

A Model for E-banking Trust In Iran's Banking Industry

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ABSTRACT

One of the crucial factors affecting success of e-banking services is customer's trust. Acquiring customer trust depends on different variables that an e-banking struggles to control. This research aims to explain and clarify the inter-relationships and the interaction effects among customer's online trust and other relevant factors such as satisfaction and loyalty in e-banking. We developed a model of customer's trust in e-banking industry based on the outcomes of previous researches and semi-structured interviews with experts in e-banking services. To examine the model a descriptive survey was applied. The survey sample population consisted of 405 randomly taken e-banking service users in the city of Tehran, according to a cluster random sampling skim. An important part of the results revealed Trust beliefs relate directly with satisfaction and loyalty among e-banking customers.

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1. Introduction

The continuous rapid growth of online retailing implies that e-commerce has become a common medium for businesses to generate revenue [1]. Mean while internet access among people in nearly all parts of the world rapidly continues to grow.

Since the Internet is a new distribution channel with enormous potential, there is a strong need to explore the impact of trust on online services in business, commerce and banking as well as to explore the factors influencing consumer's trust.

The success of electronic commerce is determined in part by whether consumers trust sellers and their commodities they cannot see, touch or examine. Without trust, it is difficult to imagine a transactional relationship could be developed or maintained [2].

Trust helps to ensure that one party will not take advantage of the vulnerability of the other during or after a transaction.

Lack of consumer's trust is a critical obstacle to the success of transactions [3].

Privatization, globalization and fast deregulation constantly create new challenges in Iran's commerce and banking activities. Banking industry scenario in Iran has recently been reviewed to cope with emerging tremendous demand for more effective banking services. Experts in banking industry believe providing e-banking services can help to overcome some of the difficulties. But e-business growth in our country is relatively slow. Lack of customer's trust has its own share in the slowness. The fact that makes worthy to study on customer's trust in e-banking services. *This study investigates consumer's trust attitude and Satisfaction towards online services in banking industry. Before analyzing the hypothesis and a designed conceptual model for customer's trust in Iranian banking industry, we began to review the existing literature on trust dimensions and some specified developed models.

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2. The Concept of Trust

Trust is a quite challenging concept to define, because it manifests itself in many different forms [4]. Most researchers have defined trust according to their specific disciplinary worldview. Psychologists define trust as a tendency to trust others. Social psychologists define trust as cognition about the trustier. Sociologists define trust as a characteristic of the institutional environment. Many variants of the above types exist, including a significant number in e-commerce research [5].

We first need to form a clear idea of just what trust is. Literature that fails to take this step often ends up causing further confusion and debate amongst researchers rather than adding to the knowledge base. The lack of a widely accepted definition has been highlighted by numerous researchers [6], but most clearly in Hosmer (1995), where it was stated that "there appears to be widespread agreement on the importance of trust in human conduct, but unfortunately there also appears to be equally widespread lack of agreement on a suitable definition of the concept".

*The aim of this study focuses solely on the consumer's perceptions of online trust in the electronic commerce environment between the consumer and the online vendor. The focus is on developing a framework to explain online trust that can be used in electronic commerce (individual buyer) contexts. For this study, the definition of online trust is adapted from Mayer et al. (1995) "online trust is the willingness of a consumer to be vulnerable to the actions of an online service/store based on the expectation that the online service/store will perform a particular action important to the consumer, irrespective of their ability to monitor or control the online service/store".

This definition seems generally enough to encompass trust for almost all types of operations and transactions. It is specifying the realm and implicative meaning of the online trust in the electronic commerce context in several ways.

First, across disciplines trust is normally more discussed in an uncertain and risky environment. Also online trust is more under consideration in uncertain or vulnerable situations controlled by online stores. Second, it is assumed to be a kind of expectancy or predictability. It cannot exist without some possibility of error or failure. Third, online trust requires mutuality. There must be a trusting party (trustier) and a party to be trusted (trustee) in any trust relationship. Fourth, online trust is related to good (or nonnegative) outcomes.

3. Factors Contributing to Trust

In e-commerce contexts, the diversity in trust conceptualization is also evident [7]. Prior studies have viewed trust as (I) trust beliefs [8] or (II) trusting intentions [9, 10].

Trusting intentions: Trusting intentions means "the trustier is securely willing to depend, or intends to depend, on the trustee" [5].

Trusting Beliefs: Trusting beliefs mean the confident trustier's perception that the trustee-in this context, a specific web-based service has attributes that are beneficial to the trustier.

Three trusting beliefs are utilized most often [11]: *competence* (ability of the trustee to do what the trustier needs), *benevolence* (trustee caring and motivation to act in the trustier interests), and *Integrity* (trustee's honesty and promise keeping). Because the difference between many of the types was small, we used conceptual clustering to group them into categories. Then we picked the three that appeared most frequently and seemed most relevant (competence, benevolence and Integrity were obtained).

Loyalty: Loyalty is a historical word, rooted in feudal times when allegiance to the sovereign was fundamental to the success, perhaps even the survival of the state. The Oxford Dictionary's definition of the word "loyal" is: True or faithful (to duty, love or obligation), steadfast in allegiance, devoted to the legitimate sovereign or government of one's country.

Oliver (1999) defines brand loyalty as "a deeply held commitment to repurchase a preferred product/service consistently in the future, thereby causing repetitive purchasing of same-brand or same brand-set, despite existence of situational influences and marketing efforts, potentially enough to cause switching behavior."

