

## The comparison survey of customers' perceived risk in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank

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**Abstract**—In the last decade, one of the significant issues within the banking system and marketing management is the notion of consumers' perception of risk. The purpose of this study is to investigate the comparison of customers' perception of risk in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. For this purpose, the dimension of risk perception is based on a combination theory of Peter and Tarpey. For testing hypothesis, a questionnaire containing 32 questions was prepared and after evaluating validity and reliability, it was distributed among 360 customers that were the statistical sample. The method of this research was descriptive-deductive. The results of the survey were analyzed by Paired T- test. Results indicate that there is a meaningful difference between customers' risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, there is a meaningful difference between customers' physical, performance, financial and time-consuming perception of risk in E-banking process and traditional banking process. In addition, the results show that there is no meaningful difference between customers' psycho-sociological perception of risk in E-banking process and traditional banking process. For enrich E-banking process, banks should improve communication links, increase customers' personal privacy. Also, they should improve E-banking culture among customers and increase the efficiency of ATM machines.

**Key Words:** *Perceived Risk, Risk, and E-banking.*

### I. INTRODUCTION

The technological revolution has reshaped the socio-technical interaction between banking service providers and consumers and has created more opportunities for service consumption, as customers' traditional branches, more receptive to new electronic channels, and have become less willing to visit more sophisticated in demanding better service quality including 24-hour service availability [15]. In the extended domain of E-banking, previous studies have attempted to examine the demographic characteristics of consumers and to find the market segments for E-banking

adopters and non-adopters. Age, gender, education, and income level have been studied [21]. Banks have dispersed from traditional centers those activities involving frequent routine, standardized, and small-scale transactions. At the same time, banks have kept in the international financial centers those activities involving innovative, customized, and large-scale transactions [2]. The current banking crisis is already widely regarded as among the most severe since the Great Depression [4]. Banks have long been suggested to be effective monitors of managerial behavior and their relationships with clients put them in a position to renegotiate credit agreements at early signs of financial distress [11]. Frequently, compensation systems in the banking industry have been blamed for causing or at least contributing to the build-up of risks that led to the eruption of the recent credit crisis [3].

Humans perceive and act on risk in two fundamental ways. Risk as feelings refers to individuals' instinctive and intuitive reactions to danger. Risk as analysis brings logic, reason, and scientific deliberation to bear on risk management [16]. Risk perception is the subjective assessment of the probability of experiencing a negative event [8].

In 1960, Bauer a noted consumer behaviorists introduced the notion of perceived risk. When he provided this perspective: Consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which are likely to be unpleasant [20]. Then, he defined perceived risk as a combination of uncertainty plus seriousness of outcome involved [17].

Cox and Rich (1964) provided a more precise definition of perceived risk; it is a function of consequences (the dollar at risk from the purchase decision) and uncertainty (the person's feeling of subjective uncertainty that he or she could gain or lose from the transaction). Stone and Gronhaug (1993), make the argument that the marketing discipline mainly focuses on investigating the potential negative outcomes of perceived risk. This focus on the negative side

of risk is similar to the area of behavioral finance in which scholars examine downside risk, the potential for below target returns, or the possibility of catastrophic loss. In addition, Jacoby and Kaplan (1972) and Tarpey and Peter (1975) developed six components or dimensions of perceived risk including: financial, product performance, social, psychological, physical, and time/convenience loss [6, 9, 12, and 19].

Weber (2003) has offered the following perspective of risk perception: First, perceived risk appears to be subjective and, in its subjectivity, casual. That is, people's behavior is mediated by the perceptions of risk. Secondly, risk perception, like all other perception, is relative. We seem to be hardwired for relative rather than absolute evaluation. Relative judgments require comparisons, so many of our judgments are comparative in nature even in situations where economic rationality would ask for absolute judgment. Closer attention to the regularities between objective events and subjective sensation and perception well documented within the discipline of psychophysics may provide additional insights for the modeling of economic judgments and choice [7].

MacCrimmon and Wehrung (1986) from the field of management define perceived risk into 3 main groupings: 1) the amount of the loss, 2) the possibility of loss, and 3) the exposure to loss [10].

Studies carried out previously have shown cross-cultural differences related to risk perception. Goszczynska et al. (1991) showed that there was greater variance in risk perception between countries than between different regions in one country. This may be due to cultural differences related to how people perceive different risk sources. Differences in the tendency to rate risks as high or low might be related to the size of the country [14].

