

The role of personal and social characteristics on acceptance of new telephone banking services

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ABSTRACT

For over two decades, telephone banking has steadily become a useful feature and all banks have tried to provide this feature as part of their services. In this paper, we present an empirical investigation to study the role of personal and social characteristics on acceptance of new telephone banking services. The proposed study designs two questionnaires and distributes them among 384 randomly selected people who use telephone banking in city of Tehran, Iran. Using structural equation modeling, the study examines various hypotheses and the results of our survey indicate that there were some positive and meaningful relationships between perception usefulness and users' attitude, perception and ease of use, perception and intention to use as well as perception and intention to use. In addition, the study has detected a negative and meaningful relationship between personal risk and intention to use and perception of personal time and intention to use among mobile users.

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1. Introduction

For over two decades, telephone banking has steadily become a useful feature and all banks have tried to provide this feature as part of their services. There are various studies on mobile and telephone banking services around the world. Koenig-Lewis et al. (2010) investigated the barriers for adopting mobile banking services by looking into two widely used models for technology adoption: the Technology Acceptance Model (TAM) and Innovation Diffusion Theory (Dillon & Morris, 1996; Venkatesh et al., 2003). They examined a model to predict consumers' intention to use mobile banking. The results of their study showed that compatibility, perceived usefulness, and risk were significant indicators for the adoption of m-banking services. Compatibility not only had a strong direct impact but was also detected as an essential antecedent for perceived ease of use, perceived usefulness and credibility. Trust and credibility in their study were crucial in reducing the overall perceived risk of m-banking.

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Moon and Kim (2001) introduced playfulness as a new factor, which reflects the user's intrinsic belief in WWW acceptance and extended TAM for the WWW context. Venkatesh and Davis (2000) presented another theoretical extension of the TAM for mobile industry. Cruz et al. (2010) investigated the perceived barriers to the adoption of mobile banking services among Brazilian internet users and looked for patterns according to socio-demographics variables. The results stated that the majority of respondents had not used any type of mobile banking service. Perception of cost, risk, low perceived relative advantage and complexity were disclosed to be the primary reasons behind the reluctance to apply the service.

Chau and Ngai (2010) investigated the perceptions, attitudes and behavior of the youth market for internet banking services (IBS). They reported that young people (age 16-29) had positive behavior towards using IBS compared with others. They also confirmed that there was a positive influence of IBS quality on satisfaction and loyalty. Suoranta and Mattila (2004) studied diffusion and adopters of mobile banking services by exploring some contradictory empirical findings drawn from a mobile banking survey. The results provided an indication of the characteristics of potential subsequent adopters of mobile banking, and of some differences between user segments.

Laforet and Li (2005) investigated the market status for online/mobile banking in China and reported that Chinese online and mobile bank users were predominantly males, not necessarily young and highly educated, in contrast with the electronic bank users in the West. The issue of security was detected to be the most important factor that motivated Chinese consumer adoption of online banking. They also detected the main barriers to online banking as the perception of risks, computer and technological skills and Chinese traditional cash-carry banking culture. The barriers to mobile banking adoption were insufficient awareness and perception of the advantages provided by mobile banking.

Riquelme and Rios (2010) studied the moderating effect of gender in the adoption of mobile banking. They examined the factors influencing adoption of mobile banking among current users of internet banking in Singapore and gender as a moderating variable. They reported that usefulness, social norms (King & He, 2006) and social risk, in this order, were the factors that impact the intention to adopt mobile banking services the most. Lu et al. (2008) investigated the factors influencing adoption of wireless mobile data services (WMDS) in China and examined their model for describing adoption intentions there. They argued that individuals form their intention to adopt WMDS under the effect of wireless mobile technology, the social environment, personal innovativeness of IT, trust awareness, and the facilitating conditions. They investigated the simultaneous impacts of these five effects on beliefs in the context of wireless Internet data services via mobile phones. They reported that WMDS adoption intention in China was determined by consumers' perceived usefulness and perceived ease of implementation of WMDS.

