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Identification and Ranking of the Marketing Mix of Services in the Banking Industry, using DEMATEL

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Abstract

In the current competitive market, identifying the major factors affecting the behavior of customers considered very important. Every organization needs to know, investing on which factor results in higher efficiency. Banks face a complex world of competition thus; they need to identify these factors. These factors differ from the factors in manufacturing industry. Therefore, banks need to understand their own marketing mix factors and identify the most important ones. As a result, in this research after a literature review, the factors identified and then by using DEMATEL, a ranking has done and the most important factor introduced. According to the results, price and staff have the most impact.

Keywords

Service marketing mix factors, DEMATEL, banking industry.

1. Introduction

Not many years ago, there were few banks in Iran, which had many customers, and the number of customers was increasing. Because of this and the fact that government managed all of them, they did not have the need for marketing thoughts. However, with the advent of the first private banks in Iran and increasing number of them, banking service marketing turned into one of their most important concerns. Customers' awareness about other banks quality of service also increased and with increasing number of competitors, they would not accept low quality services, Aaker, (1994).

In these circumstances, banks need to reinforce their competitive position. One way to strengthen the competitive position is to attract and keep customers and increase their

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loyalty. Because they are aware of competitors, services and they will give their resources to the bank with best services, Fifield, (1996). Therefore, service marketing became an essential part of banks activity. Banking service marketing is the result of all activities related to the production and provision of banking services, Bhardwaj, (2007). Same as products, services have marketing mix of their own. Using some of marketing mix factors such as accessibility, proper supply, speed, variety of services and proper advertising can lead to increasing investment in banks and financial institutes, Fukey, et al, (2014). Some of these factors are more important which more attention to them results in efficiency increase of marketing activities. Therefore, the present study seeks to prioritize service marketing mix factors in the country's banking network.

2. Theoretical foundations and research background

Marketing is a kind of social and management process in which people and groups can meet their needs by means of production and exchange of products and values. All of people think that marketing is only about advertising and selling products. While sales and advertising are only floating part of marketing iceberg. Today, marketing should not considered as introducing and selling the product as once was, but it should be taken as a means to meet the customers' needs, Brady, (2001).

Marketing mix is a set consisting of controllable marketing tools, which the organization mix them to meet the target market needs. In another words, marketing mix includes every action that corporation takes in order to affect demand, Colgate, (2001). One of important areas in marketing is service marketing. Service include activities that are intangible, inseparable, variable and unattainable, Fukey, et al, (2014).

Marketing mix concept was first introduces by Niel Bordon in 1953 and was presented in his paper as "Marketing Mix concept" in 1964, Gupta, (2012). He classified this mix in 12 sections as, product design, pricing, brand development, distribution channels, personal sale, advertising, promotion, packaging, service, actions and physical displacement and finding real data and analyzing it.

Following Bordon, in 1964 McKarti introduced this mix as four basis, which is known as "4p". These bases include product, price, place and promotion   McCarthy, (1960).   In service industry, traditional marketing mix is inefficient because this mix is designed for manufacturing industry, Shamah, (2013). Marketing experts in service sector came to realize that traditional marketing mix does not meet their needs. The service has fundamental features and each one of them has its own special marketing result. For example, quality that being unable to measure it comes from lack of standardization. In addition, the service cannot maintain, move and registered, Raj, et al., (2014). In comparison with products, services are very different. Therefore, traditional marketing mix developed for services in order to be applicable. In this regard, 3 elements

of process, physical environment and employees added to the previous mix to form the marketing mix in service sector Shanker, (2002).

Using this mix in banking industry is growing slowly. While customers have many options in this industry and they can easily refer to another bank for better services. Thus, banks need to shift their focus from trading marketing approach to customer-oriented marketing. Service marketing mix is one of essential factors for success in this area Zeithaml, et al. (2008). In the following, seven factors of this mix describe.

