Influencing Factors on Tend to Use Mobile Banking in Refah Bank

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ABSTRACT

One important consumer behavior is tend to use (Actual Usage). Due to its advantages such as ubiquity and immediacy, mobile banking has attracted traditional banks’ interests. This research proposes a mobile banking user adoption model by the unified theory of acceptance and usage of technology (UTAUT). Purpose – Experience are essential ingredients for successful customer tend. This study aims to verify the moderating effect of experience on the relationship of certain antecedents with tend to use. Design/methodology/approach – This paper applies structural equation modelling (SEM) and multi-group analysis to examine the moderating role of experience in a conceptual model estimating tend to use mobile banking. Responses from 276 people were used to examine the differences between high- and low-experienced users of mobile banking. For this reason a questionnaire was designed, that it included 32 questions we gave it to the customers of Refah bank. Findings – The research shows that experience has moderating effects on the relationships between performance expectancy and tend to use. This study empirically demonstrates that prior customer experience strengthens the relationship between performance expectancy and tend to use.

Practical implications – Practitioners should differentiate the way they treat their customers based on their level of experience. Specifically, the empirical research demonstrates that the expected performance of the mobile banking experience (performance expectancy) affects tend to use only on high-experienced customers. Instead, the effort needed to use mobile banking (effort expectancy) and the user’s belief in own abilities to use mobile banking influence tend to use only on low-experienced customers. Originality/value – This paper investigates how different levels of experience affect customers’ tend to use and mobile banking behavior. It is proved that experience moderates the effect of performance expectancy on tend to use. It also demonstrates that certain effects (effort expectancy and performance expectancy)

KEYWORD

Experience, Tend to use, Mobile Bank, Customer Awareness, Effort Expectancy

INTRODUCTION

This study is the role of mobile banking experience, which refers to the number of usage that customers made in the past. Experience is likely to affect customers’ future usage behavior. Kim et al. (2012) identify the importance of online experience and suggest that it is interesting to examine the effect of different levels of experience on key factors that affect mobile banking behavior. Saprikis et al. (2010) state that adopters and non-adopters have different perceptions towards mobile banking, which may lead to different behaviour. Finally, Khalifa and Liu (2007) posit that the influence on intention is moderated by experience. This paper offers evidence on the role of mobile banking experience in the generation of customer tend. Previous research has indicated that experience influences positively intention to purchase (Zhou et al., 2007), although customers satisfied with previous experiences might not always return to the same provider (Sañchez-Garcia et al., 2012). Hence, the following research questions are raised:

RQ1. To what extent does mobile banking experience act as a moderator on the mobile banking behaviour model?

RQ2. How the typical model is differentiated between high and low-experienced customers?

Mobile banking, also referred to as cell phone banking, is the use of mobile terminals such as cell phones and personal digital assistants (PDAs) to access banking networks via the wireless application protocol (WAP).

Through mobile banking, users can access banking services such as account management, information inquiry, money transfer, and bill payment (Luarn & Lin, 2005). Compared with Internet-based online banking services, mobile banking is free of temporal and spatial constraints. Users can acquire real-time account information and make payments at anytime and anywhere. This helps traditional banks improve their service quality and reduce service costs. Thus, many banks such as the Refah Bank of Iran, the one largest banks in Iran, have developed mobile banking services and tried to market them to mobile users. The extant research has tried to explain mobile user adoption based on user tend
of the mobile bank such as effort expectancy and performance expectancy (Aldas-Manzano, Ruiz-Mafe, & Sanz-Blas, 2009; Ha, Yoon, & Choi, 2007; Jung, Perez-Mira, & Wiley-Patton, 2009; Kuo & Yen, 2009; Mallat, Rossi, Tuunainen, & Oorni, 2009; Shin, 2009), relative advantage, compatibility (Chen, Yen, & Chen, 2009; Hsu, Lu, & Hsu, 2007; Wu & Wang, 2005), and interactivity (Lee, 2005).

The paper is organised as follows. In the next section, the source theories of the prime factors included in our mobile banking research model are briefly discussed and related work is presented. Section 3 presents the hypothesised research model. The next section presents the methodology and the measures adopted for collecting data, while section 4 discusses the empirical results derived. The paper concludes with a discussion of the findings, contributions for research and practice, and recommendations for future research. This research integrates the unified theory of acceptance and usage of technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003) and moderating effect of experience of mobile banking.

