

Identifying and prioritizing the effect of marketing mix from the customer's perspective (4C) on the competitiveness of insurance companies using DEMATEL technique: A case study of Tehran Insurance Companies

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ABSTRACT

Keywords:

Competitiveness, Integrated Marketing, Customer Centric, Multi-Criteria Decision Making, MADM, DEMATEL Techniques

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Competitiveness of an organization is debatable based on sources and market-based approach. In this study, the impact of customer-centric marketing mix on the competitiveness of the company was studied. All clients involved in insurance companies in Tehran were the statistical population of the study and a sample of 384 clients were selected. A questionnaire was used to collect the data. Relationships between elements of the marketing mix and competitiveness were studied using confirmatory factor analysis technique. The results of the data analysis indicated the significant effect of customer-centric marketing mix on company's competitiveness. To prioritize the marketing mix factors in terms of the amount of impact on the competitiveness from customers' perspective, a DEMATEL technique was used. The results also indicated that the highest impact on the competitiveness of the insurance company include the customer costs, value of a customer-friendly, easily buy, and relations.

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Introduction

One of the most important factors in the survival and progress of companies in today's dynamic environment is competitiveness. The main feature of this environment is the change and uncertainty. How should a company function in such an environment so as to maintain its

position in the market as well as getting maximum benefit from the changes and achieve progress to respond the challenges of the business, companies have chosen a novel approach called competitiveness (Aghazadeh & Razmjouy, 2008).

In the context of the competitiveness some rely on domestic and powerful instrument as the effective factors to make the organizations competitive and some other emphasize on environmental factors and market (Utami & Donald, 2014).

In the insurance industry, marketing and integrated marketing services has a very important role in the competitiveness and profitability of its business (Booth & Philip, 1998).

One traditional approach is studying the marketing mix as internal factors affecting the competitiveness of service companies using 4P model. In the new approach, marketing mix is studied based on the demands and expectations of the clients called 4C model; because the 4P model for the production is more practical and places more emphasis on the competitiveness which is based on sources, but 4C model relies more on customer and market competitiveness which is desirable for organizations. In addition, in the current study the effect of each of the elements of the marketing mix and priority of them in the competitiveness of the insurance companies using the DEMATEL technique was evaluated.

Theoretical Framework

Competitiveness

Porter (1986) is among the first people who raised the issue of competitiveness. He considered competitiveness at three levels including national, industry, and firm levels. Porter believes that firm-level competitiveness is described as the more value a company is able to produce than other competitors. In other words, competitive advantage is the company's values that are presented to customers in a way that these values are higher than the costs of customer.

Theories of firm-level competitiveness can be classified under two different approaches: A market-oriented approach (Industrial Organization), the main interest outside the firm (i.e., market or industry structure) which will be paid. Porter's competitive strategy theory in the 80s was the main contribution to the advancement of this approach. Porter believes that a company can benefit from one of the three generic competitive strategies of cost leadership, differentiation, and focus of interest based on the concept of competitive advantage and competitive area (or competitive purpose).

Because of Porter's theory's shortcomings in the late 1980s, a new theory of competitive advantage was developed known as the resource-based view (RBV). In this perspective, the firm's strengths and weaknesses are considered to achieve a sustainable competitive advantage. This view shifts the emphasis from the competitive environment of the firm to firm resources needed to compete. Specifically, the RBV is concentrated on attractive resources and their behavior (Progoulaki & Theotokas, 2010).

In connection with the concept of customer and market competitiveness, the competitiveness is the value of a product for the "customer" compared to the competitors and this depends on two main factors: The desirability achieved of ownership or possession of a product to satisfy the client (benefits) and the cost of acquisition or takeover created the product to the customer. Excellence in each of these two factors makes the organization

competitive (Ghaffarian & Jahangir, 2009). Customer's perspective determines the competitiveness of company. In the eyes of its customers, an organization is competitive if they are able to offer better value than competitors (Booth & Philip, 1998).

Figure 1 shows the determinants of competitiveness and sustainability of the customer's perspective.

