Factors Influencing Mobile Banking Adoption in Iranian Clients

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Abstract: Today, learning to use a mobile phone is an opportunity for financial institutions and banks to take advantage of it in a competitive environment. Therefore, this research aims to study factors affecting the adoption of mobile banking in Iran. For collecting research data, we used a questionnaire. A necessary sample of this research was selected among referred bank customers in Iran. Finally, 309 questions were suitable for this research, and structural equation modeling was used for data analysis. Results showed that, among of 7 hypotheses, five hypotheses were confirmed, and two hypotheses were rejected. In other words, founded relative preference, founded consistency, perceived competence, perceived integrity on theory of mobile banking adoption were confirmed and perceived ease and perceived benevolence on theory of mobile banking adoption were not confirmed. Finally, the final hypothesis, namely, attitudes of mobile banking adoption on behavioral intentions about mobile banking use, was confirmed.
Keywords: mobile banking; innovation; knowledge-based trust; behavioral intention

Abstrak: Saat ini, penggunaan ponsel merupakan peluang bagi institusi keuangan dan bank untuk memanfaatkannya dalam lingkungan yang kompetitif. Oleh karena itu, tujuan dari penelitian ini adalah mempelajari faktor-faktor yang mempengaruhi adopsi perbankan seluler (*mobile banking*) di Iran. Pengumpulan data penelitian menggunakan kuesioner. Sampel dari penelitian ini adalah para nasabah bank di Iran. Hanya 309 pertanyaan cocok untuk penelitian ini, pemodelan persamaan struktural digunakan untuk analisis data. Hasil penelitian menunjukkan bahwa dari 7 hipotesis, 5 hipotesis signifikan, dan 2 hipotesis ditolak. Dengan kata lain, ditemukan preferensi relatif, konsistensi, persepsi kompetensi, persepsi integritas atas teori adopsi perbankan seluler dikonfirmasi signifikan dan persepsi kemudahan dan persepsi kebaikan atas teori adopsi mobile banking tidak signifikan. Hipotesis terakhir yaitu sikap adopsi *mobile banking* terhadap niat berperilaku tentang penggunaan perbankan seluler terkonfirmasi signifikan.
Kata Kunci: perbankan seluler; inovasi; kepercayaan berbasis pengetahuan; keinginan perilaku

INTRODUCTION

Information technology was entered to market as new technology in the '90s and was developed quickly. This technology was different from other technologies, basically because it was very general. Namely, it is very effective in its district, but economic and non-economic activities have a notable influence in ease of implementation and increase of efficiency (Duarte et al., 2018). One of the most important opportunities and challenges that modern organizations encounter is the usage of web-based technologies. As a new channel to economic exchanges, the Internet has created a unique resource for organizations for income and opportunities created. Internet exchange is increasing daily, and companies that neglect using this technology will be deleted from the market arena quickly (Shankar et al., 2019). By rapid development of electronic commerce, Internet, and financial parts, customers are encouraged to use online banking (Yiu et al., 2007), development and ease of bank and financial service availability, with use of persons and communities is a significant consequence of modern banking

system in the world. Removing physical attendance needs in a bank branch, increase of accuracy in reception and payments, economic exchanges speed up and increase of safety coefficient and many big and small advantages created by electronic banking (Baiat, 2008). Notable changes are made by electronic, and this subject encourages us to consider more carefully to different characteristics of this industry. Because these changes can alter the vastly banking world, for example, a decrease of geographical obstacles, offer of bank service in the form of selectable article, the emergence of new competitors, creation of customer data base (Benoit et al., 2017). Iran is one of the countries in which the process of using mobile banking is expanding rapidly. Therefore, identifying the factors affecting innovation and knowledge-based trust in the acceptance of mobile banking in Iran requires study and research because it improves the provision of banking services and operations, develops the mobile banking service space of the bank, and meets the needs of customers. On the other hand, to reduce costs to move to obtain more resources and marketing strategies to improve mobile operate banks' quality. Hence, this research aims to study factors affecting the adoption of mobile banking in Iran.

Problem Statement

The industry's financial part (banks) has been changed and these changes affected industry structure and competition nature wondrously. It is not strange that in this wavy condition with quick changes, the financial institution has been forced to change their reaction toward the market, as has been concentrated on customers more and the products less and have been long-term view (Arcand et al., 2017). Advances in information and communication technology and the spread of the Internet and mobile users have changed the way services are provided. Hence, organizations have adopted several innovative channels to communicate with their customers. Likewise, banks offer banking services through several technology-based delivery systems (Shankar et al., 2020). With increasing attention of banks in developed and developing countries, the presentation of bank service by electronic tools, and the purpose of servicing process ease people and decrease banking costs has created compact competition in the electronic banking industry. Banks have been forced to use new communicational and informational technology (Chaouali et al., 2019). With the development of electronic systems such as the Internet, financial institution and banks have been influenced. The Internet has changed customer expectations about the speed, accuracy, price, and service. Geographical distance lost its meaning and availability, and service distribution speed is a competition privilege for organizations such as banks. For competition in this complex situation, businesses should offer the most attractive services for customers. For the survival of banks in the competition area, bank branches should change their traditional banking method. Customers' tendency and interest based on the new form of Internet cost decrease based competition, keep of the customer, encourage customer, customer acceptability, safety, ease of use, are significant parts of services and products (Chang, 2006).

