Systematic Review of Studies Using UTAUT and UTAUT2 to Explore the Factors Affecting Adoption of Mobile Banking

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ARTICLE DETAILS

Purpose: There is extensive use of the Unified Theory of Acceptance and Use of Technology (UTAUT) and its extensions by researchers and practitioners in the field of businesses especially in banking sectors to measure the adoption of new and improved technologies like mobile banking, e-commerce and its relevance to the consumer behaviors worldwide and particularly in Pakistan where there is lower literacy rate and higher use of technology. This study is focused on sketching the previous studies in the form of a systematic review to provide the new pathways in mobile banking and also suggests a refined and comprehensive model for further study.

Design/Methodology/Approach: The twenty-two (22) papers were included regarding the empirical and theory-based research of UTAUT & Internet Banking whereas twenty-six (26) empirical and theory-based evidence from UTAUT2 & mobile banking adoption.

Findings: The most important indicators to look at from previous studies in this theory are: social influence, price value, hedonic motivation, behavioral intention and actual use behavior, effort expectancy, facilitating conditions, and performance expectancy.

Implications/Originality/Value: It is analyzed from the previous studies that these factors may play a vital role in the adoption of mobile banking and its applications and it is also further suggested that fairer studies are required to find better directions and results.

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Introduction
Recently, banks have created imaginative items and offered a more extensive scope of administrations with an end goal to increment consumer loyalty and proficiency, which is their principal objective. In this way, banking administrations are being presented through electronic way of channels (Morosan & DeFranco, 2016). The internet is viewed as a key empowering influence on the development of banking tasks by changing the way banking sectors are given. Particularly in the current situation, the far-reaching utilization of cell phones is speeding up the increment of portable financial exchanges like banking services (Imtiaz et al., 2020; Imtiaz & Kim, 2019; Khan et al., 2021; M. Khan et al., 2022). A cell phone makes it simple for a buyer to perform web-based banking while in a hurry, and this manner of portable and mobile banking is progressively turning into a more appealing method of banking dealings (Juhi & Dewi, 2017; Marpaung et al., 2021). Nowadays, financial institutions like banks are constrained to give helpful financial administrations to their clients and further develop monetary & and financial services and circumstances using some techniques of cost-savings by expanding the extent of online exchanges (Ginantra et al., 2020).

The growth of non-cash transactions is sustained by the development of communication technology. In electronically transacting, smartphones and other mobile devices have changed the user’s minds to change their way of doing transactions and provide a good experience, and it results in creating other ways of non-physical payments by providing new alternatives so that end users of mobile banking can use (Ginantra et al., 2020). One area inside the business environment whose exercises have been modelled altogether by the transformative utilization of cell phones is the banking area. The utilization of cell phones builds the focused energy of web-based financial administrations like Internet banking (Mansur et al., 2020).

The development in information technology has given the open door to clients to get to banking administrations without essentially forwarding physically towards the bank offices (Imtiaz, 2018; Zahir & Imtiaz, 2019). The advancement and rapid increase of the computerized innovation wave has nearly shown up in all viewpoints of community life in Indonesia, like transport, well-being, learning, retail, lodgings, and the monetary sector (Winata et al., 2020). The development of innovation straightforwardly affects the improvement of the web and internet in Indonesia. The utilization of cell phones builds the focused energy of web-based financial administrations like internet banking (Mansur et al., 2020). This is without a doubt impacted by the comfort accessible in cell phone administrations, so it become determined that as the advanced the utilization of cell phones, the simpler it is for individuals to get to the web (Welly et al., 2020). The advanced period gives help from different existing innovations (Nainggolan et al., 2020).

Mobile banking technology and portable financial innovation address a thrilling region to the studies and concentrate particularly by considering the huge difficulties of presenting the new technology and innovation (Hong et al., 2017). Literature shows that studies on the subject related to consumer behavior and their intention towards the adoption of mobile banking services in Pakistan using the UTAUT2 model have not been conducted before. Along with other models, the UTAUT2 model related to consumer behavior and their introduction of mobile banking has additional elements which focus on consumer use context (Venkatesh et al., 2012). This study will focus on mobile banking service adoption and review the preceding studies related to UTAUT2 with mobile banking.

Unified Theory of Acceptance and Use of Technology (UTAUT)
Overview of UTAUT
According to the (UTAUT) theory, the variability of an person's behavioral intentions to practice an information system is about 70% and, therefore, about 50% is the actual practice of the system can be explained (Sykes et al., 2009). By merging eight theories of information technology acceptance and usage, (Venkatesh, Ramesh, et al., 2003) created UTAUT (Figure 1).
Overview of UTAUT2
By the combination of 08 theories, the UTAUT was created by (Venkatesh, Morris, et al., 2003). According to (Venkatesh, Morris, et al., 2003), the model only fully accounts for around 50% of the variance in actual usage and the variation in behavioral intention to use is about 70% (Venkatesh et al., 2012). The author (Venkatesh et al., 2012) extended UTAUT to UTAUT2 to describes greater variations in consumers’ behavioral intentions and greater variation towards the technology used as shown in Figure 2. (Venkatesh et al., 2016) add that more studies should be studies to improve UTAUT2’s applicability in diverse technological scenarios.

