

# FULL RELATIONSHIP AMONG E-SATISFACTION, E-TRUST, E-SERVICE QUALITY, AND E-LOYALTY: THE CASE OF IRAN E-BANKING

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## ABSTRACT

Customer e-loyalty is an important issue in the very competitive environment of e-banking. Different studies show that e-loyalty is influenced by e-satisfaction, e-trust and e-service quality. However, little attention has been given in the literature to fully understand the full relationships among them. The purpose of this study is to empirically investigate the impacts of e-satisfaction, e-trust and e-service quality on e-loyalty, in e-banking as an aspect of B2C e-commerce context. Data was collected to test the model from faculties and students of Tehran universities as respondents, and empirical analyses were performed using SEM. The analytical results indicate that although service quality, e-satisfaction, and e-trust have strong direct effect on e-loyalty, impacts of indirect effects (with e-satisfaction and e-trust playing mediating roles) are more significant. Additionally, this study represents a framework that indicates the full relationship among the three factors and their (direct and indirect) effects on e-loyalty, a phenomenon that has not previously been explored.

**Keywords:** *E-Satisfaction, E-Service Quality, E-Loyalty, Relationship, E-Banking, IRAN*

## 1 INTRODUCTION

A number of studies have examined the development of electronic banking (or e-banking) and its operations (e.g., [1] and [6]). Electronic banking, which can be defined as the provision of information or services by a bank to its customers over the Internet, has been one of the major developments in the financial service sector. Beerli, Martin and Quintana (2004) state that today most banks offer the same type of products and the core product is not the attribute that makes the customer loyal [2].

Customer loyalty is a concept that has been discussed in a great number of articles. Not that many discuss loyalty within service sectors, maybe because of the lack of standardized products and the difficulty to measure the service concept. Not only do loyal customers increase sales and profits of the business, they also enable it to reduce costs associated with attracting new customers. In particular, since the competition is just a mouse click away, e-loyalty appears to be essential for electronic banks both in an economic as well as a competitive sense [1]. These previous findings point to the need for understanding how e-loyalty is developed.

Studies have shown that e-service quality (e.g.

[12]), e-satisfaction (e.g. [19]), and e-trust (e.g. [5]) are key factors for establishing e-loyalty. These factors have direct and indirect effects on e-loyalty. It means that, each factor affects e-loyalty individually and furthermore impacts on other factor(s) that it has direct effect on e-loyalty itself. However, different studies indicate only some parts of relationships between these factors and their influence on e-loyalty ([8], [1] and [19]). In other word we see a gap in the literature that there is not a comprehensive view on all of effects that e-trust, e-satisfaction, and e-service quality have on each other and on e-loyalty in B2C context specially in electronic banking . In this paper we propose a comprehensive model of relationship between e-trust, e-satisfaction, e-service quality and e-loyalty in the context of e-banking. We first review the relevant literature leading to our research hypotheses. This is followed by discussions of the research method and results of the empirical study conducted in Tehran. We conclude the paper with the implications of the findings and give some suggestions for future research.



## 2 LITERATURE REVIEW AND RESEARCH HYPOTHESES

### 2.1 E-Loyalty

Customer loyalty has been defined as “a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior” [9]. The concept of e-loyalty extends the traditional loyalty concept to online consumer behavior. Cyr, Hassanein, Head and Ivanov (2007) defined e-loyalty as intention to revisit a website or to make a transaction from it in the future [4]. Strauss and Frost (2001) suggest that, given the relatively compressed buying cycle time, the main emphasis of e-loyalty should be on converting behavioral intent to immediate buying behavior [18].

These definitions appear to apply to e-loyalty as well but have emphasized the behavioral dimensions of loyalty, such as repeat purchase behavior, concentrating on the development of models designed to predict repurchase rates. Later, this was considered insufficient, because it did not distinguish between true customer loyalty and spurious customer loyalty, possibly resulting from a lack of alternatives. Chang and Chen (2009) cover this weakness and define e-loyalty as “A customer’s favorable attitude toward an e-commerce website that predisposes the customer to repeat buying behavior”. This definition considers customer loyalty as attitudes construct and is more near to real states.

### 2.2 E-Service Quality

Delivering quality service is considered to be essential strategy for success in today’s competitive environment. According to Parasuraman, Berry and Zeithmal (1985), a perception of service quality is a result of a comparison between what consumers consider the service should be and their perceptions about the actual performance offered by the service provider [10].

Service quality and overall satisfaction implicitly include issues such as price perception, which is usually only felt rather than objectively measurable. The argument supporting service quality as an antecedent of satisfaction is that customers do not necessarily purchase the highest quality service, but may also weigh convenience,

price and availability factors [8]. While e-service quality dimensions are occasionally considered to be causing e-loyalty directly [19], a majority of studies view them as antecedents of e-satisfaction (Chang and Chen, 2009), i.e. satisfaction is conceptualized as a mediator of the relationship between quality and loyalty.

