Evaluation of factors of customer satisfaction in banks in Iran using DEMATEL method

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Abstract: The customer satisfaction is a newer approach than the quality in economic institutions, organizations and also creating a management and customer focused culture. Measurement customers' satisfaction shows a quick, significant and objective feedback about customer expectations and priorities. Thus the performance of organizations in relation to collection of satisfaction's dimensions should be evaluated that shows the strength and weak points of an organization. The purpose of this research is to evaluate the factors of customer satisfaction in banks in Iran using DEMATEL method that the customer satisfaction factors have been identified as the reference points for experts.

1. Introduction

Customer satisfaction is an important theoretical as well as practical issue for most marketers and consumer researchers (Jamal and Naser, 2003). Customer satisfaction is the feeling or attitude of a consumer toward a product or service after it has been used (Singh and Kaur, 2011). Customer satisfaction is generally considered among the most significant long-term goals of firms (kaura, 2013). Figures of various surveys have shown that the costs of acquiring a new customer are more expensive than retaining accessible ones. Investments in customer satisfaction, customer relationships, and service quality lead to profitability and market share (Alhemoud, 2010). If the customers are satisfied with the provided goods or services, the probability that they use the services again increases. Also, satisfied customers will most probably talk enthusiastically about their buying or the use of a particular service; this will lead to positive advertising. On the other hand, dissatisfied customers will most probably switch to a different brand; this will lead to negative advertising (Gupta and Dev, 2012).

Some researchers are of the point of view that there is relationship between service quality and customer satisfaction (Abdul Rehman, 2012). It has been stated that customer satisfaction is the most influential factor on customer loyalty (Keisidou et al., 2013) customer satisfaction is influenced by seven factors: employee responsiveness, appearance of tangibles, social responsibility, services innovation, positive word-of-mouth, competence, and reliability (Singh and Kaur, 2011). Customer satisfaction is an evaluation by the customer after buying an industry's goods and services. Many industries are paying greater attention to customer satisfaction for reasons such as increased competition and deregulation (Alhemoud, 2010). The study begins by a literature review of customer satisfaction in banking sector. In the following, the DEMATEL method has been conducted.

2. Literature review

Banking has been traditionally operated in a relatively stable environment for decades. However, nowadays the industries are dramatically faced with aggressive and deregulated competition environments. Every bank has to know how to enter a market and keep its competitive position. A vital clue to build a strong competitive position is understanding customer needs accurately and completely. These days no organization can succeed unless it can attract and retain enough customers. Effective customer management is a significant issue for the success of banks (Amirzadeh, 2013).

Banking is one of the many service industries where customer satisfaction has been an increasing focus of research (Estiri et al., 2011). If a satisfied customer has potential to influence and bring in 100 new customers, a dissatisfied customer can potentially influence 1,000 customers. Banking institutions across the globe have recognized the importance of customer satisfaction and of developing and maintaining enduring relationship with their customers as two crucial parameters leading to increased business profits (Gupta and Dev, 2012).

Factors related to service offerings are also related to customer satisfaction. Convenience and competitiveness of the bank are two important factors which are likely to influence the overall satisfaction levels of a customer. A number of researchers have looked into the bank selection criteria adopted by customers. Empirical findings from this stream of research suggest mat convenient location is a critical factor influencing the choice of a bank by customers. A convenient bank location means customers can easily do business wim their banks on a regular basis.

Accessibility is also a related factor which, while acting together with convenience, enables customers to deal with their banks more easily. Furthermore, customer satisfaction in retail banking is also likely to be influenced by the perceived competitiveness of the bank's interest rates (Jamal and Naser, 2003).

Customer satisfaction is now for many banks the primary criterion for the assessment of their relationship with the market, a permanent object of their operating policies and an important element for the reinforcement of company reputation, as well as a fundamental guide to direct operational processes. Implementing a strategy for improving customer satisfaction represents a challenging goal that requires complex activities, beginning with the assessment of the customer base to the reinforcing of interactions between the organisational units of the bank. The approach for improving customer satisfaction has reached different stages of development in each bank (Munari, 2013).

3. Methodology

3.1 DEMATEL method

The methodology of the Decision Making Trial and Evaluation Laboratory (DEMATEL), originally developed by the Battelle Memorial Association in Geneva, is an effective method for analyzing direct and indirect relation between components of a system in respect to its type and severity. Through the analysis of total relation of the components by DEMATEL, a better understanding of the structural relationship and an ideal way to solve complicate system problems can be obtained. Essentially speaking, for a large number of factors which impact each other a lot, emergency management is a complex system. So, DEMATEL can be adopted to rank factors influencing emergency management, and to find out the CSFs to improve emergency management. The basic steps of DEMATEL are as follows.

