Investigation the Key Factors Influencing the Mobile Banking Adoption in Iraq

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Abstract

Over the past one decade, banking business has transformed drastically. The fast development of technology has affected the industry of banking around the globe. The technology impact information in banking sector and one of the greatest technologies in this sector is the mobile banking. In Iraq, there are some antecedents facing the banks regarding the utilization of mobile banking systems by users. A model was proposed in this paper using a quantitative research design to verify and develop the relationship between the factors proposed. The main factors that could affect the mobile banking systems of Iraqi banks have been identified in three categories: technological organizational and environmental. In order to ensure that the design of the questionnaire follows up with the two stages of verification, the first phase of the validation of the questionnaire is checked by a panel of experts in the field of mobile banking before proceeding to the second phase. Secondly, the Cronbach alpha reliability of the factors is checked in a pilot study using the SPSS software. All of the factors were shown to be reliable from the results as there was a gain of 0.7 and above in the test.

Keywords: *Mobile Banking Adoption, Iraqi banks, pilot study, Cronbach's alpha*

1. Introduction

Information and communication technology have significantly revolutionized our daily life. It has drastically influenced the business sector even more. Business organizations these days are dependent on electronic platform for their success. Financial organizations are implementing technological solutions for providing better and quality product and services to their clients. to compete in the competitive environment, Banks are using technological platforms. To provide better product and service to enhance user satisfaction and reducing their operational cost. As mobile communication is one of the major types of technological platform due to its availability and convenience using, more and more business organizations are utilizing this platform to run their daily operations. Business organizations including banking sectors are utilizing this new innovation of mobile-based platform to extend their service and product to the clients. The advancement of mobile devices and technologies has made banking

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users perform their banking services at every place and at any time. Lately, many banks of the world have offered mobile access to different financial information [1].

Mobile banking (M-banking) is expected to produce benefits for users. Mobile Banking is defined as the "type of execution of financial services which the customer uses mobile communication techniques in conjunction with mobile devices" [2]. Furthermore, mobile banking is becoming the delivery of self-service channel that helps banks to present information and also offer solutions to their own clients with more convenience via the internet services technology [3]. With mobile banking, the focus is no longer on the mangers, but both the users and the employees in particular, who benefit from the mobile banking of the various knowledge resources provided by existing technology. M-banking will certainly come to be an essential service to the bank along with the spectacular raise in the quantity of smartphone utilization in Iraq [4]. To make sure the success of M-banking, banks have to supply a strong m-banking structure and also to connect properly the advantage of m-banking to persuade clients to utilize the system of m-banking as a second option through internet banking and conventional banking [5]. In developing nations, like Iraq, m-banking has been accepted by the banking business. However, the adoption rate is still low in Iraq. It is a simple fact that m-banking is even now in its childhood and fairly alien to Iraqis. There is certainly a requirement, hence, to realize the level of acceptance of m-banking by clients and to study the aspects influencing intentions to utilize it for financial transactions. The use of m-banking by users within banks in Iraq needs significant financial investment decision and studying efforts, but additionally introduces major change to just about every element of banking work [6]. Furthermore, perceptions toward the usage of mobile banking applications may differ between banking professional's groups, contributing to the complexness of using this new innovation in a pluralist banking system [7]. Mobile banking services and tools' use has become one of the fundamental criteria for creating the things needed for modern society. Great attention is paid to, including key factors for the development of an appropriate mobile banking model in different developing countries, which in turn consists of understanding alongside the proficiency of the use of mobile and important experiments in order to adopt them as a core component in the core banks, to bank accounts deposit and withdrawal. As the usage of mobile banking usage levels is unclear, this poses a further problem in assessing current state of the mobile banking system in Iraqi banks. Therefore, the aim of this study is to create an adoption model suitable for mobile banking, including possible interrelations between these factors. To achieve this aim, a pilot study is conducted to improve the form and questionnaire reliability. Notwithstanding, given there are many expected benefits from the mobile banking use, it is therefore important that the system needs to be successfully implemented, is widely accepted, and adopted by banks and users.