LITERATURE REVIEW

Theoretical background

Intention to adopt has been explained in the past by many theories. Specifically, several models have been used to explain more than 40 per cent of the variance in individual’s intention to adopt (Venkatesh and Morris, 2000). The most commonly used theories that explain intention to adopt are:

. Theory of reasoned action (TRA).
. Theory of planned behaviour (TPB).
. Expectation confirmation theory (ECT).
. Social cognitive theory (SCT).

In 2003, Venkatesh et al. proposed the unified theory of acceptance and use of technology (UTAUT), which explains as much as 70 per cent of the variance in intention to adopt. Tend to use mobile banking is considered as application of the “intention to adopt” concept in mobile banking.

Mobile banking and its marketing depends highly on customer’s experience. Although, as with traditional banking, not all customers have the same experience online and many differences are seen among them. Different theories studying user behaviour have been proposed. Venkatesh et al. (2003), in their unified theory of acceptance and use of technology (UTAUT), identify three factors that moderate the effect of effort expectancy on behavioural tend, with one of them being user experience. The latter was found to increase the effect of effort expectancy on behavioural tend for less experienced users. Consequently, effort expectancy is adopted to examine how experience moderates its relationship with tend to use. Likewise, other studies have found that experience affects the relationship between performance expectancy and future intention specifically for experienced users (Castaneda et al., 2007). Both factors are significantly correlated (Venkatesh et al., 2003). Nevertheless, Venkatesh et al. (2003) have not examined the moderating effect of experience on the relationship between performance expectancy and intention. Thus, performance expectancy is adopted to examine how its relationship with satisfaction is influenced by experience.

Social cognitive theory (SCT), a theory drawn from the psychology literature, explains how people acquire and maintain certain behavioural patterns, while it provides the basis for intervention strategies (Bandura, 1986). In general terms, it may be used in acceptance and information technology studies (Venkatesh et al., 2003). Self-efficacy, a factor sourced from SCT, is used as a form of self-evaluation, and influences the decision and effort needed to undertake certain behaviours. According to Gravill and Compeau (2008), self-efficacy is the user’s belief in his own abilities to perform a task, which in turn promotes the sharing of knowledge. Experience is considered as the strongest generator of self-efficacy (Bandura, 1986).

Expectation confirmation theory (ECT), a theory applied in marketing contexts, has been used to investigate repeating decisions in the customer behaviour literature (Oliver, 1993). ECT considers satisfaction as a key variable for customers’ continuance intention. Customers’ loyalty to an online or offline vendor is highly affected from their overall satisfaction. Altogether, satisfaction explains a high amount of variance of tend to use mobile banking (Giannakos et al., 2011). Ittner and Larcker (1998) posit that increased customer retention might result from higher levels of customer satisfaction. Adding to the above, Anderson and Srinivasan (2003) demonstrated that the less satisfied a customer feels the harder is for the company to retain him and enhance a close relationship with him.

As an extension to TAM, UTAUT was proposed by Venkatesh et al. in 2003. They found that user adoption and usage of an information technology are influenced mainly by four factors: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). UTAUT was built on the following eight theories: the theory of reasoned action (TRA), TAM, the motivational model, TPB, the PC utilization model, the innovation diffusion theory (IDT), the social cognitive theory (SCT), and the integrated model of technology acceptance and planned behavior. Although UTAUT has not been as widely used as TAM, it has gradually drawn researchers’ attentions and has been recently applied to exploring user acceptance of mobile technologies (Carlsson, Carlsson, Hyvonen, Puhakainen, & Walden, 2006; Min, Ji, & Qu, 2008; Park, Yang, & Lehto, 2007). Performance expectancy and effort expectancy are found to be the main determinants of behavioral intention in using mobile services in Finland (Carlsson et al., 2006). The UTAUT model has also been revised to study mobile commerce acceptance (Min et al., 2008). In addition to the original determinants, trust, privacy, convenience, and cost are also shown to affect the behavioral intention (Min et al., 2008). Moreover, gender and education have significant moderation effects on user adoption (Park et al., 2007).

Mobile banking is built on wireless networks using protocols such as general package radio service (GPRS) and code division multiple access (CDMA) (Junglas & Watson, 2006). One of the most significant advantages of mobile banking is that it provides users with ubiquitous and real-time services (Dahlberg, Mallat, Ondrus, & Zmijewska, 2008; Mallat, 2007). Thus, compared with traditional and Internet-based banking services, mobile banking is more advantageous for mobile users who are constantly on the go,
resulting in a higher task technology fit. On the other hand, according to TTF, a complex task will decrease the task technology fit (Goodhue, 1995; Goodhue & Thompson, 1995). In other words, when tasks become more difficult, technologies will hardly meet task demands (Dishaw & Strong, 1999; Gebauer & Ginsburg, 2009; Junglas et al., 2008). For example, when users need to conduct a large number of payments (batch processing) simultaneously, mobile banking functions may be limited because of the small screen, inconvenient input, and slow processing speed (Chae & Kim, 2004). The effects of task and technology characteristics on task technology fit have been found in previous research. Lin and Huang (2008) noted that task tacitness and knowledge management system (KMS) characteristics determine perceived task technology fit. Dishaw and Strong (1999) found that tool functionality and task characteristics affect the task technology fit. Gebauer and Ginsburg (2009) showed that task characteristics and technology performance determine the task technology fit of mobile information systems.

