | Factor loadings | Cronbach Alpha | KM O | Chi square | Sig |
|---|--|----------------|--------------|----------------|-------------|
| Usage barrier E-banking is easy to use. Use of E-banking is convenient. E-banking is quick to use. Progress of e-banking is clear. Practical possibility to change the password and personal data. | 0.796 0.782 0.786 0.602 0.768 | 0.800 | 0.816 | 221.812 | 0.00 |
| Value Barrier Use of e-banking is economical. Use of e-banking helps me better control the balance of my account. E-banking offers no advantage for monitoring the balance of my account. | 0.892 0.892 Eliminated | 0.738 | 0.500 | 63.444 | 0.00 |
| Risk Barrier I fear that the internet connection is interrupted. I am afraid of making mistakes. I risk losing my username and password. E-banking may not function properly which can cause problems for my account. Use of e-banking can lead to financial losses. It takes time to learn to use e-banking. E-banking does not go with my vision. I am afraid of losing personal information about my account. I am afraid of piracy and fraud by malicious people. | 0.652 0.600 0.863 0.762 0.554 0.675 0.827 0.688 0.682 | 0.836 | 0.791 | 485.581 | 0.00 |
| Tradition Barrier Banks press clients to adopt e-banking. The visits and discussions with agency staff are a source of pleasure and joy. E-banking is more enjoyable than the services received at the agency. | 0.840 0.840 Eliminated | 0.577 | 0.500 | 27.316 | 0.00 |
| Image Barrier I think that e-banking is very complicated. I have the impression that e-banking is difficult. I have a positive image of e-banking. | 0.951 0.951 Eliminated | 0.894 | 0.500 | 156.745 | 0.00 |

References

1. Chemingui, H. and Ben Lallouna, H. (2013), 'Resistance, motivation, trust and intention to use mobile financial services', *International Journal of Bank Marketing*, 31 (7), 574-592.

2. Cornescu, V. and Adam, C. (2013), 'The Consumer Resistance Behaviour towards

Innovation, *International Economic Conference of Sibui*, 457-465.

3. Diday, E. (1971), 'Une nouvelle méthode de classification automatique et reconnaissance des formes. La méthode des nuées dynamiques', *Revue de Statistiques Appliquées*, 20 (2), 19-33.

4. Elbadraoui, R. and Abdelaziz, R. (2011), 'Resistance to mobile banking adoption in

- Egypt: a cultural perspective', *International Journal of Managing Information Technology*, 3 (4), 9-28.
5. Elidrissi, A. (2005), Les sites web bancaires : un outil de communication et de distribution au service du client, *Revue des Sciences de Gestion*, 40 (214-215), 165-175.
6. Gerrard, P., Cunningham, J. and Devlin, J. (2006), 'Why consumers are not using internet banking', *Journal of Services Marketing*, 20 (3), 160-168.
7. Gouia, M., Pauly, B. and Abdellatif, T. (2013), 'Etude de la résistance à l'adoption du M banking et du M paiement en Tunisie', *Communication à l'ATM*, Mahdia, 1-28.
8. Hanafizadeh, P., Keating, B. and Khedmatgozar, H. (2014), 'A systematic review of internet banking adoption', *Telematics and Informatics*, 31 (2), 492-510.
9. Kuisma, T., Laukkanen, T. and Hiltunen, M. (2007), 'Mapping the reasons for resistance to internet banking: a means-end approach', *International Journal of Information Management*, 27 (2), 75-85.
10. Laukkanen, T., Sinkonen, S., Kivijarvi, M. and Laukkanen, P. (2007), 'Innovation resistance among mature consumers', *Department of Business and Management*, 24 (7), 419-427.
11. Laukkanen, T., Sinkonen, S. and Laukkanen, P. (2008), 'Consumer resistance to internet banking : postponers, opponents and rejecters', *International Journal of Bank Marketing*, 26(6), pp. 450-455.
12. Lee, E, Kwon, K et Shuman, D, (2005), Segmenting the non-adopter category in the diffusion of internet banking', *International Journal of Bank Marketing*, 23 (5), 414-437.
13. Lian, J et Yen, D, (2013), 'To buy or not to buy experience goods on line: perspective of innovation adoption barriers', *Computers in Human Behaviour*, 29 (2), 665-672.
14. Pousttchi, K. and Schurig, M. (2004), 'Assessment of today's Mobile Banking applications from the view of customer requirements', published in the Proceedings of the 37th Hawaii International Conference on System Sciences, Big Island, Hawaii, January 5-8.
15. Mzoughi, N. and M'sallem, W., (2013), 'Predictors of internet banking adoption', *International Journal of Bank Marketing*, 31 (5), 388-408.
16. Nasri, W, (2011), 'Factors influencing the adoption of internet banking in Tunisia', *International Journal of Business and Management*, 6 (8), 143-160.
17. Nasri, W. and Charfeddine, L. (2012), 'Factors affecting the adoption of internet banking in Tunisia : An integration theory of acceptance model and theory of planned behavior', *Journal of High Technology Management Research*, 23 (1), 1-14.
18. Ram, S. and Sheth, J. (1989), 'Consumer resistance to innovations: the marketing problem and its solutions', *Journal of Consumer Marketing*, 6 (2), 5-14.
19. Rogers, E, (2003), Diffusion of innovations, Free press, New York, 5^{ème} Edition.
20. Szmigin, I. and Foxall, G. (1998), 'Three forms of innovation resistance: The case of retail payment methods', *Technovation*, 18 (6/7), 459- 468.
21. Walker, H. and Johnson, W. (2006), 'Why consumers use and do not use technology-enabled services', *The Journal of Services Marketing*, 20 (2), 125-135