

# Mobile Banking Adoption in Organization: Review of Empirical Literature

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**Abstract:-** This study reviews literature on mobile banking adoption in organizations to identify its influential factors and its operationalization in prior literature. We classify the factors that influence mobile banking adoption using the three contexts suggested by the Technology, Organization and Environment (TOE) framework, namely, technology, organization, and environment. The finding suggests that the influences of these factors vary across studies and most of the studies have operationalized mobile banking adoption using intention to adopt mobile banking or binary variable, rather than the actual use of the technology.

**Keywords:-** Mobile Banking, Adoption, Organizations, TOE framework.

## I. INTRODUCTION

Mobile banking refers to the use of mobile phone through innovated application to perform a financial service which enables customers to gain convenient access to value-added and banking services, even in countries with low incomes (Mohammadi, 2015). This technology evolved since its being, started with SMS and evolved through the recent advancement in smart phones to become now one of the most cost effective channel for delivering banking services any time anywhere. Mobile banking add value to the traditional banking system such as online banking, Automatic Teller Machines (ATM) and to the physical branch banking. Mobile banking is consider as the most cost effective for both bankers and customer, and provider customized services and greater flexibility to its user (Shankar and Rishi, 2020).

In today's business, mobile banking has gained significant importance and the growth of the field is accelerating (Afshan and Sharif, 2016). Mobile banking is simply the usage of cell phone stations such as mobile and personal digital assistants to contact banking system through wireless application protocol. With the help of mobile banking, bank customers can avail banking facilities such as information inquiry, account managing, bill payment and money transfers etc. (Raharja and Tresna, 2019) It also allows the users to use any portable computing device or smart phones to do banking task for example monitoring, find ATM locations and fund transfer (Afshan and Sharif, 2016).

An increasing number of studies are taking place in determining factors that influence mobile banking adoption among individual users (the customers) but not much studies are taking into consideration the determinant of the factors influencing mobile banking adoption among organizations specially in the developing countries. The study has explored the importance of technological, organizational, and environmental factors to mobile banking adoption in the organizations, however, their influences vary across studies. So, there is a need to analyze the influential factors in different studies to acquire a better understanding of mobile banking adoption in the organizations. Specifically, this paper attempts to identify the factors that influence mobile banking adoption in the organizations and to determine how the existing studies operationalize mobile banking adoption.

The next section presents literature review on mobile banking, focusing specifically on understanding mobile banking, factors influencing the mobile banking adoption in organizations, and the operationalization of mobile banking adoption. The final section concludes with the study's limitation.

## II. LITERATURE REVIEW

### A. Understanding Mobile Banking

The term mobile banking is derived from the idea where your bank can be in your mobile device by access to some special applications provider by financial institutions like banks or microfinance institutions. Mobile banking allows their user to access and perform many financial transactions, facilitate their work, save their time and cost, save the transportation cost as well as reduce the risk of thief.

Technological innovation is rapidly changing the traditional banking approach, the transition from the costly physical branch system to modern banking ranging from automated teller machines to 24/7 e-banking is definitely an achievement (Mandari, et al. 2019). Mobile banking offers bill payments, micro-payments international and local remittances, loan re-payments, micro- savings, micro-credit, insurance services, and remittances, banks also plan to offer: bill payments, financial education, customer complaint services, airtime top-up, and e-vouchers for rural farmers (Mobile Banking Study, 2013). Moreover, (Hossain and Ahmed, 2014), posit that, mobile banking provide loan repayment, cash in and cash out services, savings on deposit account, bill payments, salary payment, air ticket

purchase, school fees, government payments, transportation fees and donations. Additionally, Cedric Ayvan, et al. (2014), study shows that most urban households would want to avail micro savings, microcredit and micro-insurance. Fall et al., (2015), stated that Mobile banking provides financial services such as balance inquiry, transaction history, money transfers, and bill payment via a mobile-phone, a smartphone or a PDA (personal digital assistant). Also Today, mobile banking is the main technological innovation being discussed in economic and social development, especially among low-income groups (Fall et al., 2015).

*B. Factors Influencing Mobile Banking Adoption in Organizations*

This study reviews literature on mobile banking adoption in organizations to identify factors that influence mobile banking adoption in the organizations and to determine how the existing studies operationalize mobile banking adoption.