In the context of e-commerce or online banking services, loyalty is most often defined simply as the intention of a consumer to repurchase products/services through a particular e-service provider.

Satisfaction: Satisfaction, according to Oliver (1997) is "the summary psychological state resulting when the emotion surrounding disconfirmed expectations are coupled with a consumer's prior feelings about the consumer experience." From his perspective, "satisfaction may be best understood as an ongoing evaluation of the surprise inherent in a product/service acquisition and/or consumption experience." In this research, e-satisfaction is defined as the contentment of the customer with respect to his or her prior purchasing experience with a given electronic commerce firm. Customer satisfaction can be divided into 7 factors [12]:

1-"Customer Support" refers to customer services, feedback, and responsiveness, which can build satisfaction for future purchases.

2-"Security" refers to the extent to which a website protects customer's transaction data and privacy from interception or misuse.

3-"Ease of Use" means the usability of a website's user interface.

4-"Digital Products/Services" includes the core item and the entire package of offerings, such as the design and quality of the digital products or services.

5-"Transaction and Payment" is characterized by the payment systems and transaction procedure offered by a web site.

6-"Information Content" involves the information quality (e.g., accuracy and relevancy) provided by the sales force or the online site.

7-"Innovation" refers to the ability of a web site to provide innovative products and timely Information.

4. Trust Models

Chen, Wang, and Jiang's study (2009) focused on the relationship between knowledge and trust. The results indicated that, the more users know about online shopping, the more they trust in online shopping; the more they trust, the more they shop online. This was a very simple and useful result. Hence, consumer education is important for electronic commerce; since consumers will not be afraid of shopping online if they know more about Internet security (See figure 1).

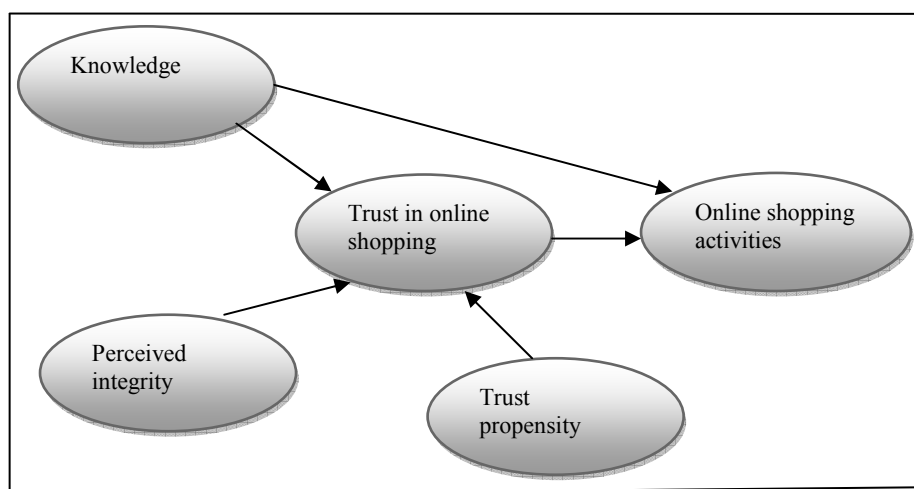


Fig. 1. Chen's trust model [2]

Sulaiman, Mohezar and Rasheed's study (2007) shows two independent variables which include trust worthiness of e-vendors and trust propensity. Distrust in e-commerce transaction is determined as the dependent variable. Perceived security control,

perceived privacy control, perceived integrity and perceived competence are four constructs proposed to measure the trustworthiness of e-vendors. Personality, cultural environment and experience on the other hand are used to measure the trust propensity (See figure 2).

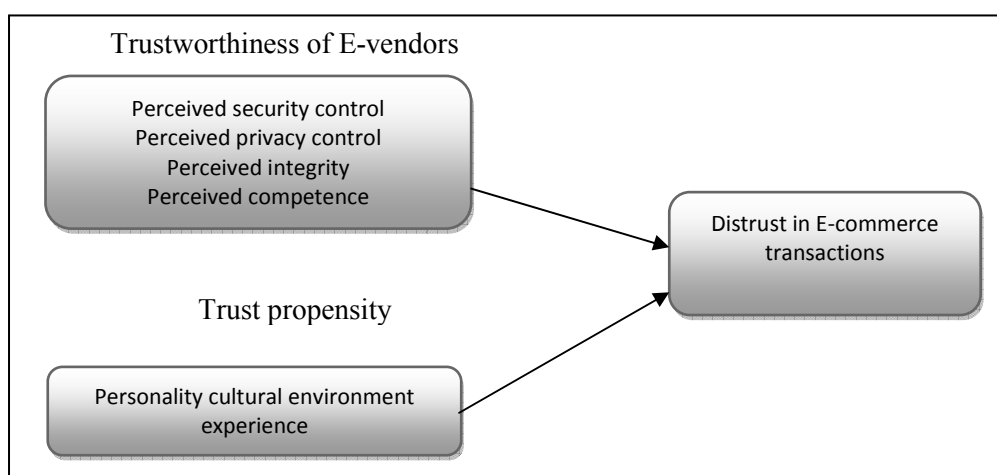


Fig. 2. Sulaiman's trust model [13]

Hsu's study (2007) elaborates two alternative modes of persuasion and explains which persuasive process is most effective for different personality types. It further

presents a useful theoretical framework that can serve as the basis for further exploration of the role of persuasion in online consumer trust (See figure 3).

