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## Management Science Letters

homepage: [www.GrowingScience.com/msl](http://www.GrowingScience.com/msl)**Measuring customer satisfaction using SERQUAL survey****Ardeshir Tajzadeh Namin<sup>a</sup>, Niko Pilevary<sup>b</sup> and Aidin Tajzadeh Namin<sup>c</sup>**<sup>a</sup>*Faculty of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran*<sup>b</sup>*Master of Business Management, Tehran, Iran*<sup>c</sup>*PhD Student in Marketing, University of Dallas, Texas, USA***ARTICLE INFO***Article history:*

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**ABSTRACT**

The focus of this research is on assessing the quality of services of Tehran's Saman bank and the available gap between customer's expectation and perception. Also the relationship between customer's satisfaction and each dimension of service quality (ie: reliability, tangibility, responsiveness, assurance and empathy) and ranking them accordingly, is investigated. The statistical population of this research is consisted of Tehran's Saman bank customers. The research methods of this study are descriptive-survey as well as correlation. The statistical approaches of this study are correlation, t-student as well as Friedman tests. The results from a sample of 276, shows the service quality dimensions affect customers' perception based on SERQUAL. In addition, there are significant relationship between customers' perception and their satisfaction of the offered services. However, there are negative gaps between customers' perception and their level of expectation.

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**1. Introduction**

The new millennium began with many economic crises, which faced business units with more competitions. Many companies lost their market share since they could not increase their competitive advantages and many others reduced their market units by downsizing their activities, removing products with low margin, etc. In such a competitive environment, the final winners are customers who could increase their expectations and expect more services and better quality products with lower prices. Vendors, on the other side, must look for creating better product through creativity and innovation.

One of key success for business developers is to maintain a good quality for their products and services. However, keeping a desirable quality for products and services is not an easy task since the increase in competition has led many to look for profitability and, in many cases, ignore quality. Therefore, it is important to find suitable ways on maintaining a good quality services for different purposes such as customer retention.

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Banking industry is one of the most important sectors in any country. For many years, government of Iran monopolized banking sector and there were only a few banks in this country. However, during the past decade, there have been some deregulation strategies, which created the opportunities for emerging several private banks. While there were a limited number of governmental banks in Iran, the number of private banks is now more than thirty units and the figures keep growing. Since the market share is limited, all banks must endeavor to increase their own market share by absorbing more customers and retaining their present customers.

There are different studies on using qualitative and quantitative methods to measure the quality of service. SERVQUAL is one of the well known measurement tools used in health service industries (Parasuraman et al., 1985; Parasuraman et al., 1988; Babakus & Boller, 1992). Generally, service quality can be defined in different ways. It could be defined as a competitive advantage of a product or services compared with other existing products and services provided by others (Zeithaml, 1998). It could be also defined as sustainable compatibility with customer's expectations and learning more about their special needs (Parasuraman et al., 1988). There are many studies used SERVQUAL for measuring service quality in different organizations.

The recent advances on information technology (IT) has created tremendous opportunities for banking sectors to increase the quality of their services by providing more IT based facilities such as telephone bank, web based services, automated teller machines (ATM), etc. These efforts are accomplished solely to increase the quality of services.

There are literally tremendous efforts on using SERVQUAL for performance measurement in different organizations. Magi and Julander (1996) used perceived service quality and customer satisfaction in store performance framework. Dabholkar et al. (1996) used service quality for retail stores. Andaleeb (2001) used SERVQUAL survey for measuring service quality of hospitals in developing countries. Liou and Chen (2006) used fuzzy numbers for assessing service quality. Parikh (2005) applied SERVQUAL for measuring the performance of retail stores. Tsaura et al. (2002) used SERVQUAL for measuring the performance of airline industry. They used fuzzy set theory into the measurement of performance and used analytical hierarchy process to obtain criteria weight and TOPSIS in ranking and reported tangible and empathy as the most important factors followed by courtesy, safety and comfort.

