

Evaluating and Ranking the Quality of Services Criteria based on the Combination of KANO and SERVQUAL models: A Case Study in Shiraz Branches of Samenalaeme Institute

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Abstract

Regardless of rapid development and globalization of services such as banking services, banks play a supportive and directive role in many economic activities as a services organization. The present study was aimed to evaluate and rank the quality of services criteria based on the combination of KANO and SERVQUAL models in Branches of Samenalaeme Institute in the city of Shiraz. The results of combination of KANO and SERVQUAL models revealed that some of the quality of services criteria has prioritization that should be attended more than other factors. These include customers' personal safety, sound and perfect reports, presented documents and reports, and employees' appearance and cleanness.

Keywords: Services Quality, SERVQUAL Model, KANO Model, Customer Satisfaction

Introduction

Nowadays, competition in the services quality is considered as a strategic and critical issue for services organizations. The organizations which offer higher levels of services quality will be able to satisfy their customers' needs and wants and secure their satisfaction (Guo *et al*, 2008). In the competitive era, there is not any organization or businesses that can success without considering customers' needs, wants, and satisfaction. Review of the literature reveals that services quality influences customers' satisfaction and loyalty and successful sale more than products characteristics. Services quality can be ef-

fective in promoting customers' satisfaction and loyalty and organizations' profitability and their overall performance considerably (Gronroos, 2000).

Statement of the problem

The organizations attempt to find modern methods for improving goods and services quality in order to promote their profitability, decrease their costs, increase their market share, and promote the customers' satisfaction. In this regard, every organization should have tools by which be able to recognize customers' needs and then prioritize and satisfy them (Porsfanden *et al*, 2010). Services quality is defined as the organization's ability in achieving its goals through satisfaction. Based on the SERVQUAL model, services dimensions include tangibles, reliability, assurance, empathy, and responsiveness. The SERVQUAL model is considered as a quantitative tool in measuring services quality. The purpose of this model is to decrease difference between customers' expectations and perceptions of services and appropriate responsiveness based on the type and needs of customers. These can be categorized in three sets including basic, performance, and attractive requirements (Bozorgi, 2006).

Research questions

1. How is evaluation and ranking of services quality criteria based on the combination of KANO and SERVQUAL model in Samenalaeme Institute?
2. What are criteria of services quality based on the SERVQUAL model in Samenalaeme Institute?

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3. What are customers' needs and wants based on the KANO model in Samenalaeme Institute?
4. What are the main criteria of services quality based on the combination of KANO and SERVQUAL model in Samenalaeme Institute?
5. What is prioritization of services quality improvement criteria in Samenalaeme Institute?

Review of literature

SERVQUAL model: it is one of the most famous measurement methods of services quality that has been introduced by Parasarman *et al* in 1985. Based on the model, services quality is the result of comparing consumers' expectations from services and their perceptions from received services. The model is one of the main methods in measurement of customers' expectations of services quality and consists of five dimensions. These include tangibles, reliability, assurance, empathy, and responsiveness (Rajdeep, 2010)

Dimensions of SERVQUAL model

1. Tangibles: this includes physical equipment and facilities.
2. Reliability: this includes ability of delivering committed reliable services.

3. Responsiveness: this refers to the services employees' ability and desire to help customers and provide them with rapid services.
4. Assurance: this is the employees' knowledge and humility, and ability in creating confidence and reliability among customers.
5. Empathy: this is refers to respecting and valuating customers.

They presented a set of components for each of these dimensions and then developed a questionnaire for this purpose. This questionnaire is indicated two times in two forms in every survey. The first is the expectations measurement and the second is measurement of customers' perception of services (Roses, and *et al*, 2009). Analysis of the study responses let us to measure the extent of services quality gap between expectations and perceptions in five gaps. These have been indicted in the following section:

1. Gap of customers' expectations and management perceptions of these expectations
2. Gap of management perceptions of customer expectations and services quality characteristics
3. Gap of services quality characteristics and actually presented services
4. Gap of customers' expectations/perceptions of services that is presented to the customers.
5. Gap of expected services and perceived services.