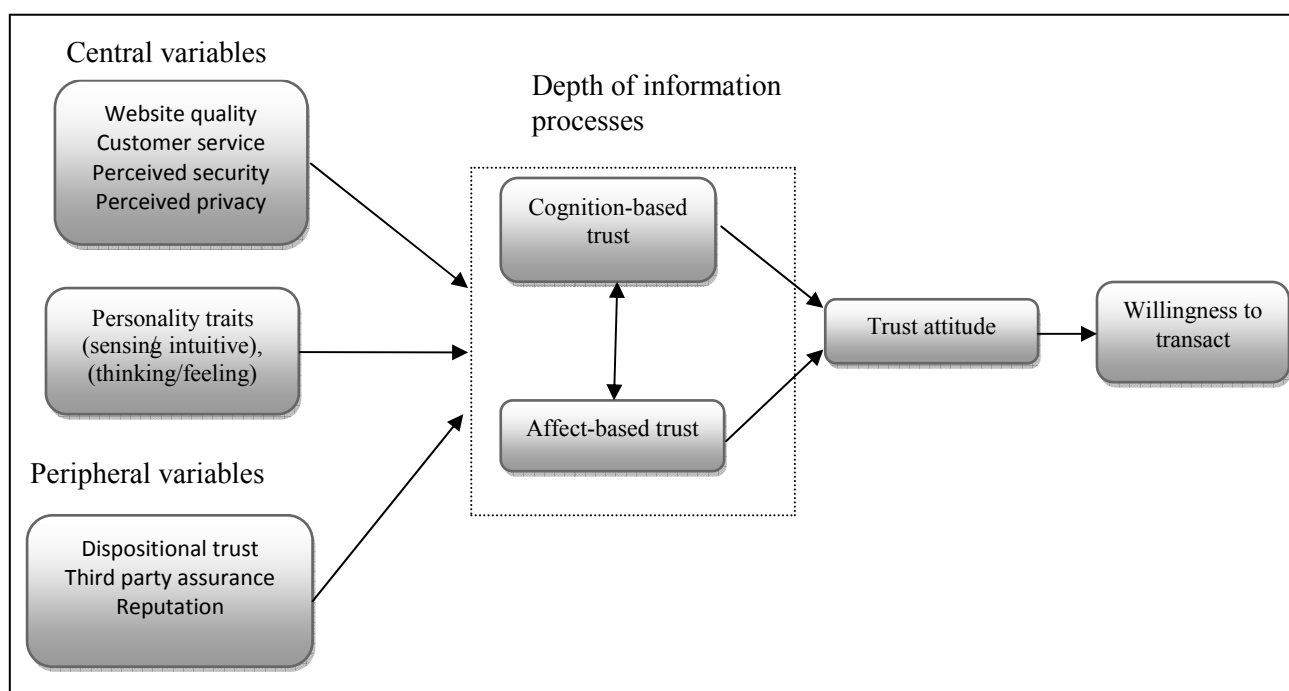


Fig. 3. Hsu's trust model [14]

Srivinasan's study (2004) shows that Trust is one of many factors that contributes to e-business success.

The key components of this trust model are the trusted seals, security and financial institutions (See figure 4).

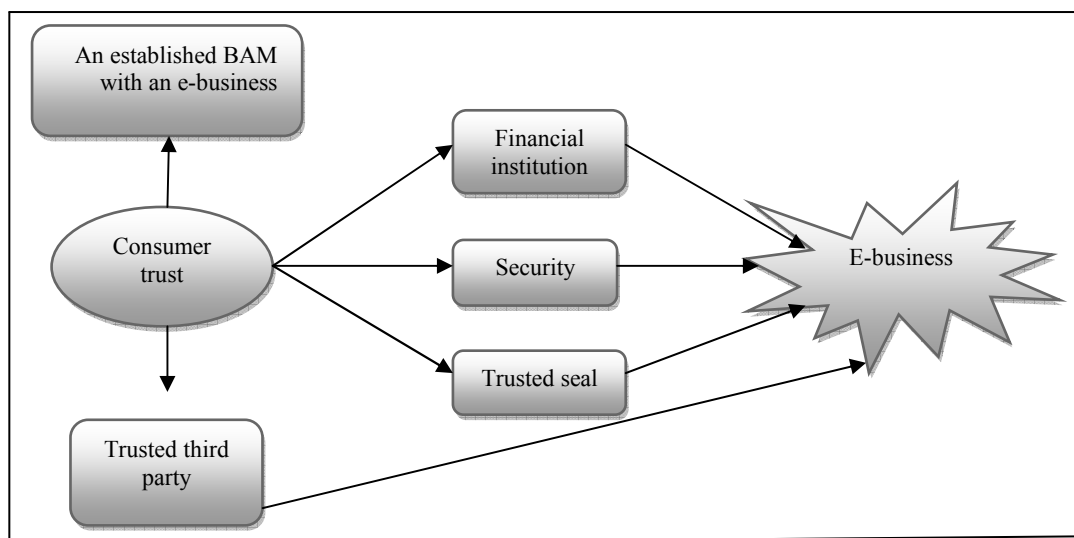


Fig. 4. Srivinasan's trust model [15]

Tan (2004) synthesis the viewpoints from across the disciplines and brings them together in a multi-dimensional trust model. From these multiple disciplines, three dimensions of trust emerged: dispositional trust, institutional trust and interpersonal trust, each bringing its own influencing factors into the overall intention to trust.

