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THE STUDY OF INFLUENCING FACTORS ON CUSTOMERS' DECISION TO USE OF MOBILE BANKING BASED ON SMS SERVICES (CASE STUDY: THE BRANCHES OF GOVERNMENTAL BANKS IN RASHT CITY-NORTHERN OF IRAN)

Mohammad Taleghani
Department of Industrial Management, Islamic Azad University,
Rasht, Guilan, Iran
e-mail: m.taleghani454@yahoo.com, taleghani@iaurasht.ac.ir
Ataollah Taleghani
University of Guilan, Rasht, Guilan, Iran
e-mail: ata_1995@yahoo.com

Abstract: One of the most important applications of mobile banking is SMS banking and due to some reasons including simple access and use and also the ability of use without especial software and hardware, it is one of the first applications of mobile phone in banking. The sample volume was 437 persons that for obtaining more information about 600 questionnaires were distributed in the branches of governmental banks of Rasht city, and 411 questionnaires were received. The variables studied in this research included, speed, mobility access, propaganda, direction, adoption, self-efficacy, perceived cost, perceived risk, perceived usefulness, and perceived ease of use and intention of use. Establishment of priority for research variables showed that in respondents' opinion the level of perceived risk was the most important factor and the variables of access speed and self-efficacy were in the next ranks.

Keywords: mobile banking, customer's decision, SMS services, governmental banks, Rasht City.

INTRODUCTION

Banking industry is intensely based on information. The customers need careful information of their accounts and wish to access this information simply

[Hoppe et al. 2001]. For attaining this aim and also confronting the heavy and increasing pressure of costs and at the same time profit making in comparative conditions, banks are forced to provide services through new channels [Hernandez et al. 2006].

Electronic banking includes all electronic channels, which the customers use for access to their accounts and transfer of sum between accounts or payment of bills. These channels include internet, mobile, telephone, digital television and ATMs [Lu et al. 2003]. One of the most important applications of mobile banking is SMS banking, which has been one of the first applications of mobile phone in banking because of some reasons such as ease of access and use and also use without any especial software or hardware. With a view to importance of the case, no research has been done on it. Recognition of the factors, which cause the customer's intention to use a modern technology such as mobile banking services through SMS, is important, because, recognition of these factors, help the bankers to apply their marketing strategies for promotion of the new forms of electronic banking systems.

Mobile banking was propounded and presented in Europe since 1992 and was used in 1999 with entry of WAP (wireless Application Protocol). Gu et al. [2009] investigated the factors determining behavioral intention for application of mobile banking in Woore Bank of South Korea. The results showed that usefulness, trust and ease of use have positive effect on behavioral intention of mobile banking application. Gu et al. [2009] and Lee [2009] announced that perception of the factors affecting on trust and satisfaction of mobile banking in Korea includes system quality and information quality, which depend on customer's trust in and satisfaction with mobile banking.

Hoppe et al. [2001] investigated the effects of the factors influencing on acceptance of internet banking in South Africa they used Tan and Theo's model [2000] [Hoppe et al. 2001]. Movahedi [2003] proposed a model for technology acceptance [Movahedi 2003] . The aim of this research is recognition and investigation of priorities of the factors influencing on customers' decisions to use of cell phone banking based on SMS services.

LITERATURE REVIEW

Current arena is the period of accelerated and unpredictable evolutions and companies confront with the most difficult and unprecedented competition conditions due to existence of such factors like uncertain boundaries among markets , more fragmentation of markets , shortened product consumption period, accelerated variation of customers purchasing paradigms and customers being more expert [Wong and Shohal 2002].