Jarvenpaa and Todd (1996) investigated consumer reactions to electronic shopping on the World Wide Web. Hu et al. (1999) examined the technology acceptance model based on physician acceptance of telemedicine technology. Morris and Dillon (1997) identified how user perceptions could possibly influence software use. Littler and Melanthiou (2006) investigated consumer perceptions of risk and uncertainty and the implications for behavior towards innovative retail services in a case study of internet banking. Gupta et al. (2008) investigated adoption of ICT in a government organization in a developing country. Im et al. (2008) investigated the effects of perceived risk and technology type on users' acceptance of technologies. Kuo and Yen (2009) performed a comprehensive study to understand more about the consumer intention to use 3G mobile value-added services. Yiu et al. (2007) investigated different factors influencing the adoption of Internet Banking in Hong Kong—implications for the banking sector. Eriksson et al. (2008) investigated the adoption of commercial innovations in the former Central and Eastern European markets in a case of internet banking in Estonia.

2. The proposed study

We present a study to investigate the role of personal and social characteristics on acceptance of new telephone banking services. The proposed study considers the following ten hypotheses,

1. There is a meaningful relationship between perception and intention to use among mobile users.
2. There is a meaningful relationship between perception and ease of use among mobile users.
3. There is a meaningful relationship between perception of advantages and intention to use among mobile users.
4. There is a meaningful relationship between perception of usefulness and intention to use among mobile users.
5. There is a negative and meaningful relationship between perception of social risk and intention to use among mobile users.
6. There is a negative and meaningful relationship between perception of performance risk and intention to use among mobile users.
7. There is a negative and meaningful relationship between perception of security risk and intention to use among mobile users.
8. There is a negative and meaningful relationship between perception of financial risk and intention to use among mobile users.
9. There is a negative and meaningful relationship between perception of time risk and intention to use among mobile users.
10. There is a negative and meaningful relationship between perception of personal risk and intention to use among mobile users.

Fig. 1 demonstrates the structure of the proposed model of this paper.

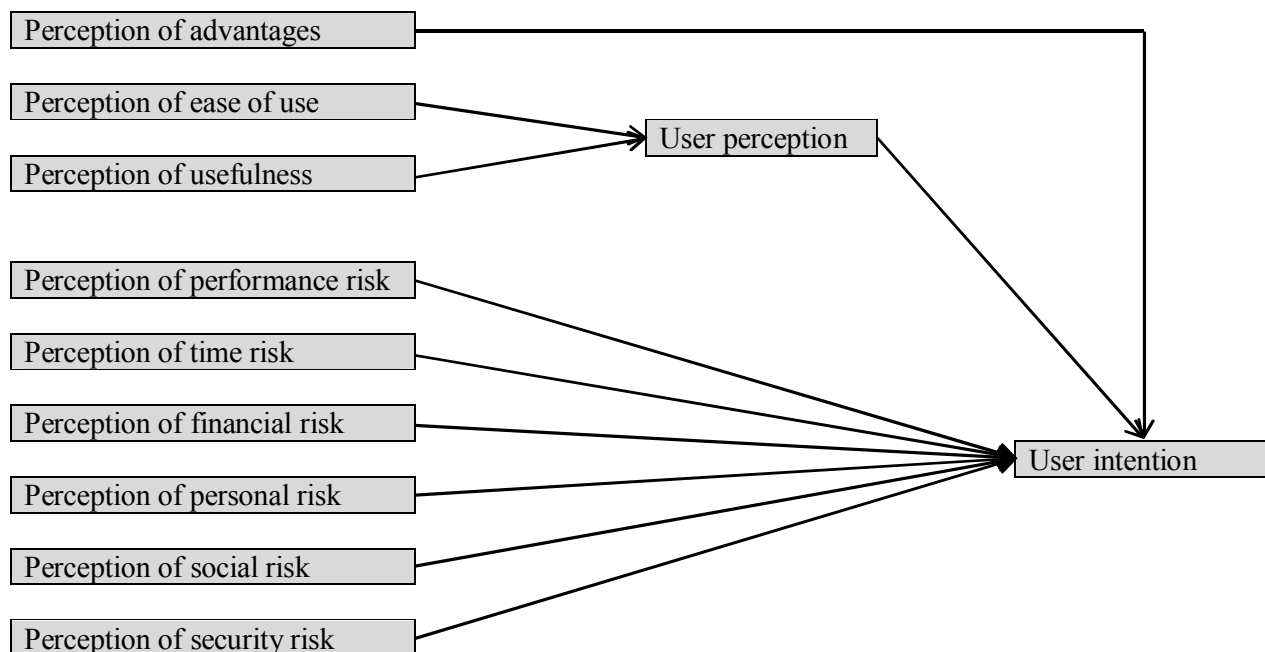


Fig. 1. The proposed study

There are two questionnaires designed in Likert scale for the proposed study of this paper. In order to validate the questionnaires, we first asked 40 experts to answer the questions and Cronbach alpha have been calculated as 0.832 and 0.931, respectively. Next, we estimate the sample size of the proposed study as follows,