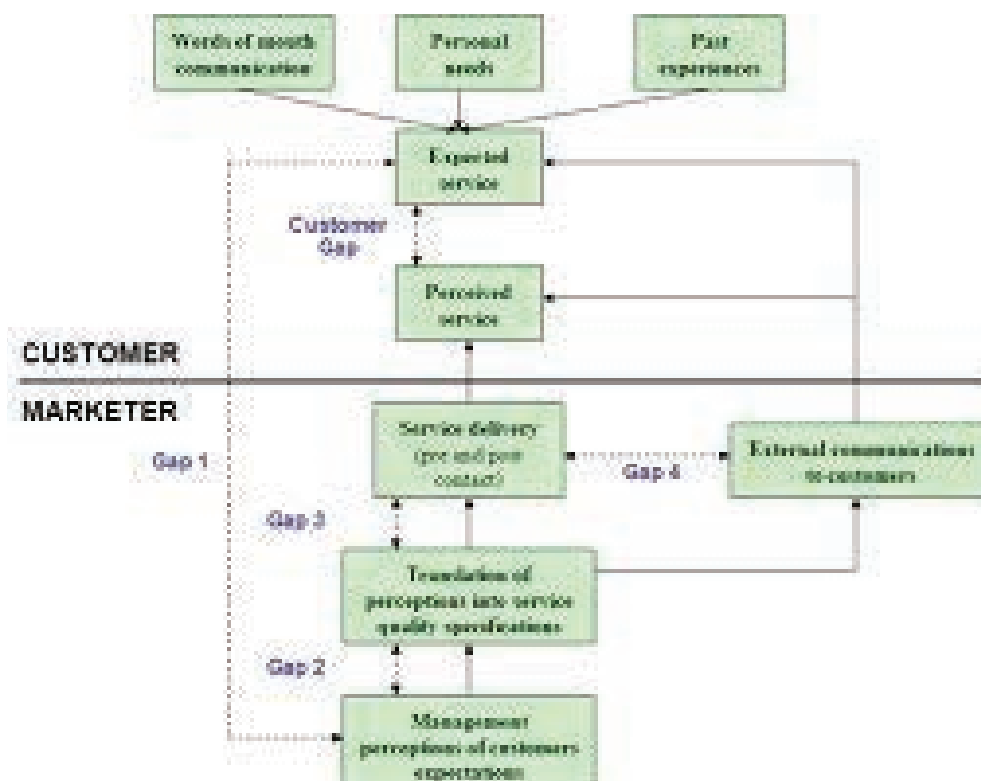


Figure 1: the conceptual model of services quality (Donnelly, M, and et al, 2009)

Advantages of SERVQUAL model: The use of this questionnaire is more economical than other tools in services quality evaluation. Also this questionnaire has a standard analysis form for explaining its results. Finally, customer satisfaction measurement is another advantage of SERVQUAL model in comparison with other models (Bebko, 2000).

Disadvantages of SERVQUAL model: it is supposed in this model that there is a linear relationship between customer satisfaction and services characteristics performance. This is why that KANO model has been introduced for improving disadvantages of SERVQUAL model.

KANO model

This model has been developed and introduced by Professor Kano in last of 1970's. The model developed a classification for customers' requirements which can be used for measuring customers' satisfaction of services quality. Kano *et al.* (1984) introduced two-way quality model that is based on the customers' expectations and perceptions. The horizontal axis of the model refers to the extent of quality and vertical one refers to customers' satisfaction of services quality (kua, 2004). The model has been showed in figure 2.



Figure 2: Kano model

Levels of requirements based on Kano model

Must-be Quality (Threshold or Basic Attributes): it refers to the primary and fundamental characteristics of goods and services. When these characteristics could not be satisfied, the customer will be dissatisfied. It should be remembered that providing these characteristics for customers do not increase their satisfaction. Indeed, the customers observe these characteristics as the primary aspects of products and demand them.

One-dimensional Quality (Performance Attributes): it refers to the one-dimensional requirements of goods and services. Satisfying these needs results in the customers' satisfaction and dissatisfying those results in their dissatisfaction. Indeed, performance attributes are wanted by customers explicitly. In other words, one-dimensional needs are both necessary condition and sufficient condition in the customer satisfaction.