With the continued growth of the mobile phone as a viable advertising medium [Herbjørn et al. 2005, Jayawardhena et al. 2009, Kavassalis et al. 2003, Precourt 2009]. It has become increasingly essential for researchers and advertisers

to understand how and to what extent mobile advertisements impact on consumers' mindsets. Despite a proliferation of research on mobile advertising [Okazaki 2005], very few studies have looked at the extent to which long-standing, validated theoretical advertising models remain relevant in the mobile context. Drawing on this observation, we set out to examine how mobile advertising in the form of text messaging (Short Messaging Service or SMS) affects the recipients' attitudes towards the ad (Aad), towards the brand (Ab), and, ultimately, their purchase intentions (PI). Traditional advertising research postulates strong direct and indirect links between Aad, Ab, and PI [Sarmad et al. 2002]. More specifically, Aid as "a predisposition to respond in favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion" [MacKenzie, Lutz 1989] is known to affect Ab, which is "a relatively enduring, one-dimensional summary evaluation of the brand that presumably energizes behavior" [Spears, Singh 2004]. In turn, an influences consumer' purchase intentions (PI), that is, their decision plans to buy a particular product or brand created through a choice/decision process [Taleghani 2006].

However, such relationships may be substantially affected by the characteristics of new marketing media, such as Internet advertising, especially when these differ significantly from their predecessors. This is certainly the case with SMS advertising (and mobile advertising in general), where we can distinguish at least two main such differentiating characteristics, especially when taken in combination: interactivity and location awareness.

MATERIALS AND METHODS

In this research sampling method is share non-accidental (non probable). In this method, sampling is performed according to the population volume and after determination of groups and volumes or their share; the researcher finds and selects the qualified persons for sampling from everywhere [Mirzaei 2010] .

Therefore in this research, the researcher with consideration of expense and time selected the Rasht city, in the first stage of sampling and then with a view to the number of bank branches in this city, selected the testing objects.

The statistical population was considered as unlimited and the following formula was used for determination of the number of samples. Work method was as follows:

First 30 questionnaires were distributed for measurement of alpha and determination of variance of the final dependent variable. The results are as follows:

$$n = \frac{z_{\alpha/2}^2 S_x^2}{e^2}$$

n = number of samples

$z^2_{\alpha/2}$ = the surface corresponding to standard normal distribution with α = 0.05

S^2_x = standard deviation of the primary sample for the considered variable

e^2 = error rate

α = error level (recognition)

The sample volume is 437 individuals. For obtaining more information about 600 questionnaires were distributed and 411 questionnaires were received that with consideration of returning rate of 68.5 % is relatively proper.

In this research for determination of questionnaire reliability with stress on internal similarity of questions, Chronbakh Alpha method was used. First a primary sample including 30 questionnaires was tested. The results are mentioned in the following table.

The variables investigated in this research included: speed, mobility access, propaganda, direction, adoption, self-efficacy, perceived cost, perceived risk, perceived usefulness, perceived ease of use and intention to use.

In this research for investigation of the structural model Visual PLS 1.04 software and for investigation of the descriptive specifications of research variables, SPSS 18 Software will be used.

RESULTS

Validity or credibility of the answer to this questions that measuring to what extent the desired trait measures [Sarmad et al. 2002]. In the survey questionnaire to determine if the data needed to test the research hypotheses can gather, the views of faculty advisors are used.

Table 1. Chronbakh Alpha Rate of the research variables

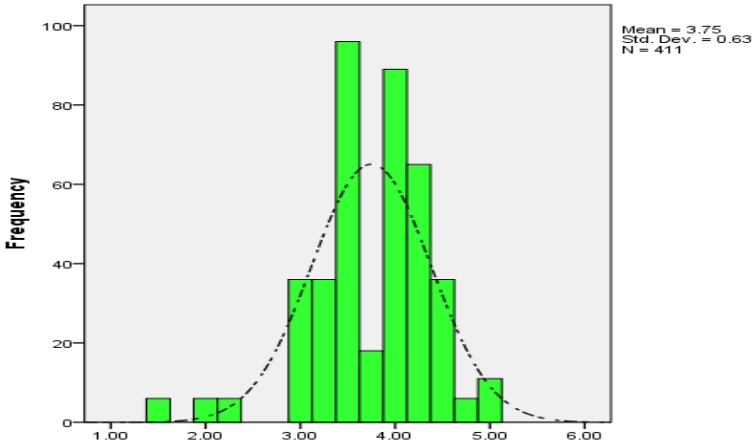
Variable	Number of questions	Chronbakh Alpha rate
Speed	3	91.1%
Mobility access	2	79.8%
Propaganda	2	85.8%
Direction	2	71.8%
Adoption	3	81.7%
Self-efficacy	6	93.2%
Perceived cost	3	76.2%
Perceived risk	3	87.2%
Perceived usefulness	2	83.3%
Perceived ease of use	4	92.4%
Intention to use	3	90.5%