The banking industry is not limited to service offers on the backside of the counter. Instead, its activity district is developed in multinational corporations. Today, the banking industry has entered electronic exchange as one of major investors in the exchange market. It plays an important role in supplying financial and monetary sources and economic welfare in competition with other banks. In short, it can be said that now, the banking industry includes a wide district of economic activities. Without it and alteration in this industry, the biggest society economic stimulus part is disabled (Hassan & Wood, 2019). With attention to new technology in data process, new need to bank service offer method has been discussed, with consideration to developed countries and electronic banking growth we can predict future needs and its increasing procedure in the area of bank service in Iran suitably, but before complete implementation of banking in the country should be considered that customers accustomed to unsuitable traditional service and most important things is that they trust to it. This research recognized the needs and requirements, and expectations of bank customers concerning electronic banking and electronic banking development and help to marketing consultants and designers until they concentrated on these factors in marketing guideline design. Therefore, this research recognizes innovation characteristics and trust-based knowledge in adopting mobile banking in bank customers in Iran. Thus, the research's main issue is whether knowledge-based innovation and trust affect mobile banking acceptance?

LITERATURE REVIEW

Mobile Banking

Electronic banking has several levels, but software and hardware systems and financial information processing cause electronic banking have differed from others (Tan & Lau, 2016). In other words, electronic banking provides optimum integration of bank activities by the use of new information technology that helps to offer necessary services to customers (Blount et al., 2008). But all of the experts agree with the use of hardware and software and net technology suitably and integration of activities and customer orientation. Now, electronic banking is not an only preference but also is a necessity. Firstly, some virtual banks that act by the internet can provide service quicker, more complete, and more accurate to customers in the world. Secondly, the slowness of the traditional system cause banks to lost golden opportunities to attract customers. With the deletion of paper methods for exchanging commercial documents in developed countries, the papering exchange of documents in these countries is impossible. In electronic banking, some tools are used such as electronic money, electronic cheque, electronic money bag, different types of cards: such as indebted card, credit card, cost card, Automated Teller Machine (ATM), and point of sale (POS) (Schneider, 2006).

On the other hand, traditional banking by branches is still a common method to perform bank transactions in most countries, though millions of dollars were spent in many countries. Reports indicate that these systems' potential users rarely use them; nevertheless, they are available, which worries banks. Therefore, recognizing factors that are effective on persons' tendency to use Internet banking services is necessary until the banking industry's design marketing guidelines develop new forms of the electronic banking system to meet the customers' needs (Wang et al., 2003). Considering that user's attitude toward adopting a new information system has an important effect on the success of informational systems adoption.

Until now, many investigations have been performed about information systems. These studies have used different theoretical frameworks. Among the theories, the technology adoption model (TAM) is the most effective and most common theory for the description of person adoption from informational systems, as in the past 18 years informational systems community considered to technology adoption model as a powerful theory in the area of information systems (Lee et al., 2006). The technology adoption model was offered by Davis et al. (1989) for behavior of computer use study. This model's theoretical basis is derived from Fishbein and Ajzen's model, the theory of reasoned action (TRA). The TRA predicts individual behavior in special conditions by using different variables (Davis et al., 1989). This theory is the basic and most effective theory about human behavior and is used to anticipate many behaviors. The theory of rational action predicts that a person goes from adoption intention toward adoption. So, the theory of reasoned action is about behaviors that are made by behavior intention. Behavior intention is created by attitude about behavior and intellectual and social norms in performing the behavior (Hong et al., 2001). Based on TRA theory, any person's behavior is made by his/her intention, and intention depends on an individual s attitude and internal norms.

Innovation

Mobile banking can act as technological innovation because it permits customers to perform banking transactions without time and place limit and is connected quickly to mobile banking services. The significance of innovation literature is supported by related literature. Several studies have indicated user's understanding of the effects of innovation on its use universality for Internet-based information systems. Innovation distribution theory offer specification collection and influence on use universality. Innovation characteristics are the relative advantage (that innovation creates for organization), use easiness, compatibility, observation, and examination ability. Among these items, innovation, relative advantage, use easiness, and adaption are the most important factors for the distribution and devotion of internet-based technology.