**MOBILE BANKING RELATED WORK**

The levels of perceived risk influence the effect of experience on trust. Ganesan (1994) found no significant effect of experience on trust, while Giannakos et al. (2011) posit that the effect of experience on trust is marginal when comparing high- and low-experienced customers.

This paper presents an examination of the moderating role of experience on a well-established set of tend to use. The ultimate purpose is to reveal differences in tend to use mobile banking behavior between high- and low-experienced customers.

Performance expectancy is similar to the perceived usefulness of TAM and the relative advantage of IDT (Venkatesh et al., 2003). It reflects user perception of performance improvement by using mobile banking such as convenient payment, fast response, and service effectiveness. Effort expectancy is similar to the perceived ease-of-use of TAM and the complexity of IDT (Venkatesh et al., 2003). It reflects user perception of how difficult it is to use mobile banking. According to UTAUT, effort expectancy positively affects performance expectancy (Venkatesh et al., 2003). When users feel that mobile banking is easy to use and does not require much effort, they will have a high expectation toward acquiring the expected performance. Otherwise, their performance expectancy will be low. Social influence is similar to subjective norm of TRA (Venkatesh et al., 2003) and reflects the effect of environmental factors such as the opinions of a user’s friends, relatives, and superiors on user behavior (Lopez-Nicolas, Molina-Castillo, & Bouwman, 2008). Their opinions will affect this user’s adoption and usage of mobile banking (Hong, Thong, Moon, & Tam, 2008). Facilitating conditions are similar to perceived behavioral control of TPB and reflect the effect of a user’s knowledge, ability, and resources (Venkatesh et al., 2003). Mobile banking as a new service requires users to have certain skills such as configuring and operating mobile phones so as to connect to the wireless Internet. In addition, users need to bear usage costs such as data service and transaction fees when using mobile banking. If users do not have these necessary financial resources and operational skills, they will not adopt or use mobile banking. Much research has found the significant effect of perceived cost on mobile commerce adoption (Hong et al., 2008; Kuo & Yen, 2009; Shin, 2009; Shin, Lee, Shin, & Lee, in press). Previous research also reveals the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions on users’ behavioral intention (Carlsson et al., 2006; Park et al., 2007). Thus, we hypothesize:

**H1:** The strength of the relationship between Effort expectancy and tend to use mobile banking differs between high- and low-experienced customers.

**H2:** The strength of the relationship between performance expectancy and tend to use mobile banking differs between high- and low-experienced customers.

**H3:** Customer awareness significantly affects tend to use mobile banking.

**H4:** Performance expectancy significantly affects tend to use mobile banking.

**H5:** Subjective norms significantly affect tend to use mobile banking.

**H6:** Effort expectancy significantly affects tend to use mobile banking.

**H7:** Effort expectancy significantly affects performance expectancy.

**RESEARCH HYPOTHESES AND MODEL DEVELOPMENT**

Figure 1 presents a research model, which integrates factors from UTAUT with TPB, and TAM2. Based on the aforementioned theoretical and empirical research, a set of hypotheses has been formulated and examined in this paper regarding the moderating effect of experience on the relationships of effort expectancy, performance expectancy, Customer awareness, Subjective norms with tend to use mobile banking.

**Effort expectancy (EE)**

Effort expectancy refers to customers’ perspective that mobile banking is free of effort (Venkatesh et al., 2003). Consequently, when customers use a mobile to search for information and to make banking, the amount of effort they have to put in, affects their intention to adopt the mobile banking method. For instance, too many security features, used to increase customers’ trust to the online vendor, make the web site harder to use affecting their satisfaction (Shen and Chiou, 2010). Experience moderates the relationship of effort expectancy with behavioral intentions (Venkatesh et al., 2003), and the relationship of ease of use with satisfaction in the context of online banking (Dagger and O’Brien, 2010).
However, the effect of different levels of customer experience on the relationship between effort expectancy and mobile banking needs further study.