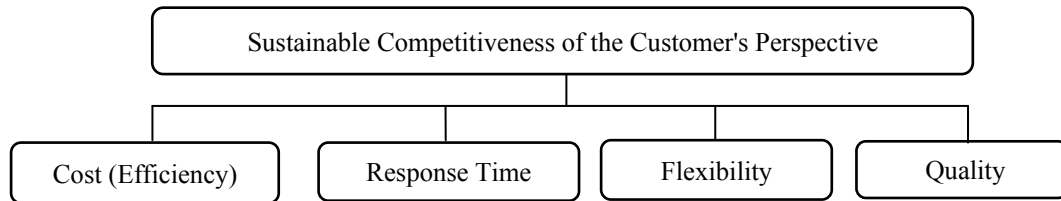


Figure 1. The determinants of competitiveness and sustainability of the customer's perspective (Li, Liu, & Zhao, 2006)

Marketing Mix

The concept of marketing mix was first introduced in 1950 by Neil Burdon known as the 4P. This model is a powerful tool that can help marketers define marketing strategies. It could be argued that the majority of programs and marketing decisions based on one of these four areas are adopted. In different contexts, 4P marketing concept is accepted as a principle. 4P stands for product, price, promotion, and place. The marketing mix represents the essential activities of marketing managers. After choosing a target market, marketing managers have a systematic plan to sell to customers and develop long-term relationships.

The Marketing Mix from the Customer's Perspective

Major criticism of the 4P marketing mix is that it only focuses on the perspective of suppliers of products (business) and maybe on what they offer and recommend, suppliers have different views from the buyers. 4C model of new marketing strategy is compared to the traditional strategy of 4P model. 4C is a model of innovation in marketing theory and focuses on customer-centric marketing. Therefore, it is better to set the titles based on an account of the demands and requirements of our customers and 4C is said to include the value of customer-friendly, customer cost, ease of shopping, and communication.

Thus, while marketing sees itself in a position in the sale of a product, customer is in a position to buy a value or a solution to their problem. The buyer does not only think of the price paid, but also is interested in calculating the cost of obtaining a universal product, deployment, and abandoning it. Buyers wish for the products to be available as easily and comfortably as possible. Finally, customers are not willing to promote and advertise products; they call for a two-way relationship which is right and provides them with good knowledge of the products.

From the perspective of the customer, price (customer-friendly values) is the benefits a product given to a customer; he is awarded, minus all expenses that he is concerned with. Product quality, good performance, elegance, prestige, and identity are some instances of financial, social, mental costs. To create value (more than rival) to the client, organizations

should either increase products' benefits (with the maintenance of the costs) or instead of the same benefits, they should allow the customers to pay lower costs. The market and marketers' management is best to consider clients' approach (4C) and then think about their own views (4P) to be arranged.

Conceptual Model

As noted, this study seeks to examine the impact of marketing mix elements from the customer's perspective (4C) on the competitiveness of the insurance companies. In this regard, the study of the marketing mix is evaluated based on customer-friendly values, customer cost, ease of purchase and customer relations in terms of performance and competition for customers, competitors regarding performance, and the inter-organization performance within the staff. Following this conceptual model is obtained and represented in Figure 2.