Yeh and Kuo (2003) performed similar assignment for Asia pacific airport industry. They presented a fuzzy multi-attribute decision making approach to evaluate passenger service quality of 14 major Asia-Pacific international airports via surveys. Based on the concept of the degree of optimality, an overall service performance index for each airport is estimated by incorporating the decision maker's confidence level and preference on fuzzy assessments of the respondents. They claimed the index could help the airports understand their relative rankings in terms of manageable passenger service attributes.

The proposed study of this paper measure quality of services for the first private bank of Iran named Saman using SERVQUAL technique. The organization of this paper first presents details of survey in section 2. Section 3 discusses the results of the survey and finally, concluding remarks are given in the last section to summarize the contribution of the paper.

## **2. Survey details**

As we explained earlier, the proposed study of this paper attempts to measure the quality of services through a questionnaire for a bank with over 63 branches in various locations of country. Since the population size is unknown, we use the following sampling procedure to determine suitable number of sample size,

$$n \geq \frac{z_{\alpha/2}^2 \times pq}{e^2}, \quad (1)$$

where  $z_{\alpha/2}$  is the normal distribution,  $e$  is the error term,  $p$  is the likelihood of the event and  $q = 1 - p$  and  $n$  is the number of sample size. In our study we use  $z_{\alpha/2} = 1.96$ ,  $e = 0.06$ ,  $p = q = 0.5$ , which yields  $n = 267$ . In our survey, we distributed 300 questionnaire and collected 278 completed responses. The sampling was held randomly in different branches of the bank and in various locations of city of Tehran. The study looks for five important issues of tangible, reliability, convenience, empathy and responsiveness. We also use Cronbach Alpha (Cronbach, 1951) to validate the results of our survey, which was well above the minimum desirable level of 0.70.

### 3. The results

The first hypothesis examines whether tangible items could positively influence customers' perception. Therefore, the null hypothesis considers that there is a negative gap between tangible items and customer's perception. We have compared the mean of the observations with a value of 4, which yields the following result,

$$\begin{cases} H_0 : \text{Mean} \leq 4 \\ H_1 : \text{Mean} > 4 \end{cases} \Rightarrow t = 55.028 \quad p = 0.000, \quad \text{pob} < \text{pc}$$

As we can observe, t-student is strongly meaningful when the significance level is either five or one percent. Therefore, we can conclude that tangible items could significantly influence customers' perception on quality of services.

The second hypothesis studies whether credibility could positively influence customers' perception. Therefore, the null hypothesis establishes on whether there is a negative gap between credibility items and customer's perception. We have compared the mean of the observations with a value of 4, which yields the following result,

$$\begin{cases} H_0 : \text{Mean} \leq 4 \\ H_1 : \text{Mean} > 4 \end{cases} \Rightarrow t = 50.121 \quad p = 0.000, \quad \text{pob} < \text{pc}$$

Again, t-student is strongly meaningful when the significance level is either five or one percent leaving us to conclude that credibility plays an important role on customers' perception on quality of service.

The third hypothesis looks whether being responsible could positively influence customers' perception. Therefore, the null hypothesis establishes on whether there is a negative gap between responsiveness and customer's perception. Once more, we have compared the mean of the observations with a value of 4, which yields the following result,

$$\begin{cases} H_0 : \text{Mean} \leq 4 \\ H_1 : \text{Mean} > 4 \end{cases} \Rightarrow t = 38.299 \quad p = 0.000, \quad \text{pob} < \text{pc}$$

The results suggest that we can reject the null hypothesis and conclude that being responsive is an important issue for increasing service quality.

The fourth hypothesis investigates whether creating the sense of reliability in customers' minds could positively influence customers' perception. Therefore, the null hypothesis is held on whether there is a negative gap between reliability and customer's perception.

$$\begin{cases} H_0 : \text{Mean} \leq 4 \\ H_1 : \text{Mean} > 4 \end{cases} \Rightarrow t = 37.635 \quad p = 0.000, \quad p_{ob} < p_c$$

The results suggest that we can reject the null hypothesis and conclude that creating the sense of reliable service could increase service quality and create a better image for customers' perception.

