

## Determinants of Fintech Product Adoption by Tunisian Customers: A Predictive Model Study

Nihel Ziadi<sup>1\*</sup> , Nidhal ZIADI<sup>2</sup>

<sup>1</sup> University of Tunis El Manar, TUNISIA

<sup>2</sup> University of Tunis El Manar, TUNISIA, nidhal.ziadiellouze@fst.utm.tn

\*Corresponding Author: [nihel.ziadi@fst.utm.tn](mailto:nihel.ziadi@fst.utm.tn)

**Citation:** Ziadi, N. and ZIADI, N. (2025). Determinants of Fintech Product Adoption by Tunisian Customers: A Predictive Model Study, *Journal of Cultural Analysis and Social Change*, 10(2), 12-21. <https://doi.org/10.64753/jcasc.v10i2.1551>

**Published:** November 10, 2025

### ABSTRACT

This study aims to identify the key factors influencing Tunisian customers' adoption of Fintech products amid rapid changes in the financial technology sector. A conceptual model was developed, including variables such as trust in digital platforms, perceived transaction security, familiarity with online banking, perceived usefulness of Fintech services, prior internet experience, and perceived ease of use. A survey of 188 Tunisian customers tested this model using factor analysis and multiple regressions. Results show that trust and security are fundamental, as users must feel safe to engage with Fintech services. Additionally, digital literacy, especially prior knowledge of internet and online banking, encourages adoption. Usefulness and ease of use also significantly impact on customer engagement, highlighting the need for intuitive interfaces and clear value propositions. Therefore, Fintech providers should focus on building trust, improving user education, and enhancing user-friendly design to accelerate adoption and promote a more inclusive digital financial ecosystem in Tunisia.

**Keywords:** Fintech Products, Perceived Usefulness, Perceived Ease Of Use, Trust

### INTRODUCTION

In recent years, Fintech has created highly competitive market conditions. These technologies are at the center of many concerns for both users and companies. Fintech is one of the products most in tune with deep-rooted societal trends, thanks to real-time access to information wherever consumers are located (Alard, P., & Diringier, D. 2000)

Although a variety of terms exist, researchers generally define Fintech products as an m-commerce application that enables customers to access their bank accounts via a mobile device to carry out banking transactions such as account balance inquiry, monitoring account movements, instant payment and issuing transfers (Ponsree, K., Phongpaew, T., & Naruetharadhol, P. (2023). In addition, Fintech products is a product/service offered by a financial or banking institution in order to carry out financial and non-financial transactions using a mobile device, namely a cell phone, smartphone or tablet, specifying that access to banking services from a laptop should not be considered Fintech products (Shaikh, A. A., Glavee-Geo, R., Karjaluto, H., & Hinson, R. E. 2023). In addition, laptops are listed in the online/Internet banking category rather than Fintech products.

So, despite the rapid increase in mobile services, the use of Fintech products is still very low compared to the use of banking services in the traditional context. As a result, the potential of mobile technology to create value remains elusive. In such a condition, it is necessary for banks to manage these new technological interfaces and understand how customers react to this proliferation of techniques. Despite the importance of research on Fintech

products adoption across all disciplines, studies on Fintech products adoption in one European country are few and far between (Koenig-Lewis, N., Marquet, M., Palmer, A., & Zhao, A. L. (2015). This is creating new competitive pressure for banking institutions to develop new tools to serve their customers (Tommi, 2007). This is made possible by the rapid evolution of information technologies.

Online banking, which is banking via the Internet, offers a wide variety of services characterized by a high level of convenience, enabling customers to request information and carry out most retail banking transactions via a computer or other Internet-enabled access device (Akhlaq and Ahmed, 2013).

Fintech products offer numerous advantages for both banks and customers. Fintech products services enable customers to carry out financial operations and transactions easily and directly. Thanks to enhanced services, a better product offering, Fintech products and 24-hour online banking, the bank saves customers time and effort (Tommi L, 2007), enabling them to access their accounts more conveniently and at a lower cost, anytime and anywhere.

In developed countries, banks have recognized that the adoption of Fintech products services has an impact on both their financial and commercial performance (Farid and Esawai, 2017). Indeed, Fintech products represent an opportunity for banks to diversify their services; reduce the number of customer visits to branches, shorten transaction turnaround times, reduce fixed costs, attract new customers, increase their market share and improve their brand image (Sharma, M., Banerjee, S., & Paul, J. 2022). The role and importance of fintech products has increased with the rapid and growing use of internet technology and the rapid progress of other types of electronic services.