Perceived Relative Advantage

Understanding technology advantages means that person thought special technology could help perform his work better (Davis et al., 1989). Moore and Benbasat(1991) understood that innovation's perceived relative advantage positively relates to its adoption level. So, mobile banking potential has

been reported distinct benefits, like being quick, suitable, and proportional to customers' ability. When customers understand the clear advantage of mobile banking, they will have a positive attitude about mobile banking (Ashta, 2017).

Perceived Ease

This is referred to as a degree to which a person believes that the special technology use method's learning requires little intellectual effort (Davis et al., 1989). In other words, ease of use has been defined as amount that person believes use of special system with the physical or intellectual efforts and also learning requires less effort (Vainio, 2006), also perceived ease of consuming is the extent that in it mobile banking is deduced as easy method to performance understanding. For the use of suitable systems, customers do not need to develop many implementations for mobile banking use. Because mobile banking service has more accessible relation, customers are aware of their use, hence the positive association.

Perceived Compatibility

This is related to the amount of innovation's compatibility with individual current values, past experiments, and needs from a personal viewpoint (Lin, 2011). studies show that when innovation is compatible with individual occupational responsibilities and their value system, more probable will be adopted (Asongu & Nwachukwu, 2018). Perceived compatibility has been recognized as the best index, based on attitude's deduction to online transaction. Therefore, this research expects that customers image mobile banking as the banking that is adapted with their lifestyle and advantages and have been favorite attitude about mobile banking.

Perceived Competency

In mobile banking, the belief of competency is related to personal understanding; namely, mobile banking companies have the necessary ability, proficiency, and specialty to determine their individual financial control needs**.** Mir and Movary (1996) suggest that trusts in automatic systems are primarily based on customers' understanding of automated system capabilities. Pennington et al. (2003) said that customers deduct their website competency based on their understanding of online transaction s principal processes. If customers believe that mobile banking companies have the required ability, proficiency, and specialty to present suitable transactional services, more likely they think mobile banking is favorite and suitable (Koksal, 2016).

Perceived Benevolence

Benevolence is important for trust because indicate extent of control and surveillance about persons and also indicate their enthusiasm, that is not caused by individual and personal interests, and what extent they can act favorite. Tsvetkova and Macy (2014) said that generous and honest person help, even if without reward. If customers think that mobile banking companies are generous, will use mobile banking more.

Perceived Integrity

Perceived integrity indicates relation with adoption principles. Precision is very important because the truster trusts to trustee person and decreases inconsistency and potential risks. In mobile banking, rules that govern the precision will offer correct information, keep customers' commitment, and sustain customers' secret information. These correct rules create one image about mobile banking, and when customers conclude that these structures are an organization with high-level integrity are encouraged. When customers believe that mobile banking companies suggest more justice, honesty and identity will have high-level integrity, so customers believe that these mobile banking companies have high-level precision have a positive attitude about mobile banking (Merhi et al., 2019).

Attitude toward Adopting/Using Mobile Banking

Attitude is referred to the positive or negative evaluation degree of special behavior, and behavioral intention is referred to the probability of system used by persons (Lu et al., 2003). Purpose-based models in attitude study were successful as a medium between beliefs and purposes. Notable individual beliefs make a special system devotion attitude about special system devotion and

measurement of these results. It is expected that person effect on system use, and the system uses purpose. This relation has been confirmed in some conditions, such as the workplace using enterprise resource planning (ERP) and knowledge management plans and virtual collections using technologies such as Internet services. In this research, we expect that this relation about mobile banking reflects favorites and unfavorable feelings toward mobile banking and therefore predicts devotion purposes.