The quality elements of the e-service are expected to affect e-trust directly, because they represent trust cues that convey the trustworthiness of the site and the system to customers. Trust was captured as the client’s confidence in a supplier’s integrity. Gefen and Straub (2004) investigated effects of different determinants of e-service on e-trust and show that predictability and integrity of e-services have significant affect on e-trust [3]. Radwan, AL-Dwairi, Mumtaz and Kamala (2009) introduced integrity, ability, and quality services as attributes of e-vendor and showed that these factors have influence on customer trust [13]. Zha, Ju and Wang (2006) showed in their research that dimensions of e-service quality are strongly predictive of customer satisfaction and trust [20]. Therefore we propose that:

H1: Service quality dimensions are positively related to customer satisfaction in e-banking settings.

H2: There is a positive relationship between e-service quality and e-trust in e-banking settings.

### 2.3 E-Satisfaction

Zeithaml and Bitner (2000) defined customer satisfaction as the customers’ evaluation of a product or service in terms of whether that product or service has met their needs and expectations [21]. Satisfaction has been shown to be positively related to loyalty [9] and this effect also occurs in online environment. Shankar, Smith and Rangaswamy (2003) indicated that the effect of satisfaction on loyalty is stronger online than offline [17]. Satisfied customers tend to have higher usage of service, possess stronger repurchase intention, and are often eager to recommend the product or service to their acquaintances than those who are not satisfied. In addition, dissatisfied customers are more likely to search for alternative information and switch to another retailer, and is also more resistant to developing a close relationship with the retailer.

Customer satisfaction is closely related to interpersonal trust and is considered as antecedent of trust. A positive effect of satisfaction on trust can be expected in the online environment as well, though empirical research in this domain is scarce

[16]. Customers' satisfactory experiences with a specific e-tailor are expected to increase their willingness to make more online purchases from that e-tailor (loyalty), as well as their trust in the online medium as such. Satisfaction with a specific application of the e-tailor will increase confidence in the e-tailor as a whole. It is therefore expected that e-satisfaction directly and positively affects e-trust. Therefore we propose that:

H3: E-satisfaction is positively related to e-loyalty in e-banking settings.

H4: E-satisfaction directly and positively affects e-trust.

## 2.4 E-Trust

Most industries have been influenced, in one way or another, by electronic commerce. However, nowhere has the presence of electronic commerce been more apparent than in the banking and financial services industry. Using telecommunication systems and technologies, a bank can reach out to customers and provide them with not only general information about its services but also the opportunity of performing interactive retail banking transactions. However, customers have not adopted B2C e-commerce and e-banking in the same degree, primarily because of risk concerns and trust-related issues [7].

Internet banking is a new kind of IS, but, from the marketing perspective, it is also a new kind of channel where a bank makes contact with its customers. Researchers in the marketing area have considered trust as one of the key constructs of relationship marketing [16]. They have empirically verified that customer trust has an impact on store loyalty, which can be defined as a customer's enduring desire to maintain a valued relationship with a store.

Trust has been defined as the degree of confidence or certainty the customer has in exchange options [15]. E-trust will therefore be defined as the degree of confidence customers have in online exchanges, or in the online exchange channel [5]. Stewart (1999) claimed that the failure of the Internet in retail banking is largely attributable to the lack of trust consumers have in the electronic channels [6]. So, customer trust is considered as another important antecedent of loyalty.

As said in the first part, we expect e-trust to not only have a direct impact on e-loyalty but also to have an indirect influence through e-satisfaction. In previous studies that come mostly from developed countries trust is empirically found to

be a strong predictor of satisfaction in online settings (Chang and Chen, 2009). Razaque and Boon (2003), for instance, found a significant effect of trust on satisfaction in the context of channel relationship. In line with the previous arguments, we propose that trust should be established in order for the customers to be satisfied with the online bank [14]. Therefore we propose that:

H5: E-trust is positively related to E-loyalty in e-banking settings.

H6: E-trust directly and positively affects e-satisfaction.

According to these hypotheses our research model is presented in figure 1.

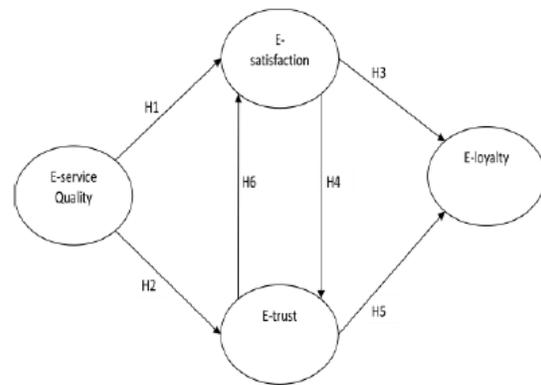


Figure 1: Proposed research model.