Finally, the last hypothesis studies whether having empathy among employees could positively influence customers' perception. Therefore, the null hypothesis is held on whether there is a negative gap between empathy and customer's perception.

$$\begin{cases} H_0 : \text{Mean} \leq 4 \\ H_1 : \text{Mean} > 4 \end{cases} \Rightarrow t = 51.929 \quad p = 0.000, \quad p_{ob} < p_c$$

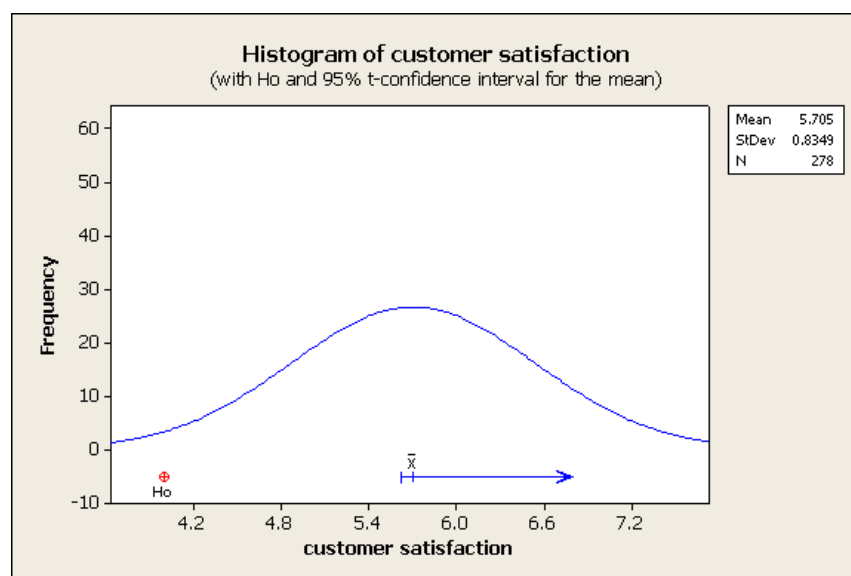
The results also confirm the last hypothesis of the proposed research leaving us to conclude that creating empathy could lead to better serve customers and increase their perception on the services. Table 1 summarizes the results of our survey for all five hypotheses.

**Table 1**

The summary of SERQUAL components

Decision variable	Comparison the experimental results with the base value					
	# of observation	Mean	Standard deviation	Base value	t-student	P-value
Tangible	278	6.0425	0.61887	4	55.028	0.000
Credibility	278	5.8849	0.62704	4	50.121	0.000
Responsiveness	278	5.6403	0.71410	4	38.299	0.000
Reliability	278	5.7730	0.78549	4	37.635	0.000
Empathy	278	5.8557	0.59584	4	51.929	0.000

As we can observe from the results of Table 1, all null hypotheses can be rejected when the level of significance is one percent. Fig. 1 shows the distribution of the null hypothesis.



**Fig. 1.** Distribution of customer satisfaction

We have also measured Spearman Pearson correlation ratios between customer satisfaction and five SERQUAL items and the results for tangible, credibility, responsiveness, reliability and empathy were 0.858, 0.868, 0.858, 0.853 and 0.822, respectively. These numbers clearly indicate that there are some positive correlation between all components of SERQUAL items and customer satisfaction. Freedman test is another useful statistical tool to rank five items based on their relative importance, which is summarized in Table 2.

**Table 2**

The results of Freedman test

Perspective	Mean	# of observations	$\chi^2$	base	Significance level
Tangible	3.82	278	359.613	4	0.000
Credibility	3.44				
Responsiveness	2.13				
Reliability	3.06				
Empathy	2.56				

As we can observe from the results of Table 2, tangible comes first in terms of ranking followed by credibility and reliability while empathy and responsiveness come last in ranking. In other word, customers' judgment mostly depend on what they physically see as equipments of a bank such as automated banking system, web based components, physical facilities located in different branches, ease of accessing branches, etc.

#### 4. Conclusion

In this paper, we have presented an empirical study on service quality for one of the first private banks called Saman in Iran. The proposed study of this paper uses SERQUAL based questionnaire and randomly chose 278 customers using the services of these banks. The proposed study of this paper examined the impact of five SERQUAL items of tangible, credibility, responsiveness, reliability and empathy on customer perception. The results indicated that all five components have strong positive correlation with customer satisfaction while tangible was the most important one.

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