(1) A committee of experts evaluates the relationship between sets of paired alternatives. The scale of integers ranged from 0 to 4, representing "No influence (0)," "Low influence (1)," "Medium influence (2)," "High influence (3)," and "Very high influence (4)". As the result of this evaluation, a matrix of direct relations $M = [m_{ij}]$ is obtained as the initial data of the DEMATEL analysis.

(2) According to Eqs, the elements of direct relation matrix are obtained. The matrix N is a matrix of direct relations between alternatives. It is also the normalized version of matrix M.

(1) $S = max_i \sum_{j=1}^{n} m_{ij}$

(2) $N = \frac{z}{s}$

(3) According to Eq, the elements of total relation matrix are obtained. The matrix consists of all the relations, including direct and indirect relations between alternatives.

(3) $T = \lim_{k \to \infty}(N + N^2 + \cdots + N^k) = N(1 - N)^{-1}$

(4) Using the values of R + C and R - C where C is the sum of columns and also R is the sum of rows in the matrix of T, a level of influence and a level of relationship are defined. The value of R - C indicates severity of influence for each alternative. Alternatives having higher values of R - C have higher influence to another and are assumed to have higher priority, and those having lower values receiving more influence from another are assumed to have lower priority. In similar, the value of R + C indicated degree of relation between each alternative with others and alternatives having higher values of R + C have closer relationship with another and those having lower values of R + C have less relationship with others (Li et al., 2014).

3.2 An application on the Iranian banks

In this research we have used from 12 criterion to investigate effective factors on customers satisfaction in banks whose names are given in Table 1.

Table 1. Customer satisfaction factors in bank (Dincer and Hacioglu, 2013)

No	Symbols	Title
1	C_1	Welfare facilities in the branch
2	C_2	Presenting non-attendance services
3	C_3	Operational convenience
4	C_4	feedback on problems
5	C_5	Information Services and Facilities
6	C_6	Timely payment of services and facilities
7	C_7	Reimbursement of services and facilities
8	C_8	Presenting special services for Loyal Customers
9	C_9	staff clothing
10	C_{10}	Experience and specialty
11	C_{11}	Commitment and responsibility and good manners
12	C_{12}	Speed and accuracy

To study the factors, we have used from the viewpoints of four experts that the following tables shows the paired comparisons them. In this matrix, m_{ij} is the viewpoints of experts and m_{ii}=(i=1,2,3,…,n) equals zero (Core diameter equals zero).

Table II

Expert1	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	-	0	4	1	2	1	1	4	4	1	4	4
C2	0	-	4	4	4	3	3	4	0	0	0	4
C3	4	4	-	4	4	3	3	4	0	4	4	4
C4	3	3	3	-	3	3	1	4	1	4	4	4
C5	3	4	4	4	-	3	2	4	2	4	4	4
C6	1	4	4	4	4	-	1	4	1	4	4	4
C7	0	2	4	2	3	4	-	4	0	3	1	2
C8	4	4	4	4	4	4	4	-	4	4	4	4
C9	0	0	0	0	0	0	0	2	-	0	0	0
C10	0	2	4	4	4	4	3	4	1	-	1	4
C11	0	2	4	3	4	3	3	4	4	3	-	4
C12	4	4	4	4	4	2	1	4	1	4	4	-

Table III

Expert2	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	-	2	3	0	2	2	0	4	0	0	0	0
C2	0	-	4	3	3	3	0	2	0	0	0	3
C3	3	4	-	0	1	3	0	1	0	0	0	3
C4	0	3	3	-	3	0	0	1	0	3	4	3
C5	1	3	0	2	-	4	0	1	0	3	2	0
C6	0	4	4	1	3	-	2	3	0	3	4	1
C7	0	3	2	0	3	4	-	3	0	2	4	0
C8	3	2	4	3	3	4	3	-	3	3	3	3
C9	0	0	0	0	0	0	0	4	-	0	0	0
C10	0	0	3	4	3	0	0	4	0	-	3	4
C11	0	0	3	3	3	4	3	3	0	4	-	3
C12	0	3	4	2	3	4	1	4	0	4	4	-