From this model emerged the notion that the consumer as an individual is central to the understanding of trust,

and in turn the individual's personality and culture form the foundation for the development of trust (See figure 5).

Laurn, Hsin-hui and Lin's study (2003) focused on the relationship between loyalty and trust. Their model shows the direct and indirect influences of customer satisfaction, trust, perceived value and attitudinal commitment on loyal behavior (repurchasing) (See figure 6).

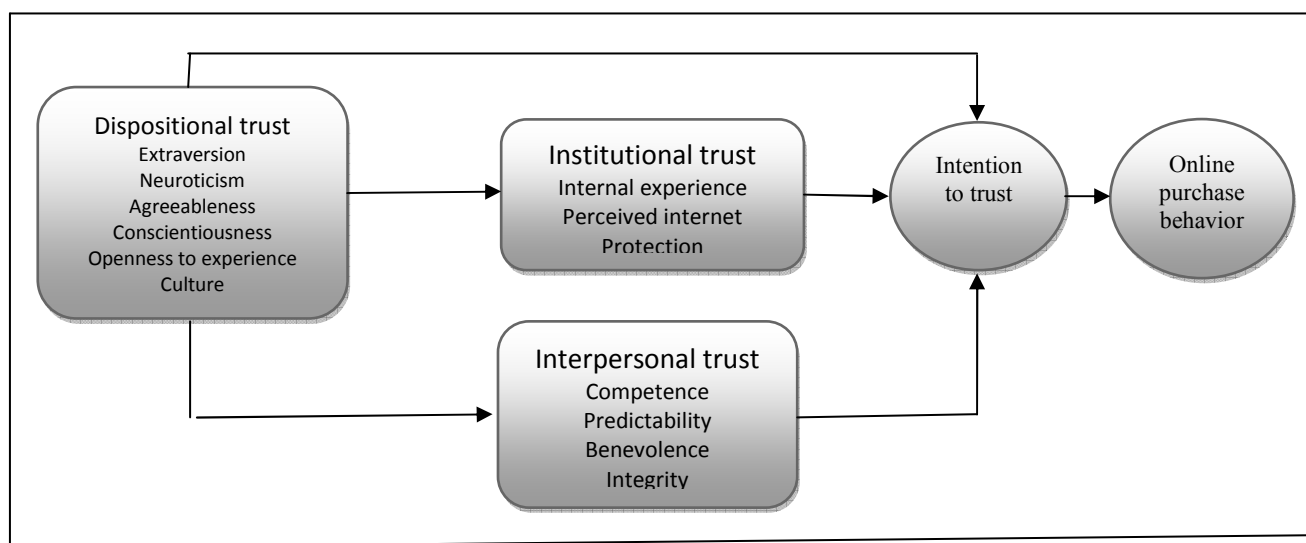


Fig. 5. Tan's trust model [16]

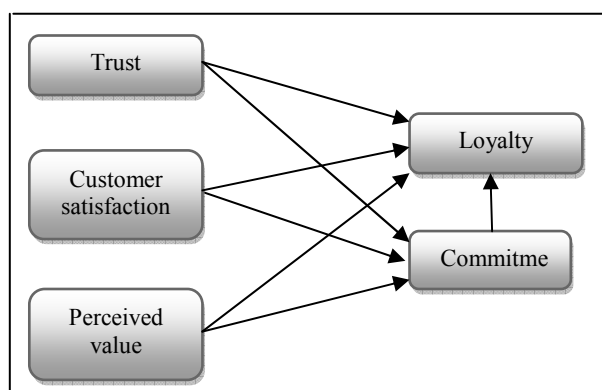


Fig. 6. Lurn's trust model [17]

McKnight, Choudhury and Kacmar (2002) build on the integrative model proposed by McKnight et al. (1998), it includes institution-based trust as well as the more common trust types—trusting intentions, trusting beliefs, and disposition to trust. They further posit institution-based trust and disposition to trust as antecedents to trusting beliefs/intentions. Their study shows that, far from being unitary, trust has many dimensions. It contributes by validating empirically the distinction among the three dimensions of competence, benevolence, and integrity, showing that e-commerce consumers gauge web vendors not in broad, sweeping terms, but in terms of specific attributes. (See figure 7)

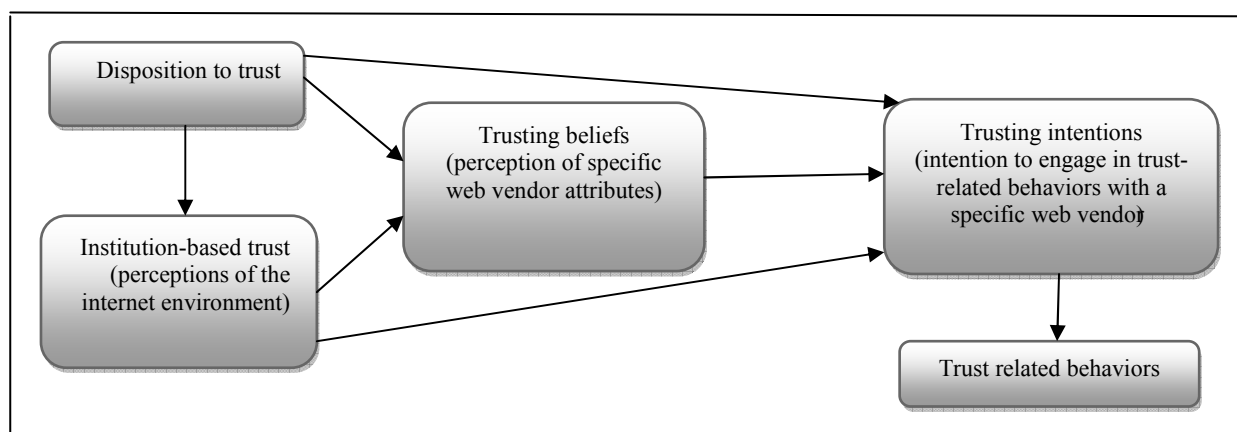


Fig. 7. McKnight's trust model [18]