$$N = Z_{\alpha/2}^2 \frac{p \times q}{e^2}, \quad (1)$$

where N is the sample size, $p = 1 - q$ represents the probability, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. For our study we assume $p = 0.5$, $z_{\alpha/2} = 1.96$ and $e = 0.99$, the number of sample size is calculated as $N = 385$. In our study, we have distributed 400 questionnaires and managed to collect 385 ones. Fig. 2 demonstrates personal characteristics of the participants.

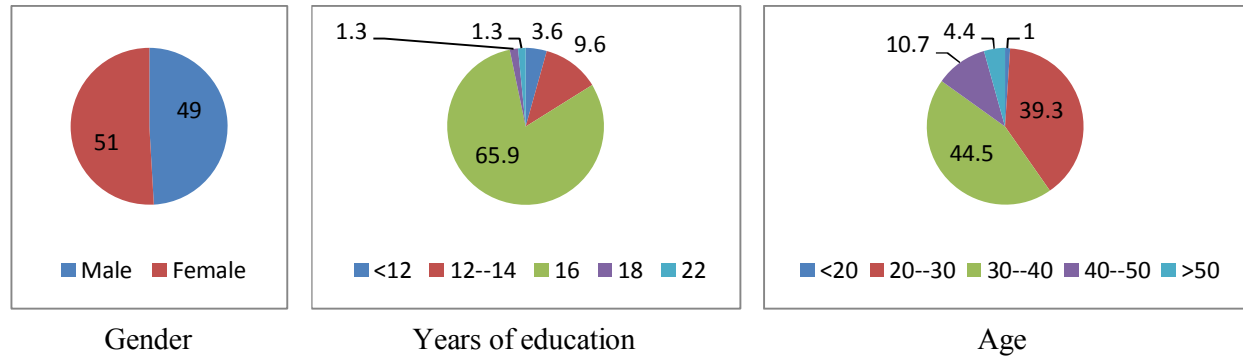


Fig. 2. Personal characteristics of the participants

In addition, Table 1 summarizes some basic statistics associated with different components of the survey.

Table 1

The summary of mean and standard deviation of the questionnaires

Variable	Frequency	Mean	Standard deviation
Social risk	383	3.65	0.93
Performance risk	383	2.98	1.09
Financial risk	381	3.02	870
Time risk	382	2.53	1.13
Security risk	382	2.77	0.98
Personal risk	382	2.61	980
Advantages received	383	4.09	730
Ease of use	383	4.05	0.79
Usefulness	383	3.76	750
User attitude	382	3.95	730
Behavior intention	380	3.94	0.81

The proposed study of this paper uses structural equation modeling to examine different hypotheses of this survey and the implementation is performed using LISREL software.

3. The results

In this section, we present details of our findings on testing various hypotheses of this survey. The proposed study uses structural equation modeling and Table 2 shows the summary of some basic statistics associated with the proposed study.

Table 2

The summary of some basic statistics associated with structural equation modeling

χ^2	P-Value	df	χ^2/df	RMSEA	GFI	AGFI	CFI
391.13	0.000	154	2.54	0.066	0.90	0.81	0.90

As we can observe from the results of Table 2, all statistical observations are within acceptable limits, which validate the results. In addition, Fig. 3 shows the summary of our model.