The adoption of new information and communication technologies has enabled banking institutions to increase the efficiency and quality of their services and improve their competitiveness (SAXENA, Noopur, GERA, Navneet, and TANEJA, Mayur 2022). Banks in Tunisia are obliged to adapt their service offering to global technological change and provide services that meet international banking standards. Refusal to adapt to this era of technology-based banking can lead to heavy losses and obvious failure (Alkailani, M., & Nusairat, N. 2022). In spite of the continuous increase in the number of internet users and despite the many advantages that internet banking offers customers, the growth rate of internet users in the banking sector is well below expectations in some developing countries (Al-shbiel & Ahmad, 2016). This low rate may be due to problems of trust, usefulness, ease of use, consumer awareness or infrastructure issues (GUPTA, Ravi Kumar 2022). The success of these innovations in the banking sector depends on their adoption by customers. A low adoption rate leads to poor performance and productivity, and a low return on investment for banks (Ahmed et al, 2017). Therefore, it is crucial to examine the factors that influence the adoption of internet banking services, identifying these factors helps banks to develop marketing strategies for promoting internet banking services. Research based on the theory of planned behavior and the technology acceptance model, has been carried out in many countries and has identified some determinants of customer adoption of Fintech products (Chechen et al, 2016; Al-shbiel and Ahmad, 2016; Farid and Esawai, 2017). However, it is completely incorrect to generalize their results for users in Tunisia, due to differences in the context in terms of culture, level of education, internet access and banking services. Consequently, this study attempts to identify determinants specific to Tunisian customers and to enrich the banking management literature by identifying other factors in the adoption of internet banking such as trust, security, privacy prior knowledge of the internet and demographic factors, perceived usefulness and perceived ease of use.

The contributions of this study are of managerial interest. Firstly, from an information systems perspective, this study should provide a better understanding of the acceptance and use of Fintech products services, and the continued use of these services, which would indirectly explain the success of investment in mobile. Secondly, from a marketing perspective, our research would also be interesting, as it would lead banks to become aware of the existence of different types of users of these services. They need to target these different profiles by adapting their communication strategies to the expectations of different groups. Indeed, the results of this study can help professionals in their development and communication programs with their customers, on the one hand, to attract a high number of customers using these services, and on the other, to build lasting relationships with them. The latter will build a foundation on which banks can rely to develop other mobile services and subsequently adapt quickly to market changes. Hence, the problematic preoccupying our research is to highlight the determinants of Fintech products as factors in the adoption of innovation.

Thus, this article is organized into three paragraphs, one for the literature review, one for the empirical results and their discussion and a final section for the conclusion.

## LITERATURE REVIEW

The primary objective of this section is to analyze the theoretical underpinnings of innovation adoption and to identify the main variables affecting customer acceptance of fintech products.

## Innovation Adoption

Rogers, the author who has focused most on the problem of innovation, defines the acceptance or rejection of an innovation as "the process by which an individual or other decision-making unit moves from first becoming aware of an innovation to forming an attitude toward a decision or rejection, to implementing the new idea and confirming that decision" (Rogers, 1983). In order to understand, predict and explain the acceptance or rejection of technological innovations, researchers have focused on four theories and approaches, namely: Rogers' (1983) theory of the diffusion of innovations, the theory of reasoned action initially proposed by Fishbein and Ajzen (1975) (Gefen et al, 2003), Ajzen's (1991) theory of planned behavior (Shih and Fang, 2004) and the technology acceptance model (Pikkarainen et al, 2004; Cheng et al, 2006).

The theory of the diffusion of innovations was developed by Rogers (1983) to determine the factors involved in the adoption of an information system. Rogers identified the following antecedents: information sources, communication channels, and user and innovation characteristics. According to this theory, users evaluate innovation based on various characteristics, namely complexity (ease of use), relative advantage (the innovation's added value compared with ideas already available), trialability, observability (the visibility of the innovation's results) and compatibility between the innovation and the customer's need or lifestyle. Only complexity is negatively linked to innovation adoption, while the other characteristics are positively linked.

The Theory of Reasoned Action (TRA), proposed by Fishbein and Ajzen (1975), is used to predict individual behavior (Venkatesh et al, 2003). According to this theory, behavioral intention is influenced by attitude towards a given behavior and by subjective norms. Behavioral intention represents the effort made by the individual, as well as the motivational factors that immediately influence his or her behavior. Attitude is the favorable or unfavorable evaluation of behavior (Ajzen, 1991) and depends on behavioral beliefs (the perception of the consequences of behavior) (Ajzen, 2005). Subjective norms represent the pressure from the social sphere (family, friends, neighbors or other groups) to adopt or not a given behavior (Ajzen, 1991). The individual's desire to conform to the expectations of those who matter to him or her also contributes to the prediction of this concept (subjective norms) (Ajzen, 1988, 1991, 2005). According to the theory of reasoned action, the intention to adopt or reject internet banking services depends on subjective norms and personal attitudes towards these services.

This theory was developed by Ajzen (1991) and has come to address the limitations of the theory of reasoned action, justifying its adoption by many researchers (Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. 2022). Indeed, the theory of reasoned action does not consider the role of variables that limit individual freedom in the execution of a desired behavior. The theory of planned behavior states that decisions preceding a given behavior result from a cognitive and emotional process in which behavior is indirectly influenced by attitude towards action, subjective norms and perceived behavioral control (Ajzen, 1991). The latter variable plays an important role insofar as the individual is constrained in his or her behavior (limited capacity, limited time, environment, etc.), and ultimately has an influence on his or her intention to act. The main contribution of TPB compared with alternative theories lies in its consideration of behavioral and social control factors.

Perceived behavioral control is an individual's ability to control his or her life and the events that affect it. Perceived behavioral control as a determinant of behavioral intention can also act directly on behavior (Ajzen, 1988, 1991). The theory of planned behavior is widely used to study the acceptance and use of new technologies, including Fintech products services.