Source: own calculations

To determine the reliability of the final distribution of a preliminary study by distributing questionnaires among 40 customers of banks, and then through the SPSS software, Chronbakh alpha coefficient was calculated over the value of is 84.8 percent. So we can say that the questionnaire has suitable and good reliability. (Table 1)

First rates of variables were obtained on the basis of the data and the information extracted from questionnaires. Then description of the obtained information is mentioned in the descriptive statistical charts as follows:

Figure 1: Histogram of the variable of speed



Source: own preparation

Figure 2: Histogram of the variable of mobility access

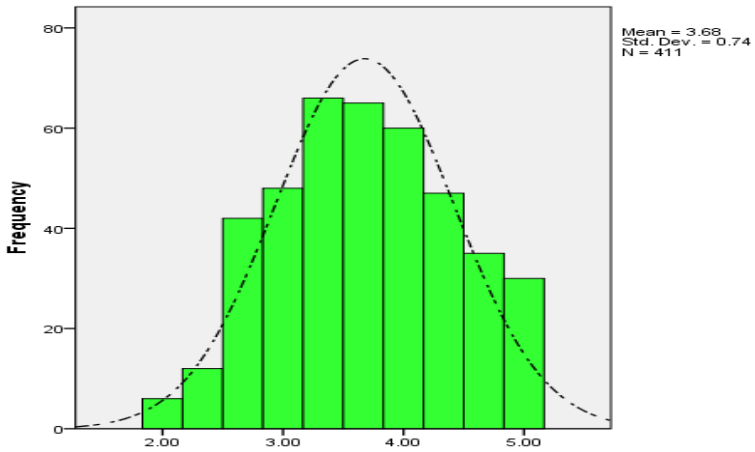


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Figure 3. Histogram of the variable of propaganda

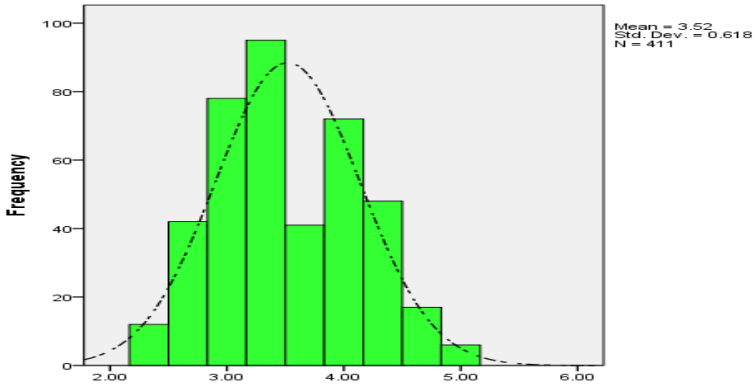

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Figure 4. Histogram of the variable of advanced instructions

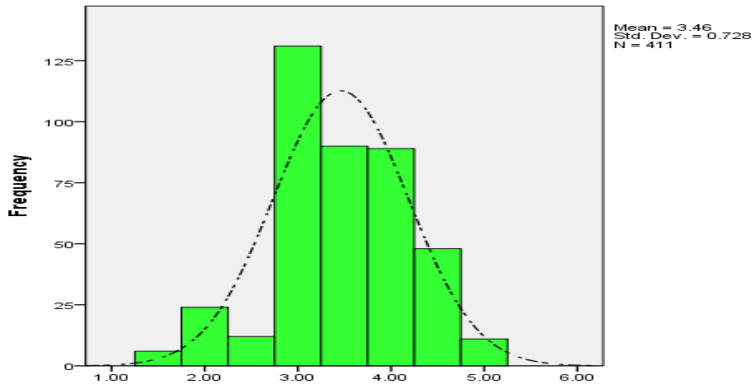

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Figure 5. Histogram of the variable of self-efficacy