Table IV

Expert3	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	-	3	4	0	1	3	0	4	0	0	1	2
C2	0	-	4	2	4	2	0	4	0	0	1	2
C3	1	4	-	4	4	4	2	4	1	3	3	4
C4	0	3	4	-	2	3	1	2	0	0	2	3
C5	1	4	4	1	-	3	1	3	1	2	1	3
C6	1	3	3	1	2	-	3	3	1	2	3	2
C7	0	1	1	0	1	3	-	3	0	0	1	2
C8	1	4	3	1	1	1	0	-	3	4	4	4
C9	0	1	0	0	0	0	0	2	-	0	1	1
C10	0	4	4	4	4	4	2	4	0	-	3	4
C11	0	4	4	4	4	4	2	4	3	4	-	4
C12	0	4	4	4	4	4	2	4	0	1	2	-

Table V

Expert4	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	-	3	2	1	0	2	0	3	4	1	2	3
C2	1	-	4	3	3	2	3	3	2	3	2	4
C3	1	4	-	1	3	4	1	3	1	2	2	4
C4	1	4	1	-	3	1	1	4	1	4	4	4
C5	2	4	4	1	-	3	2	4	1	4	4	4
C6	2	2	4	1	3	-	2	4	1	4	4	3
C7	1	3	4	1	3	3	-	3	1	3	2	4
C8	4	4	4	3	3	3	2	-	2	4	4	4
C9	2	0	1	1	3	1	1	3	-	1	3	1
C10	2	3	4	3	3	3	3	2	1	-	4	4
C11	2	2	4	3	4	4	3	3	1	4	-	4
C12	3	4	4	3	4	4	3	3	1	4	4	-

To include viewpoints from all experts we calculate the average of them. Table VI shows the average paired comparisons.

Table 2. The average of all experts

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9	C_{10}	C_{11}	C_{12}
C_1	0.0000	2.0000	3.2500	0.5000	1.2500	2.0000	0.2500	3.7500	2.0000	0.5000	1.7500	2.2500
C_2	0.2500	0.0000	4.0000	3.0000	3.5000	2.5000	1.5000	3.2500	0.5000	0.7500	0.7500	3.2500
C_3	2.2500	4.0000	0.0000	2.2500	3.0000	3.5000	1.5000	3.0000	0.5000	2.2500	2.2500	3.7500
C_4	1.0000	3.2500	2.7500	0.0000	2.7500	1.7500	0.7500	2.7500	0.5000	2.7500	3.5000	3.5000
C_5	1.7500	3.7500	3.0000	2.0000	0.0000	3.2500	1.2500	3.0000	1.0000	3.2500	2.7500	2.7500
C_6	1.0000	3.2500	3.7500	1.7500	3.0000	0.0000	2.0000	3.5000	0.7500	3.2500	3.7500	2.5000
C_7	0.2500	2.2500	2.7500	0.7500	2.5000	3.5000	0.0000	3.2500	0.2500	2.0000	2.0000	2.0000
C_8	3.0000	3.5000	3.7500	2.7500	2.7500	3.0000	2.2500	0.0000	3.0000	3.7500	3.7500	3.7500
C_9	0.5000	0.2500	0.2500	0.2500	0.7500	0.2500	0.2500	2.7500	0.0000	0.2500	1.0000	0.5000
C_{10}	0.5000	2.2500	3.7500	3.7500	3.5000	2.7500	2.0000	3.5000	0.5000	0.0000	2.7500	4.0000
C_{11}	0.5000	2.0000	3.7500	3.2500	3.7500	3.7500	2.7500	3.5000	2.0000	3.7500	0.0000	3.7500
C_{12}	1.7500	3.7500	4.0000	3.2500	3.7500	3.5000	1.7500	3.7500	0.5000	3.2500	3.5000	0.0000

Table 3 shows the normalized matrix.

Table 3. Normalized matrix

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9	C_{10}	C_{11}	C_{12}
C_1	0.0000	0.0567	0.0922	0.0142	0.0355	0.0567	0.0071	0.1064	0.0567	0.0142	0.0496	0.0638
C_2	0.0071	0.0000	0.1135	0.0851	0.0993	0.0709	0.0426	0.0922	0.0142	0.0213	0.0213	0.0922
C_3	0.0638	0.1135	0.0000	0.0638	0.0851	0.0993	0.0426	0.0851	0.0142	0.0638	0.0638	0.1064
C_4	0.0284	0.0922	0.0780	0.0000	0.0780	0.0496	0.0213	0.0780	0.0142	0.0780	0.0993	0.0993
C_5	0.0496	0.1064	0.0851	0.0567	0.0000	0.0922	0.0355	0.0851	0.0284	0.0922	0.0780	0.0780
C_6	0.0284	0.0922	0.1064	0.0496	0.0851	0.0000	0.0567	0.0993	0.0213	0.0922	0.1064	0.0709
C_7	0.0071	0.0638	0.0780	0.0213	0.0709	0.0993	0.0000	0.0922	0.0071	0.0567	0.0567	0.0567
C_8	0.0851	0.0993	0.1064	0.0780	0.0780	0.0851	0.0638	0.0000	0.0851	0.1064	0.1064	0.1064
C_9	0.0142	0.0071	0.0071	0.0071	0.0213	0.0071	0.0071	0.0780	0.0000	0.0071	0.0284	0.0142
C_{10}	0.0142	0.0638	0.1064	0.1064	0.0993	0.0780	0.0567	0.0993	0.0142	0.0000	0.0780	0.1135
C_{11}	0.0142	0.0567	0.1064	0.0922	0.1064	0.1064	0.0780	0.0993	0.0567	0.1064	0.0000	0.1064
C_{12}	0.0496	0.1064	0.1135	0.0922	0.1064	0.0993	0.0496	0.1064	0.0142	0.0922	0.0993	0.0000

