The Evaluation of Effect Electronic Banking in Customer Satisfaction and Loyalty

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Abstract
In order to understand customers’ characteristics, banking management should create a good relationship with them. The goal of this research is evaluation of effect electronic banking and three dimensions comprise quality of system, quality of information and quality of service in customer loyalty with regard to role of customer satisfaction among customers of mellat bank in Isfahan city in Iran. The population of the study comprises customers of mellat bank in Isfahan city that use of total electronic banking service, therefore the population of research is unlimited and uncounted. The instrument of data collection in this research is standard questionnaire. Number of 250 questionnaire distributed and totally 224 questionnaires were analyzed. Samples were also selected with method of available random. To analyze data and test hypotheses was used pls and Spss software. The results indicate that system quality has a positive and significant impact in customer satisfaction. On the other, results indicate that information quality has a positive and significant impact in customer satisfaction. Also, the effect of customer satisfaction in customer loyalty is confirmed.

Keywords: electronic banking, customer satisfaction, loyalty

1. Introduction
Today, banking industry is changing rapidly. With the development of international economy and trade and competitiveness of the markets and competitors, the banks are also affected and the main power in this environment, technology, broke the geographical, legal and industrial barriers and created new products and services (Seyed Javadin & Yazdani, 2005, pp. 45-61). New forms of online communication offer a host of new and promising opportunities for consumer retention on the World Wide Web, while at the same time intensifying rivalry (Vatanasombut et al., 2004). In particular, this applies to company-controlled communication, giving companies the ability to customize information with regard to the individual needs of a particular customer and to optimize the customer's feedback opportunities (Kierzkowski et al., 1996). At the same time, companies also face completely new challenges arising from customer-controlled Internet communication, such as the growing importance of mark strength, economies of scale and size (Gallaugher, 1999).

The rapid progresses in technology seem to have more impact on changes in the banking industry than any other. Being the heart of the financial sector, the banking sector nowadays offers financial services not only within a county but also within the whole universe.

The banking industry has witnessed a quantum leap in technology during the last decade in its efforts to meet the ever growing customer demand. Banks claim that consumers demand more sophisticated products and services, and falling customer loyalty has increased pressure on the banks to satisfy their demand (Jayamaha, 2002).

Customer satisfaction is central to the marketing concept, with evidence of strategic links between satisfaction and service performance (Truch, 2006). Customer satisfaction is considered to act as an antecedent of loyalty and retention, arising out of direct prior experience (Wu & Wang, 2005). Congruent with the proposition that affective reactions influence attitude, recent studies have demonstrated that satisfaction is an antecedent of electronic loyalty, with increased satisfaction leading to increased electronic loyalty (Balabanis et al., 2006). Loyal customers are not necessarily satisfied customers, but satisfied customers tend to be loyal customers (Fornell, 1992). Satisfying customers should accordingly be of extreme importance to electronic stores in their efforts to keep customers loyal. Customers who are satisfied with the electronic stores they currently use develop
a positive attitude towards those electronic stores. Studies have found that customer satisfaction is an evaluation of service experience and is a key factor in retaining customers and improving customer loyalty and retention (Wong & Tong, 2012).

1.1 Electronic Banking

Today, philosophy of bank is providing superior service and top quality to customers and consumer. With regard to diversity of Banks and increase various branches and also, Development of electronic banking, attention to customers needs and requires is more important. Customer is intangible assets of bank, but since that is not in bank's annual balance sheet, less attention to it. Unlike the past, today banks need to know about customers and serve as owner of fund in bank.

Also, in each country, for the development of electronic commerce, entry into global markets and membership in organizations such as the WTO, having an effective system of banking is essential.

There are various definitions of electronic banking as followings: Electronic banking is the access of the customers to bank services by secure intermediaries without any physical presence (Daniel et al., 2004, pp. 20-35). Electronic banking is optimal integration of all the activities of a bank via using modern IT that all the required services can be given to the customers (Blunt et al., 2005).

Internet banking is developed to help banks deliver services and products preferable, faster, and cheaper. It enables customers to browse principal bank products and services seven days a week through their personal computers (Polatoglu & Ekin, 2001). It allows customers to carry out banking transactions over the Internet anywhere and anytime (Polatoglu & Ekin, 2001).

Generally, electronic banking is providing opportunities for staffs to increase the speed and efficiency in providing banking services at a department as well as inter branch and inter bank processes in all world and providing software and hardware to customers (LioZiqi, 2001).