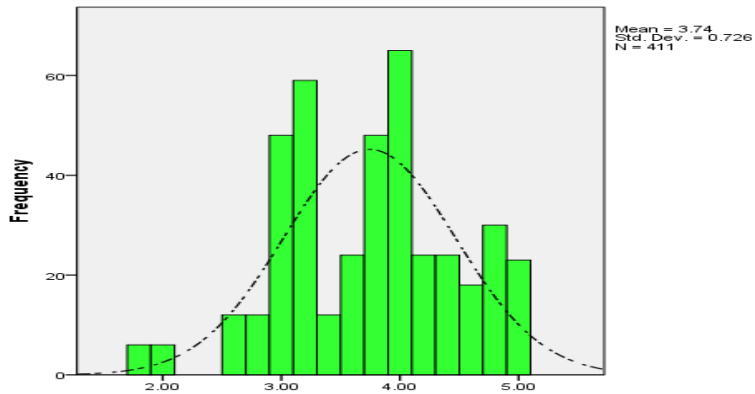

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Figure 6. Histogram of the variable of adoption.

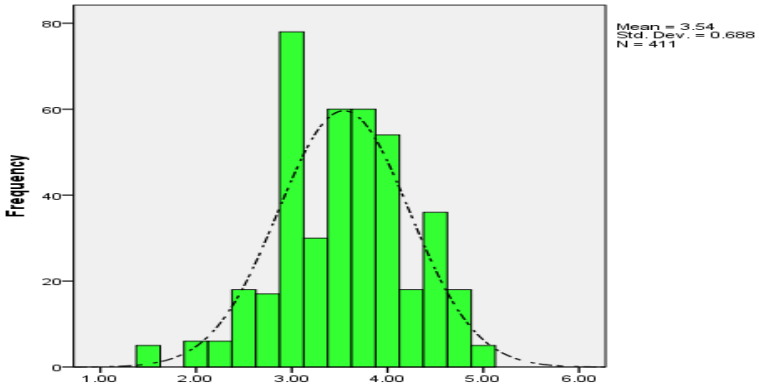

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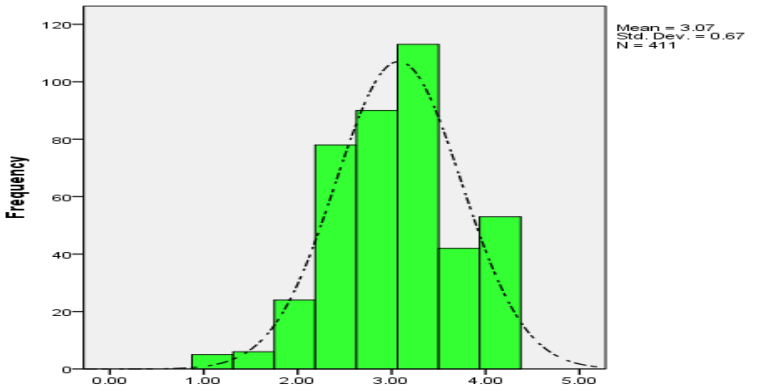
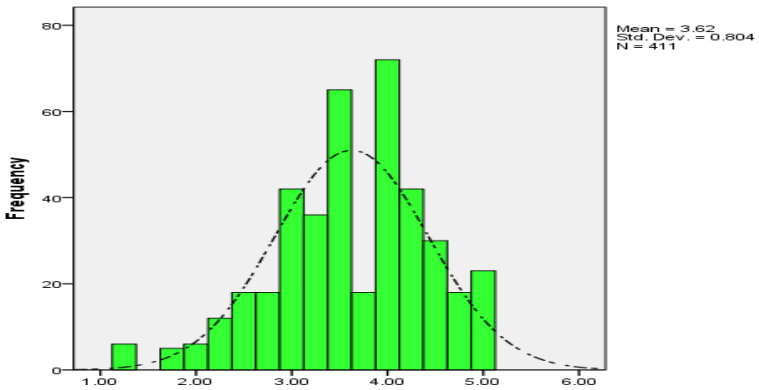
Figure 7. Histogram of the variable of perceived cost.