The technology acceptance model proposed by Davis et al (1989), is an extension of the theory of reasoned action, the main aim of which is to study the determinants of adoption as well as the causes of rejection of IT applications in general (Al Shibly, 2011; Davis, 1989). The technology acceptance model has been confirmed in numerous studies of different IT applications Rachid, Z. I. K. Y., ABRIANE, A., BAHIDA, H., CHAREF, F., & BOUZAHIR, B. (2022). According to this model, the adoption of a computer application depends on its perceived usefulness and ease of use. Although research has validated the technology acceptance model for predicting user adoption of various information technologies, many researchers have criticized it mainly in the field of Fintech products for two reasons: firstly, it does not take into account the influences of other factors such as trust, security and privacy, and subjective norms. According to Agarwal et al (2009), trust could be considered an important factor in the adoption of internet banking, while security and confidentiality are serious issues in the internet banking environment. Secondly, it neglects the influences of situation (McCoy et al, 2007) and other external factors, notably culture.

The "post-adoption" phase in this study is devoted to understanding customer behavior after a period of experience with the bank. However, understanding the post-adoption behavior of a technology/innovation is an important issue in the field of information systems. This post-adoption analysis is called "IT Continuance" (Bhattacharjee, 2001), "Post adoptive IT usage" (Jasperson et al. 2005) or "post-adoptive behavior" (Roberts et al. 2007). These studies focus on satisfaction with the use of services after adoption. Here, we are more interested in customer satisfaction with their bank in the mobile context, after a period of experience. For us, it's not just a

matter of looking at the number of users, but rather the number of effective and loyal users of the bank after Fintech products has been implemented (MAJUMDAR, Sudipa and PUJARI, Vijay 2022). We therefore draw on relationship marketing literature to understand the determinants of customer relationships

Thus, further research is crucial to test the influence of these different variables on the adoption of Fintech products services.

### Factors in the Adoption of Fintech Products

The adoption of Fintech products can be determined by several factors. Among these factors are those related to knowledge of online banking and the internet, perceived ease of use and usefulness, trust or security.

Pikkarainen et al (2004) and Maruf et al (2022) consider customer knowledge of online banking to be a major factor in its acceptance. According to Sathye (1999), customers refer to the information they have about online banking before adopting it; the author has even shown that the lack of information about Fintech products services and their advantages is a major obstacle to their acceptance. Studies carried out on online banks in Malaysia have shown that adoption of Fintech products is low due to a lack of knowledge about these services, how they can be used and the benefits they provide to customers (Al-Fahim, 2012; Jayaraman et al, 2012; Ong et al, 2014; Yen et al, 2016). For Rogers et al (1971), the adoption or rejection of new products or services is closely linked to the potential user's knowledge of the technology. To adopt new technology, individuals begin to gather and synthesize information about it. Based on these various studies, we formulate the first hypothesis as follows:

H1: Knowledge of internet banking services has a significant and positive impact on their adoption by customers.

Another factor that can influence the adoption of fintech products is customers' computer and information processing skills. Customers who are familiar with computers and have skills in using web browsers are the most likely to adopt Fintech products services, as these customers are familiar with the benefits they can enjoy (M.LEIVA, F. CLIMENT; L.CABANILLAS 2017). This positive relationship between prior knowledge of the internet and the adoption of Fintech products is confirmed empirically by Mathavi and Dineswary (2017). The above development leads us to propose the following hypothesis:

H2: Prior knowledge of the internet exerts a significant and positive impact on customer adoption of online banking.

Perceived usefulness is defined as "The degree to which a person believes that using a particular system would improve his or her performance at work" (Davis, 1989). The perceived usefulness of banking services is linked to the benefits they offer users. Customers are more likely to adopt Internet banking services if they perceive that they offer a plus over traditional services. Thus, it can be said that the advantages of internet banking services such as transaction flexibility and convenience encourage customers to adopt them (Haneen, 2014). Numerous empirical studies have confirmed the essential role that perceived usefulness plays in the adoption of new technologies. The results of Yousafzai and Yani-de-Soriano's (2012) study also revealed that perceived usefulness significantly influences intention to use internet banking. Based on these results, we formulate the following hypothesis:

H3: Perceived usefulness of internet banking exerts a significant and positive impact on its adoption by customers.

Some researchers believe that the adoption of an information technology application depends on how easy or difficult it is to use (Davis, 1989). Perceived ease of use is defined as "the degree to which a person believes that using a particular system would require no effort" (Davis, 1989). The role of perceived ease of use is confirmed by studies of self-efficacy carried out by Bandura (1982). According to the self-efficacy mechanism, individuals avoid activities that require skills beyond their capabilities but accept and perform those they feel able to manage. When users consider a technology or system to be easy to use, the intention to accept it is higher. According to the technology acceptance model, perceived ease of use is a major factor affecting information system acceptance (Davis et al, 1989). Thus, an application perceived as easy to use is more likely to be adopted by users. Numerous studies have supported this idea and confirmed the existence of a positive relationship between perceived ease of use and the adoption of Fintech products (Maruf et al, 2016). The above development has enabled us to propose the following hypothesis:

H4: Perceived ease of use has a significant and positive impact on the adoption of internet banking.