Behavior Intention about Adopting/Using Mobile

Behavioral intent influences the user's attitude towards the product, which results from the perceived usefulness of the product and its ease of use. Perceived usefulness refers to the degree to which the user is able to achieve the desired goals in using a particular product, while perceived ease refers to the amount of effort-free use of the system (Koenig-Lewis et al., 2010). On the other hand, the behavioral tendency can be defined as the degree of probability of using the system by an individual (Yu, 2012).
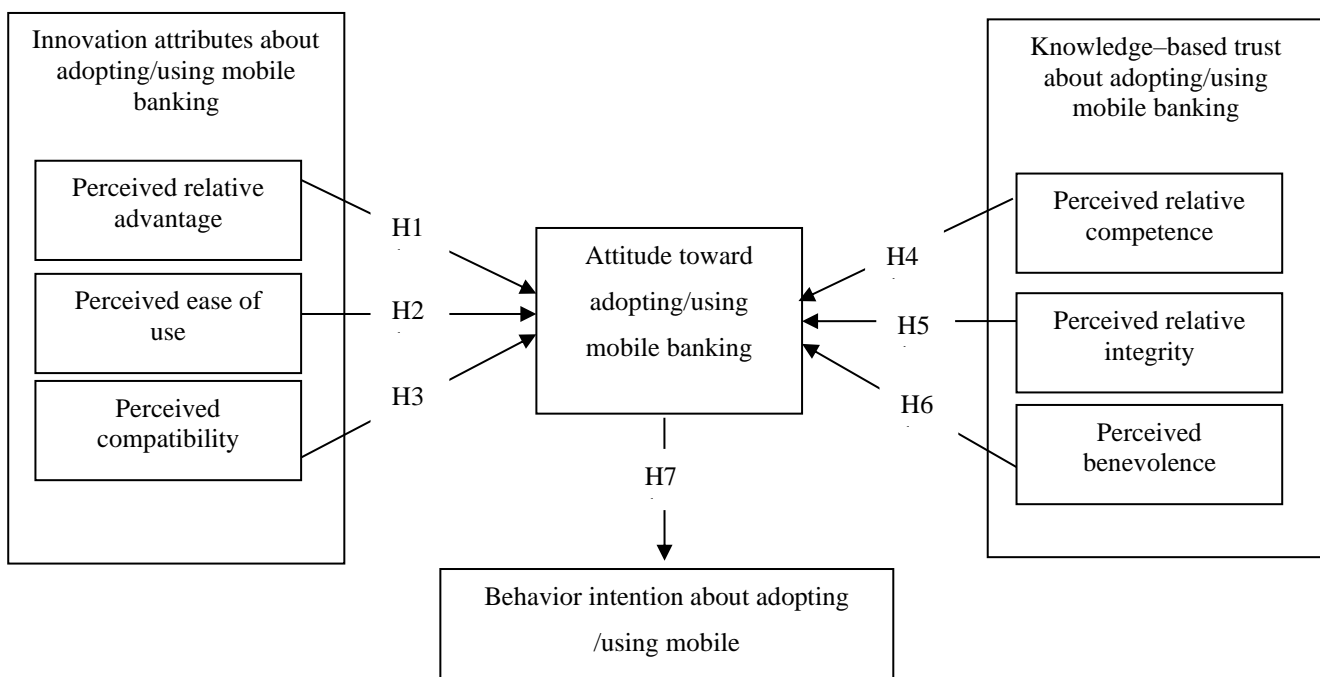

Figure 1. Proposed Research Model

Research Background

Adoption of electronic banking by Iranian customers was the title of Pour Mirza's (2007) research and the results indicated a principal difference in customers' population characteristics and customers' behavior. Besides bank counter being a favorite channel, and after ATM, electronic banking, telephone bank, and emails have the least usage in the next rankings. Popular characteristics of customers are related to electronic banking acceptance, and electronic banking efficiency was known completely. Results showed that security aspects and low knowledge about electronic banking, and technical knowledge are the most important obstacle in electronic banking adaption. Teo et al.'s (2009) article entitled "Adopters and non-adopters of e-procurement in Singapore" concluded that company size, top management support, perceived indirect advantages and commercial effect of commercial partners have positive and significant relation with the adoption of electronic purchase and industry type has no relation with adoption of electronic purchase. Laukkanen's (2007) study, entitled "Internet vs Mobile mobile banking: Comparing customer value perceptions," indicated that efficiency, easiness, and safety are the most important customers needs that cause to the difference between perceived customer value about mobile and Internet banking and in this research, safety was introduced as major customers concern about electronic banking. Alsheikh and Bojei (2012) claimed that mobile banking service

creates value for time and place independence and economic quality for customers. Innovation distribution theory exclaims that (Rogers, 1995) perceived innovation attitude (like relative advantage in innovation theory) affects individual usage innovation. Technological innovations have been studied according to this viewpoint. Mobile banking has new characteristics in comparison to common banking channels. However, innovation influences require notable attention that has not been entirely understood in mobile banking devotion (Sulaiman et al., 2007). So, with attention to these points conceptual research model was derived from Lin (2011) that have been described as follows:

Hypotheses

H$_1$: Perceived relative advantage has direct effect on attitude of mobile banking adoption.

H$_2$: Perceived ease has direct effect on attitude of mobile banking adoption.

H$_3$: Perceived compatibility has direct effect on attitude of mobile banking adoption.

H$_4$: Perceived competence has direct effect on attitude of mobile banking adoption.

H$_5$: Perceived integrity has direct effect on attitude of mobile banking adoption.

H$_6$: Perceived benevolence has direct effect on attitude of mobile banking adoption.

H$_7$: Use adoption attitude has direct effect on behavioral intention about use of mobile banking.