Overview of Internet Banking
Banks should commit to offering a variety of useful services to customers as a service provider. Mobile banking services currently have a limited range and complicated procedures (Shareef et al., 2018). Commercial banks typically collect payments from money savers and use those reserves for loaning and investment purposes. However, some companies that specialize in financial technology receive sizable
payments from their customers, which causes a slow decline in payments with commercial banks (Ashraf et al., 2021). Therefore, the clients of commercial banks can withdraw their amount from their accounts whenever and wherever they want by using mobile banking applications, so most commercial banks must have mobile finance applications (Blakstad & Allen, 2018).

Due to the intense rivalry in the banking sector, banks must diversify their offerings to draw customers. Commercial banks may lose deposits and see a decline in profits if customers’ deposits are diverted by mobile finance applications (Lu, 2018a). About mobile finance applications, traditional banks are currently unable to offer quick and flexible financial services. These financial institutions all offer their clients convenience and flexibility services at low cost these include free transfer and purchase of products without interest (Lu, 2018b; Sun, 2018). Despite the many benefits of information technology, neither developed nor developing nations have widespread adoption of mobile banking services by traditional banking institutions (Al-Jabri & Sohail, 2012; Alalwan et al., 2017; Malaquias & Hwang, 2019).

Overview of Mobile Banking
Mobile banking is becoming more and more popular as a cutting-edge method of delivering financial services (Thusi & Maduku, 2020). The adoption and usage of mobile banking should be eminent from that of Internet banking because smartphone use is a widespread trend that results in a significant and positive impact on the usage of mobile banking. While Internet banking is led by financial advantages, mobile banking is inspired by personal and social considerations (to overcome space and time barriers). As an example, the widespread use of smartphones in society may influence a current user to switch towards the mobile platform from internet banking. Banks should commit to suggesting an extensive variety of convenient banking-related facilities to customers as a service provider. Mobile banking services currently have a limited range and complicated procedures (Shareef et al., 2018).

Currently, bank consumers are still not entirely accepting of mobile banking applications (Merhi et al., 2019). Researchers contend that to replace the present dominant economic products, it is required to offer high-quality alternatives to shift customers’ behaviors, and here is where innovation and performance come into play as hurdles to adoption (Kumar et al., 2018; Shareef et al., 2018). Previous research looked at several variables that may contribute to the low global adoption of mobile banking and affect behavioral intentions (Ho et al., 2020). The findings show that one of the main hindrances to the adoption and use of mobile banking is the customers’ lack of confidence in the security while making financial transactions on mobile banking applications. The customer also feels a lack of trust in executing mobile banking services.

Internet Banking and (UTAUT) Theory
By focusing on related theories of technology acceptance, (Venkatesh, Morris, et al., 2003) initially theorized it. The author merges eight theories of information technology acceptance and usage, (Venkatesh, Ramesh, et al., 2003) created UTAUT. By using UTAUT and e-service quality, (Rahi et al., 2019) determine the elements of Internet banking adoption by the customers which are considered for variations in user aim to adopt Internet banking. In a study by a researcher, the author identifies how to promote online banking services through the use of Internet media as well as by the use of Internet banking, and integrates UTAUT with culture as a moderator in Indonesia (Giri et al., 2019).

Previous Studies of UTAUT & Internet Banking
Table 01 describes a review of some of the previous studies conducted by different authors related to UTAUT and internet banking.

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Title of Research Paper</th>
<th>Affecting Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alalwan et al., 2018)</td>
<td>“Examining factors influencing Jordanian customers’ intentions and adoption of internet banking: Extending UTAUT with risk”</td>
<td></td>
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</tbody>
</table>
Unified Theory of Acceptance & Use of Technology (UTAUT) and Mobile Banking

Mobile banking services now have a limited range and complicated procedures (Shareef et al., 2018). Commercial banks often collect deposits from money savers and use those monies for lending and/or investing reasons. It is crucial that in the banking sector, commercial banks should have mobile banking or economics applications such that their clients can easily withdraw currency from their bank accounts by using these mobile banking applications whenever and wherever they choose (Blakstad & Allen, 2018).
According to the authors (Jebarajakirthy & Shankar, 2021), customer desire to embrace mobile banking is influenced by convenience scopes (access, transaction, benefit, and post-benefit). Additionally, (Chaouali & Souiden, 2019) looked at the psychological (image and transaction) and practical (use, value, and risk) aspects that impact older people's reluctance to mobile banking. The three primary elements that have a direct impact on whether users will continue to use mobile banking apps are satisfaction, trust, and expectation confirmation (Poromatikul et al., 2019).

**UTAUT2 & Mobile Banking**

The theory UTAUT2 used for this study is reviewed in this section along with other factors of technological acceptance. According to (Raza et al., 2018), the author examined that all the factors of UTAUT2 affect getting of mobile banking by using the modified UTAUT model in the Islamic banks of Pakistan.