Trust plays an essential role in building economic relationships between businesses and customers, especially in an online environment such as internet banking (Alsajjan and Dennis, 2010). The absence of physical interaction and the intensive use of technology in online banking create a specific environment in which trust is of vital importance. Trust in online banking is seen as "the willingness to carry out banking transactions over the internet, expecting the bank to fulfill its obligations, regardless of the customer's ability to monitor and control the bank's actions" (Yousafzai and Foxall, 2009). Although internet banking offers several advantages, many customers hesitate before adoption for reasons of perceived risk and security (Mukhtar, 2015). Customers believe that banking transactions carried out over the internet are not secure and that personal data is not protected. In the marketing literature it has been shown that perceived risk has a considerable impact on consumer behavior (Cunningham et

al, 2005) and is defined as "the customer's perception of the uncertainty and potential adverse consequences of purchasing a product or service" (Al-Smadi, 2012). In the technological domain, of which internet banking is an example, the user assesses the benefits and risks before adopting a new technology. The higher the degree of perceived risk, the lower the benefit of the new technology. Regarding internet banking, perceived risk is linked to the reliability and security of operations (Amini et al, 2011; Darmesh et al, 2016). Customer-perceived risk is considered a multidimensional variable, comprising five dimensions namely: performance risk, social risk, financial risk, privacy risk and time risk (Natarajan et al, 2010). Thus, a high level of trust is more than necessary for customers to accept Fintech products services. According to Yousafzai et al (2010), trust in internet banking comprises the following elements: security, integrity, authentication and authorization. Security refers to the protection of information transmitted during the execution of an online transaction against risks related to transactional integrity, authentication and authorization. Transactional integrity is the belief that information will not be generated, masked, changed or cancelled in an unequal manner. Authentication belief guarantees customers that only genuine transactions will be accepted. Finally, the authorization belief ensures that the parties to an Internet transaction are who they claim to be. Mathavi and Dineswary (2017), Jayasiri et al (2016) have shown that security is among the most influential factors on trust in Fintech products services and their adoption by customers. Based on this discussion we propose the following hypothesis:

H5: Confidence exerts a significant and positive impact on the adoption of internet banking services.

The literature review enabled us to identify the various determinants of adoption of Fintech products and to propose the following model:

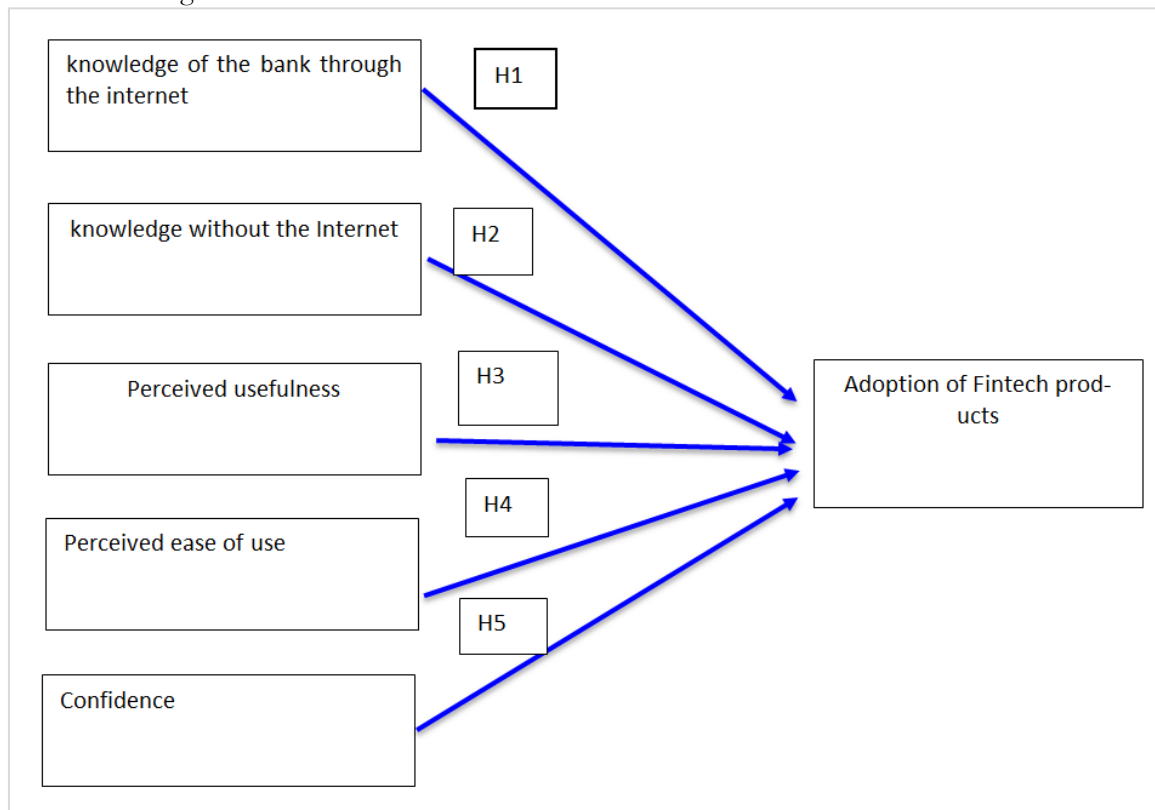


Figure 1. The conceptual model.