RESEARCH METHODOLOGY

Questionnaire

For collecting of necessary data, we use questionnaire. Research has shown that respondents find it difficult to determine their opinion on a scale with more than 7 options. This means that if your questions have more than 7-answer options, respondents are more likely to choose one option at random. This can distort the accuracy of your data. Also, methodologists recommend a five-point scale for the unipolar spectrum and a seven-point scale for the bipolar spectrum. Thus, for measurement of investigation variables we use of 5 factorial Likert in the form of 1 (disagree completely) until 5 (I agree completely). Questions were deducted from previous investigations and then were corrected with considering researching universe and becoming native. Before use of questionnaire, in primary for measurement of reliability, 25 questionnaires were pretested. As a result, all of research variables Cronbach's alpha were more than 0.7 and, therefore, questionnaire has necessary reliability for distribution. Also, questionnaire validity was confirmed by experts and thus questionnaire has necessary validity.

Table 1. Respondents' Demographic Information

Frequency Percentage	Frequency	Dimension	Variable
69	213	Male	Sex
31	96	Female	
28	87	21-30	Age
38	117	31-40	
34	105	More than 40	
29	89	diploma	Education
11	36	technician	
47	146	bachelor	
12	38	M.A degree and higher	

The Sample

The present study was conducted in the second half of 2020 in Iran. For this purpose, necessary sample for this research was selected among bank customers in Iran. For collecting of information, 350 questionnaires were designed and were distributed randomly in 3 weeks among customers that finally

309 questionnaires were used in this research; return ratio of questionnaires was 88%. In Table 1, respondent's demographic information has been presented.

RESULTS AND DISCUSSION

Data Analysis and Hypothesis Examination

With attention to this research evaluated relation of some latent variables simultaneously, therefore we used of structural equation modeling for data analysis and hypothesis examination. This method is called statistical modeling and includes of multi variable regression, factorial analysis, course analysis and concentrate on latent variable that are defined evaluable indexes and evident variables. Advantage of this method is evaluation of some variables relation simultaneously. Structural equation model has two parts: evaluation model and structural model. Evaluation model relates to some of observed variable to latent variable and structural model relate latent variables by direct and indirect relationship. LISREL version 8.54 is used for structural equation modeling calculation. Important note that should be considered in structural equation modeling, is the fitness of research model for survey of Interrelation of variables, that this condition is observed by fit indexing that is presented in final exit of LISREL. In Table 2, practical index is presented for recent research.

Table 2. Practical Indexes of Model

Received number	Permissive Amount	Indexes
2.77	$X^2/df<3$	Proportion of k2 on freedom rate
0.0000	Amount of $\pi< 0.05$	Amount of π
0.076	$0.08<RMSEA$	root s mean square error of approximation
0. 90	Higher than 0/9	propriety index
0.95	Higher than 0.9	Comparative fit index
0.92	Higher than 0.9	Normed fit index

According to Table 2, it seems that all of fit index such as proportion of K2 on freedom rate with number of 2.77, amount of p of 0.000, root s mean square error of approximation (RMSEA) with 0.76, goodness of fit with 0.90 and comparative fit index with 0.95 and normed fit index with 0.92 are in permissible level and thus express research model is suitable .

Measurement Model

Evaluation of model measurement part is preferred on structural part. The present research questionnaire is taken from Lin's (2011) measurement items. Then, in evaluation of model measurement part, researchers study interrelation of evident and latent variables of mode. In Table 3 results of model measurement is presented. On the basis of Table 3, all of variables have suitable factor loading and are meaningful, meanwhile all of observed variables have necessary validity and reliability.

Structural part: our hypothesis is based on interrelation between latent variables that these relations are seen structural part of model, hence for evaluation of investigations hypotheses we use of structural part of model. Structural part of model can be seen in Figure 2, according above items, with attention to fit index, investigation s model has suitable fit. We continue by studying of research hypotheses by considering structural model.

H1: Perceived relative advantage has direct effect on attitude of mobile banking adoption.

Results of our studies express that perceived relative advantage with standardized factor loading of 0.32 and t=2.22 influence on attitude of mobile banking adoption. That confirm hypothesis 1, generally customers that have more understanding about relative advantage of mobile banking use, attitude of mobile banking use adoption will increase.