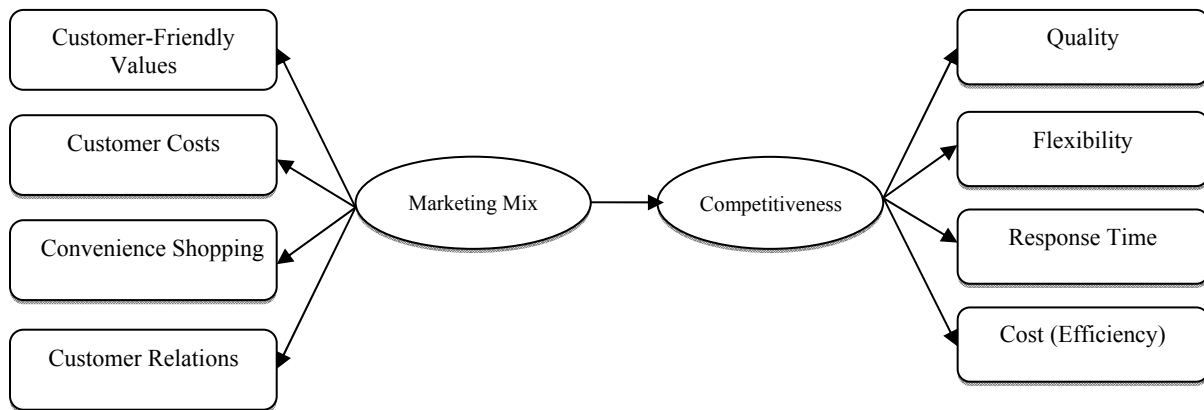


Figure 2. Conceptual model of research

Research Questions

The following research questions guided the study:

1. Does the marketing mix have a meaningful impact on the competitiveness of the insurance companies?
2. How does prioritizing the impact on the competitiveness of the insurance companies influence the marketing mix?

Method

The present study is a practical one in terms of purpose due to identifying the key criteria of marketing mix in achieving competitive advantage and expanding practical knowledge about the relationship between these two variables. Considering the stated criteria of marketing mix and describing the elements based on customer perspective for recognizing most of them, the research aimed to study their features in addition to their data collection methods and evaluation of ideas and thoughts in the context of cross-survey directory.

The populations of the study are the key clients of insurance companies operating in Tehran. Cochran formula is used for sampling because the members of the community is considered unlimited. According to the calculations, 384 people were inquired as statistical sample and questionnaires were distributed randomly among samples.

To collect the primary data, two questionnaires came into use. The first questionnaire was about the competitiveness of the insurance industry and it was consisted of 16 questions in four areas of quality, innovation, customer responsiveness, and efficiency. One questionnaire was also used in the field of marketing mix and it was designed based on four values including customer-friendly values, customer cost, ease of purchase, and customer relations. Marketing Mix questionnaire contained 4 aspects and 21 questions.

To investigate the validity of the questionnaire, content validity method was used. That questionnaire was given to a number of experts, supervisors, and consultants. Furthermore, the validity and confirmatory factor analysis method were used for both questionnaires.

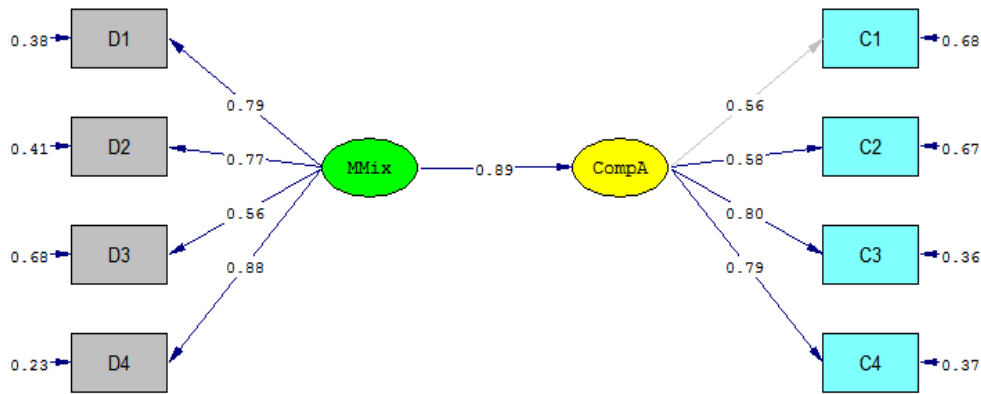
In calculating the reliability, if Cronbach's alpha factor for an element is calculated over 7.0, its stability is considered the desirable scale. In this study, Cronbach's alpha factor of the questionnaire of marketing mix based on 4C was equal to 0.907 and for the questionnaire of the firm's competitiveness, it was 0.876. So, the reliability of the two questionnaires were regarded favorable.