## EMPIRICAL RESEARCH METHODOLOGY

Our research aims to uncover the determinants of customer behavior towards the adoption of fintech products and to explain the consequence of this adoption, after a period of experience, in terms of the relationship between the bank and its customers. In fact, this study provides an "objective" explanation of customer behavior towards the adoption of Fintech products services before and after a period of experience. The object of this study is independent of our perception, and there is no "dependence of subject and object". This means that our research takes a "positivist" stance, aiming to discover an underlying structure of reality and explain it (LE MOIGNE 2021.).

Our epistemological positioning also guides us in our choice of tools. The lack of statistical data on the adoption of Fintech products in the adoption phase and its impact on the bank-customer relationship in the mobile context in the post-adoption phase, therefore led us to obtain significantly exploitable data ourselves. As a result, quantitative techniques (questionnaires, etc.), which are often associated with the positivist epistemological paradigm, are well suited to our work. The model developed in this research was tested using a quantitative survey

based on a questionnaire, which was administered directly to the 188 respondents. Respondents had at least one current bank account at the time of the survey. Applying the convenience sampling technique, the questionnaire was administered to participants in the vicinity of bank branches in several locations. To measure the variables in our model we relied on measurement instruments developed and used in previous research, for which the respondent would be asked to indicate their degree of agreement or disagreement on a five-point Likert scale.

## EMPIRICAL RESULTS AND DISCUSSION

To test the research hypotheses, we perform simple sorts to identify certain frequency and size statistics useful for characterizing the sample. We analyze these characteristics in terms of Internet banking usage, gender, age, occupation and level of education (see Appendix 1). Next, we performed a factor analysis (principal component analysis) to see the possibility of reducing the variables to a limited number of factors, we also calculated Cronbach's alpha for each measurement scale. Finally, we tested the causal relationships between the different variables, using the multiple linear regression method.

Our sample includes 160 users of Fintech products services (85.10%) and 20 non-users (10.63%). 40.857% of users are women and 52.142% are men. 53.721% of users of Fintech products are aged between 25 and 45. The majority of users were holders of a higher education diploma (30%), followed by those with a bachelor's degree (50.824%). In terms of profession, most respondents were senior managers (30.827%) and middle managers (33.428%). To test whether demographic characteristics have an impact on the use of internet banking, the relationships between the different demographic variables are tested using an analysis of variance. The results show that age, level of education and socio-professional category have a significant impact on the adoption of internet banking (chi-square tests are significant at the 1% level). This is in line with the results of the study by Haneen et al (2014), which showed that the adoption rate of internet banking services, particularly Fintech products, is higher among younger users than among older customers. Our results confirm those found by Bruce et al (2017) and Mattila et al (2003) and fortify the results of previous research that has verified that the most educated customers and those with high-level professions are the most likely to use Fintech products services. However, the chi-square test of the effect of the gender variable is insignificant, a result that contradicts that of the study by Haneen et al (2014), which proved that the adoption rate of internet banking services is higher among men than women.

The results of the reliability test of measurement scales, and those of the principal component analysis are presented in Table 1. This analysis enables us to deduce the factors of each concept and to verify the unidimensionality of the measurement scales.

**Table1.** Reliability test and principal component analysis.

SCALE	Reliability (Alpha de Cronbach)	Indices KMO	Test Bartlett (P-value)	Variance totals explicate	Factor retinue
knowledge of the bank through the internet	0,896	0,651	0,000	90,174%	1
knowledge without the Internet	0,824	0,639	0,000	80,271%	1
Perceived usefulness	0,965	0,757	0,000	86,989%	1
Perceived ease of use	0,901	0,768	0,000	73,188%	1
Confidence	0,962	0,891	0,000	82,025%	1
Purchase intention	0,981	0,857	0,000	94,4681%	1

The quality of the scales used to measure the various constructs is verified by testing their reliability. This provides a general index of the consistency or internal coherence of the scale. Using cronbach's Alpha correlation coefficient, we tested the reliability of the measurement scales. The test results show that the values found for cronbach's alpha statistic exceed the threshold of 0.7 recommended by researchers (Peterson, R. A, 1995). This allows us to conclude that the scales studied are statistically reliable.

For the principal component analysis, the results show that the scales studied are unidimensional, and the items selected are the best representatives of each concept. Indeed, the KMO index values are satisfactory, exceeding the 0.5 level (Akrouf F. 2000). The analysis carried out is acceptable and enables us to construct concepts that are statistically correlated with their items.

- The analysis of variance shows that more than half of the total variance explained is generated by the items for each concept, i.e. an average percentage of 84.52%.

The results of the relationship between the explanatory variables (the factors determining innovation adoption) and the variable to be explained are shown in Table 2.

Table 2. Model estimation results.

	Coefficients	Standard deviation	T-stat	P-value
knowledge of the bank through the internet	0,208	0,043	3,891	0,000
knowledge without the Internet	0,129	0,041	4,591	0,000
Perceived usefulness	0,256	0,051	4,475	0,000
Perceived ease of use	0,153	0,054	2,378	0,018
Confidence	0,430	0,033	9,107	0,000
Constante	-0,95	0,275	-1,352	0,185

The regression results show a significant correlation between the determinants of Fintech products adoption and the intention to accept Fintech products services. Indeed, the value of the Statistic  $F = 28.767$ , with a probability  $p < 0.01$  show that the model tested is globally significant, highlighting a significant influence of the independent variables (trust and security, knowledge of online banking, perceived usefulness of online banking, prior knowledge of the Internet, perceived ease of use and compatibility) on the dependent variable (adoption of Internet banking services). Thus, the concepts reflecting the determinants of adoption contribute independently in explaining the phenomenon of Fintech products adoption. These results also show that the  $R^2$  value is 0.839, reflecting a good linear fit. This coefficient ( $R^2$ ) shows that the six independent variables in our model explain 83.9% of the variation in the adoption of Fintech products in Tunisia.