Shankar, Sultan and Urban's study (2002) shows the antecedent factors could be classified into three broad groups: (1) Web site characteristics, (2) user characteristics, and (3) other factors. The other factors include such factors as the online medium and variables involving a combination of Web site and user characteristics. The consequences could be broadly grouped into three categories: (1) Intent to act, (2)

Customer satisfaction and loyalty and (3) firm performance (See figure 8).

In Callaghan and Shaw's study (2002), ethics is considered from two perspectives. The first one formalized ethics consists of the formal ethical policy of the organization as promoted through company policy, codes of ethics and codes of conduct. The second perspective, Individual Ethical Structure,

consists of the moral and ethical values and beliefs of the organization's representative (See figure 9). Figure 9 also demonstrates direct and indirect relationship

among the first perspective and the second with perceived trust.

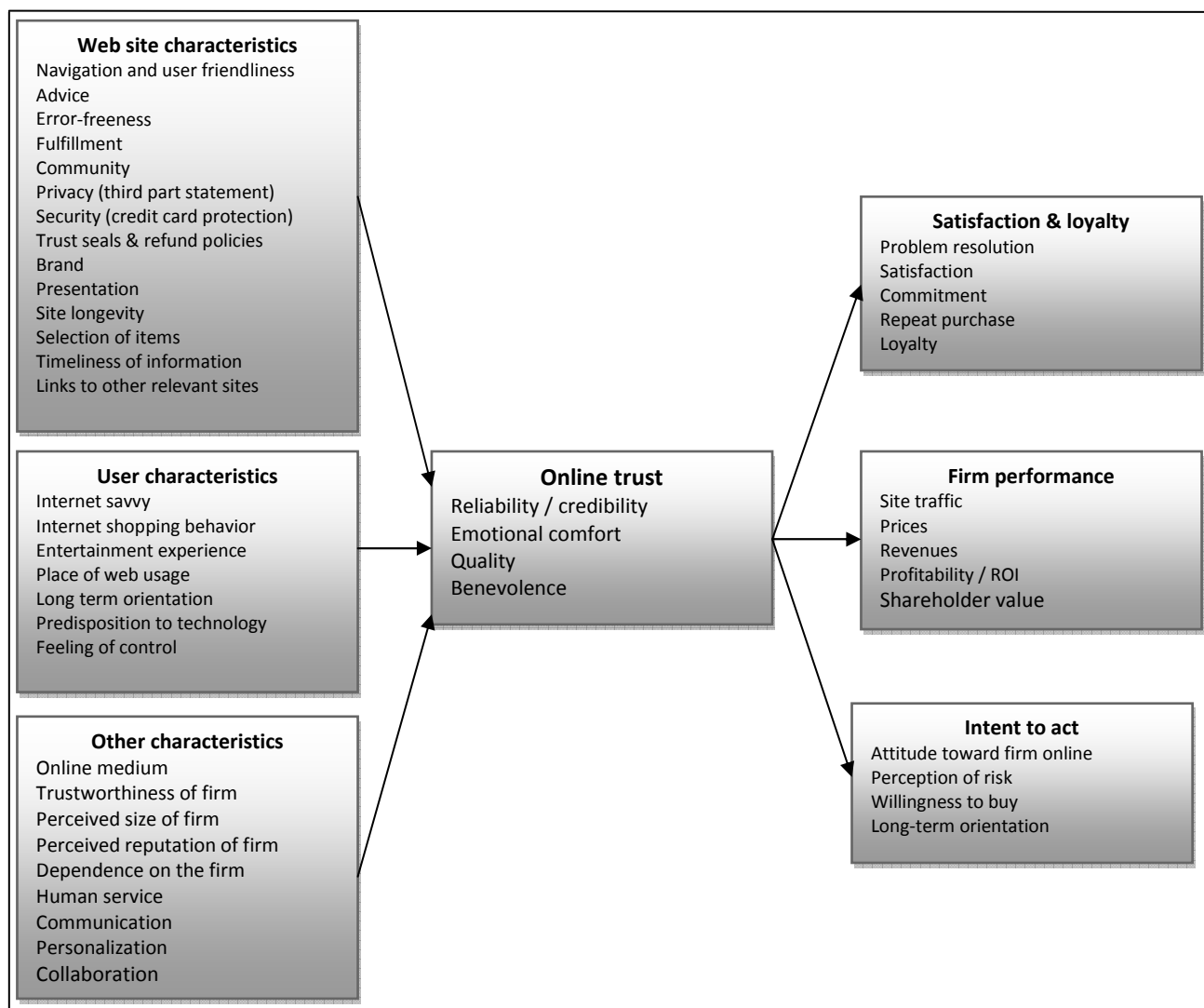


Fig. 8. Shankar's trust model [19]