2.1. Product

Product is anything that is offered for exchange or consumption to the market. In spite of goods, the tangible part of services is little or zero. Service is a set of features and benefits that relates to the target market. Given the high risk in complex financial markets, access to value added and reliable services is very important. Bank products like savings account, current account, long-term deposits and investment baskets are these sort of services, Kotler, P., (2000).

2.2. Price

In banking industry, price includes wage, bank fees and interest rate. If price is not fair and competitive, customers will shift from one bank to another. This means that price has direct effect on customers' loyalty and satisfaction. Service pricing should create added value for customer and shows quality to him. It should consider that customers have many options for receiving service and they can easily shift from one service provider to another one that they can receive better service with lower costs. Some marketing researchers suggest that price is one of main factors for customer motivation which has direct relation with variables like customer attraction, maintenance, satisfaction and loyalty, Gerrard, P., Cunningham, J.B., (2004).

2.3. Place

Traditional distribution channels for products cannot use for services. Service is not separate from sales. This means that they are created in one moment and they sell at the same moment. Logistic concept is not able to find a proper place for effective service distribution or answer to a question that which place is appropriate for establishing a bank branch, educational institute or a hotel. Within the last 3 decades, duplication of knowledge and new technologies in banking industry, has transformed provision of services to the customers. Increasing self-service technologies has led the banks to follow strategies to use multimedia channels. ATM is an example of self-service technology, which enables banks to improve their efficiency by providing more of them. In banking industry, customers choose other provision service channels based on branch place, working hour, distance to the bank, parking place and ATM existence, Brodie, et al., (2013).

2.4. Promotion

Promotion represents what marketers use in marketing such as, advertising, public relations, personal sales and sales promotion. Service industries cannot use traditional promotion tools successfully. For example, banks may have to pay heavy costs for a small operation promotion. So, promotion activities such as social relations, event management, media engagement and organizational identity programs can be used in a more innovative and effective way. All techniques and strategies that use in promotion mix, ultimately lead people to do their work with a particular company. This element forms the overall understanding of customer of the organization, Jayakumar, & Anbalagan, (2012).

2.5. People

Employees are people who introduce the organization to its customers. If employees have not trained well for communicating with customers, all marketing effort that the company makes may become useless. Service is an operation and it can hardly separate from employees. Services that presented by employees can be an important resource of differentiation and competition for the organization. In banking industry, customers' understanding of employees operation, has a direct effect on quality measurement of banking service. Therefore, bankers should concentrate on employees' service quality and development of their skills. The aspects that may increase these skills include attitude, behavior, expert knowledge, confidence, goodwill and willingness to help, Salloum, & Ajaka, (2013).

2.6. Physical environment

Services are not obvious and customers cannot assess their quality properly. Thus, they pay attention to the environment that they receive that service as an important measure for quality assessment. Service corporations need to pay a lot of attention to their physical environment because it can have a deep effect on customers understanding on that corporation. Physical environment in banks is very important since it can suggest an external view for customer services. If banks want to be liked by customers and look efficient, they should reconsider about the structure and foundation of their branches, proper place for sitting, pleasant light, proper temperature, high-technology computer systems and internet network, Helm, & Gritsch, (2014).

2.7. Process

Process is the architecture of services. Process explains the methods for creation of values and services to the customers [41]. Improper process design would upset customers because they achieve their goals with delay, they get tired and suffer from weak administrative processes [40]. These processes should move to a direction to satisfy customers in banking industry too. Today, customers can use telephone, cellphone or internet for banking service from their home, office or any other places. This approach is

called electronic banking. Access to the electronic bank from any place at any time is a very important factor for customers, Lahteenmaki, & Natti, (2013).

Table 1, shows the 7 service marketing mix factors and their abbreviation.

Table 1. 7 factors of service marketing mix and their abbreviation

Factor	Abbreviation
Product	P1
Price	P2
Place	P3
Promotion	P4
People	P5
Physical Environment	P6
Process	P7

Previous studies in Iran were not close to the present study and they usually are in different areas and different methods.