**Performance expectancy (PE)**

Performance expectancy refers to the degree to which customers believe that mobile banking improves their transaction experience and, like effort expectancy, affects their future intentions (Venkatesh et al., 2003). Whenever customers receive pleasure from mobile banking, their tendency increases, which is likely to lead them to continued use. However, when a user believes that a system is useful to him, he feels satisfied and wants to continue using it. Castaneda et al. (2007) have found that high levels of internet and mobile bank experience moderate the impact of perceived usefulness on users’ future intentions. Similar to effort expectancy, the effects of different levels of experience on the relationship of performance expectancy with tend to use need further investigation.

**Customer Awareness (AW)**

In mobile banking, Pikkarainen (2004) has reported that the amount of information a customer has about Internet banking and its benefit may have a critical impact on the adoption of Internet banking. Moreover, Sathye (1999) note that low awareness of Internet banking is a critical factor in causing customers not to adopt internet banking. In addition, Howcroft et al (2002) found that lack of awareness of Internet banking services and its benefits are found to be reasons for consumers’ reluctance to use Internet banking services

**Subjective Norms (SN)**

Is define as a person’s “perception that most people who are important to him/her think he/she should or should not perform the behavior in question” (Ajzen and Fishbein, 1980). Attitude toward behavior is function of the product of one's salient beliefs that performing the behavior will lead to certain outcomes, and an evaluation of the outcomes, i.e., rating of the desirability of the outcome.

**MEHTOLOGY**

**Sampling**

The research methodology included a survey conducted through the delivery and collection of individual questionnaires. A number of different methods were recruited for attracting respondents; questionnaires were distributed in various places (branches). In order to collect data from refer to branch. The remaining 276 questionnaires were used for analysis.

As Table 1 shows, the sample of respondents was composed of more men (78.1 per cent) than women (21.9 per cent). In terms of age, the majority of the respondents (46.1 per cent) were between 25 and 34, while the second more frequent age group (30.5 per cent) involved people between 19 and 24. Finally, the great majority of the respondents (76.7 per cent) included graduates or post-graduate students.

The data was divided into two groups based on the respondents’ level of experience by performing a median split (Chang and Chen, 2008). The median of the sample was 5. Hence, one group contained the respondents who had made at least 1 online purchase within the past six months and no more than 5 (low-experienced users), while the other group contained those who had made more than 5 online purchases in the past six months. The low-experienced group consisted of 276 respondents, from which the vast majority of which (71.5 per cent) were men.

<table>
<thead>
<tr>
<th>Demographic profile</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>307</td>
<td>78.1</td>
</tr>
<tr>
<td>Female</td>
<td>86</td>
<td>21.9</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-30</td>
<td>27</td>
<td>6.9</td>
</tr>
<tr>
<td>31-40</td>
<td>120</td>
<td>30.5</td>
</tr>
<tr>
<td>41-50</td>
<td>181</td>
<td>46.1</td>
</tr>
<tr>
<td>Over 50</td>
<td>13</td>
<td>3.3</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gymnasium</td>
<td>10</td>
<td>2.3</td>
</tr>
<tr>
<td>High School</td>
<td>9</td>
<td>20.4</td>
</tr>
<tr>
<td>University</td>
<td>80</td>
<td>50.6</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>105</td>
<td>26.7</td>
</tr>
</tbody>
</table>

**MEASURES**

The questionnaire was divided into two parts. The first part included questions on the demographics of the sample (age, gender, education), as discussed above. The second part included measures of the various constructs identified in the literature review section. The Appendix (Table A1) lists the questionnaire items used to measure each construct. In almost all cases, with an exception standing for the “tend to use mobile banking” variable, five-point Likert scales were used to measure the model’s variables.

**DATA ANALYSIS**

**Reliability and validity.** The constructs used in this research were evaluated in terms of reliability and validity. Reliability was tested with the use of the Cronbach alpha indicator, which required to be higher than 0.7 for every factor (Ref). Validation analysis consists of convergent and discriminant validity. Establishing validity requires that average variance extracted (AVE) is greater than 0.50, the correlation between the different variables in the confirmatory models does not exceed 0.8 points, as this suggests low discrimination and that the square root of each factor’s average variance extracted (AVE) is larger than its correlations with other factors (Lee et al., 2009).

**Goodness of fit** describes how well the model fits its data. Here, several fit indices were used to assess model-data fit. Root mean square error of approximation (RMSEA), comparative fit index (CFI) value and x²/df ratio were all used to evaluate model-data fit (Byrne, 2009). RMSEA less than 0.05 suggests good model-data fit; between 0.05 and
0.08 it suggests reasonable model-data fit and between 0.08 and 0.1 suggests acceptable model data fit. CFI indices greater than 0.90 suggest good model-data fit and greater than 0.80 suggest adequate model-data fit. A x2/df ratio less than 3 is acceptable.