Table 3. Model Measurement Part

Variables	Standardized Loading	t-value
Perceived Relative Advantages (α = 0.703)		
Use of mobile banking make more effective transactions	0.63	Fixed
Use of mobile banking make quicker transactions	0.60	8.53
Use of mobile banking is suitable way for bank transactions	0.65	9.05
Use of mobile banking is very suitable for my financial management	0.69	9.48
Perceived Ease (α = 0.778)		
Learning of mobile banking is easy for me	0.66	Fixed
Use of mobile banking is easy way for bank transactions	0.78	11.14
Interaction with mobile banking doesn't need to much subjective efforts	0.65	9.68
Generally, I believe that use of mobile banking is easy	0.78	11.14
Perceived Compatibility(α = 0.832)		
Mobile banking is compatible with my life	0.63	Fixed
Use of mobile banking is compatible with my financial management method	0.77	9.76
Use of mobile banking for bank transactions is compatible with my work style	0.74	9.59
Perceived Competency (α = 0.740)		
Mobile banking companies can understand my financial management needs	0.83	Fixed
Mobile banking companies should understand my special financial management needs	0.71	11.09
Mobile banking companies have enough knowledge about my financial management	0.70	10.99
Perceived Benevolence (α = 0.790)		
Mobile banking prefers my interests.	0.75	Fixed
When I need to help ,mobile banking companies help me in the best way	0.77	6.94
Perceived Integrity (α = 0.837)		
Mobile banking companies are honest	0.66	Fixed
Mobile banking companies perform their commitments	0.69	9.76
Mobile banking present additional information about transactions	0.72	10.01
Attitude toward Adopting/Using Mobile Banking (α = 0.826)		
bad….good	0.70	11.73
negative….positive	0.71	11.88
dislike…like	0.75	Fixed
Behavioral Intention about Mobile Banking (α = 0.736)		
In more probable, I will use mobile banking in the future	0.77	15.34
I intend use of mobile banking in future	0.84	17.07
I believe that mobile banking use is valuable for me.	0.86	Fixed

H2: Perceived relative ease has direct effect on attitude of mobile banking adoption.
Our result shows that relation of perceived ease with mobile banking adoption attitude has factorial loading 0.03 but their relationship with significant amount of t = 0.31 is not significant. In other words, second hypothesis does not confirm, about hypothesis rejection we can explain that because mobile banking is new subject in Iran and some of persons use of it, may be, customers are not aware about its ease of use.

H3: Perceived compatibility has direct effect on attitude of mobile banking adoption.
 Results of our studies express that Perceived relative compatibility with standardized factor loading of 0.28 and t = 3.38 influence on attitude of mobile banking adoption. That confirms hypothesis 3.
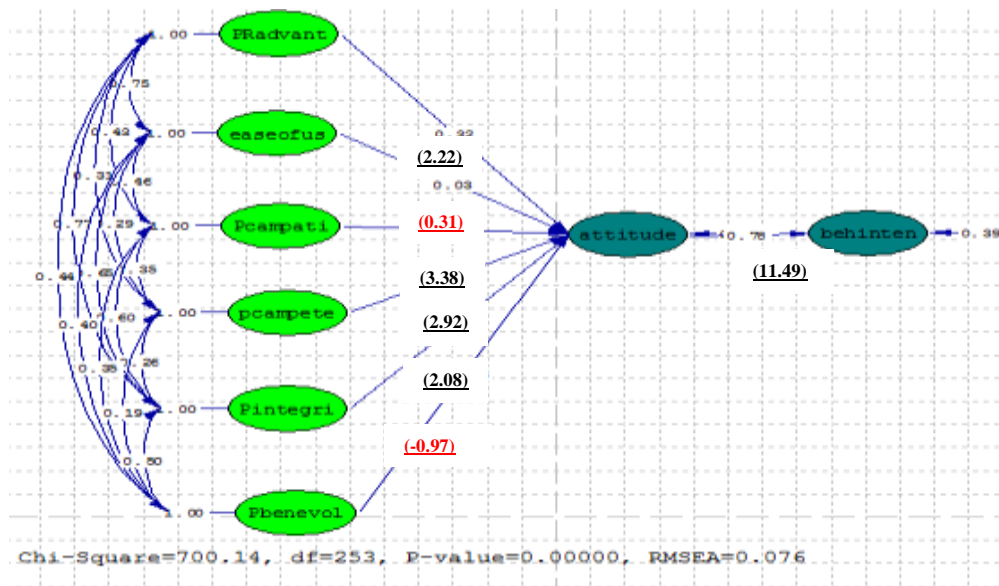
Figure 2. The Structural Model

H4: Perceived relative competence has direct effect on attitude of mobile banking adoption.
Results of our studies express that perceived relative competence with standardized factor loading of 0.23 and t=2.92 effect on attitude of mobile banking adoption. Therefore, this result confirms hypothesis 4.

H5: Perceived integrity has direct effect on attitude of mobile banking adoption.
Results of our studies express that Perceived relative integrity with standardized factor loading of 0.29 and t=2.08 influence on attitude of mobile banking adoption. So, hypothesis H5 is confirmed.

H6: Perceived benevolence has direct effect on attitude of mobile banking adoption.
Our result indicates that perceived relative benevolence with standardized factor loading of -0.06 and t=-0.97 is not significant, so sixth hypothesis is rejected.