2. Literature Review

Basically, the Technology-organization-environment (TOE) is a framework that [8] developed, and is also selected and used as this study's framework. The study conducted by [9] shows that constant support for the ability of TOE towards the

provision of an all-inclusive perspective regarding innovation adoption, and at the same time easing the flexibility of identify and classifying distinct factors that can probably arise in specific situations are essential [10]. Moreover, the main reason for selecting this framework is that this approach has the potential to address issues of this study. On the subject of appropriate framework selection advocates a framework that has been adapted and adopted and requires further development and fine-tuning in its application for contextual matching. In addition, institutional theory, diffusion of innovation theory, TOE adoption framework, and previous studies are employed to investigate the factors that influence mobile banking adoption in Iraq. These theories have been applied in electronic information sharing studies [11]. Institutional Theory considers an institution as a social construction with a resilience level that is considered high Scott (2001). The theory of institution focuses its perspective on the factors that has an effect in forcing a technology adoption at an inter-organizational level. Institutional theory brings to surface the different forces that motivates incorporating art technologies. Such forces can be produced by the appearance of new rivals, governmental departments, clients or even industries. Organizational isomorphism, as described by [12], represents the possible new systems and plans employment in different organization to a level where they become closer to each other in terms of operations environment similarities. The other factors were used from researches conducted far in the Middle Eastern nations like Jordan and Kuwait. Each attribute is composed of lots of influencing factors. The current study has some influencing factors like relative advantage, privacy and security, ease of use, compatibility, Connectivity, top management support, IT capability, Technical Support, social influence, policy and government support. In this study, about 11 hypotheses were introduced. Every factor has its formulated hypothesis. Figure 1 presents the framework considered in this study. Also, the factors capable of promoting the engagement to willingly accept mobile banking were defined. The questionnaire items were assessed with the pilot study and also to ascertain the suitable questions to be included into the survey. The employees were given the questionnaires. The section that follows describes the questionnaire design.