About the individual effect of the explanatory variables, the results (see Table 2) prove that these five variables exert a significant impact on the adoption of mobile services. The values associated with the respective coefficients of these variables are (0.000; 0.000; 0.000; 0.018 and 0.000), which are significant at the 1% level.

Note also, trust and security is positively correlated with adoption of Fintech products services, confirming the work of Mathavi and Dineswary (2017) and Jayasiri et al (2016) which show that the more customers trust internet banking services as secure, the higher the likelihood of their adoption. These results also show that perceived ease of use and perceived usefulness exert a positive and significant impact on the adoption of mobile services. These results confirm those of Yousafzai and Yani-de-Soriano (2012) and Maruf et al (2016) who verified a significant effect of perceived usefulness and ease of use on the adoption of mobile banquer services. The regression results reveal a positive and significant influence of online banking knowledge, prior internet knowledge and compatibility on the adoption of internet banking services. These results concur with previous research showing a positive effect of online banking knowledge, prior internet knowledge and compatibility on internet banking adoption (Yen et al. 2016; Mathavi and Dineswary, 2017; Mutahar et al, 2017).

## CONCLUSION

The aim of this article is to determine the determinants of customer adoption of Fintech products for the case of Tunisia. Accordingly, we conducted a survey of users who had requested services via their smartphones and Smartphone tablets. The empirical results showed that knowledge of online banking, prior knowledge of the internet, perceived usefulness of mobile services, trust and security are more influential than compatibility and perceived ease of use on the adoption of Fintech products in the Tunisian banking market. Identifying the drivers of mobile service adoption in this study can help banks develop appropriate strategies to attract new customers for this type of service.

Firstly, it is in the interest of Tunisian banks to implement risk reduction strategies that will eliminate customer concerns about mobile services. These strategies include developing internet banking security, protecting personal information, financial protection, reducing payment delays and waiting times, etc. Secure banking services help potential customers gain sufficient trust to establish a long-term relationship and encourage them to make greater use of Fintech products services. According to our empirical results, trust is the most important factor affecting customer intention to use Fintech products, and to reinforce it banks can improve the quality and performance of their services and send out positive messages about Fintech products. Secondly, banks should make online banking useful by demonstrating the benefits it offers users through advertising and customer service, as customers are more likely to adopt these services if they perceive that they offer a plus over traditional services. It is therefore important to develop marketing strategies and campaigns to inform customers of the usefulness, convenience and benefits of Fintech products. Thirdly, banks should improve the ease of use of their application by offering customers a learning program and free demonstrations on how to use Fintech products, which can guide customers from the initial steps through to the complex stages, i.e. from opening an account to finalizing banking transactions. Banks also need to ensure an appropriate synergy between perceived ease of use, compatibility and security in order to increase the level of adoption of Fintech products. This study has certain limitations, the first of which concerns the sample size, which is not large enough, so further research can be undertaken with larger sample sizes.

The second concerns the variables likely to influence Fintech products adoption, it is possible to identify other variables such as subjective norms and social influence.