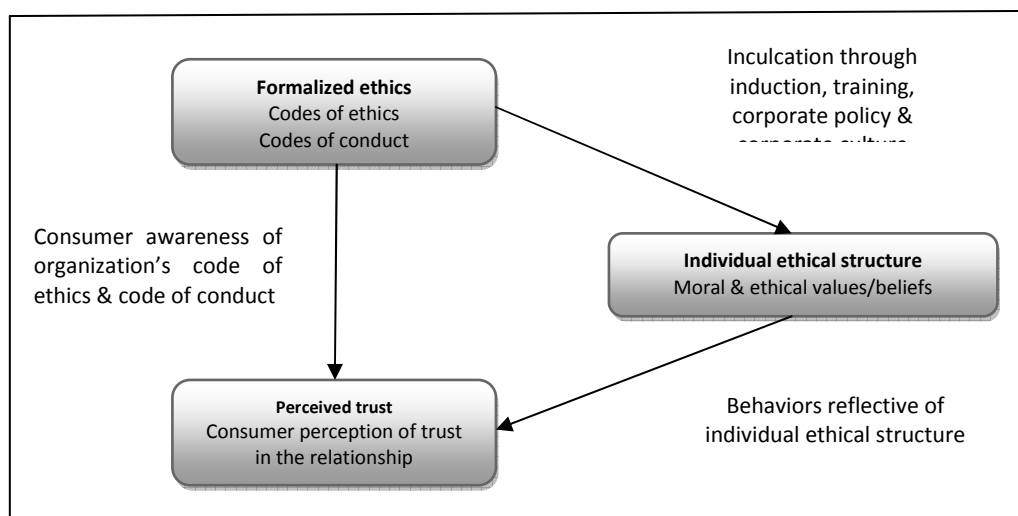


Fig. 9. Callaghan's trust model [20]

Cheung and Lee's trust model (2001) suggests that trust worthiness of e-vendor (consists of perceived security control, perceived privacy control, perceived competence and perceived integrity), external

environment (consists of third party recognition and legal framework), propensity to trust and perceived risk affect the level of trust among consumers toward internet shopping or services (See figure 10)

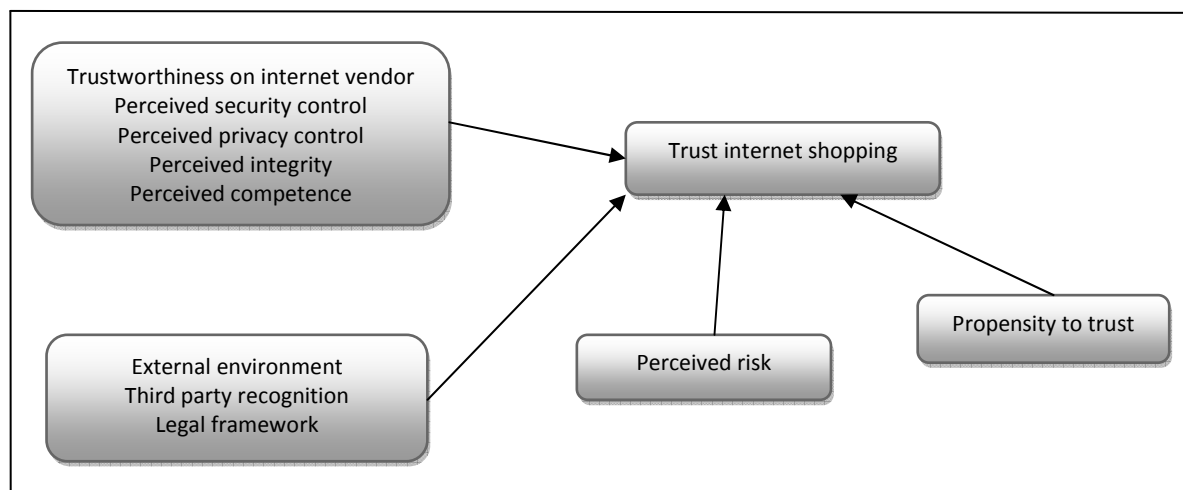


Fig. 10. Cheung's trust model [21]

5. Research Methodology

5-1. Research Factors and Measurement

Trust Factor: From the earlier parts of this article one can deduce that trust is a complicated difficult to measure factor and not a simple task to offer a comprehensive model for it. We envisage the need to translate it into a logical framework. In order to perform the analysis we focused on trusting beliefs. According to the literature (brought to you) in recent pages specially Bhattacharjee's suggestion (2002) which could be suitably fitted to e-banking services in Iran and the outcomes of eight semi structured interviews with e-commerce experts in the relevant fields, we categorized trusting beliefs into 3 variables. Table 1 shows these variables and their measuring indicator components.

Tab. 1. Trusting beliefs variables and their components

Trusting Beliefs	
Competence	Competence
	Expertness
	Dynamism
Benevolence	Benevolence
	Goodwill
	Responsiveness
Integrity	Integrity
	Morality
	Credibility
	Reliability
	Dependability

Satisfaction Factor: Wang et al. (2001) developed a 21-item measuring instrument to assess customer's

satisfaction with a particular website that markets digital products and services. We picked up this measuring instrument. In our mentioned interviews we could also obtained agreement of the experts to apply this instrument for this part of the research. (See table 2). Furthermore, loyalty was taken simply as reusing the e-services.