Slovic et al. (1982) suggested that risk perception is likely to vary between cultures depending on what the media chose to focus on. Wählberg and Sjøberg (2000) argued that media might have an effect on risk perception via availability. Information is thought to lead to stronger effects [8].

Culture forms the background which not only allows cognitive mechanisms to work, but also addresses preliminarily the selection of the risks. According to this view, rather than being a creation of the cognitive processes, the risk is a product of the social and cultural structures within which it is placed. The point is that the line dividing the risks in acceptable and unacceptable is traced according to cultural evaluations. It is the degree by which the cultural values fundamental for that society are posed in danger which determines whether the risk can be considered acceptable [13].

#### Risk facets Definition

**Physical risk:** The risk to the buyer's or other's safety in using products.

**Performance risk:** The possibility of the product malfunctioning and not performing as it was designed and advertised and therefore failing to deliver the desired benefits.

**Psycho-sociological risk:** The risk that the service will lower the consumer's self image or using a product or service may lead to embarrassment before one's social group.

**Financial risk:** The potential monetary outlay associated with the initial purchase price as well as the subsequent maintenance cost of the product. The current financial services research context expands this facet to include the recurring potential for financial loss due to fraud.

**Time-consuming risk:** Consumers may lose time when making a bad purchasing decision by wasting time researching and making the purchase, learning how to use a product or service only to have to replace it if it does not perform to expectations [21].

## II. RESEARCH METHODOLOGY

The method of this research is descriptive-deductive. The research sample consisted of 360 subjects who were chosen through simple random sampling method. For testing hypothesis, a questionnaire containing 32 questions was prepared and after evaluating validity and reliability, it was distributed among 360 customers that were statistical sample. The results of the survey were analyzed by Paired T- test. The questionnaire included two sections. The first section which was coded by alphabetic letters was controlled by variables such as gender, age, marital status and education. The second section to test the study hypothesis has been set in two parts. The first part included 12 questions related to traditional banking process and the second part included 20 questions related to Electronic banking process. All these questions were measured using five-point Likert scales. For measuring the validity of the questionnaire, we used content validity. For this purpose, the questionnaire provided for 7 management professors. The content validity of the questionnaire was 0.77. For measuring reliability of questionnaire, we used Cronbachs Alpha whose value was 0.79.

## III. DATA ANALYSIS

In order to analyze data descriptive statistical methods and paired t-test was used. The normality of data was tested by Kolmogorov-Smirnov test.

**Hypothesis 1:** There is a meaningful difference between customers' risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 1.

TABLE 1

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
Total risk perception	0.2134	0.70842	0.03734	5.716	359	0.000

As shown in table 1, this hypothesis in 95% confidence interval is supported ( $p < 0.05$ ,  $t = 5.716$ ). In other words, there is a meaningful difference between customers' risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, the mean of customers' risk perception in E-banking process is 3.3472 and in traditional banking process is 3.1338. then, customers' risk perception in E-banking process is more than traditional banking process.

**Hypothesis 2:** There is a meaningful difference between customers' physical risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 2.

TABLE 2

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>physical risk perception</b>	0.5267	1.18235	0.06266	8.405	355	0.000

As shown in table 2, this hypothesis in 95% confidence interval is supported ( $p < 0.05$ ,  $t = 8.405$ ). In other words, there is a meaningful difference between customers' physical risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, the mean of customers' physical risk perception in E-banking process is 3.1108 and in traditional banking process is 2.5843. then, customers' physical risk perception in E-banking process is more than traditional banking process.

**Hypothesis 3:** There is a meaningful difference between customers' performance risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 3.

TABLE 3

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>Performance risk perception</b>	-0.480	1.11102	0.05888	-8.161	355	0.000

As shown in table 3, this hypothesis in 95% confidence interval is supported ( $p < 0.05$ ,  $t = 8.161$ ). In other words, there is a meaningful difference between customers' performance risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, the mean of customers' performance risk perception in E-banking process is 3.1059 and in traditional banking process is 3.5810. then, customers' performance risk perception in traditional process is more than E-banking banking process.

**Hypothesis 4:** There is a meaningful difference between customers' psycho-sociological risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 4.

TABLE 4

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>Psycho-sociological risk perception</b>	-0.068	1.09546	0.05790	-1.178	357	0.240

As shown in table 4, this hypothesis in 95% confidence interval is not supported ( $p > 0.05$ ,  $t = 1.178$ ). In other words,

there is not a meaningful difference between customers' psycho-sociological risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank.