Attractive Quality (Excitement Attributes): this refers to the third group of quality requirements in Kano model that is not considered as a necessary dimension of the goods and services in time of products use. As a result, dissatisfaction of such needs do not make customers dissatisfied, but providing these results in the customers' satisfaction. The most important characteristic of these needs is that is not wanted by customers, but its presentation results in more satisfaction for customers (Ronald, and *et al.*, 2011).

Classification of customer needs based on Kano questionnaire

In order to this, every question is asked in two positive and negative forms and then the customer is asked to select five options for responding every question. Based on the paired comparisons, different types of quality can be recognized. These include one-dimensional, quality, and attractive qualities.

For example, the following question has been developed in the above-mentioned form. What is your feeling if the products are offered with appropriate and good quality?

1. I love qualified products
2. The products should be qualified
3. I am indifferent
4. I cope with it
5. I do not love it.

Another instance of such questions has been indicated in the following section. What is your feeling if the products are not offered with appropriate and good quality?

1. I like it
2. It should be unqualified
3. I am indifferent
4. I cope with it
5. I don't love it.

Table 1: Kano evaluation

		Responses to negative questions					
		1	2	3	4	5	
Responses to positive questions	1	1	Q	A	A	A	Q
	2	2	R	I	I	I	M
	3	3	R	I	I	I	M
	4	4	R	I	I	I	M
	5	5	R	R	I	I	Q

The evaluation rule of “M>O>A>I” can be applied to quality characteristics. The rule will be very desirable if the goods and services characteristics are classified in different groups in an obvious manner. When a customer make a decision about goods or services, he/she should concentrate on which characteristics that influence customers' experiences quality more than other ones. For this purpose, the characteristics should be secured in that good or service. Otherwise, the customer will be dissatisfied.

Attractive quality (A): when the customer is indifferent to or copes with lack of a characteristic in a good or service, his/her satisfaction will be secured.

Must-be quality (M): when there is an especial characteristic and also the customer is indifferent to or copes with a characteristic in a good or service, the customer will be satisfied and vice versa.

One-dimensional quality (O): if the customer is dissatisfied from a product because of its defection or he/she is satisfied because of its perfection, the characteristics will be considered as a performance attribute.

Indifferent quality (I): this condition refers that the customer is indifferent to the product and its characteristics. Some authors suggest elimination of indifferent characteristics of goods and services in the future stage of analysis.

Questionable quality (Q): this refers to a condition in which the questions are asked loosely. This is why that the customer cannot understand the question and make a mistake in responding question.

Reverse quality (R): it refers to a condition in which the customer is indifferent to the quality. In other words, he/she has not any desire to receive that product. It is should be remembered that such conditions are resulted from defection in the data collection stage (Saucrwen, and *et al*, 2000).

Analysis of Kano questionnaire based on the collected frequencies modification

If the questions of questionnaire are about general characteristics of product, everybody will have specific and informed response. On the other hand, the questions may be developed based on the professional and technical characteristics of the product that some respondents may not be able to answer it or their response is indifferent.

$$\text{If } O+A+M > I+R+Q = \max(O, A, M)$$

$$\text{If } O+A+M < I+R+Q = \max(I, R, Q)$$

Advantages of Kano model

It is necessary to recognize the criteria and characteristics of the goods and services which influence customers' satisfaction more than others. This is why that the effect of different require-

ments is different based on the customers' expectations. This means that although a characteristic can dissatisfy a customer, but it can satisfy another one. Since the prerequisite of Kano model is recognition and prioritization of customers' needs, this model can be integrated with quality performance development optimally (Griffin and Hauser, 2002).

Combinative version of Kano and SERVQUAL models

As indicated in the previous section, the characteristics of goods and services are classified based on its relation with customer needs in Kano model. These include main, performance, and attractive qualities. Indeed, the purpose of Kano model is to create a nonlinear relationship between product characteristics performance and customer service and satisfaction. Indeed, considering products quality characteristics in SERVQUAL model prevents its problem of linear model. Based on the combinative version of KANO and SERVQUAL models, poor products quality characteristics should be attended in the principle requirements and performance requirements. The reason is that inattention to such characteristics result in the customers' serious dissatisfaction. On the other hand, poor products quality characteristics should be attended in the attractive qualities for promoting and developing organizations' goods and services.