After calculating upper matrixes, fuzzy general relations matrix would be resulted according to the formula number 3 that the Table 4 shows this matrix.

Table 4. General relations matrix

	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8	C_9	C_{10}	C_{11}	C_{12}
C_1	0.0933	0.2530	0.3068	0.1752	0.2313	0.2451	0.1199	0.3141	0.1311	0.1877	0.2257	0.2660
C_2	0.1227	0.2520	0.3785	0.2782	0.3370	0.3052	0.1783	0.3504	0.1034	0.2392	0.2461	0.3413
C_3	0.1907	0.3967	0.3288	0.2968	0.3700	0.3730	0.2042	0.3956	0.1214	0.3133	0.3220	0.4001
C_4	0.1481	0.3543	0.3743	0.2214	0.3423	0.3081	0.1735	0.3632	0.1130	0.3077	0.3322	0.3721
C_5	0.1745	0.3830	0.3996	0.2867	0.2856	0.3606	0.1953	0.3888	0.1323	0.3327	0.3284	0.3703
C_6	0.1611	0.3827	0.4306	0.2907	0.3767	0.2895	0.2224	0.4131	0.1305	0.3452	0.3637	0.3774
C_7	0.1130	0.2936	0.3328	0.2103	0.2983	0.3172	0.1324	0.3355	0.0928	0.2580	0.2630	0.2948
C_8	0.2310	0.4313	0.4793	0.3489	0.4131	0.4085	0.2510	0.3743	0.2050	0.3925	0.4033	0.4521
C_9	0.0510	0.0842	0.0936	0.0697	0.0963	0.0818	0.0513	0.1555	0.0324	0.0762	0.0975	0.0943
C_{10}	0.1547	0.3717	0.4419	0.3489	0.3997	0.3716	0.2271	0.4237	0.1262	0.2721	0.3521	0.4249
C_{11}	0.1644	0.3874	0.4672	0.3543	0.4287	0.4184	0.2596	0.4509	0.1734	0.3892	0.3012	0.4420
C_{12}	0.1987	0.4366	0.4820	0.3598	0.4346	0.4179	0.2373	0.4625	0.1386	0.3799	0.3946	0.3532

4. Conclusion

Customer satisfaction in organizations is something dynamic and market changes could influence customer's expectations and priorities. For example it's possible that in a not far future, some of customer's satisfaction factors find more priority and as a result obtain more weight in importance, so it seems to be necessary to create a continual system to measurement customer's satisfaction. According to the research, welfare facilities are more effective than other agents, and presenting special services for Loyal Customers has a lot of importance. Thus the banks should consider these factors in their plans that as a result would cause the customer's satisfaction increase.
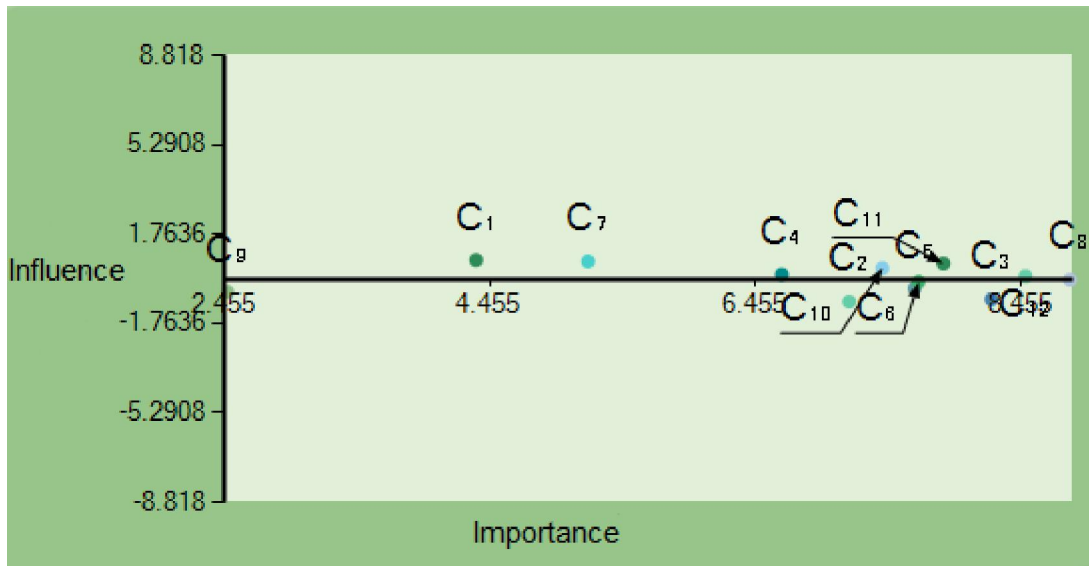