**Hypothesis 5:** There is a meaningful difference between customers' financial risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 5.

TABLE 5

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>Financial risk perception</b>	0.2623	1.38046	0.07358	3.565	351	0.000

As shown in table 3, this hypothesis in 95% confidence interval is supported ( $p < 0.05$ ,  $t = 3.565$ ). In other words, there is a meaningful difference between customers' performance risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, the mean of customers' performance risk perception in E-banking process is 3.5132 and in traditional banking process is 3.2430. then, customers' performance risk perception in traditional process is more than E-banking banking process.

**hypothesis 6:** There is a meaningful difference between customers' time- consuming risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, for testing this hypothesis paired t-test was used. The results are showed in Table 6.

TABLE 6

	Mean	Std. Deviation	Std. Error Mean	t	df	Sig
<b>Time risk perception</b>	0.8395	1.22102	0.06508	12.899	351	0.000

As shown in table 6, this hypothesis in 95% confidence interval is supported ( $p < 0.05$ ,  $t = 12.899$ ). In other words, there was a meaningful difference between customers' time-consuming risk perception in E-banking process and traditional banking process in the branches of Tabriz Karafarin bank. Also, the mean of customers' time-consuming risk perception in E-banking process is 3.6360 and in traditional banking process is 2.7933. then, customers' time- consuming risk perception in E-banking process is more than traditional banking process.

#### IV. CONCLUSION

The results of this research indicate: Hypothesis 1, there is a meaningful difference between customers' risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, is supported. Hypothesis 2, there is a meaningful difference between customers' physical risk perception in traditional banking process and E-banking process in the branches of

Tabriz Karafarin bank, is supported, too. This research suggests that one of the reasons which raises customers' risk perception of E-banking process, is slow connections and malfunction of telecommunication services, especially during the time before Christmas and employees' salary pay time. These reasons reduce customers' confidence and satisfaction. Hypothesis 3, there is a meaningful difference between customers' performance risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, is supported, too. Customers' Personal Privacy is very important in the electronic banking process. Therefore, Electronic security systems in banks should be increased. According to the low technology of ATM machines, banks can update these systems by improving technological infrastructure and reducing the losses that result from improper performance of these machines. Hypothesis 4, there is a meaningful difference between customers' psycho-sociological risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, is not supported. Hypothesis 5, there is a meaningful difference between customers' financial risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, is supported. These results may imply that those who believe electronic services are useful and perceive lower potential risks in financial transactions will tend to embrace this service sooner [21]. Hypothesis 6, there is a meaningful difference between customers' time-consuming risk perception in traditional banking process and E-banking process in the branches of Tabriz Karafarin bank, is supported. We suspect that cultural factors might also affect the acceptance of E-banking process across nations [21]. Also, banks should purchase insurance because it potentially reduces: the costs associated with conflicts of interest between owners and customers, expected bankruptcy costs and the tax burden of banks [18]. Because larger banks face greater demand for their services, they are more likely to find that adoption of Internet banking provides sufficient cost savings to be justifiable from a profitability perspective [5]. E-banking, which would enable transaction cost reduction and increase in outreach to enable poor unbanked people to access micro financial services [1].

## V. SUGGESTIONS

In this research suggestions are provided for two purposes:

### **First. Suggestions relate to research results:**

Considering the research results, it is shown that customers' risk perception of E-banking process is more than traditional banking process. The lower the customers' risk perception, the higher the productivity and the lower the financial losses rates. For this purpose, the following suggestions are available as the procedures to reduce the customers' perceived risk of E-banking process.

Suggestion 1: Banks need to improve communication links, for this purpose they can improve the status of the network infrastructure, use the special telecommunication systems and update the technological communicational network. Suggestion 2. Banks can increase customers'

personal privacy by enhancing security system of banks and train customers to use the system correctly. Suggestion 3. In order to increase the efficiency of ATM machines banks should regularly check devices to ensure their safety and cash. Suggestion 4. Banks have to reduce the lines and communication networks and internet failure by developing infrastructure network communication and creating new communication technologies in the banking system. Suggestion 5. In order to improve E-banking culture, banks have to instruct the customers how to use electronic services efficiently. They should also advertise E-banking services through media and familiarize customers with the new electronic services.

### **Second: Suggestions for future researchers:**

In this study, the dimension of risk perception is based on the combination theory of Peter and Tarpey. But, future researchers are suggested studying other theories, too. Also, researchers can study either in other banks or in the branches in other provinces.

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