## 3 METHODOLOGY

### 3.1 Sample Data

For educated people, the greatest proportion of Internet and electronic services in Iran are in the field of banking. Thus, university faculty, Master of Science and doctorate students were selected as statistical community. 835 electronic questionnaires were sent as email to faculties and students of Tehran, Amirkabir, Sharif, and Iran Science and Technology universities. Also, 130 questionnaires were distributed to Master of Science students of Iran Science and Technology University. The survey contained measures of e-service quality, e-satisfaction, e-trust, and e-loyalty. All responses were assessed on five point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree). Totally 121 questionnaires were recovered and all of them were valid.

### 3.2 Measures

#### 3.2.1 e-service quality

Three attributes website design, website construct, and website content namely were modified from the measures used by Parasuraman et al. ([10] and [11]) to depict the nature of e-banking service quality (ESQ). Each attribute was measured with three items (website design:  $\alpha=0.870$ ; website construct:  $\alpha=0.890$ ; website content:  $\alpha=0.895$ ). Further, we conducted confirmatory factor analysis using AMOS 5.0 to examine the ESQ attributes, and the results suggest that the three-factor conceptualization fits the data appropriately ( $\chi^2=54.69$ ,  $df=24$ ;  $GFI=0.956$ ;  $NFI=0.966$ ,  $TLI=0.965$ ,  $CFI=0.970$ ,  $RMR=0.037$ ). Thus, the measuring instrument of ESQ which includes 3 dimensions and 9 items has good psychometric properties.

#### 3.2.2 customer satisfaction and loyalty

The scale used by Ribbink et al. (2004) was modified for the current study to capture customer loyalty and trust in e-banking, including four items (Do more business with this site; Recommend this site, or internet bank, to other people; Consider this site to be your first choice; Prefer this site to competitors ) for e-loyalty and three items (Trust to information on the site; Pleasure from presented services; Trust to security of site) for e-trust [16]. Also, five items (I am satisfied with doing my works via internet; I have truly enjoyed purchasing from this site; I have always good experience with using these e-services; I am satisfied with my decision to purchase from this site; I will choose electronic bank for doing my future banking tasks) were modified from the measures used by Zeithaml and Bitner (2000) to depict the nature of e-banking customer satisfaction. Analysis reveals an acceptable internal consistency for the three constructs (customer satisfaction:  $\alpha=0.941$ ; customer trust:  $\alpha=0.925$ ; customer loyalty:  $\alpha=0.920$ ).

### 3.3 Statistical Analysis Method

The structural equation modeling (SEM) approach was used to validate the research model. This approach was chosen because of its ability to test casual relationships between constructs with multiple measurement items. Numerous researchers have proposed a two-stage model-

building process for applying SEM. Confirmatory factor analysis (CFA) was conducted to test the validity of the measurement model, and the structural model was also analyzed to examine the associations hypothesized in the research model.

## 4 ANALYSIS AND RESULTS

### 4.1 Assessing Fit Between Proposed Model And Data

AMOS 5.0 statistics software was utilized to conduct linear structure relation analysis. All parameter estimates for the model are statistically significant ( $p<0.001$ ). Table 1 reports the goodness-of-fit indicators of the research model. For the model, the  $\chi^2$  divided by the 24 degrees of freedom yields a value of 1.63, which is better than the demanded maximum of 3.0 for a good model. The other fit indices ( $GFI=0.948$ ;  $AGFI=0.903$ ;  $NFI=0.968$ ;  $TLI=0.981$ ;  $CFI=0.987$ ) and the low standardized root mean square residual ( $RMR=0.062$ ) are all within acceptable ranges and show that a substantial amount of variance is accounted for by the model. Hence the model is a reasonable representation of the data.

Table 1: Fit indices for structural model.

Model	$\chi^2 / df$	GFI	NFI	TLI	CFI	RMR
Mt	1.50	0.948	0.968	0.981	0.987	0.062
Criteria	<3	>0.90	>0.90	>0.90	>0.90	<0.08

### 4.2 Hypothesis Testing

H1 posited that e-service quality would positively affect e-Satisfaction, and the results in Table 2 provided support for this hypothesis ( $\beta = 0.32$ ,  $p < 0.01$ ). The results also showed that e-service quality positively influenced customer e-trust ( $\beta = 0.53$ ,  $p < 0.001$ ), providing support for H2. Unexpectedly. As predicted in H3 and H4, e-satisfaction were positively related to customers' e-loyalty ( $\beta = 0.69$ ,  $p < 0.001$ ) and e-trust ( $\beta = 0.55$ ,  $p < 0.001$ ), and both hypotheses were thus supported. H5 proposed that customer e-trust would positively affect customer e-loyalty, and the results supported this ( $\beta = 0.64$ ,  $p < 0.001$ ). Finally, e-trust significantly affected customer e-satisfaction ( $\beta = 0.55$ ,  $p < 0.01$ ), providing support for H7.