Results and discussion

The results of this study revealed that there is a significant difference between expected services and perceived services in all of the services dimensions. Based on the results of this study, the customers' expected services are higher than their perceptions in the present condition. In other words, none of services dimensions has satisfied customers' needs and wants. Another part of the results revealed that the most services gap was observed in empathy dimension and the most gap of criteria was in terms of confidence plan for recognizing customers (such as telephone, SMS, advertisements) and short and appropriate time of customers' waiting time. On the other hand, the results of KANO model revealed that three characteristics were placed in the must-be qualities, 22 characteristics were placed in the performance attributes, and one of them was placed in the at-

tractive qualities group. Also the results of combinative version of KANO and SERVQUAL models revealed that customers' personal safety, sound and perfect reports and documents, and employees' cleanness are the main must-be qualities that are prioritized. The results of our study are supported by previous authors. Moradi (2010) evaluated customers' satisfaction of services quality through KANO and SERVQUAL models in Iran insurance company. The results of SERVQUAL model revealed the customers' dissatisfaction from provided services. Based on the results of this study, the customers considered two characteristics of services as the main services quality characteristics. These include sufficient number of branches across the city and appropriate distribution of branches across the city. In other words, they have satisfaction from these services and remaining 12 characteristics had not any significant effect on the customers' satisfaction. This means that there is a significant negative relationship between actual performance and customers' expectations in terms of 23 characteristics. In the next stage, the author used KANO model for classifying services quality and found that characteristics were placed in attractive qualities, 12 characteristics were classified in the one-dimensional characteristics, and remaining 5 characteristics were placed in the indifferent group. Zamani (2010) analyzed and evaluated services quality criteria through combining KANO and SERVQUAL models in Aseman airlines Company. He found that employees' tendency to help customers is the first prioritized services quality and movement and transmission of passengers (waiting time) is the final prioritized factor in this area. The results of his study revealed that all dimensions have negative gap. Another part of the results in terms of KANO model indicated that three characteristics were placed in the attractive qualities, 10 characteristics were placed in the one-dimensional, and remaining 14 characteristics were placed in the must-be qualities. The results of the mentioned studies revealed that the customers' expectations are more than their perception from services so that most of the services qualities were negative. Since different customers have different needs and different levels of needs, it is important to recognize and satisfy needs and wants. The results of previous studies refer to the difference between performance attributes, must-be, and indifferent needs.

Table 2: The combinative version of Kano and SERVQUAL models

Needs levels in Kano model					
		M	I	O	A
Gaps of SERVQUAL model	Negative	Very important	Important	Relatively important	Rare important
	Positive	Rarely important	Relatively important	Important	Very important
	Zero	Not important	Not important	Not important	Not important

Table 3: The results of prioritization of the services quality improvement criteria

Quality criteria	Gap	Class	Combinative version of KANO and SEVQUAL models	Prioritization
Customers' personal safety in time of services consumption	-0.74	M	Very important	1
Sound and perfect reports and documents	-0.32	M	Very important	2
Employees' cleanness	-0.32	O	Very important	3
A confidence plan for recognizing customers (such as telephone, SMS, advertisements)	-1.26	O	Relatively important	4
Short and appropriate customers' waiting time	-1.15	O	Relatively important	5
Speed in providing services	-0.94	O	Relatively important	6
Obvious and definite banking instructions for customers	-0.93	O	Relatively important	7
Recognizing and understanding customers' different needs by bank	-0.91	O	Relatively important	8
Informing customers and providing them with information about services	-0.9	O	Relatively important	9
Convenient access to the branches	-0.9	O	Relatively important	10
Employees' professional abilities in offering better services and solving their problems	-0.86	O	Relatively important	11
Providing services timely and without any delay	-0.83	O	Relatively important	12
Appropriate and modern facilities	-0.83	O	Relatively important	13
Employees' empathy with customers	-0.8	O	Relatively important	14
Providing banking services for customers in the committed time	-0.8	O	Relatively important	15
On organizational officers to investigate customers' complaints	-0.76	O	Relatively important	16
Employees' desire for solving customers' problems	-0.75	O	Relatively important	17
Favorable services of the branch	-0.74	O	Relatively important	18
Employees' perfect efforts for satisfying customers' needs in the first time	-0.68	O	Relatively important	19
Employees' responsiveness in front of customers' problems in a private manner	-0.65	O	Relatively important	20
Employees' compassionate behavior in the interactions with customers	-0.65	O	Relatively important	21
Employees' commitment for offering sufficient and effective services	-0.60	O	Relatively important	22
Customers' reliability and confidence on the bank based on the previous interactions	-0.58	O	Relatively important	23
Employees' polite and humble behaviors in the interaction with customers	-0.48	O	Relatively important	24
Bank suitability hours a day for customers	-0.48	O	Relatively important	25
Communicational facilities such as bulletins and brochures	-0.82	O	Relatively important	26