H7: Use adoption attitude has direct effect on behavioral intention about use of mobile banking.
Results of our studies express that attitude of mobile banking use with standardized factor loading of 0.78 and t=11.49 effect on attitude of mobile banking adoption. Therefore, whatever customers have positive attitude about mobile banking adoption, in more probable will use of mobile banking and this result confirms hypothesis 4.

In Table 4, abstract of research hypothesis review results has been presented.

Table 4. Research Hypothesis Study Results Abstract

Hypothesis	Course coefficient (standard)	meaningful number (T)	Result
Perceived relative advantage-------attitude about mobile banking adoption	0.32	2.22	accepted
Perceived ease-------attitude about mobile banking adoption	0.03	0.31	rejected
Perceived compatibility-------attitude about mobile banking adoption	0.28	3.38	accepted
Perceived competence-------attitude about mobile banking adoption	0.23	3.92	accepted
Perceived integrity-------attitude about mobile banking adoption	0.29	2.08	accepted
Perceived benevolence-------attitude about mobile banking adoption	-0.06	-0.97	rejected
Attitude-----behavioral intention about mobile banking use	0.78	11.49	accepted

CONCLUSION

Our purpose in this research was to study innovation-based aspects and knowledge trust in electronic adoption. For this purpose, bank customers in Iran were selected. Investigation results indicated that except for perceived ease and perceived relative advantages, all factors positively affect customers' attitude about electronic banking. Also, attitude toward mobile banking cause to be the behavioral intention with mobile banking. Also, results express that among innovation characteristics related to mobile banking adoption, perceived relative advantage with factor loading of 0.32 and knowledge-based trust factors, in mobile banking adoption, perceived integrity with factor loading of 0.29 affect attitude toward mobile banking adoption. With attention to research results, it is suggested that Iranian banks management inform more customers about advantages of mobile banking use, also in the field of trust creation about mobile banking usage and keep of customers personal information in this system, customer be sure and try to develop mobile banking system by creation of positive attitude about mobile banking adoption among customers.

Limitation and Future Research

The limitations of the present research are necessary; Includes: Extensive statistical population and studied samples; As well as their geographical dispersion, which leads to a long time to gather information, disregard for environmental factors; In particular, cultural factors within the scope of research and failure to measure the impact of each of the variables studied should be taken into account to at least by eliminating them can suggest topics for future research. Moreover, it would be more interesting to discuss the importance of mobile banking adoption during the pandemic for future research.

REFERENCES

Alsheikh & Bojei (2012). Customer's Perceived Value to Use Mobile Banking Services. *International Conference on Management, Behavioral Sciences and Economics Issues (ICMBSE 2012), Penang, Malaysia.*

Arcand, M., PromTep, S., Brun, I., & Rajaobelina, L. (2017). Mobile banking service quality and customer relationships. *International Journal of Bank Marketing*, 35(7), 1068-1089. doi:10.1108/ijbm-10-2015-0150

Ashta, A. (2017). Evolution of Mobile Banking Regulations: A Case Study on Legislator's Behavior. *Strategic Change: Briefings in Entrepreneurial Finance*, 26(1), 3-20.

Asongu, S. A., & Nwachukwu, J. C. (2018). Comparative human development thresholds for absolute and relative pro-poor mobile banking in developing countries. *Information Technology & People*, 31(1), 63-83. https://doi.org/10.2139/ssrn.2937188

Baiat, M. (2008). How do We Create Culture. *Electronic Banking Journal*, 17(3), 38-47.

Benoit, S., Klose, S., & Ettinger, A. (2017). Linking service convenience to satisfaction: Dimensions and key moderators. *Journal of Services Marketing*, 31(6), 527-538. https://doi.org/10.1108/JSM-10-2016-0353

Blount, Y., Castleman, T., & Swatman, P. M. C. (2008). Employee Development Strategies in the B2C Banking Environment: Two Australian Case Studies. *Conference: Proceedings of the 13th European Conference on Information Systems, The European IS Profession in the Global Networking Environment, ECIS 2004, Turku, Finland, June 14-16, 2004.*

Chang, H. C. (2006) Exploring the digital capital indicators of internet banking in Taiwan. *Journal of American Academy of Business, Cambridge*, 9(1), 210-213.

Chaouali, W., Lunardo, R., Ben Yahia, I., Cyr, D. & Triki, A. (2019). Design aesthetics as drivers of value in mobile banking: does customer happiness matter? *International Journal of Bank Marketing*, 38(1), 219-241. https://doi.org/10.1108/IJBM-03-2019-0100

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982-1003. DOI: 10.1287/mnsc.35(8):982-1003.