Source: own preparation

Figure 8. Histogram of the variable of cost- perceived ease of use.



Source: own preparation

Figure 9. Histogram of the variable of cost- perceived usefulness.

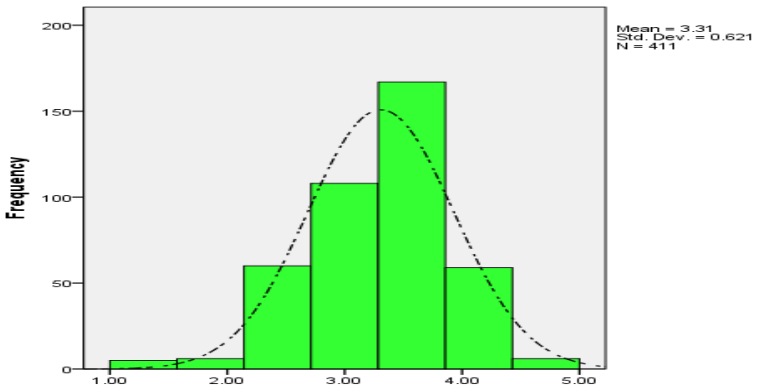


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Figure 10. Histogram of the variable of cost- perceived risk.

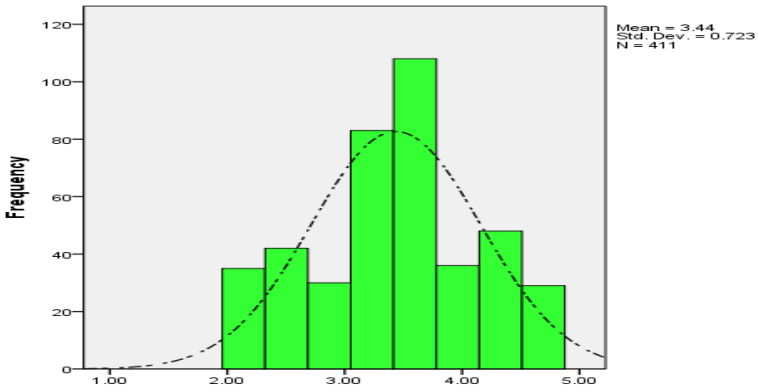

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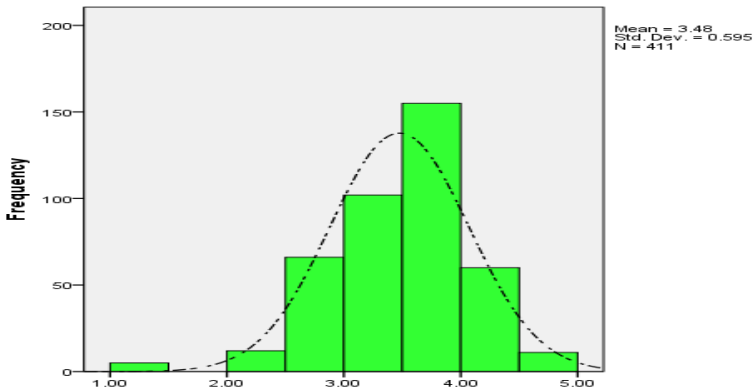
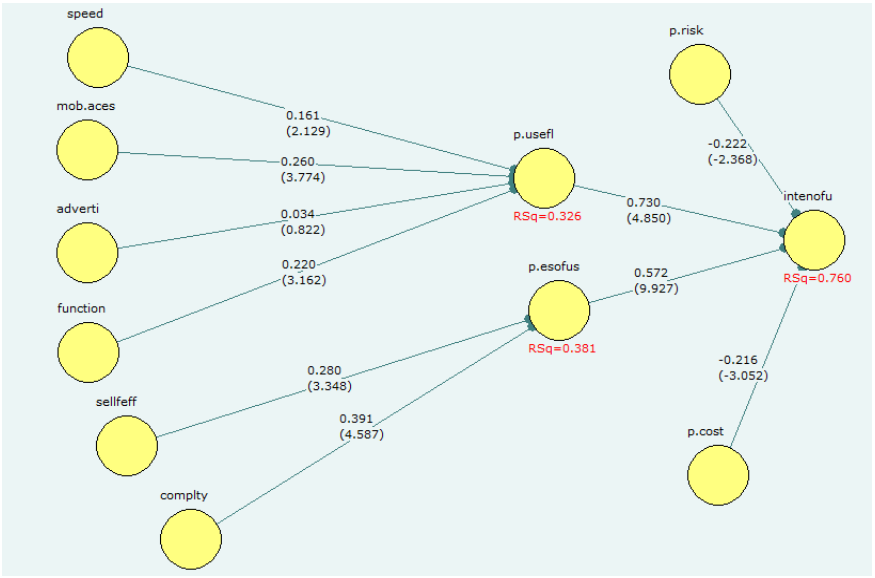
Figure 11. Histogram of the variable of intention to use.