Tab. 2. The 21 Measurement instrument

Satisfaction
Customer support
After-sale service
Request understanding
Rapid response
Security
Secure feeling
Safe transaction
User friendly
Easy to use website
Easy to read output
E-services
Adapted with need
High quality services
Payment system
Transaction procedures
Clear price information
& transaction
Fits your need
Accurate information
Reliable information
Innovative service
Up to date information

The conceptual model: After reviewing different definitions and models for trust and taking in mind e-banking services, the research variables were selected

and the conceptual model is formed (showed in figure 11)

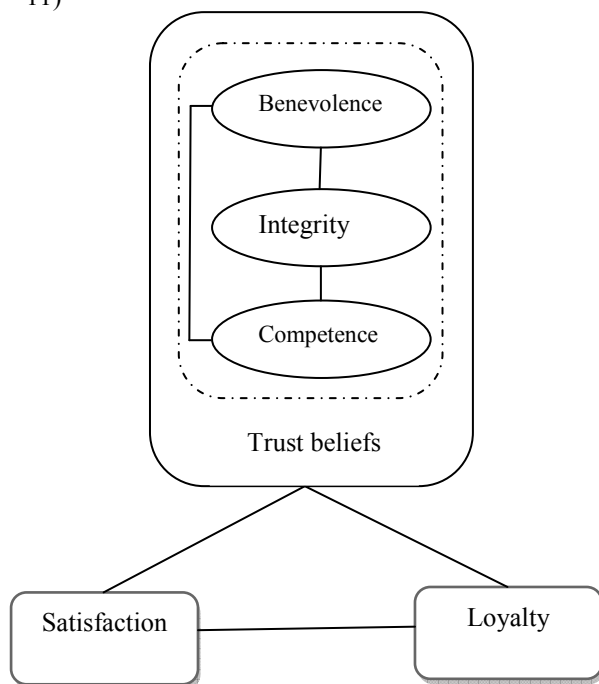


Fig. 11. The conceptual model

5-2. The Survey Questionnaire

We used a questionnaire with 60 items extending the concept of customer's trust and satisfaction. The responses were measured on a 7-point semantic differential scale with 1= strongly disagree, and 7 = strongly agree.

Validity

The structure and content of our questionnaire were discussed with the experts in mentioned semi-structured interviews and some modifications were made to justify the validity of our measuring instrument. To remove possible ambiguities a pilot test was carried out at a convenience sample of 20 e-banking service users and as the result some minor clarifications were made in necessary points of a number of questions.

Reliability

Data accumulated through questionnaires were run through the Cronbach alpha reliability test. Cronbach's alpha was used to test the reliability and validity of data. The results showed that all alpha scores were more than 0.74. This approves reliability of the data gathering instrument.

5-3. The Population and Sampling

Our population was defined as the collection of all e-banking service users in the city of Tehran as a clarifying and accessible sample of users in Iran.

According to our estimation the size of population could be taken as unlimited. So we had to collect more than 384 completed questionnaires (according to Morgan table). Defining the procedure of sampling and relevant data gathering happened to be most difficult and time taking part of our study. We intended to distribute the survey packages and collecting completed ones via internet by a two way process of email and reply.

From our interviews with experts (mentioned in earlier parts of this article), we knew, not to expect officially obtaining list of e-customers emails addresses. So, we planned to collect about a thousand e-customer's email addresses from branches of 14 different banks in Tehran, according to a cluster random sampling skim(each of these banks have branches and offer similar e-banking services in other areas of Iran). In the days of December 2009, we daily spent considerable amount of time in predetermined bank branches trying to talk to customers and getting the email addresses of those who were e-banking service users with some sort of their prior consent to reply our emails.

Obtaining the addresses and emailing our survey package to each address were almost simultaneously taken place. The replies were begun to be received. The survey package contained a letter briefly and simply explaining our research aims, some hints to complete the questionnaire and a sentence of our sincere appreciation for those who help us by replying the filled questionnaire.

5-4. The Hypotheses

Based on key factors and relations derived from the literature and our semi structured interviews, our Hypotheses in the population of Tehran's e-banking service users (as a sample of e-customer in Iran) were formulated as follows:

- H1: Integrity is positively associated with benevolence.
- H2: Benevolence is positively associated with competence.
- H3: Integrity is positively associated with competence.
- H4: Trusting beliefs is positively associated with customer satisfaction.
- H5: Trusting beliefs is positively associated with customer loyalty.
- H6: Customer satisfaction is positively associated with customer loyalty.

5-5. E-Customer's Level of Educations

Demographic data showed that more than 72% of sample members had high school diploma or some sort of university education (see figure 12). This percentage may indicate, the majority of expletives had relatively enough knowledge to be familiar with the concept of key factors in this study Below high school diploma 18, high school diploma 37, above H.D. and university degrees 35, not mentioning 10.

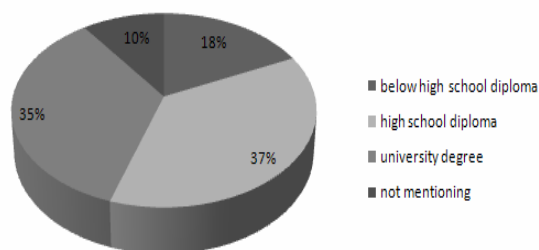


Fig. 12. Educational Demography for the Sample

Data Analysis:

This research is a descriptive survey and uses the quantitative paradigm. To examine the hypothesis we

used Spearman's rank correlation and Z test. The tests were conducted by SPSS version 11.5 for Windows operating system. The degree of significant assumed to be 5%. The trust score of each customer was calculated by averaging its measuring question scores obtained from the questionnaires (See figure 12). Then, satisfaction scores were calculated. After that, the Spearman's rank correlation for each component was calculated.