Technology-organization-environment (TOE) framework has been widely used in prior studies to examine factors influencing mobile banking adoption in organizations. Previous scholars have recurrently worked on the factors within TOE’s framework to reinforce its theoretical ground and have proved theoretical and empirical conformity (Khayer, et al. 2020). Different empirical studies have also used the TOE framework as a basis for examining acceptance of technologies and understanding the factors that influence the adoption process (Yeboah-boateng and Essandoh, 2014). Literature review evidence that a few studies on mobile banking adoption in organizations used different adoption frameworks such as the TOE framework (A. Mohammadi, et al. 2017; Senarathna, et, al. 2018; Khayer, et al. 2020).

From the technological context, two common factors tested in prior studies that have an influence on the adoption and implementation of mobile banking in organizations, ICT infrastructure (as internal factor, and ICT expertise as human resources. The technological context is related to the characteristics of technologies in organizations (Chau et al., 2020).

From the organizational context, which refers to the organizations resources or characteristic that could have an impact on adoption. Within this research a number of studies on mobile banking adoption have witnessed significant role of Top Management Support on mobile banking adoption, Financial Resources, Perceived benefits, Governmental Support, Market and Products.

From the environmental context, three major factors were mostly tested and selected for this context, Business Model, Regulatory Environment, and Stakeholder Collaboration. The environmental context is the arena in which the organizations does business, competes with its competitors, collaborates with its suppliers and deals with regulatory pressures. Also, the environment is the arena in which a firm conducts its business and in the specific context of mobile banking adoption in organizations. Generally the external environmental context includes market conditions such as government laws and regulations (Hossain and Sarker, 2015).

The below tables 1,2 and 3, a summary of the empirical studies on the factors that influence mobile banking adoption in organizations that were selected in this research. Table 1 summarize the empirical studies focusing on the technological context, table 2 summarize the empirical studies focusing on the organizational context while table 3 summarize the empirical studies that take into consideration the environmental context on mobile banking adoption among organizations.

Technological Context	
Factor	Source
<b>ICT Infrastructure</b>	Pudjianto, and Hangjung, (2009); Alshamaila et al., (2013); CGAP, (2014); Jesse Marsden (2013); Estapé- Dubreuil, (2015); Diniz et al., (2014); Gupta, et al. (2018); Yeboah-boateng & Essandoh, (2014); Kshetri & Acharya, (2012); Mohammadi et al., (2017); Ammar & Ahmed, (2016); Giotopoulos et al. (2017); K.Rabayah, (2013)
<b>ICT Expertise</b>	Mishra and Chowbwy, (2012); Chau et al., (2020); Zhu and Kraemer (2005); Yeboah-boateng & Essandoh, (2014); Alrousan et al., (2020); Ammar & Ahmed, (2016); Makena, (2013); Lin and Lin (2008); Ivatury, and Mas. (2008); Van Huy, et al. (2012); Giotopoulos et al., (2017); Muriuki’s, (2009); Mobile Banking Study (2013); Alshamaila et al., (2013); K.Rabayah (2013)

Table 1:- Technological factors influencing mobile banking adoption in organizations

<b>Organizational Context</b>	
<b>Factor</b>	<b>Source</b>
<b>Top Management Support</b>	Raharja & Tresna, (2019); Chau et al., (2020); Baker, (2012); Altameem, (2007); Bose and Luo (2011); Kuo, (2010); Gholami, R., et al. (2013); Sarkar, P., and Young, L. (2009); Lei, C. F. et al. (2014); Gangwar et al. (2014); Tan and Teo (2000); Al Shaar, et al. (2015); Alshamaila et al., (2013); Khayer et al., (2020); Mohammadi et al., (2017); Giotopoulos et al., (2017); Ahuja, et al. (2020); Alrousan et al., (2020); Lian, et al. (2014); Denti and Hemlin, (2012); Alismailli et al., (2020); Mohammadi et al., (2017); Yigitbasioglu (2015); Sidek, (2015); Nada et al. (2014); Ammar & Ahmed, (2016); Makena, (2013); Yeboah-boateng & Essandoh, (2014)
<b>Financial Resources</b>	Tornatzky and Fleischer (1990); Wanjiku et al., (2017); European SMEs Network, (2012); Kim et al., (2015); Ghobakhloo et al., (2014); Agyeni, (2013); Mishra and Chowbwy (2012); M. A. Hossain & Ahmed, (2014); Yousif et al., (2013); Mekasha, (2015); Wangui, (2013); Mobile Money Report, (2014)
<b>Perceived Benefits</b>	Mohammadi et al., (2017); Lin and Lin, (2008); Chau et al., (2020); Rogers (2003); Torbiörnsson & Persson, (2013); Wangui, (2013); Alshamaileh, (2013); Oliveira et al., (2014); Ramdani, et al. (2013); Chiu et al. , (2017); Rahayu & Day, (2015); Qashou & Saleh, (2018)
<b>Government Support</b>	Li et al. (2010); Mandari et al., (2019); Chau et al., (2020); Ifinedo, 2015); Beck, T.H.L. etl. (2015); Baker, (2012); Oliveira et al., (2014); Ketkar et al. (2012); Osman (2012); Alam & Mohammad Noor, (2009); Nada et al. (2014); Ahmed et al. (2016); Darbanhosseiniamirkhiz, and Ismail, (2012); Mensah, (2019); Qashou & Saleh, (2018)
<b>Market and Products</b>	Pitta, et al. (2008); Zhu et al. (2003); Burhouse, et al. (2013); Qashou & Saleh, (2018); Lüchinger (2013); Forrester Research 2014); Alshamaila et al., (2013); Fall, Ky, & Birba, (2015); Michel and Sarah (2013); Arenaza (2014); World Bank (2013); Kar, (2016); Olubunmi et al., (2014); ACCION (2009); Microfinance Market Outlook (2016); Cedric Ayvan, et al. (2014); S. Hossain & Sarker, (2015); Kimando and Kihoro, (2012); RBZ, (2015); Ngumbao, (2012); Qashou & Saleh, (2018)