Banks are starting to deliver quality online experience for customers and, as a result, online banking adoption continues to grow and has become an increasingly main competitive agent for banks in attracting and retaining customers (Keynote, 2008). Online banking has changed the nature of the industry significantly in terms of channel usage especially between youthful people (Leichtfuss, 2007). Study on banks’ strategic distribution channel affirm that “Bank customers are divided into an internet banking segment and a department banking segment and it is argued that the former is growing and the second is declining” (Mols, 1999).

There are three basic types of Internet banking services such as:
- quality of system
- quality of information
- quality of service

1.2 Customer Satisfaction

Over the years, multiple definitions of satisfaction have been used in the marketing discipline. Giese and Cote (2000, p. 15) conclude that the wide transformation in defining the construct of satisfaction is best reconciled in their definition of satisfaction as “a summary affective response of varying intensity with a time-specific point of determination and limited duration directed toward focal points of product acquisition and/consumption.” We conceptualize satisfaction as a customer’s overall evaluation of a product or service in terms of whether that product or service has met their needs and expectations.

Customer satisfaction is a key agent in formation of customer’s desires for future purchase (Mittal & Kamakura, 2001). Furthermore, the satisfied customers will probably talk to others about their good experiment. This fact, especially in the Middle Eastern cultures, where the social life has been shaped in a way that social communication with other people enhances the society, is more significant (Jamal & Naser, 2002).

Customer satisfaction is fundamental to the marketing concept, which holds that satisfying customer needs is the key to generating customer loyalty. Customer satisfaction generally means customer response in the context of the state of fulfillment, and customer adjudication of the fulfilled state (Oliver, 1997). It is defined as an overall negative or positive sense about the net value of services received from a provisional (Woodruff, 1997). Kotler (2000) described satisfaction as a person’s feeling of enjoyment or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to their expectations. Now we consider the construct of satisfaction in the online context. Anderson and Srinivasan (2003) defined electronic satisfaction as the contentment of the customer with respect to their prior purchasing experience with a given electronic commerce
1.3 Customer Loyalty

Brand loyalty is a prerequisite for a firm's competitiveness and profitability (Aaker, 1996). According to De Chernatony and McDonald (1994), the purpose of branding is to facilitate the circumstances for gaining loyal consumers and retaining them with acceptable cost with the goal of accelerating return on investment. Aaker (1991) defines the brand loyalty as customer attachment to the brand. Yoo and Donthum (2001), however, claim that brand loyalty refers to a type of tendency and can be emerged to purchase the brand as the first choice. Oliver (1999) defines the loyalty as having deep commitment to a desired brand product or service that leads to repurchase a brand or a series of brand products in the future, despite the situational factors and marketing efforts of competitors. Groth and McDaniel (1993) believed that affective loyalty represents consumer loyalty to a specific brand all the way. Eisman (1990) defined action loyalty as consumers' satisfaction with regular purchases of a specific brand. In view of the above mentioned different types of consumer brand loyalty, Assael (1993) defined brand loyalty as the repeated purchase behavior based on consumers' satisfaction with their accumulated experiences in purchasing the same brand.

Brand loyalty refers not only to one's tendency to repurchase the same brand time after time, but also to have a psychological commitment or attitudinal bias toward the brand. Thus, the brand loyal customer not only buys the brand, but refuses to switch even when a better offer comes along. Building brand loyalty has taken numerous forms over time. Initially, mass awareness advertising campaigns were used almost exclusively to build a brand’s image, with hopes that a strong brand image would be enough to establish brand loyal customers (Wells et al., 2003). More recently, firms have used promotional tools such as coupons, rebates, discounts, bonus packs and gift premiums in an effort to build loyalty. The most recent form has been the loyalty program whereby customers are rewarded for loyalty to a store, brand, etc.

The concept of loyalty has been examined by various marketing professionals, but still no solid definition has been produced. The reason may be because loyalty is measured using two dimensions: behavioral and attitudinal. The concept of behavioral dimension uses actual purchases that occur in a given period and the concept of attitudinal dimension explains brand loyalty by means of stated preferences in terms, commitments or purchase intention (Rundle-Thiere & Mackay, 2001). The attitudinal element is based on a customer’s brand preference, which reflects a consumer’s psychological disposition towards a brand. The behavioral concept of customer loyalty focuses on customers’ observable behavior in purchasing (Allender & Richarda, 2009). According to Day (1969), when loyalty is the focus of an evaluation, both attitudinal and behavioral criteria should be considered to prevent an incorrect evaluation of loyalty.