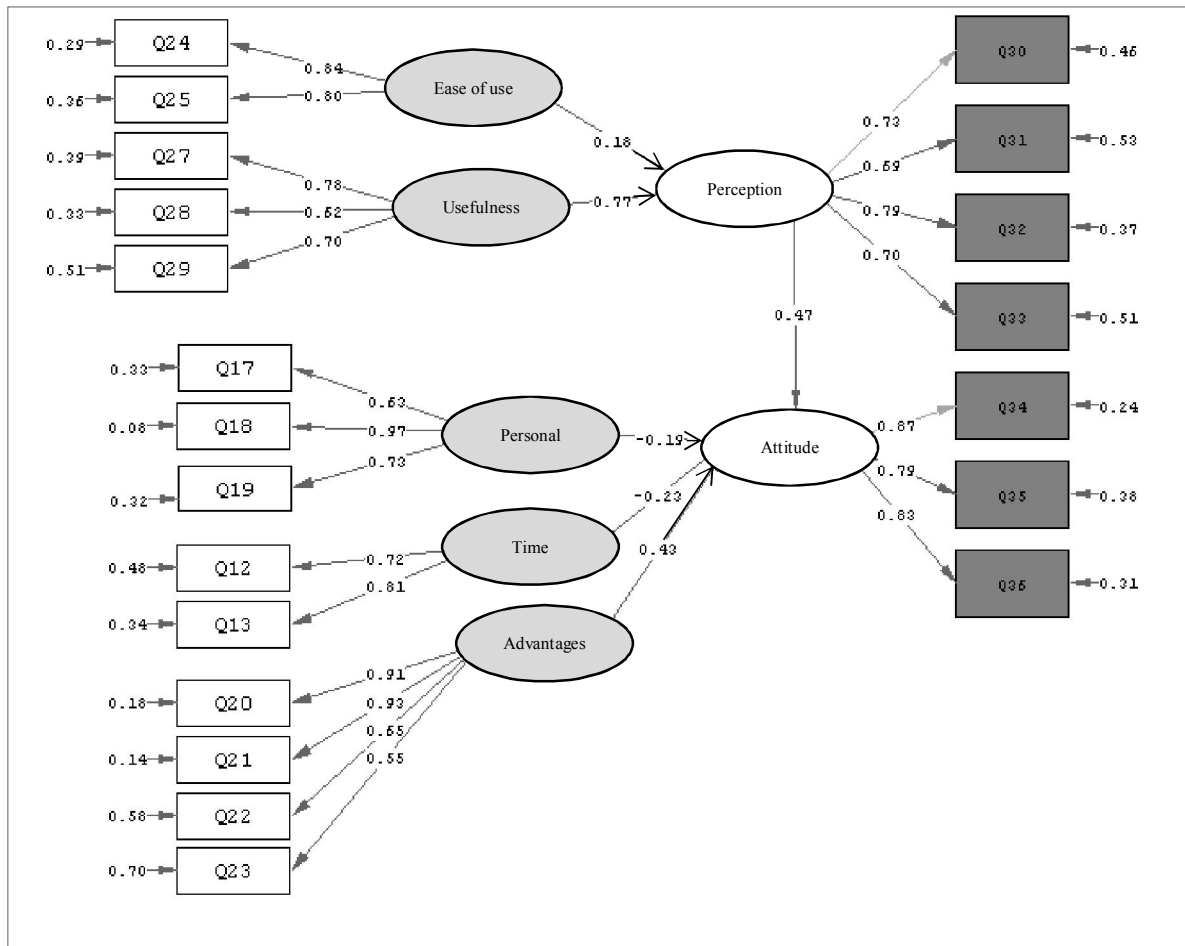


Fig. 3. The results of SEM implementation by LISREL software

As we can observe from the results of Fig. 1, perception usefulness on users' attitude has positive and meaningful effect ($\beta=0.77$, $t\text{-student} = 12.69 > 1.96$). There is also a meaningful relationship between perception and ease of use among mobile users ($\beta=0.18$, $t\text{-student} = 3.88 > 1.96$). There is a meaningful relationship between perception and intention to use among mobile users ($\beta=0.47$, $t\text{-student} = 8.66 > 1.96$). There is a meaningful relationship between perception of advantages and intention to use among mobile users ($\beta=0.43$, $t\text{-student} = 9.18 > 1.96$). The study also finds a negative and meaningful relationship between perception of personal risk and intention to use among mobile users ($\beta=-0.19$, $t\text{-student} = 4.08 > 1.96$). Finally, the study detects a negative and meaningful relationship between perception of personal time and intention to use among mobile users ($\beta=-0.23$, $t\text{-student} = 4.92 > 1.96$).

4. Conclusion

In this paper, we have presented an empirical investigation to study the effect of different personal characteristics on young people who live in city of Tehran, Iran for applying telephone banking services. The study has examined various hypotheses and the results of our survey have indicated that there were some positive and meaningful relationships between perception usefulness and users' attitude, perception and ease of use, perception and intention to use as well as perception and intention to use. In addition, the study has detected a negative and meaningful relationship between personal risk and intention to use and perception of personal time and intention to use among mobile users.

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