Table 2:- Organizational factors influencing mobile banking adoption in organizations

<b>Environmental Context</b>	
<b>Factor</b>	<b>Source</b>
<b>Mobile Banking Business Models</b>	Arenaza, (2014); Yousif et al., (2011); Yousif et al., (2013) Bouwman, et. al. (2008); Timmers, (1998); Björkdahl , (2009); Chaix and Torre, (2014); USAID, (2010); Jimenez and Vanguri, (2010); Peake, et al. (2012); Chaix and Torre, (2014); GSMA, (2016); Torbiörnsson & Persson, (2013); Agyeni, (2013)
<b>Enabling Regulatory Environment</b>	Smith, et. al. (2015); Shrader and Duflos, (2014); Zhu Kraemer (2004); Gutierrez and Singh (2013); Kshetri & Acharya, (2012); Ammar & Ahmed, (2016); Ahad, (2014); K.Rabayah (2013); Asongu, (2012); Paelo (2014); Claire, (2016); Claessens and Rojas-Suarez, (2016); Koh, et al., (2014); Mohamad and Kassim, (2017); Horus Development Finance, (2011); Wisal Tingari & Abadir Mahmoud, (2014); Karrar & Rahman, (2015); Mosallem, (2016); Grossman, (2008); Palestine Trade Center, (2010)
<b>Stakeholder Collaboration</b>	Tsuji. (2013); Omwansa and Waema. (2014); Camner. (2012); Horus Development Finance, (2011); Bourreau and Valletti. (2015); Donovan (2015); Omwansa and Waema, (2014); Camner, (2012); Bourreau and Valletti. (2015); M. Ceccagnoli, et. al. (2012); Gandhi. (2013); Lee, (2012); Ege Oruç & Tatar, (2017); Ketkar et al. (2012); Wyk (2008); Jenkins (2008); Horus Development Finance, (2011)

Table 3:- Environmental factors influencing mobile banking adoption in organizations

### C. Operationalization of Mobile Banking Adoption in Organizations

Overall, most of the studies have operationalized mobile banking adoption using intention to adopt the technology, or binary variable. For example, mobile banking adoption was operationalized using intention to increase the level of other ICT technologies adoption. Intention to use refers to the degree to which an individual intent to perform a particular behavior or act. It is, however, argued that the intention to use does not necessary lead to

adoption (William and Arch, 2005). Intention to adopt the technology is usually used when the technology is not yet adopted (Ammar and Ahmed, 2016). In addition, measuring technology adoption using binary measures, such as adopt or not adopt mobile banking services, is deemed inadequate as it does not completely capture the reach and richness of the use of IT innovations and cannot inform post-adoptive variability (Zhu et al., 2006).

### III. CONCLUSION

This study reviews literature on mobile banking adoption in organizations, focusing specifically on its influential factors and its operationalization in prior literature. The factors (technology, organization, and environment) are classified based on the TOE framework. We find that most studies have explored the importance of these factors to mobile banking adoption, nonetheless, their influences vary across studies. Most studies have operationalized mobile banking adoption using intention to adopt or binary variable (adopt or not adopt). The literature chosen for the review is, however, limited to the quantitative studies of mobile banking adoption in the organizations only.

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