The results indicate that benevolence, integrity and competence positively associate with together (See table 3). The satisfaction scores of each customer were calculated by summing all components scores and compare to trusting beliefs scores. The results indicate that trusting beliefs, satisfaction and loyalty positively associate with each other (See table 4).

Tab. 3. The coefficient of correlation between trusting beliefs Components

	Benevolence	Integrity	Competence
Benevolence	1.00		
Integrity	0.67*	1.00	
Competence	0.51*	0.58*	1.00

*The degree of significant is 5% in 2- tailed test

Tab. 4. The coefficient of correlation between research variables

	Trusting Beliefs	Satisfaction	Loyalty
Trusting Beliefs	1.00		
Satisfaction	0.53*	1.00	
Loyalty	0.61*	0.62*	1.00

*The degree of significant is 5% in 2- tailed test



Fig. 13. Relative importance of trusting beliefs

We used z-test for test the result in population, z-test be used because n was greater than 30. An example of null hypothesis shown in the illustration below:

$$\begin{cases} H_0: \rho \leq 0 & E(r_s) = 0 \\ H_1: \rho > 0 & V(r_s) = \frac{1}{n-1} \end{cases} \quad Z = \frac{r - E(r)}{\sqrt{V(r)}}$$

test value would place in acceptance region. The decision is that we cannot accept H_0 : $\rho \leq 0$ ($\alpha < 5\%$). Based on the results, all of the hypotheses were accepted.

The Model

The research results demonstrate a model that shows relationships between satisfaction, trusting beliefs and

loyalty. This model is based on e-banking service user's opinion in the city of Tehran. (See figure 13

where results of testing the model by R^2 is presented).

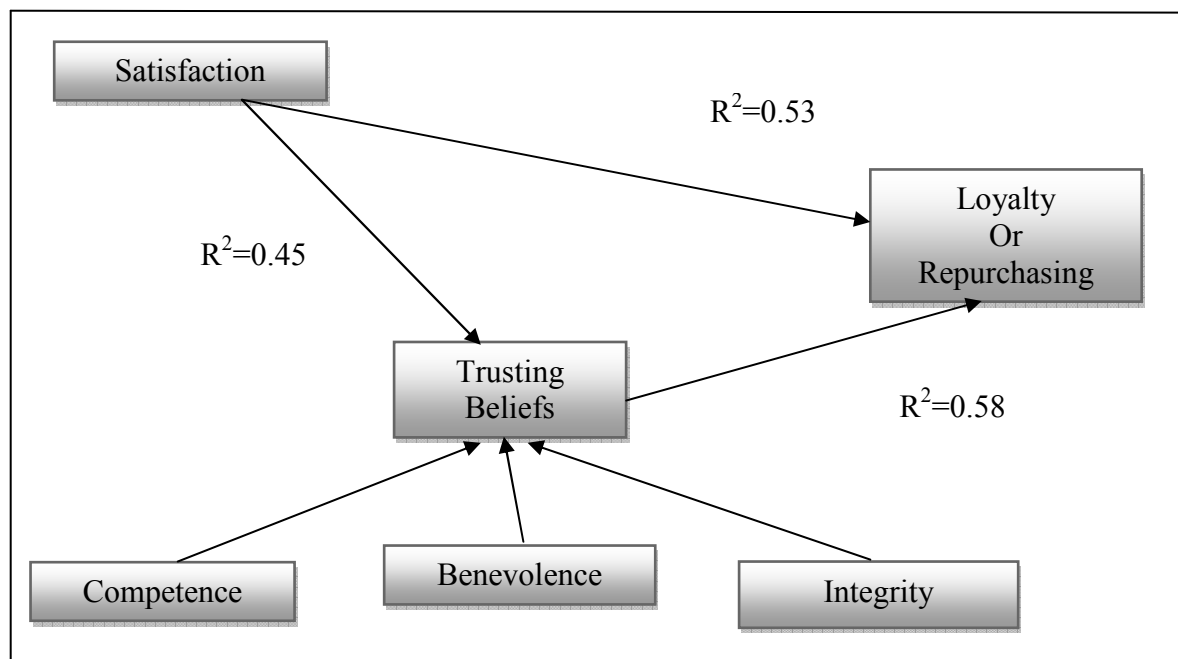


Fig. 14. The research model

6. Conclusion

Trust is one of important factors contributing to e-business success. In this article, we developed a model to explain trust and its relations with other crucial factors in e-banking services. Our statistical population consists of e-banking service users of the city of Tehran (as a good representative for the country). This paper also empirically defines the role of trust among three constructs already important in e-commerce. Trust belief's components relate positively with satisfaction and loyalty among e-bank customers. Our study results indicated that the more Iranian banking customers get satisfied with online services, the more they trust and demonstrate loyal behavior (reuse e-services). Based on the results of table 3 it could be also obtained that benevolence, integrity and competence as 3 components of trust are positively inter-acting. We hope this research could help to remove some of the confusions surrounding the delicate topic of trust in the online banking services.

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