Multi-group analysis (invariance analysis). When analysis involves more than one sample, the model needs to be tested for invariance across groups (Ref). In other words, it must be examined if components of the measurement and structural model are equivalent across particular groups of interest. Prior to invariance testing, each group was assessed using a goodness of fit test. Invariance of the components is highly important. Unless it is proved, the examination of the structural model has no value. Also, if invariance cannot be proved for the structural model, path differences should be examined in order to find which ones differ among the groups (Byrne, 2009). The next step was to estimate the effect of the four antecedents of tend to use, the moderating effect of experience by means of a multi-group SEM analysis. Multi-group analysis was performed with the use of the standard SEM software AMOS Version 22.0 software.

### RESEARCH FINDINGS

Before conducting a multi-group analysis, reliability and validity of the constructs was examined. Reliability testing provided acceptable indices of internal consistency, since the Cronbach alpha indicator exceeded the cut-off level of 0.70 for all constructs (Table 2). Validation testing results are also provided in Table 2. AVE for all constructs was higher from the level of 0.50, all correlations were lower than 0.80 and square root AVEs for all constructs were larger from their correlations.

### Tab.2. Descriptive statistics and correlations of latent variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>SD</th>
<th>Cr. Alpha</th>
<th>AVE</th>
<th>EE</th>
<th>PE</th>
<th>SEF</th>
<th>TR</th>
<th>STF</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE</td>
<td>5.48</td>
<td>0.92</td>
<td>0.837</td>
<td>0.54</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>6.00</td>
<td>0.91</td>
<td>0.860</td>
<td>0.56</td>
<td>0.43</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>6.43</td>
<td>0.76</td>
<td>0.759</td>
<td>0.50</td>
<td>0.50</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AW</td>
<td>5.90</td>
<td>1.01</td>
<td>0.831</td>
<td>0.62</td>
<td>0.40</td>
<td>0.35</td>
<td>0.20</td>
<td>0.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXP</td>
<td>3.84</td>
<td>0.83</td>
<td>0.443</td>
<td>0.50</td>
<td>0.49</td>
<td>0.51</td>
<td>0.50</td>
<td>0.56</td>
<td>0.71</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Diagonal elements (in italic) are the square root of the average variance extracted (AVE); Off diagonal elements are the correlations among constructs (all correlations are significant, p < 0.01); For discriminant validity, diagonal elements should be larger than off-diagonal elements; EE, effort expectancy; PE, performance expectancy; AW, awareness; SN, subjective norms; INT, tend to use.

Before testing for invariance, goodness of fit was examined for each group. Specifically, the indices for the low-experienced group were X20dfp¼42;4, CFI ¼ 0;9, RMSEA ¼ 0;08; all acceptable. Similarly, the indices for the high-experienced group were X20dfp¼41;8, CFI ¼ 0;9, RMSEA ¼ 0;06; all acceptable. Comparing the measurement model with the unconstrained one, group equivalence was proved. Specifically, as Tables 3 and 4 demonstrates, the p-value was non-significant with DX2016P¼20:125 (Byrne, 2009). Hence, the examination of the equivalence among the structural weights followed. Unlike the measurement model, the structural model had a significant p-value with a DX2043P¼105:921 (Tables 3 and 4). Consequently, testing for path differences in the model was possible. The moderating effect of experience in the proposed model was estimated through a multi-group analysis. Results are presented in Tables 5 and 6. Testing for differences between the two groups was achieved by doing a pair wise comparison of the coefficients, using the critical ratios for differences on Amos. Significant group differences were found for the effect of performance expectancy on tend to use. Also, as Tables 5 and 6 shows, only one out of the seven hypothesized factors (awareness) had a significant effect on both groups of customers. Specifically, the empirical research demonstrated that the expected performance of tend to use experience (performance expectancy) affects tend to use. Instead, the effort needed to use mobile banking (effort expectancy) and the user’s belief in own know to use mobile banking (awareness) influence tend to use on low-experienced customers.