1.4 Outcomes of Customer Loyalty

Research on customer retention has been receiving increasing attention from researchers (Thomas, 2001; Jones et al., 2000; Lewis, 2004). For this study, we propose two outcomes.

1.4.1 Customer Retention

Customer retention refers to actions that a selling organization undertakes in order to reduce customer defections. Successful customer retention starts with the first contact an organization has with a customer and continues throughout the entire lifetime of a relationship. Customer retention (CR) is concerned with maintaining the business relationship established between a supplier and a customer (Gerpott et al., 2001). A growing body of literature suggests that customer loyalty has positive impact on client retention (Sin et al., 2005).

1.4.2 Word of mouth (WOM)

Word-of-mouth communications (WOM) have been studied in two ways, as an input into consumer decision-making (Feick & Price, 1987) and outcome of the purchase process. As an outcome of the purchase process, marketing buzz is a term used in word-of-mouth marketing—the interaction of consumers and users of a product or service serve to amplify the original marketing message (Thomas Jr, 2001). Positive WOM communication is a direct outcome of customer loyalty (Srinivasan et al., 2002). Other studies have also concluded in their respective studies that customers are more likely to engage in positive word of mouth (Hagel and Armstrong, 1997) and Dick and Basu (1994).

2. Literature Review

Daniel (1999) defined Internet banking services as major information services of a bank to serve its customers via the Internet. Internet banking permits consumers to carry out usual banking transactions on a computer which is equipped with Internet connection (Fox, 2006). In recent years, bank systems rapidly inclined to invest on new
technologies of presenting services to new customers and meet the expectations of the customers. Some technologies as internet banking, telephone banking, ATMs, etc are on the priority as a strategic requirement (Wang, Lin, & Tang, 2003, pp. 501-519). Based on the considerable progresses in IT and communication, electronic banking is of great importance in most countries namely in our country, Iran.

Joseph et al. (1999) considered banking service quality with respect to technology use, such as ATMs, telephone, and the internet and identified six dimensions. They were convenience/accuracy; feedback/complaint management; efficiency; queue management; accessibility; and customization. Therefore, it is hypothesized that accessibility has positive effect on customer satisfaction.

Yang and Fang (2004) found that ease of use and usefulness are important factors in evaluating online service quality. Earlier Doll and Torkzadeh (1988) identified five quality dimensions that have an impact on “end-user” satisfaction in an online environment: content, accuracy, format, ease of use, timeliness. Thus, it is hypothesized that content has positive effect on customer satisfaction.

According to Glaveli Petridou, Liassides and Spathis (2006) responsiveness is an essential ingredient for bank to attract more customers and to have an enduring long success. In the studies related to e-Banking customer loyalty, there was an empirical irregularity among the researchers—Glaveliet. Al (2006) established the positive relationship of responsiveness with customer loyalty. This findings was also corroborated by Jun and Cai (2001), Diaz & Ruiz (2002) in a similar studies. Khenget (2010) in their study discovered that, though there was positive relationship between responsiveness and customer satisfaction but is insignificant.

Than, Objectives of this research are:
1) To find out the relationship between quality of system and customer satisfaction
2) To find out the relationship between quality of information and customer satisfaction
3) To find out the relationship between quality of service and customer satisfaction
4) To find out the relationship between customer satisfaction and customer loyalty

From the above mentioned model the following main hypothesis are developed:
1) quality of system is positively associated with customer satisfaction
2) quality of information is positively associated with customer satisfaction
3) quality of service is positively associated with customer satisfaction
4) customer satisfaction is positively associated with customer loyalty

3. Methodology

The current research enjoys a descriptive-correlative design. The subjects are chosen among customers of mellat bank in Isfahan. Data collection is done through random sampling. First, a group of 30 persons were selected from the subjects and the questionnaire distributed among them. After extracting the data from the responses of the intended group and the variance estimate, the volume of the sample of the study was drawn by using cookran formula. 224 persons were selected randomly as the subjects of the study. In this study, questionnaire was used as a data collection tool. The validity of its content was ensured by using the expert viewpoints and consensus. The validity of its structure was measured through using the structural functions. The internal reliability of the items was verified by computing the Cronbach’s alpha. Nunnally (1978) suggested that a minimum alpha of 0.6 sufficed for stage of search. The Cronbach alpha estimated for customer satisfaction was 0.903 and customer loyalty was 0.755. As the Cronbach’s alpha in this research was all much higher 0.6, the constructs were therefore deemed to have adequate reliability.
In table 1 our research the reliability of the items is checked through Cronbach’s alpha that is more than 0.7 which shows that our research variables are reliable and there exists internal consistency between them:

Table 1. Reliability coefficient of research variables related to given hypotheses

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>quality of system</td>
<td>0.775</td>
</tr>
<tr>
<td>quality of information</td>
<td>0.663</td>
</tr>
<tr>
<td>quality of service</td>
<td>0.845</td>
</tr>
<tr>
<td>customer satisfaction</td>
<td>0.903</td>
</tr>
<tr>
<td>customer loyalty</td>
<td>0.755</td>
</tr>
</tbody>
</table>

4. Findings

4.1 Descriptive Data

This study attempts to understand the relationships among Electronic Banking, satisfaction customer loyalty. Table 2 Descriptive statistical data shows the relation to the customers participated to the research (n = 224). The social demographic qualification of the participants is as follows: 44 male and 180 female participated to the research.

The educational background of the participants are: 47 people diploma, 42 people super-diploma, 87 people Bachelor, and 48 people PhD and Master degree.

Table 2. Demographic qualifications of participants

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
<td>19.6%</td>
</tr>
<tr>
<td>Male</td>
<td>180</td>
<td>80.4%</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>100%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>diploma</td>
<td>47</td>
<td>21%</td>
</tr>
<tr>
<td>super-diploma</td>
<td>42</td>
<td>18.8%</td>
</tr>
<tr>
<td>Bachelor</td>
<td>87</td>
<td>38.8%</td>
</tr>
<tr>
<td>PHD and Master</td>
<td>48</td>
<td>21.4%</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>100%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 20</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>21 – 30</td>
<td>120</td>
<td>53.6%</td>
</tr>
<tr>
<td>31 – 40</td>
<td>63</td>
<td>28.1%</td>
</tr>
<tr>
<td>41 – 50</td>
<td>22</td>
<td>9.8%</td>
</tr>
<tr>
<td>More than 50</td>
<td>18</td>
<td>8%</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>100%</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>81</td>
<td>36.2%</td>
</tr>
<tr>
<td>Married</td>
<td>143</td>
<td>63.8%</td>
</tr>
</tbody>
</table>

Structural relationships in the conceptual model were tested with PLS. The maximum likelihood fitting function was used to estimate parameters. According to the indexes it can be concluded that the model have a relatively good fitness.

In table 3 the composite reliability of each variable was examined and the coefficients for all variables above 0.7.

Table 3. AVE values and composite reliability

<table>
<thead>
<tr>
<th>variable</th>
<th>AVE</th>
<th>Composite reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>quality of system</td>
<td>.557</td>
<td>.845</td>
</tr>
<tr>
<td>quality of information</td>
<td>.500</td>
<td>.798</td>
</tr>
<tr>
<td>quality of service</td>
<td>.683</td>
<td>.896</td>
</tr>
<tr>
<td>customer satisfaction</td>
<td>.721</td>
<td>.928</td>
</tr>
<tr>
<td>customer loyalty</td>
<td>.672</td>
<td>.860</td>
</tr>
</tbody>
</table>
Table 4 Correlation Between research variables was examined: for example, the correlation between two variables quality of system and quality of information is .415 which indicates a high correlation between these two variables.

Table 4. Correlation between research variables

<table>
<thead>
<tr>
<th>Feature</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>quality of system</td>
<td>.760</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>quality of information</td>
<td>.415</td>
<td>.706</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>quality of service</td>
<td>.371</td>
<td>.634</td>
<td>.826</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>customer satisfaction</td>
<td>.331</td>
<td>.484</td>
<td>.406</td>
<td>.849</td>
</tr>
<tr>
<td>5</td>
<td>customer loyalty</td>
<td>.412</td>
<td>.560</td>
<td>.749</td>
<td>.431</td>
</tr>
</tbody>
</table>

Through structural equation modeling Hypotheses were examined and path of structural models were evaluated. Each path is corresponds to one of the model assumptions and Numbers on the path is path coefficients. The path coefficients indicate direct effect of one variable on other variables. Whatever path coefficients are higher, the effect of predictive in Latent variable would be higher than dependent variable. Figure 2 shows result of PLS analysis for the structural model test and in particular, for the standardized path. According to the indexes it can be concluded that the model have a relatively good fitness.