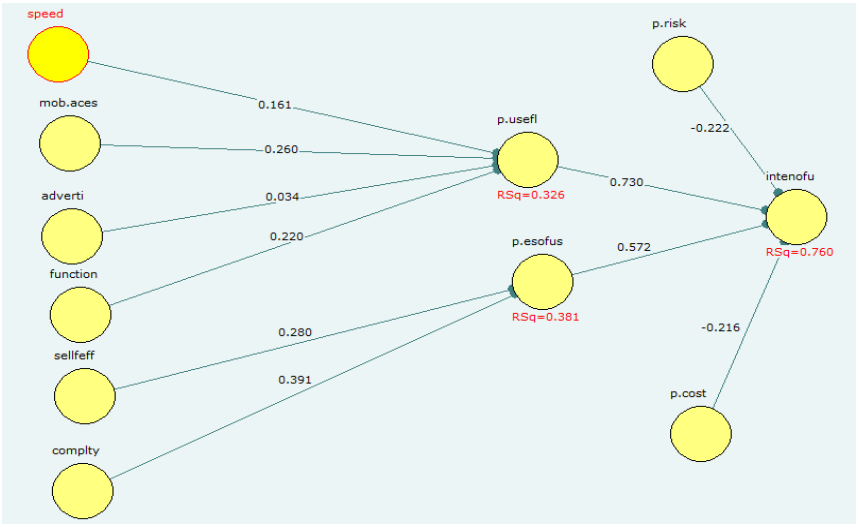
Source: own preparation

Figure 12. Model in the status of bootstrap meaningful numbers



Source: own preparation

Figure 13. Model in standard coefficient status



Source: own preparation

With a view to R Square rate we can say than the four variables of customers' perceived ease of use of mobile banking services, customers'

perceived usefulness of mobile banking services, perceived risk and perceived cost generally can forecast about 76 percent of the variable of intention to use mobile banking services. With a view to Freedman test, priority of variables is as follows:

Table 2. Variables' Ranking

Variable	Ranks Average
Perceived risk	6.93
Speed	6.76
Self-efficacy	6.65
Perceived usefulness	6.37
Mobility access	6.27
Perceived ease of use	6.09
Adoption	5.72
Propaganda	5.32
Advanced directions	5.14
Perceived cost	3.66

Source: own calculations

CONCLUSIONS

Speed, mobility access, advanced directions, self-efficacy, adoption, usefulness and ease of use of these services have positive effects on customers' perceptions in mobile banking services (SMS) [Taleghani 2006]. Gu et al [2009] and Chung and Lee [2009] evaluated the mentioned factors in use of banking services as positive. Propaganda, perceived cost and perceived risk have negative effect on customers' intention for use of mobile banking services (SMS).

Establishment of priorities for research variables showed that in respondents' opinion perceived risk rate was the most important factor and the variables of speed and self-efficacy were in the next ranks. (Table 2) Also with a view to the obtained model it was observed that the four variables of customers' perceived ease of use of mobile banking services, customers' perceived usefulness of mobile banking services, perceived risk and perceived cost generally can forecast about 76 percent of the intention to use mobile banking services. (Figure 13).

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