### Tab.3. Invariance – summary of goodness of fit indices

<table>
<thead>
<tr>
<th>Model comparisons</th>
<th>df</th>
<th>x2</th>
<th>RMSEA</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconstrained model</td>
<td>396</td>
<td>825.95</td>
<td>0.53</td>
<td>0.903</td>
</tr>
<tr>
<td>Measurement weights</td>
<td>412</td>
<td>845.721</td>
<td>0.52</td>
<td>0.902</td>
</tr>
<tr>
<td>Structural weights</td>
<td>439</td>
<td>931.516</td>
<td>0.54</td>
<td>0.889</td>
</tr>
</tbody>
</table>

### Tab.4. Invariance differential goodness of fit indices

<table>
<thead>
<tr>
<th>Measure comparisons</th>
<th>df</th>
<th>x2 diff (DX2)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement weights</td>
<td>16</td>
<td>20.125</td>
<td>Non-significant</td>
</tr>
<tr>
<td>Structural weights</td>
<td>43</td>
<td>105.921</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Tab.5. Multi-group analysis – tend to use

<table>
<thead>
<tr>
<th>Low-High experienced Differences between Proposed experienced groups hypotheses</th>
<th>Effort expectancy</th>
<th>Performance expectancy</th>
<th>Awareness</th>
<th>Subjective norm</th>
<th>R 2</th>
<th>0.69</th>
<th>0.55</th>
</tr>
</thead>
<tbody>
<tr>
<td>p &lt; 0.1; rmsea &lt; 0.05; Goodness of fit: x2/df &gt; 2:1; CFI &gt; 0.9; RMSEA &gt; 0.053</td>
<td>0.154**</td>
<td>0.155</td>
<td>Non-significant</td>
<td>Accepted (H6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p &lt; 0.05;.reject (H4)</td>
<td>0.348**</td>
<td>P &lt; 0.05</td>
<td>Non-significant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p &lt; 0.05; reject (H3)</td>
<td>0.082</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p &lt; 0.05; Accepted (H5)</td>
<td>0.358</td>
<td>P &lt; 0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R 2</td>
<td>0.69</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Tab.6. Multi-group analysis relationship EE with PE

<table>
<thead>
<tr>
<th>Low-experienced</th>
<th>High-experienced</th>
<th>Differences between Proposed hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tend</td>
<td>0.792**</td>
<td>0.668**</td>
</tr>
<tr>
<td>R 2</td>
<td>0.63</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Notes: p < 0.001; Goodness of fit: x2/df > 2:1; CFI > 0.9; RMSEA > 0.053
DISCUSSION AND CONCLUSIONS

In an attempt to understand customers’ tend to use, the paper sheds light on the effect of experience on a rather complete and commonly applied mobile banking behavior model. Specifically, this study explores the moderating effect of experience on the relationship of effort expectancy, performance expectancy with tend to use. The findings indicate that experience moderates the relationship of performance expectancy with tend to use (H2).

Regarding performance expectancy, the findings suggest that the greater the users’ experience, the more tend to use. However, tend to use of low-experienced customers does not seem to be affected by performance expectancy. Although the results are partially consistent with other studies showing that performance expectancy has a positive effect on satisfaction (Khalifa and Liu, 2007), they are opposed to the results of UTAUT, based on which experience has no moderating effect on performance expectancy.

In any case, subjective norms has important impact on 198 tend to use for both high- and low-experienced customers. This finding is consistent with Gefen et al. (2008) arguing that trust is important for all customers, no matter their level of experience. These results contradict those of Saprikis et al. (2010), who found that awareness is more important for users without previous experience. This might be explained by the fact that Saprikis et al. (2010) studied totally inexperienced users, while the entire sample used in this study had previous experience (even low) with mobile banking.

Contrary to H1c, no significant difference was found between low- and high-experienced users for the impact of effort expectancy (H1c) on tend to use. Effort expectancy has a significant effect on customers’ intention but only for low experienced users. Based on the fact that effort expectancy becomes less important to customers as they acquire more experience, a moderating effect was expected among low- and high-experienced customers. However, this was not verified by the results, possibly because effort expectancy was not important at all for the high-experienced group. This is consistent with the UTAUT model, where effort expectancy is important for those with limited experience. Nonetheless, the analysis provides only weak support for this finding.

Similarly, no significant difference was found between low- and high-experienced users for the impact of awareness (H3) on tend to use. The study demonstrates that awareness influences only low-experienced users. It is somewhat surprising that no significant difference between the two groups exists, although the effects of awareness on tend to use for low- and high-experienced customers are so different. A possible explanation may be that the process of mobile banking for high-experienced customers is not that complex, hence awareness is not important for them. Another possible explanation for this is the learning effect in electronic banking. Customers get used to the process as they acquire more experience. It can, thus, be suggested that awareness is important only on new online customers. This result is partially consistent with Hernández et al. (2010), who found that, although awareness is important for customers in mobile banking, it has no significant relationship with intention.