Figure 1: Importance and influence of the factors

Figure 1 shows the level of importance and impact and influence among the factors. The horizontal axis is the importance of the factors and the vertical axis shows the influence or impact of the factors.

Table 5 shows R_i-C_i and R_i+C_i.

Table 5. Importance and influence of the factors

Factors	$R_i + C_i$	$R_i - C_i$
C_1	4.3523	0.7458
C_2	7.1587	-0.8943
C_3	8.2282	-0.8030
C_4	6.6512	0.1695
C_5	7.6513	-0.3757
C_6	7.6804	-0.1133
C_7	5.1941	0.6895
C_8	8.8180	-0.0372
C_9	2.4841	-0.5162
C_{10}	7.4087	0.4209
C_{11}	7.8665	0.6066
C_{12}	8.4844	0.1074

References

1. Abdul Rehman, A. (2012), "Customer satisfaction and service quality in Islamic banking: A comparative study in Pakistan,United Arab Emirates and United Kingdom", Qualitative Research in Financial Markets, Vol. 4 No. 2/3, pp. 165-175.
2. Alhemoud, A. (2010), "Banking in Kuwait: a customer satisfaction case study", Competitiveness Review: An International Business Journal, Vol. 20 No. 4, pp. 333-342.
3. Amirzadeh, R., and Shoorvarzy, M. (2013) "Prioritizing service quality factors in Iranian Islamic banking using a fuzzy approach", International Journal of Islamic and Middle Eastern Finance and Management, Vol. 6 Iss: 1, pp.64 – 78.
4. Dincer, H., and Hacioglu, U. (2013), "Performance evaluation with fuzzy VIKOR and AHP method based on customer satisfaction in Turkish banking sector", Kybernetes, Vol. 42 No. 7, pp. 1072-1085.
5. Estiri, M., Hosseini, F. and Yazdani, H. (2011), "Determinants of customer satisfaction in Islamic

banking: evidence from Iran", International Journal of Islamic and Middle Eastern Finance and Management, Vol. 4 No. 4, pp. 295-307.

6. Gupta, A., and Dev, S. (2012), "Client satisfaction in Indian banks: an empirical study", Management Research Review, Vol. 35 No. 7, pp. 617-636.

7. Jamal, A., and Naser, k. (2003), "Factors influencing customer satisfaction in the retail banking sector in pakistan", International Journal of Commerce and Management, Vol. 13 Iss: 2, pp.29 – 53.

8. Kaura, V. (2013), "Antecedents of customer satisfaction: a study of Indian public and private sector banks", International Journal of Bank Marketing, Vol. 31 No. 3, pp. 167-186.

9. Keisidou, E., Sarigiannidis, L., and Maditinos, D. (2013), "Customer satisfaction, loyalty and financial performance: A holistic approach of the Greek banking sector", International Journal of Bank Marketing, Vol. 31 No. 4, pp. 259-288.

10. Li, Y., Hu, Y., Zhang, X., Deng, Y. and Mahadevan, S. (2014), "An evidential DEMATEL method to identify critical success factors in emergency management", Applied Soft Computing, Available online 21 April 2014.

11. Munari, L. (2013), "Customer satisfaction management in Italian banks", Qualitative Research in Financial Markets, Vol. 5 No. 2, pp. 139-160.

12. Singh, J., and Kaur, G. (2011), "Customer satisfaction and universal banks: an empirical study", International Journal of Commerce and Management, Vol. 21 No. 4, pp. 327-348.

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