Managerial suggestions

1. In order to improve services quality and decrease gap between customers' perceptions and expectations in all of the services dimensions, it is suggested that the organization use research methods in different customers groups and develop a customer-based system so exactly that be able to collect, organize, and promote services quality information in order to support decisions. These refer to recognition of failures and defections which need to be improved and reinforced.

2. Two dimensions had the most gaps. These include employees' empathy in services quality evaluation and services insurance. Based on the importance of this issue, it is suggested that employees be educated in terms of communicational and marketing skills. It is suggested that the managers consider the following points for improving customers' satisfaction and loyalty:

2-1- implementing in-service educational periods and workshops for promoting employees' awareness and knowledge about customers and their needs and wants

2-2- developing a network for exchanging customers' viewpoints inside the branch and evaluating actual and potential customers' viewpoints in terms of services quality and attempting to consider the critical and constructive points of clients and customers.

3. Based on the results of combining KANO and SERVQUAL models, it is necessary that the must-be negative gaps being attended and prioritized. For this purpose, it is suggested that the managers consider its dimensions.

References

- Bebko, C. P. (2000). Service intangibility and its impact on customer expectation of service quality. *Journal of Service Marketing*, 14(1), 9-26.
- Bozorgi, M.M. (2006). Measuring Service Quality of the Airline Using SERVQUAL Model, Master Thesis, and Tarbiat Modares University Faculty of Engineering & Department of Industrial Engineering Luella University of Technology.
- Busaeka, B, & Padula, G. (2004). Understanding the relationship between attribute performance and overall satisfaction. *Theory Measure Meant and Implication* 23(6), 543-61.
- Donnelly, M. (2009). Assessing the Quality of phone services using SERVQUAL. *An International Journal of Police Strategies & Management*, 29(1).
- Griffin & Hauser. (2002). An application of integrating SERVQUAL and KANO model into QFD for logistics service (case study in turkey), *Asia Pacific Journal of Marketing and Logistics*, 21(1), 106. 125.
- Gronroos, Ch. (2000). *Service Management to Marketing: A customer Relationship Management Approach*, Second Edition, Published.
- Guo, X., Duff, A., & Hair, M. (2008), Service Quality Measurement in the Chinese Corporate Banking Market. *International Journal of Bank Marketing*, 26(5), 305-327.
- Han, S.B., & Chen, Sh.K. (2001). Ebrahimpour, M. and Sodhi, M.S., conceptual QFD planning model, *International Journal of Quality & Reliability Management*, 18(8), 796-812.
- Kua, Y, F. (2004). Integrating Kano's Model Into web-Community Service Quality, *Total Quality Management*, 15(7).
- Porsfanden, Q., Shojaei, A., & Shiri, M. (2010). Measurement and evaluation of services quality in the educational department of Iran Kodro Company. *Journal of economic and business researches*, 1(1), 22-31.
- Rajdeep, S. (2010). SERVQUAL and model Of Service quality gaps: A framework for determining and prioritizing critical factors from faculty perspective in higher education. *International Journal of Engineering Science and Technology*, 2(7), 3297-3304.
- Ronald, S., Ching, Ch. Y., & Fan, L. (2011). Towards an Identification and Classification of Service Quality Attributes in Higher Education. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 1(2).
- Roses, L.K., Hoppnen, N., & Henrique, J.L. (2009). Management meant of perceptions of information Technology service quality. *Journal of Business Research*, 72, 876-882.
- Saucrwen, E., Bailom, F., Matziler, K., & Hintcrthuber, H. (2000). The Kano Model: I low to Dchght your customers, International working seminar on production Economies, February.
- Tan, K.C., & Pawitra, T.A. (2001). Integrating servqual and kano's model into qfd for service excellence development, *Managing Service Quality*, 11(6), 418-430.