This study indicates that the effect of intention remains significant for both groups of customers. However, the relationship between mobile banking and tend to use is greater when experience is low than when experience is high. Findings suggest that low-experienced customers give more importance on the impact of increasing intention on their future tend to use behaviour, consistent with Seiders et al. (2005). Instead, high-experienced users are mostly affected by other factors (i.e. performance of the mobile banking experience), consistent with Evanschitzky and Wunderlich’s (2006) findings. This may be explained by the fact that high-experienced customers base their choices on a wide range of information acquired from different sources, while low-experienced customers rely more on their previous experiences. Consequently, tend to use has a stronger effect on low- than high-experienced customers. This finding contradicts Khalifa and Liu (2007) arguing that mobile banking experience strengthens the effect of tend to use.

THEORETICAL IMPLICATIONS

Customers’ perceptions play an important role in enhancing their intention decisions. His study provides empirical results that prior customer experience influences the relationship between performance expectancy and tend to use, weakens the relationship of tend to use with intention to mobile banking, while it keeps a significant constant effect on the relationship of subjective norms on intention. Additionally, the results show that effort expectancy and awareness differentiate their effects for low- and high-experienced customers. Hence, research on e-commerce should distinguish between customers with low and high experience on mobile banking. The two groups have different perceptions based on their experience, which in turn affects their behavioural patterns. Specifically, performance of the mobile banking medium affects tend to use of high-experienced customers. Instead, the degree of ease associated with mobile banking and the confidence given to customers that they are able to complete the mobile banking without help affect their tend to use when they are low-experienced.

This work also demonstrates that subjective norms is essential for all customers regardless their experience.

These results address a few shortcomings of previous studies in the area. Specifically, Khalifa and Liu (2007) investigate the moderating effect of mobile banking experience on tend to use. Although they include performance expectancy in their model by examining its effect on tend to use, they do not test for a moderating effect of experience on that relationship. Likewise, they examine moderating effects of experience on the relationship between satisfaction and repurchase, but they do not investigate the differences between low- and high-experienced customers. However, they do not consider the effect of customer experience, which this study identified as a moderator of that relationship.

From a theoretical perspective, this research use UTAUT to explain user intention of mobile banking. We found that, in addition to technology perceptions such as performance expectancy, effort expectancy fit also has a significant effect on user intention. This shows that, when examining the factors affecting mobile commerce users’ intention, we need to not only be concerned with technology perceptions based
on TAM, IDT, and UTAUT but also pay attention to the effect of a good subjective norms. For example, our research found that there exist correlations between effort expectancy and performance expectancy. Our results also showed that, compared with the individual UTAUT and TPB models, the integrated model provides more explanation on user intention. Thus future research can combine both perspectives to examine user intention of other mobile services such as mobile purchase and mobile search. We believe that, compared with each individual research perspective, integrating both perspectives will provide richer insights.

**PRACTICAL IMPLICATIONS**

This study implies that mobile retailers should consider different marketing strategies when planning to launch a product or service, depending on the experience level of their targeted market. For experienced online customers, firms should focus on providing appropriate mechanisms increasing the performance of the mobile banking medium. High-experienced customers are more rational on their decisions than low-experienced customers (Cheema and Papatla, 2010). When addressing low-experienced customers, firms should keep in mind that effort expectancy and subjective norms are more effective on them. Thus, firms should invest in increasing ease of use and friendliness of the mobile banking medium. Finally, trust is a critical factor and e-vendors should always invest on it no matter their target market.

The findings suggest that experience weakens the effect of tend to use. While interacting with their loyal online customers, companies should focus on understanding them and complying with their performance requirements, since the more experience and knowledge an online customer acquires, the more difficult it is to be intention from a vendor (Dholakia and Zhao, 2010). Any online vendor should be aware of the effect these factors not only on intention. Consequently, in order to attract low-experienced customers, companies should focus on making the mobile banking process as easy as possible and increase their effort Expectancy, as this should increase their intention and ultimately their intention to banking.

From a practical perspective, our research showed that both performance expectancy and effort expectancy have significant effects on user intention of mobile banking. In addition, we found that experience has an obvious effect on performance expectancy. Thus service providers need to improve the performance expectancy. They can segregate the market and provide differentiated services to niche users. For example, student users may be more concerned with the usage cost and variety of functions, whereas working professionals may focus more on the reliability and subjective norms of mobile banking. Thus service providers can provide different services to meet different group’s task demands so as to improve user intention of mobile banking. In addition to the experience, mobile banking service providers also need to improve mobile users’ technology perceptions such as performance expectancy. They can achieve this by presenting an ease-of-use interface, thus reducing effort expectancy and enhancing performance expectancy.