## REFERENCES

- Agarwal, R., Rastogi, S., & Mehrotra, A. (2009). Customers' perspectives regarding e-banking: A case study of Indian banking sector. *Journal of Internet Banking and Commerce*, 14(1), 1–16.
- Ahmed, Z., et al. (2017). User perception of mobile banking adoption: An integrated Task Technology Fit (ITF) and Unified Theory of Acceptance and Use of Technology (UTAUT) model. *Journal of Information and Business Communication*, 22(3).
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2005). *Attitudes, personality and behavior* (2nd ed.). Open University Press.
- Akhlaq, A., & Ahmed, E. (2013). The effect of motivation on trust in the acceptance of internet banking in a low-income country. *International Journal of Bank Marketing*.
- Al Shibly, H. A. (2011). The impact of e-banking information system success on organizational performance in Jordanian banks. *Journal of Organizational and End User Computing*, 23(2), 1–13. <https://doi.org/10.4018/joec.2011040101>
- Alard, P., & Durringer, D. (2000). Customer relationship strategy: A dynamic support for customer relationship management: The Customer Connections model. Dunod.
- Al-Fahim, N. H. (2012). Factors affecting the adoption of internet banking among students: A case study of Malaysia. *International Journal of Business and Social Science*, 3(18), 105–116.
- Alkailani, M., & Nusairat, N. (2022). What motivates Jordanians to adopt mobile commerce? An empirical study of the most relevant factors. *International Journal of Data and Network Science*, 6(2), 487-496. <https://doi.org/10.5267/j.ijdns.2021.12.005>.
- Alsajjan, B., & Dennis, C. (2010). Internet banking acceptance model: Cross-market examination. *Journal of Business Research*, 63(9–10), 957–963. <https://doi.org/10.1016/j.jbusres.2008.12.014>
- Al-Shbiel, S. O., & Ahmad, M. (2016). A theoretical discussion of electronic banking in Jordan by integrating Technology Acceptance Model and Theory of Planned Behaviour. *Journal of Internet Banking and Commerce*, 21(3). <https://www.icommercenet.com/open-access/a-theoretical-discussion-of-electronic-banking-in-jordan-by-integrating-technology-acceptance-model-and-theory-of-planned-behaviour.php>.
- Al-Smadi, M. O. (2012). Factors affecting adoption of electronic banking: An analysis of the perspectives of banks' customers. *International Journal of Business and Social Science*, 3(17), 294–309.
- Amini, Y., Darani, M. B., & Karbassi, M. (2011). The effect of perceived risk on adoption of internet banking services. *International Journal of Business and Management*, 6(12), 234–244.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147. <https://doi.org/10.1037/0003-066X.37.2.122>
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351–370. <https://doi.org/10.2307/3250921>
- Cheng, T. C. E., Lam, D. Y. C., & Yeung, A. C. L. (2006). Adoption of internet banking: An empirical study in Hong Kong. *Decision Support Systems*, 42(3), 1558–1572. <https://doi.org/10.1016/j.dss.2006.01.002>
- Cunningham, L. F., Gerlach, J. H., Harper, M. D., & Young, C. E. (2005). Perceived risk and the consumer buying process: Internet airline reservations. *International Journal of Service Industry Management*, 16(4), 357–372. <https://doi.org/10.1108/09564230510614004>
- Darmesh, M., Amini, Y., & Karbassi, M. (2016). The impact of perceived risk on the adoption of internet banking services. *International Journal of Management and Applied Science*, 2(1), 1–6.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Farid, S. F., & Esawai, N. (2017). Internet banking adoption in Egypt: Extending technology acceptance model. *Journal of Business and Retail Management Research*, 12(1), 99-113.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. <https://doi.org/10.2307/30036519>
- Gupta, R. K., & Alhyari, A. R. (2022). Sustainable product development for elderly: optimising functional abilities. *International Journal of Product Lifecycle Management*, 14(4), 350-366. <https://doi.org/10.1504/IJPLM.2022.127116>.

- Hagger, M. S., Cheung, M. W. L., Ajzen, I., & Hamilton, K. (2022). Perceived behavioral control moderates the intention–behavior relationship in health behaviors. *Health Psychology, 41*(6), 385–393. <https://doi.org/10.1037/hea0001155>
- Jasperson, J. S., Carter, P. E., & Zmud, R. W. (2005). A comprehensive conceptualization of post-adoptive behaviors associated with information technology enabled work systems. *MIS Quarterly, 29*(3), 525–557. <https://doi.org/10.2307/25148694>
- Jayaraman, K., Shanmugam, B., & Ahmad, H. (2012). Understanding the adoption of internet banking in Malaysia: The role of subjective norm and perceived usefulness. *International Journal of Business and Management, 7*(18), 1–10.
- Jayasiri, N. A., Dineswary, R., & Mathavi, R. (2016). Factors influencing the adoption of mobile banking in Sri Lanka. *International Journal of Scientific and Research Publications, 6*(4), 1–6.
- Koenig-Lewis, N., Marquet, M., Palmer, A., & Zhao, A. L. (2015). Enjoyment and social influence: Predicting mobile payment adoption. *The Service Industries Journal, 35*(10), 537–554. <https://doi.org/10.1080/02642069.2015.1006634>
- Leiva, M., Climent, F., & Cabanillas, L. (2017). Determinants of mobile banking adoption: An empirical analysis in the Spanish market. *International Journal of Bank Marketing, 35*(7), 1092–1114. <https://doi.org/10.1108/IJBM-07-2016-0092>
- Leung, T. (2007). Correlatives and the conditions on chain formation. In *Proceedings of the International Conference on Linguistics in Korea*.
- Majumdar, S., & Pujari, V. (2022). Investigating the role of mobile banking service quality in customer satisfaction and loyalty: Evidence from India. *International Journal of Bank Marketing, 40*(5), 1012–1033. <https://doi.org/10.1108/IJBM-09-2021-0372>
- Maruf, M. A., Sultana, S., & Islam, M. T. (2016). Factors affecting the adoption of internet banking: Evidence from Bangladesh. *International Journal of Bank Marketing, 34*(7), 1066–1088.
- Maruf, M. A., Sultana, S., & Islam, M. T. (2022). Customer knowledge and adoption of fintech services: Evidence from developing countries. *Journal of Financial Services Marketing, 27*(1), 1–15.
- Mathavi, R., & Dineswary, R. (2017). A study on the factors influencing the adoption of mobile banking among customers. *International Journal of Management Studies, 4*(1), 1–10.
- McCoy, S., Galletta, D. F., & King, W. R. (2007). Applying TAM across cultures: The need for caution. *European Journal of Information Systems, 16*(1), 81–90. <https://doi.org/10.1057/palgrave.ejis.3000659>
- Mukhtar, M. (2015). Perceived risk and adoption of internet banking in Pakistan. *International Journal of Business and Management, 10*(11), 1–10.
- Natarajan, T., Balasubramanian, S. A., & Manickavasagam, V. (2010). Customer's perceived risk and adoption of internet banking services: A study in India. *Journal of Internet Banking and Commerce, 15*(1), 1–25.
- Ong, C. S., Lin, H. Y., & Tang, Y. J. (2014). Factors affecting the adoption of internet banking in Malaysia. *Journal of Internet Banking and Commerce, 19*(3), 1–15.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research, 14*(3), 224–235. <https://doi.org/10.1108/10662240410542652>
- Ponsree, K., Phongpaew, T., & Naruetharadhol, P. (2023). Study of Thai youths in the northeastern region of Thailand on the effectiveness of digital payment behavior. *Journal of Promotion Management, 29* (4), 569-605. <https://doi.org/10.1080/10496491.2022.2163035>.
- Rachid, Z. I. K. Y., Abriane, A., Bahida, H., Charef, F., & Bouzahir, B. (2022). Factors influencing the adoption of e-banking services: Evidence from Morocco. *International Journal of Financial Studies, 10*(1), 1–17. <https://doi.org/10.3390/ijfs10010001>
- Roberts, N., Campbell, D. E., & Arthanat, S. (2007). Post-adoptive behaviors of technology users: A study of e-learning systems. *Journal of Organizational and End User Computing, 19*(2), 1–22. <https://doi.org/10.4018/joec.2007040101>
- Rogers, E. M., Shoemaker, F. F., & Everett, M. (1971). *Communication of innovations: A cross-cultural approach*. Free Press.
- Sathye, M. (1999). Adoption of internet banking by Australian consumers: An empirical investigation. *International Journal of Bank Marketing, 17*(7), 324–334. <https://doi.org/10.1108/02652329910305689>
- Saxena, N., Gera, N., & Taneja, M. (2022). An empirical study on facilitators and inhibitors of adoption of mobile banking in India. *Electronic Commerce Research, 23*(4), 2573-2604. <https://doi.org/10.1007/s10660-022-09440-6>.
- Shaikh, A. A., Glavee-Geo, R., Karjaluoto, H., & Hinson, R. E. (2023). Mobile money as a driver of digital financial inclusion. *Technological Forecasting and Social Change*.