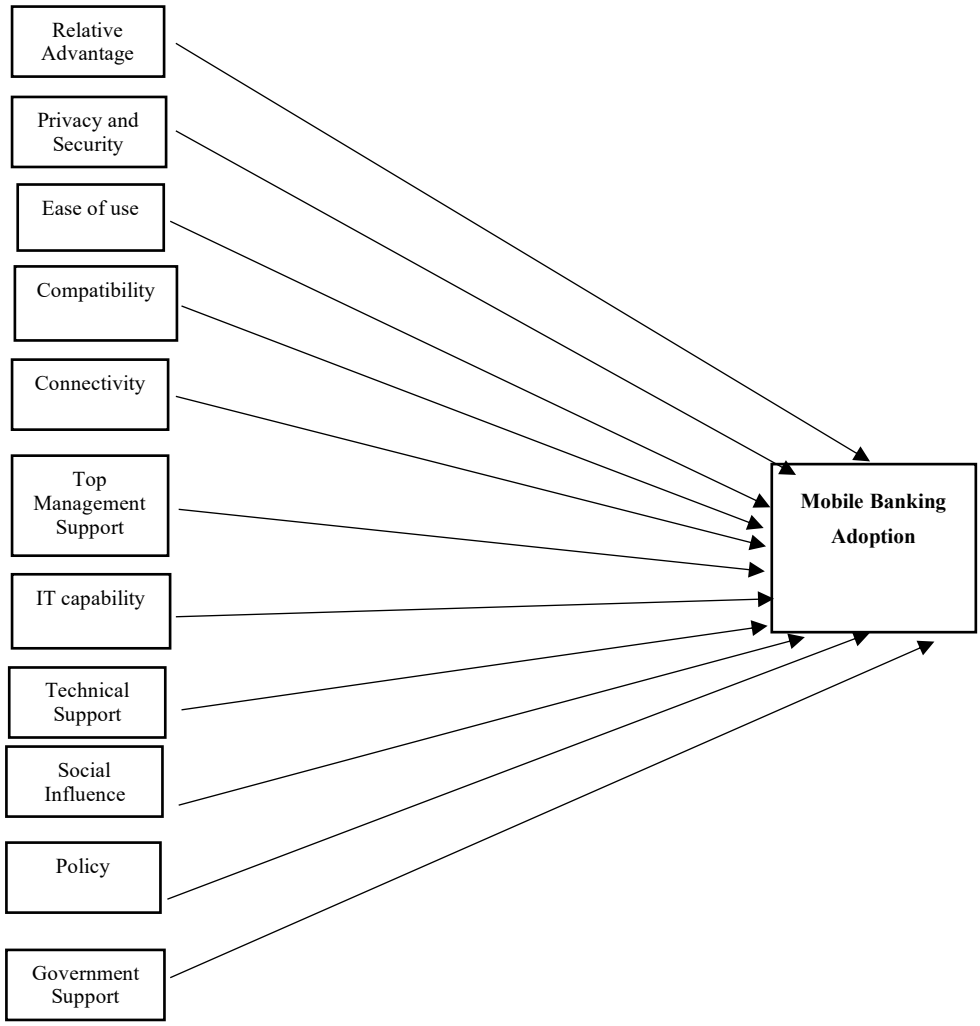

Figure 1. Framework to adopt mobile banking in Iraq

3. Material and Method

A descriptive, survey research design was chosen for the investigation of the major factors associated with the technology, organization, environment, individual as well as mobile banking use in the Iraqi banks. A questionnaire technique was used for data collection in order to determine bank customer's views. The major reason for making the choice of the questionnaire back is because of the feasibility in the simplification of the data analysis in a more objective and 'scientific' manner as opposed to other types of studies. Additionally, researchers are assisted towards the comparison of other studies as well as the probability of being utilized for the measurement of change believed by positivists in the examination of the present hypotheses [13].

3.1. Questionnaire Construction

The instrument tool was designed on the basis of closed-ended questions, whereby the respondents provided accurate answers for each item or question. The entire items were adapted from past studies that are based on each factor's contents. Table 1 shows the operation of items and factors. The Five likert scale (including the strongly disagree, disagree, the not sure, agree, and the strongly agree) was used in this study to determine the level of agreement among the respondents. Five likert scale is one of the widely used scale for providing a clear view about one's proposition in certain aspect. Before starting the questionnaire, a brief description about the research study and its objectives along with a confidentiality rules have been provided. The questionnaire was composed in English and an Arabic translation was done, since this is Iraq's official language.

3.2. Questionnaire Validation

The questionnaire validity assessed by taken some steps prior to the last distribution so as to make sure that the entire questions or items are free of errors and correct. These are steps that involve sending the questionnaire to seven experts in the field. The experts are instructors in the Iraqi universities that have an experience using mobile banking systems. The questionnaire evaluated for clarity, duplication, language, or contradiction. Before the distribution, some recommendations and comments were accompanied by the application of suitable modifications.

4. Pilot Study

The pilot study is a popular recommendation from many authors [14]. Basically, the pilot study is carried out for the testing of the research instrument. According to [15], all gathered data need to be piloted in order to verify that all questions and even instructions are very clear. As a matter of fact, this procedure allows the researchers to eliminate any type of items unable to yield useful data. Therefore, the pilot study functions to make sure that the chosen study format is appropriate prior proceeding to apply the major tool. Thus, the questionnaire was distributed among users of mobile banks services in three private banks in Iraq [International Development Bank, National Bank of Iraq and Bank of Baghdad) A total of 36 responses has been received and this is considered appropriate for any pilot study as suggested by [16], who declared that about 30 different representative participants from the entire population of interest is considered a reasonable minimum recommendation for the pilot study.

Table 1. Operationalization of the factors and items

Factor	Reference
Relative Advantages	[21, 22 & 23]
Privacy	[24 & 19]
Ease of use	[19 & 17 & 25 & 22]
Compatibility	[22 & 26]

Connectivity	[3]
Top	[27]
IT capability	[18 & 30]
Technical	[28 & 18]
Social	[18]
Policy	[29]
Government	[28]
MBA	[22 & 26, 31]

5. Pilot Study Results

The popularly adopted reliability measurement test of any pilot study type of questionnaire, as seen in various studies is the Cronbach's Alpha test [17]. The Cronbach's Alpha test possesses some values between the range of 0 and 1; a greater level of range indicates reliability value. 0.9 values and above are considered excellent, while 0.8 values and above are considered good, then 0.7 values and above are considered acceptable, then 0.6 values and above are considered questionable, and 0.6 values and below are considered poor. The pilot study provided some data, which were analyzed with the use of the "Statistical Package for Social Sciences," generally known as (SPSS v.24) for the identification of each factor values in Cronbach's Alpha. Based on the pilot study, the test result showed that all the items are reliable since it resulted in a value of about 0.7 and above of the Cronbach's alpha reliability test.