**LIMITATIONS AND FUTURE RESEARCH**

Although the findings provide meaningful implications for online banking research, this study has several limitations. First, the study was carried out in Iran, hence the results may not be fully generalised for other countries, as beliefs and perceptions may differ among countries. Also, a self-report scale based on users’ perceptions was used to measure research variables, so the results might suffer from common method bias. Various methods, such as customer interviews via think-aloud protocols and direct observation and analysis of actual behaviour via log files, could be employed to provide richer understanding of mobile banking behaviour and to overcome potential bias from common method variance. The measure used for experience consisted of a single item. Future empirical research, which models experience as a latent variable construct and assesses rest of the constructs with the use of objective measures rather than subjective perceptions, is planned.

This research has the following limitations, we mainly explained mobile banking user intention using UTAUT and TAM. Future research may draw on other theories such as perceived value theory and explore the effects of other factors such as cost and trust. user behavior is dynamic and constantly changing. We only collected cross-sectional data. A longitudinal research may provide more insights on how user intention behavior changes over time. We conducted this research in Tehran city, a country whose fast-developing mobile commerce is still in its infancy. Our results may not generalize to other countries with relatively mature mobile commerce. Fourth, compared with the rich services and functions offered by online banking, mobile banking offers fewer services and simplified functions. This may also affect user adoption. Future research can investigate their differences in more detail. Due to the limitations in our research, there exist some future research directions. First, we focused on mobile banking and a portion of our samples were youngs. Future research can examine other mobile services such as mobile purchase or replicate our results with samples of working professionals. Second, researchers can also examine if our results can be generalized to countries with relatively mature mobile commerce. This may provide richer insights on user intention around the world. Third, a longitudinal research is needed to examine the dynamics of user intention of mobile banking.

Last but not least, future research is encouraged towards incorporating the group of non-experienced online customers, with the ultimate research goal of identifying appropriate mechanisms for attracting new online customers.

**APPENDIX A. SCALES AND ITEMS**

**Awareness (AW) (new scale)**

AW1: My relationship with the bank services mobile banking have enough information.

AW2: In connection with the advantage of mobile banking have enough information.

AW3: In connection with the transfer of funds with banks (Mobile Bank) have enough information.

AW4: In connection with the transfer of funds with banks (Mobile Bank) have enough information.

**Effort expectancy (EE) (adapted from Venkatesh et al. (2003))**

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**Effort expectancy (EE) (adapted from Venkatesh et al. (2003))**
EE1: I skillfully along the banks of the (mobile banking) I use.
EE2: he use of mobile banking is easy.
EE3: you can easily Usage of mobile banking learned.
EE4: he services provided by mobile banking transparent and understandable to me.
EE5: It is easy to use mobile banking to acquire skills.
EE6: To enter the options (menus) and banks (Mobile Bank) easy for me.
EE7: When using the mobile banking services do not have any doubt about accuracy.

Performance expectancy (PE) (adapted from Venkatesh et al. (2003))
PE1: The use of mobile banking is beneficial.
PE2: He use of mobile banking my ability during my study (Control) any more.
PE3: The use of mobile banking, the faster I do.
PE4: Using the mobile banking, the more comfortable I do.
PE5: The use of mobile banking, with confidence, I do my payment.
PE6: The use of mobile banking my productivity in the banking activities increased.
PE7: To conduct banking activities, along the banks (Mobile Bank) is one of the best facilities provided by banks.

Subjective norms (SN) (adapted from TAM2)
SN1: I tend to use mobile banking Friends can influence.
SN2: I tend to use mobile banking Family can influence.
SN3: I tend to use mobile banking Et al can influence.
SN4: I tend to use mobile banking Media can influence.

Intention (adapted from Venkatesh et al. (2003))
INT1: I would like to do with the banking activities of the bank (mobile banking) I use.
INT2: I would like to pay with bank bills (mobile banking) I use.
INT3: I would like to transfer funds with the bank (mobile banking) I use.
INT4: I have to check the (Check) the funds in my bank account (fine work) prefer mobile banking.
INT5: I use With regard to the benefits of mobile banking in the near future I wish all my banking activities through mobile banks do.

Experience (EXP) (new scale)
EXP1: Most of my friends experience with the bank (mobile banking) as well.
EXP2: Most of my family's experience with banking (mobile banking) as well.
EXP3: banking operations with Bank (mobile banking) can be an enjoyable experience.
EXP4: With regard to the benefits of mobile banking I am making use of my experience.
EXP5: The use of mobile banking Bank of welfare will be my first experience in the use of mobile banking.

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