- Sharma, M., Banerjee, S., & Paul, J. (2022). Understanding consumer adoption of mobile payment services: A theoretical perspective. *Journal of Retailing and Consumer Services*, 65, 102865. <https://doi.org/10.1016/j.jretconser.2021.102865>.
- Shih, Y. Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study internet banking in Taiwan. *Internet Research*, 14(3), 213–223. <https://doi.org/10.1108/10662240410542643>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Yousafzai, S. Y., & Foxall, G. R. (2009). Multi-dimensional role of trust in internet banking adoption. *International Journal of Bank Marketing*, 27(7), 442–460. <https://doi.org/10.1108/02652320911000809>
- Yousafzai, S. Y., & Yani-de-Soriano, M. (2012). Understanding customer adoption of internet banking: A comparative study of UK and Spain. *International Journal of Information Management*, 32(5), 467–476. <https://doi.org/10.1016/j.ijinfomgt.2012.02.002>
- Yousafzai, S. Y., Pallister, J. G., & Foxall, G. R. (2010). A proposed model of e-trust for electronic banking. *Technovation*, 30(4), 310–320. <https://doi.org/10.1016/j.technovation.2009.04.007>

### Appendix 1: RESEARCH MEASUREMENT SCALES

<b>Intention to Adopt Internet Banking Services (Davis, 1985)</b>	<ul style="list-style-type: none"> <li>Assuming that web technology is available to me, I predict that I will regularly use internet banking services in the future.</li> <li>For future tasks, I would use internet banking services.</li> <li>In the future, I plan to frequently use internet banking services.</li> <li>I intend to increase my use of internet banking services.</li> </ul>
<b>Knowledge of Online Banking (Pikkarainen et al., 2004)</b>	<ul style="list-style-type: none"> <li>I have generally received sufficient information about online banks.</li> <li>I have received sufficient information about the benefits of using online banking.</li> </ul>
<b>Prior Knowledge of the Internet (Amini et al., 2011)</b>	<ul style="list-style-type: none"> <li>Using the internet/computer is not complicated and can be learned easily.</li> <li>I can carry out my banking transactions using online banking systems.</li> </ul>
<b>Perceived Usefulness (Cheng et al., 2006)</b>	<p>I believe that using internet banking services would allow me to complete my tasks more quickly.</p> <p>I believe that using internet banking services would make it easier to carry out my tasks.</p> <p>I believe that internet banking services are useful.</p>
<b>Perceived Ease of Use (Cheng et al., 2006)</b>	<ul style="list-style-type: none"> <li>I believe that learning to use internet banking services would be easy.</li> <li>I believe that interacting with internet banking services does not require much mental effort.</li> <li>I believe it is easy to use internet banking services to carry out my banking transactions.</li> </ul>
<b>Trust and Security (Pikkarainen et al., 2004)</b>	<ul style="list-style-type: none"> <li>I trust the technology used by online banking.</li> <li>I trust the ability of online banking to protect my privacy.</li> <li>I trust online banking as a bank.</li> <li>Using online banking is financially secure.</li> <li>I am not worried about the security of online banking.</li> </ul>