Table 2. Cronbach's alpha and number of items

Scale Name	Cronbach's Alpha	No. of items
Relative Advantage	0.705	6
Privacy and Security	0.789	6
Ease of use	0.804	5
Compatibility	0.713	5
Connectivity	0.874	7
Top Management	0.827	5
IT capability	0.711	6
Technical Support	0.740	5
Social Influence	0.799	6
Policy	0.828	5
Government Support	0.831	5
MBA	0.721	8

Table 4. Technological context

	Strongly Disagree	Disagree	Neutral	Agree	Strongly

RA.1**:** Mobile banking is a convenient way to manage finances.

RA.2: Mobile banking allows me to manage my finance effectively.

RA.3: Using mobile banking enables me to do banking transactions more quickly.

RA.4: Using mobile banking enables me to do banking transactions more quickly.

RA.5: Using mobile banking gives me greater control over my bank accounts.

RA.6: Mobile banking has more advantages as compared to other methods.

*PaS*1: I think that the personal information that I provide on mobile is well protected.

*PaS*2: Mobile banking system need to be private and confidential

*PaS*3: I think that the confidentiality and privacy of my personal information is assured when I do mobile banking.

*PaS*4: Security concern is very essential in order to adopt mobile banking system.

*PaS*5: I think that online transactions carried out on mobile are secure.

*PaS*6: You trust the mobile banking system and believe that it is a well-reliable system.

EU1: Learning to operate mobile banking is easy for me.

EU2: Its easily for me to remember how to operate the mobile banking services.

EU3: I find it easy to operate mobile banking.

EU4: It would be easy for me to become skillful in using mobile banking services.

EU5: Overall, I find the mobile banking is easy to use.

CB1: Mobile Banking is compatible with my lifestyle.

CB2: Mobile Banking meets the way I like to manage my finances.

CB3: I feel that mobile banking meets my daily activities well.

CB4: Using mobile banking is completely compatible with my current situation.

CB5: I think that the use of mobile banking fits well with the way I like to do my banking transactions.

Con1: When I come to use mobile banking system, there is always Internet available to use any.

Con2: I regularly use the Internet to find/retrieve information.

Con3: The speed of Internet connection is sufficient to navigate and browse and use the mobile banking system.

Con4: I can easily send information through the internet connection.

Con5: I have instant access to mobile banking services from any location.

Con6: With the current internet services, I can browse multiple websites in half an hour or less.

Con7: I am satisfied with the quality of Internet connectivity provided to use mobile banking system.

Table 5: Organizational context

	Strongly Disagree	Disagree	Neutral	Agree	Strongly

TMS.1**:** The mobile baking project will be introduced to me effectively by top management.

TMS.2: Top management has plans to get rid of obstacles that hinder the use of any new technology at the banks

TMS.3: Top management develops plans which are flexible enough to accommodate any changes required by the adoption of mobile banking systems.

TMS.4: Top management seeks to maintain competitive advantage through the adoption of new technologies, and its uses in its operations

TMS.5: Top management expects me to use the mobile banking services.

ITC1: The bank has the capability to use information systems for mobile banking services.

ITC2: The bank has the capability to identify innovative uses of information technology.

ITC3: The information and service provided by the mobile banking are extremely credible.

ITC4: Technology infrastructure such as internet, applications, electricity consumption allows fear use of mobile banking.

ITC5: The integrity of IT resources enables easy accessing of mobile banking system.

ITC6: The experience for accessing mobile banking system with current IT support is acceptable.

TS1: I always have online technical support whenever I face problem in the mobile banking services.