Duarte, P., Costa e Silva, S. & Ferreira, M. B. (2018). How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM. *Journal of Retailing and Consumer Services*, 44(C), 161-169. DOI: 10.1016/j.jretconser.2018.06.007

Hassan, H. E., & Wood, V. R. (2019). Does Country Culture Influence Consumers' Perceptions Toward Mobile Banking? A Comparison Between Egypt and The United States. *Telematics and Informatics*, 101312. doi:10.1016/j.tele.2019.101312

Hong. W., Thong, J. Y. L., Wong, W.-M., Tam, K.-Y. (2001). Determinants of user acceptance of digital libraries: An empirical examination of individual differences and system characteristic. *Journal of Management Information Systems*, 18(3), 97-124. https://doi.org/10.1080/07421222.2002.11045692

Koksal, M. H. (2016). The intentions of Lebanese consumers to adopt mobile banking. *International Journal of Bank Marketing*, 34(3), 327-346. doi:10.1108/ijbm-03-2015-0025

Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers' take up of mobile banking services. *International Journal of Bank Marketing*, 28(5), 410-432. doi:10.1108/02652321011064917

Laukkanen, T. (2007). Internet vs mobile banking: comparing customer value perceptions. *Business Process Management Journal*, 13(6), 788-797. doi:10.1108/14637150710834550

Lee, Y., Kosar, K. A., & Larsen, K. R. (2006). The Technology Acceptance model: past, present and Future. Communications of the Association for Information Systems, 12(50), 752-780.

Lin, H.-F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31(3), 252-260. doi:10.1016/j.ijinfomgt.2010.07.006

Lu, J., Yu, C., Liu, C., & Yao, J. E. (2003). Technology acceptance model for wireless Internet. *Internet Research*, 13(3), 206–222. doi:10.1108/10662240310478222

Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Technology in Society*, 59, 1-12. doi:10.1016/j.techsoc.2019.101151

Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information System Research*, 3(2), 192-222.

Pennington, R., Wilcox, H. D., & Grover, V. (2003). The Role of System Trust in Business-to-Consumer Transactions. *Journal of Management Information Systems*, 20(3), 197-226. doi:10.1080/07421222.2003.11045777

Pour Mirza, A. (2007). *Adoption of Electronic Banking by Iranian Customers* (Masters Thesis in E-Commerce & Marketing). Luleå University of Technology & Tarbiat Modares University.

Rogers, E. (1995). *Diffusion of Innovation*. Free Press.

Schneider, G. (2006). *Business Strategies*. Andy Pickering, Boston, Thomson Course Technology.

Shankar, A. & Rishi, B. (2020). Convenience matter in mobile banking adoption intention? *Australasian Marketing Journal*, 28(4), 273-285. DOI: 10.1016/j.ausmj.2020.06.008.

Shankar, A., Datta, B., & Jebarajakirthy, C. (2019). Are the Generic Scales Enough to Measure Service Quality of Mobile Banking? A Comparative Analysis of Generic Service Quality Measurement Scales to Mobile Banking Context. *Services Marketing Quarterly*, 40(3), 1-21. doi:10.1080/15332969.2019.1630176

Sulaiman, A., Jaafar, N. I., & Mohezar, S. (2007). An overview of mobile banking adoption among the urban community. *International Journal of Mobile Communications*, 5(2), 157-168. doi:10.1504/ijmc.2007.011814

Tan, E., & Lau, J. L. (2016). Behavioural intention to adopt mobile banking among the millennial generation. *Young Consumers*, 17(1), 18-31. doi:10.1108/yc-07-2015-00537

Teo, T. S. H., Lin, S. & Lai, K.-H. (2009). Adopters and non-adopters of e-procurement in Singapore: An empirical study. *Omega, Elsevier,* 37(5), 972-987.

Tsvetkova, M., & Macy, M. W. (2014). The Social Contagion of Generosity. *PLoS ONE*, 9(2), 1-9. doi:10.1371/journal.pone.0087275

Vainio, M. M. (2006). *Factors Influencing Corporate Customers' Acceptance of Internet Banking: Case of Scandinavian Trade Finance Customers*. Thesis in accounting, The Swedish School of Economics & Business Administration.

Wang, Y., Wang, Y., Lin, H., & Tang, T. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International Journal of Service Industry Management,* 14(5), 501-519. doi:10.1108/09564230310500192

Yiu, C. S., Grant, K., & Edgar, D. (2007). Factors affecting the adoption of Internet Banking in Hong Kong—implications for the banking sector. *International Journal of Information Management*, 27(5), 336-351. doi:10.1016/j.ijinfomgt.2007.03.002

Yu, C. S. (2012). Factors affecting individuals to adopt mobile banking: Empirical evidence from the UTAUT model. *Journal of Electronic Commerce Research*, 13(2), 104-121.

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