**Mobile Banking & Previous Studies of UTAUT2**

Numerous researches have been led based on UTAUT2 for the receipt of mobile banking apps, according to earlier studies. Following UTAUT, additional research is also carried out by several authors using the modified theory of UTAUT which is known as UTAUT2 in conjunction with the adoption and usage of mobile banking services. Based on the aforementioned review of previous studies, some of the theory-based and experimental studies related to mobile banking are compiled in Table 02, which shows the factors or elements that influence the adoption and practice of mobile banking and they are presented in Table 2.2 below.

**Table: 02**

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Title of Research Paper</th>
<th>Affecting Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Raza et al., 2018)</td>
<td>“Acceptance of mobile banking in Islamic banks: evidence from modified UTAUT model”</td>
<td>• Performance Expectancy</td>
</tr>
<tr>
<td>(Hew et al., 2015)</td>
<td>“What catalysis mobile apps usage intention: an empirical analysis”</td>
<td>• Facilitating Conditions</td>
</tr>
<tr>
<td>(Alkhowaiter, 2022)</td>
<td>“Use and behavioral intention of m-payment in GCC countries: Extending meta-UTAUT with trust and Islamic religiosity”</td>
<td>• Effort Expectancy</td>
</tr>
<tr>
<td>(Slade et al., 2013)</td>
<td>“Extending UTAUT2 to explore consumer adoption of mobile payments”</td>
<td>• Perceived Value</td>
</tr>
<tr>
<td>(Slade et al., 2014)</td>
<td>“Devising a research model to examine the adoption of mobile payments: An extension of UTAUT2”</td>
<td>• Habit</td>
</tr>
<tr>
<td>(Vinnik, 2017)</td>
<td>“User adoption of mobile applications: Extension of UTAUT2 model”</td>
<td>• Hedonic Motivation</td>
</tr>
<tr>
<td>(Tang et al., 2014)</td>
<td>“Examining key determinants of mobile wallet adoption intention in Malaysia: an empirical study using the unified theory of acceptance and use of technology 2 model”</td>
<td>• Social influence</td>
</tr>
<tr>
<td>(Kuan et al., 2014)</td>
<td>“UTAUT2 influencing the behavioral intention to adopt mobile applications”</td>
<td>• Trust</td>
</tr>
<tr>
<td>(Suyoto, 2016)</td>
<td>“Exploring Mobile Wallet Adoption in Indonesia Using UTAUT2 An Approach from Consumer Perspective”</td>
<td>• Islamic Religiosity</td>
</tr>
<tr>
<td>(Mahfuz et al., 2016)</td>
<td>“The Influence of Website Quality on m-Banking services Adoption in Bangladesh: applying the UTAUT2 model using PLS”</td>
<td>• Perceived Risk</td>
</tr>
<tr>
<td>(Gharabieh &amp; Arshad, 2018)</td>
<td>“Determinants of Intention to use mobile banking in the North of Jordan: Extending UTAUT2 with Mass Media and Trust”</td>
<td>• Trialability</td>
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<td></td>
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<td>• Innovativeness</td>
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<td>• Self-efficacy</td>
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<td>• Price Value</td>
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<td>• Mass Media</td>
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<td>• Perceived Security</td>
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<td>• Perceived Privacy</td>
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<td></td>
<td></td>
<td>• Word-of-mouth</td>
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<td></td>
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<td>• Monetary Value</td>
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By following these from the previous studies, the researcher can develop the research model for future studies.

**Conclusion**

Finally, the preceding studies were conducted under the umbrella of UTAUT and UTAUT2, as this is the well-known theory of adoption of banking technologies and the acceptance behavior of the customers of the banking sector with the name of the Unified Theory of Acceptance and Use of Technology (UTAUT) has given a lot of insights and factors for this purpose. This systematic review is comprised of twenty-two studies from UTAUT and twenty-six studies from the extension of this theory UTAUT2. The synthesis of these forty-eight articles particularly highlights the adoption of mobile banking and consumer acceptance in the banking sector in different regions of the world. This systematic review has also indicated the most common factors that are the major influencers for the adoption of mobile banking and are directly linked to the behavior of mobile banking users. These critical indicators are effort expectancy, performance expectancy, price value, facilitating conditions, social influence, hedonic motivation, actual use behavior and behavioral intention. These are also valuable factors for the adoption of mobile banking in the dynamic socio-economic landscape of Pakistan.

Furthermore, this study is conducted to systematically review the existing knowledge in a summarized
manner and also points towards the need for more nuanced and comprehensive investigations as a future direction. More in-depth studies are required of mobile banking adoption under these factors to comprehend the reasons for the slower adoption of mobile banking and also the behavior of mobile banking consumers in this regard and how these can be enhanced. From these indicators, as highlighted by the previous studies a well-defined and comprehensive model is suggested from this systematic review to serve as a foundation for further studies.

References:


participants. *International journal of information management, 44*, 132-140.