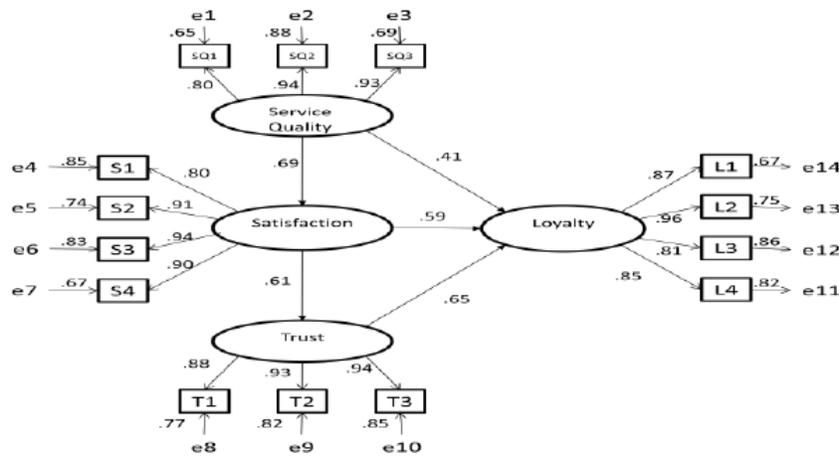


Figure 2 Hypoteses testing results.

Table 2: Path coefficient of the research model.

Hypothesis	Causal Path	Parameter	Coefficient Path	t-value	Result
H1	SQ->S	$\gamma_{21}$	0.32**	3.001	Supported
H2	SQ->T	$\gamma_{31}$	0.53***	5.479	Supported
H3	S->L	$\beta_{42}$	0.69***	8.939	Supported
H4	S->T	$\beta_{32}$	0.55***	5.530	Supported
H5	T->L	$\beta_{43}$	0.64***	6.899	Supported
H6	T->S	$\beta_{22}$	0.55**	4.534	Supported

Notes: \*\*means  $p < 0.01$ . \*\*\*means  $p < 0.001$

## 5 CONCLUSIONS AND FUTURE WORK

### 5.1 Discussion On The Result

In an e-commerce context, building e-loyalty is a difficult challenge that may require consideration by online firms wishing to differentiate themselves from competitors. E-loyalty brings high rate of customer retention and reduced cost for recruiting new customers which leads to long-term profitability to the online retailer [5]. The purpose of this study is to propose a comprehensive model of the e-loyalty development process by conceptualizing that e-loyalty is influenced by e-satisfaction, e-trust, and e-service quality. This study tests all of the direct and indirect impacts that these factors can have on each other and in turn on customer e-loyalty, and presents a comprehensive model on their relationship which goes beyond what previous researches have studied.

Our results confirm that loyalty of e-banking customers is directly affected by satisfaction and

trust in an online bank, which in turn are determined by e-service quality. These results have several implications for those banks which want to increase loyalty on the World Wide Web. The quality of e-services has a direct and an indirect impact on both e-satisfaction and e-trust. It means that the better e-service quality, the more customer e-satisfaction and e-trust of the internet banking services. Further, e-trust not only has a direct impact on e-loyalty but also has an indirect influence through e-satisfaction. Since an online transaction is perceived to be associated with higher risk, trust has been considered as a critical component in online retailing context. Therefore, online retailers should realize that to build e-loyalty and e-satisfaction, there has to be a prior development of e-trust. In addition, this study indicates that e-satisfaction, like e-trust, has direct and indirect effects on e-loyalty. Therefore, if internet banks can provide the sound e-service quality to increase customer e-satisfaction, it would enhance customer uses frequency of these services, intention to recommend, and likelihood of repurchase from these services in the future. So, we can name the e-service quality factor as the major factor in e-loyalty which managers should pay special attention to it.

### 5.2 Limitations And Future Research Directions

This study had two primary limitations. First, the sample employed academic community as subjects, which may not be representative of the general population of online shoppers. The analytical results presented here thus may have limited generalizability. Second, since this study only considered B2C aspect of internet banking, it

is unclear whether the analytical results can be generalized to other types of e-commerce that is used in banking (e.g. B2B and B2E). Further research can apply the research model to examine other types of online retailers.

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