Figure 2. Results of analysis for the structural model test

5. Results and Conclusions

In the Table 5 significant, T, mean and difference of mean for each of the variables in research variables was examined:

Table 5. Significant, T, mean and difference of mean

<table>
<thead>
<tr>
<th>Variable</th>
<th>sig</th>
<th>T</th>
<th>mean</th>
<th>Difference of mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>quality of system</td>
<td>0/000</td>
<td>9/09</td>
<td>3/90</td>
<td>0/39</td>
</tr>
<tr>
<td>quality of information</td>
<td>0/000</td>
<td>15/85</td>
<td>3/64</td>
<td>0/62</td>
</tr>
<tr>
<td>quality of service</td>
<td>0/000</td>
<td>14/04</td>
<td>3/63</td>
<td>0/66</td>
</tr>
<tr>
<td>satisfaction</td>
<td>0/000</td>
<td>23/77</td>
<td>3/97</td>
<td>0/99</td>
</tr>
<tr>
<td>loyalty</td>
<td>0/000</td>
<td>10/84</td>
<td>3/70</td>
<td>0/51</td>
</tr>
</tbody>
</table>

In the Table 6 research hypothesis was examined. The Information about any hypothesis included Beta, T Test and result for each of the variables in research Hypothesis was examined. For example, in the first hypothesis, Beta is .25, T value is 2.80 and Hypothesis was accepted:

Table 6. Analyzing the hypotheses of research

<table>
<thead>
<tr>
<th>variable</th>
<th>Beta</th>
<th>T Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>quality of system</td>
<td>.25</td>
<td>2.80</td>
<td>confirmed</td>
</tr>
<tr>
<td>quality of information</td>
<td>.15</td>
<td>2.01</td>
<td>confirmed</td>
</tr>
<tr>
<td>quality of service</td>
<td>.09</td>
<td>0.70</td>
<td>Rejected</td>
</tr>
<tr>
<td>satisfaction</td>
<td>.39</td>
<td>4.82</td>
<td>confirmed</td>
</tr>
</tbody>
</table>

1- hypothesis: There is a meaningful relationship between quality of system and customer satisfaction among customers of mellat bank in Isfahan.
According to results of table 6, since observed Beta is .25, T value is 2.80, so there is a relationship between internal marketing and Sophistication among quality of system and customer satisfaction among customers of mellat bank in Isfahan with 95% confidence.

2- hypothesis: There is a meaningful relationship between quality of information and customer satisfaction among customers of mellat bank in Isfahan.

According to results of table 6, since observed Beta is .15, T value is 2.01, so there is a relationship between quality of information and customer satisfaction among customers of mellat bank in Isfahan with 95% confidence.

3- hypothesis: There is a meaningful relationship between quality of service and customer satisfaction among customers of mellat bank in Isfahan.

According to results of table 6, since observed Beta is .09, T value is 0.70, so there isn’t a relationship between quality of service and customer satisfaction among customers of mellat bank in Isfahan with 95% confidence.

4- hypothesis: There is a meaningful relationship between customer satisfaction and customer loyalty among customers of mellat bank in Isfahan.

According to results of table 6, since observed Beta is .39, T value is 4.82, so there is a relationship between customer satisfaction and customer loyalty among customers of mellat bank in Isfahan with 95% confidence.

Customers are the most important stakeholders for banks. And this factor forces banks to change the way they interact with them and put attention on relationship and communication which can’t be done without using all modern online communication channels. Communication is a crucial variable, as better it is as better are the results. All online channels need to be used. The goal of this research is evaluation of effect electronic banking and three dimension comprise quality of system, quality of information and quality of servicecin customer loyalty with regard to role of customer satisfaction among customers of mellat bank in Isfahan city. The results indicate that quality of system and quality of information has a Positive and significant impact in customer satisfaction. On the other, results indicate that information quality has a positive and significant impact in customer satisfaction. Also, the effect of customer satisfaction in customer loyalty is confirmed.

On a practical level, the results provided in this study help the bank management and marketing practitioners to attract more existing consumers to continue using Internet banking services. In managing aspect, the top managers of the organization have to have creative and clever insight in this case, and must be able to move in a certain direction when risk analysis is needed in order to make sound decisions and choose suitable solutions, thus it is recommended to establish training classes for the managers about the socalled topics, and to take advantage of experienced consultants in this area.

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