Mohammadkazemi, et al. (2013) by DEMATEL in recognizing effective factors on investor decision making in buying stock share, used fundamental analysis from as the most important causal factor. This study has done with Mellat Bank stockholders.

Sumeet, (2015) used DEMATEL technique to measure effective factors on successful execution of green presentation chain. He used this technique to assess inner relation between identified factors. The results show that senior managers, employees' technical expertise and financial resources have the most impact. Jiunn, (2010) used DEMATEL technique to identify key factors of service quality. Their findings with inter-measure relation suggest that employee communication skills and problem solving are among causal measures. This study has done in Taiwan hospitals, Kranias, & Bourlessa, (2013).

Ming-Lang Tseng (2019) used DEMATEL technique to prioritize effective factors on customer understanding in hotel industry. After identifying inner relation between measures, it denote that service information factor including travel information, notification, residential place etc. had the most effect on other factors. Honesty and trustworthiness were under influence by other factors.

3. Theoretical Framework

After examining theoretical foundations, a conceptual framework has designed. According to this, the conceptual framework showed in figure 1.
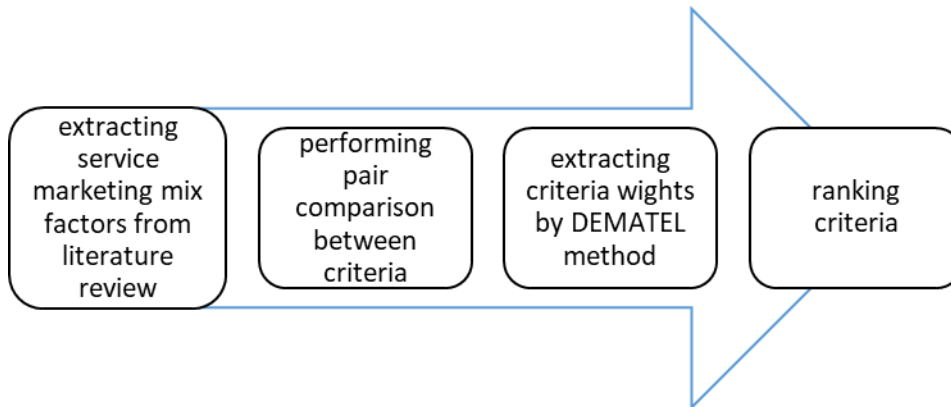

Figure 1. Conceptual model of research

4. Methodology

4.1. Research Design

The present study in terms of purpose and in terms of collecting data method is a descriptive-survey research. Data collection has carried out by using snippets, library studies and the use of questionnaire. The questionnaire that use for this study has 42 pair comparison that are between service marketing mix criteria.

4.2. Validation

Questionnaire validation has assessed by content validity with the help of experts in multi-criteria decision-making techniques.

4.3. Data Analyzing Methods

In the present study, DEMATEL method used for data analysis that is described as follows.

DEMATEL technique is short for Decision Making Trial and Evaluation. Fonetla and Gabus introduce this Technique in 1971, Wang, et al, (2007).

DEMATEL technique that is a decision-making method based on pair comparisons. This method utilizes expert's judgment in extracting a system factors and systematically structuring them by applying principles of theory of graph and provides a hierarchical structure of factors in the system with interaction of effects. Numerical scores determine the severity of effects of these relations. DEMATEL method used for identifying and studying the mutual relationship between criteria and creating network relation map. Since the directional graphs can better illustrate the relationship between system factors, DEMATEL technique is based on graphs that can divide the involved factors into two

cause and effect groups and show the relationship between them in an understandable structural model, Valenzuela, (2010).

Four step has identified for DEMATEL technique:

1- Generating the direct influence matrix (M): when opinions of multiple people are considered and their average is used to form M.