TS2: The respond of technical staff is fast and effective.

TS3: I think that mobile banking support is good.

TS4: With the availability of technical support, I do not feel worry using mobile banking services.

TS5: I am satisfied with the technical support.

Table 6: Environment context

	Strongly Disagree	Disagree	Neutral	Agree	Strongly

SI.1**:** People who are important to me think that I should use mobile banking

SI.2: People who are familiar with me think that I should use mobile banking

SI.3: People who influence my behavior think that I should use mobile banking.

SI.4: Most people around me use mobile banking

SI.5: I use mobile banking because it is very famous

SI.6: The use of mobile banking gives me professional status.

Pol: Banks need to legislation and policies to apply mobile banking system.

Po2: Management shifts policy in all or some of the IT operations towards mobile banking system.

Po3: legislation and policies build good relationship and trust between bank and users.

Po4: There is legal protection in the use of mobile banking system.

Po5: The rules in bank that exist are sufficient to protect the use of mobile banking system.

GS1: Your bank needs the government support in order to adopt the mobile banking system.

GS2: You think the government support is enough to encourage your bank to adopt the mobile banking system.

GS3: The government support will be an important factor that would effect on your decision of adopting the mobile banking system.

GS4: The laws that exist nowadays are sufficient to protect the use of mobile banking system.

GS5: The cost of using information technology can be reduced by government regulations and support.

Table 7: Mobile Banking Adoption

	Strongly Disagree	Disagree	Neutral	Agree	Strongly

MBA.1**:** Mobile banking system is an attractive technological option to the banks.

MBA.2: Mobile banking system is an attractive banks process option

MBA.3: The bank's focuses on new IT system projects, which aim to increase user's satisfaction.

MBA.4: I want to know more about mobile Banking.

MBA.5: M-banking is always available for business

MBA6: I have the intention of managing my accounts using my mobile phone.

MBA7: I have the intention of making a transfer by mobile phone.

MBA8: The adoption of mobile banking system in IT operations will support the bank services process

6. Conclusion

The purpose of this study was to analyze the influencing factors affecting the mobile banks service systems in the Iraqi banks. The motivation of this study was due to the dire need of examining the challenges, requirements, and gaps encountering the complete mobile bank use systems in many Iraqi banks. A questionnaire was designed based on previous studies that examined the proposed factors. Meanwhile, a pilot study was carried out for the analysis of each influencing factor as well as the testing of the reliability of the questionnaire. This kind of studies was required to verify that all items are reliable and free of errors. Meanwhile the pilot study considered the Cronbach's Alpha test, which reveals that the entire factors are composed of 0.7 values and above, which were considered acceptable. Questionnaire was used in conducting the pilot study, which was provided to the user's mobile banks services in three private banks in Iraq. This study will be accompanied by a research paper for the illustration of the results provided by the data analysis of the major survey. The hypotheses have to be tested by future research while also validating the final model.

7. Limitation of the Research

This study aims to examine the feasibility and acceptance level mobile banking adoption framework in Iraq. However, a number of limitations should be considered. First, the unstable political climate and strife in Iraq added challenges to the scope and limitations of this study. Second, studies regarding mobile banking in Iraq are limited, with few studies conducted by the central bank of Iraq. This situation caused some difficulties in designing the questionnaire. Third, the number of respondents was 36 only. Finally, users have limited grasp and knowledge of data warehouse because it is viewed and considered as a new tool in mobile banking.

Appendix

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8. Reference

[1] Dineshwar, Ramdhony, and Munien Steven. "An investigation on mobile banking adoption and usage: A case study of Mauritius." Proceedings of 3rd Asia-Pacific Business Research Conference. 2013.

[2] Pousttchi, K., & Schurig, M. (2004). Assessment of today's mobile banking applications from the view of customer requirements. Paper presented at the System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on.

[3] Fahad, A. N., Hassan, Z., Sulaiman, R. B., & Rahman, Z. (2015). Usability Evaluation of E-Learning Systems in the Iraqi Higher Education Institutions. International Journal of Internet of Things, 4(1A), 30–34.

[4] Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management science, 46(2), 186-204.