2- Normalizing direct influence matrix: N = K*M
   In which k is calculated as below. First, sum of all rows and columns are calculated. The inverse of the biggest component of rows and columns is k.

$$k = \frac{1}{\max \sum_{j=1}^{n} a_{ij}}$$

3- Calculating total influence matrix

$$T = N \times (I - N)^{-1}$$

4- Producing causal diagram

Sum of elements in each row (D) for each factor indicates the extent of its effect on other system factors (effect of variables). Sum of element in each column (R) for each factor indicates the amount of effects each factor receive from other factors in system (effect amount on each variable). Therefore, the horizontal vector (D+R) is the amount of effect each factor receives or give in system. The bigger D+R for each factor, the more interaction that factor has with other factors in the system. Vertical vector (D-R) shows the power of influence for each factor. In D-R is positive, the variable is a causal variable and if D-R is negative, the variable is an effect variable. Finally, a Cartesian coordinate system is considered. In this system, longitudinal axis is D+R amounts and transverse axis is based on D-R. Position of each factor specified with a point with (R, D-R +D) coordinates in the system. In this way, a graphical diagram will be obtained too, Wu, (2008).
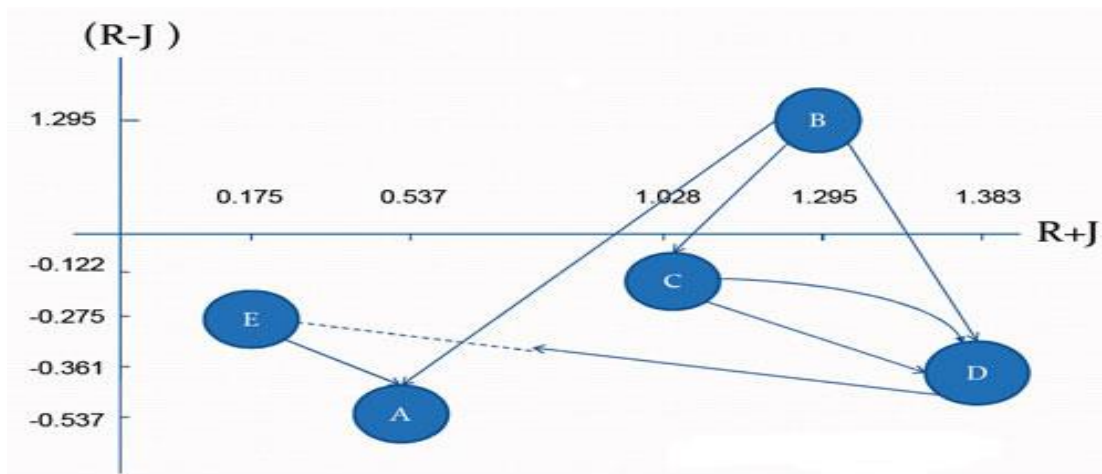
Figure 2. Cause and effect diagram in DEMATEL

4.4.Statistical Population

The statistical population in this study consists of marketing experts in banking industry.

4.5.Sample

The sample includes 20 people who selected through contingency sampling due to the limited access to all experts.

5. Analyzing Data

As mentioned before, purpose of the present study is to rank service marketing mix factors using DEMATEL technique. After extracting seven factors of research literature, first the average of expert opinions must calculate using the result of pair comparison by experts. Therefore, we have:

Table 2. Direct influence matrix

	Product	Price	Place	Promotion	People	Physical environment	Process
Product	0	3.67	3.17	3	3.17	2.33	2.5
Price	3.5	0	3.17	2.67	1.5	3	2.67
Place	2.67	3.33	0	2.33	2.67	2.67	2.83
Promotion	3	3	2.33	0	2.83	2.5	2.33
People	2.83	1.83	2.67	2.83	0	3	2.83
Physical environment	2.17	2.83	3	3	3	0	2.83
Process	3.17	2.83	2.17	2.5	3	2.5	0

In the next stage, the matrix must normalize. According to the explained method, we have:

Table 3. Normalized direct influence matrix

	Product	Price	Place	Promotion	People	Physical environment	Process
Product	0.00	0.83	0.72	0.68	0.72	0.53	0.57
Price	0.80	0.00	0.72	0.61	0.34	0.68	0.61
Place	0.61	0.76	0.00	0.53	0.61	0.61	0.64
Promotion	0.68	0.68	0.53	0.00	0.64	0.57	0.53
People	0.64	0.42	0.61	0.64	0.00	0.68	0.64
Physical environment	0.49	0.64	0.68	0.68	0.68	0.00	0.64
Process	0.72	0.64	0.49	0.57	0.68	0.57	0.00

After calculating normalized matrix, total influence matrix must be generated. Therefore, based on DEMATEL method we have:

Table 4. Total influence matrix

	Product	Price	Place	Promotion	People	Physical environment	Process
Product	25.07	-27.53	1.86	-1.56	-27.35	19.72	6.44
Price	-35.93	41.42	-4.76	0.96	40.62	-29.67	-9.81
Place	13.35	-16.34	2.97	-0.29	-15.76	10.80	3.12
Promotion	7.24	-9.85	1.34	1.10	-9.78	6.36	2.09
People	-24.17	27.82	-3.25	0.33	28.40	-20.46	-6.98
Physical environment	9.76	-10.41	-0.07	-1.28	-10.74	8.85	2.07
Process	4.57	-6.84	1.26	-0.04	-7.03	4.29	2.53

The next stage is finding sum of rows and columns in the matrix. Finally, after calculating sum and difference of rows and columns we have:

Table 5. Amount of cause and effect of service marketing mix factors

Marketing mix factors	D+R	D-R
Product	-3.48	-3.24
Price	1.08	4.56
Place	-2.8	-1.5
Promotion	-2.28	-0.72
People	0.04	3.34
Physical environment	-1.94	-1.72
Process	-1.8	-0.72

6. Discussion and Conclusion

According to the results from DEMATEL method that depicted in table 5, the two factors: Price and People were cause factors and influence other factors, and price factor has the most important impact and lies in the first place. Among service marketing mix factors: product factor are mostly under influence from other factors and considered an effect factor. Therefore, we have:

Table 6. Ranking of service marketing mix factors

Marketing mix factors	Rank
Product	7
Price	1
Place	4
Promotion	3
People	2
Physical environment	6
Process	3

The results show that in banking industry, because of the similar products and services for different banks, this factor is in the last place. Factors like price and employees' behavior and their knowledge are the most important factors in this industry.

7. Suggestions

According to the results, banks must decrease the price for their products. Pricing the services must be in a way that make value for customers and expresses quality. Some of marketing researchers suggest that price is one of main attracting factors for different customers which has direct relation with customer attraction, maintain, satisfaction and loyalty. In banking industry, price includes wages, banking costs and interest rate, so the best way is to reduce the current costs.

Improving human capability quality by holding continuous educational courses for all employees, create a codified program for development of human resources, creating job security for employees by having long-term contracts with them. Deployment of performance evaluation of human resource management and other employees by utilizing specified criteria in balanced evaluation method, deployment of the system of salaries and reward corresponding to the performance of employees, providing opportunities for carrier progression in the organization based on their performance evaluation. It developing personality progress programs for all employees by using experts in this area, establishing counseling groups for employees in order to examine and resolve their problems, developing programs for financial and spiritual help for employees problems,

creating conditions for employee participation in bank decisions so that they accept these programs easily, establishing a meritocracy system in human resource area.

Increasing human capability quality can decrease the ultimate cost of bank services in comparison with rivals and by increasing bank efficiency, increasing compliance with internal controls in the bank and increasing innovation and creativity in bank services that results in customer attraction and overtaking rivals in this industry. In addition, increasing human capability quality can create and increase popularity and reliability of the bank, establish corporate governance system in the bank and analyze market and rivals condition which result in distinction of the bank services from rivals and attract more customers.

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