[5] Norzaidi, M., & Salwani, I. M. (2010). Evaluating the intranet acceptance with the extended task-technology fit model: Empirical evidence in Malaysian maritime industry. International Journal of Arts and Sciences, 3(2), 294-306.

[6] Chaouali, W., Souiden, N., & Ladhari, R. (2017). Explaining adoption of mobile banking with the theory of trying, general self-confidence, and cynicism. Journal of Retailing and Consumer Services, 35, 57-67.

[7] Govender, I., & Sihlali, W. (2014). A study of mobile banking adoption among university students using an extended TAM. Mediterranean Journal of Social Sciences, 5(7), 45.

[8] Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990b). *Processes of technological innovation*: Lexington Books

[9] Yazdani, M. (2017). Developing A Model For Validation And Prediction Of Bank Customer Credit Using Information Technology (Case Study Of Dey Bank). *Journal of Fundamental and Applied Sciences, 9*(1S), 317-330.

[10] A. Y. Akbulut, *an investigation of the factors that influence electronic information sharing between state and local agencies [Ph.D. thesis]*, Louisiana State University, Baton Rouge, La, USA, 2003.

[11] DaMaggio, P., & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organization fields. *American Sociological Review, 48*, 147-160.

[12] Wright, K. B. (2005). Researching Internet based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. Journal of Computer Mediated Communication10(3).

[13] Goodman, Robert, Howard Meltzer, and Veira Bailey. "The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version." European child & adolescent psychiatry 7.3 (1998): 125-130.

[14] Johanson, George A., and Gordon P. Brooks. "Initial scale development: sample size for pilot studies." Educational and Psychological Measurement 70.3 (2010): 394-400.

[15] Cronbach, Lee J. "Response sets and test validity." Educational and psychological measurement 6.4 (1946): 475-494.

[16] Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: Perceptions and intentions. *Marketing Intelligence & Planning, 30*(4), 444-459.

[17] Deb, M., & Agrawal, A. (2017). Factors impacting the adoption of m-banking: understanding brand India's potential for financial inclusion. *Journal of Asia Business Studies, 11*(1), 22-40.

[18] Nicholas-Omoregbe, O. S. (2016). *A Sociological Analysis of Factors Influencing The Use of Educational Technology In Selected Universities In Ogun State, Nigeria.* COVENANT UNIVERSITY.

[19] 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.

[20] Rubiah Abu, Bakar Najdah et al. (2017). Perceived Ease of Use, Security and Privacy of Mobile Banking. International Journal of Business, Economics and Law, 13 (2), 56-62

[21] 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.

[22] Luarn, P., & Lin, H.-H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior, 21*(6), 873-891.

[23] Gray, C. (2014). *Electronic health record systems in a centralized computing services environment: critical success factors for implementation*: Robert Morris University.

[24] Hasanain, R. A. (2015). *Development of an EMR implementation framework for public hospitals in Saudi Arabia.* Queensland University of Technology.

[25] Gartrell, K. (2014). *Factors Associated with Electronic Personal Health Record Use among Registered Nurses for Their Own Health Management.* University of Maryland, Baltimore.

[26] Van Slyke, 2, et al. "Perceived critical mass and the adoption of a communication technology." European Journal of Information Systems 16.3 (2007): 270-283.

[27] Joshi, A. (2013). *A pre-post study of patient journey modeling as a change management tool to increase clinician acceptance of EHRs.*

[28] Tan, Margaret, and Thompson SH Teo. "Factors influencing the adoption of Internet banking." Journal of the Association for information Systems 1.1 (2000): 5.

[29] Bankole, F. O., Bankole, O. O., & Brown, I. (2011). Mobile banking adoption in Nigeria. *The Electronic Journal of Information Systems in Developing Countries, 47*(1), 1-23.

[30] Tippins, Michael J., and Ravipreet S. Sohi. "IT competency and firm performance: is organizational learning a missing link?" Strategic management journal 24.8 (2003): 745-761.

[31] Kim, G., Shin, B., & Lee, H. G. (2009). Understanding dynamics between initial trust and usage intentions of mobile banking. *Information Systems Journal, 19*(3), 283-311.