Statistical methods used in this study can be divided into two categories, namely descriptive statistics and inferential statistics. To analyze and describe the general characteristics of respondents, descriptive statistical methods were used. The methods below were used for the stated reasons: Kolmogorov-Smirnov for data normalization, t-test to evaluating differences between group means, ANOVA to determine significant differences among the mean scores when comments are more than two, factor analysis to understand the factors underlying the phenomenon or set of data summarization. And finally, structural equation modeling came into use as a technique capable of family multivariate regression analysis which enables the researcher to use a series of regression equations at the same time. The obtained data were analyzed using SPSS and LISREL.

Results

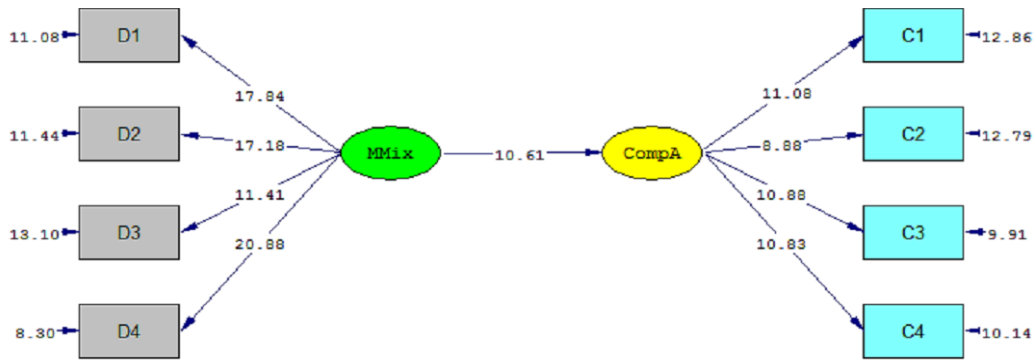
Structural equation modeling was used to assess the overall relationship of marketing mix with the company's competitiveness. The results showed the standard loading factor and the relationship between marketing mix variables and the company's competitiveness were 89.0 which is a considerable amount. Value of the test statistic (*t*-value) was 10.61 which indicated that this relationship was meaningful. Thus, the customer-centric marketing mix had a significant and positive impact on enterprise competitiveness.

Figure 3 and figure 4 represent the results of the final study's confirmation and *t*-value in the results of the final research model, respectively.



Chi-Square=34.89, df=19, P-value=0.00000, RMSEA=0.022

Figure 3. The results of the final study's confirmation



Chi-Square=34.89, df=19, P-value=0.00000, RMSEA=0.022

Figure 4. T-value in the results of the final research model

The Goodness Test of Fit of the Model

The mentioned structural model was saturated in two stages. The chi-square value was estimated 836.1 1 which is in the accepted range. So, the structural model has good fitting.

In addition, because the RMSEA fit index is calculated 022.0 to 05.0 which is smaller than 0.05, the model has good fitting. Other indexes of goodness of fitting are also included in the acceptable range.

Table 1

Indexes of Goodness of Fitting of the Structural Model Regarding the Main Hypothesis of the Research

IFI	NNFI	NFI	AGFI	GFI	RMSEA	SRMR	Fitness Index
0 – 1	>0.9	>0.9	>0.9	>0.9	<0.1	<0.05	Acceptable Values
0.96	0.98	0.98	0.92	0.96	0.022	0.032	The Calculated Values

Prioritizing the Effectiveness of the Marketing Mix on the Competitiveness of Insurance Companies

To prioritize the effectiveness of the marketing mix on the competitiveness of insurance companies, DEMATEL technique was used. The more the effect of the marketing mix elements on the competitiveness of the insurance companies, the higher the priority and importance of this factor compared to others would be.

DEMATEL that includes the types of decisions based on paired comparisons uses the judgment of experts in the extraction of a system and systematically structuring them by applying the principles of graph theory, hierarchical structure of the system, and results in the relations of mutual influence of these elements. Consequently, the intensity of these relations and their importance is determined by numerical advantage.

To rank the components of the study, DEMATEL techniques were used to determine the criteria in the elements obtained from Table 2 which shows the criteria in the model's main variables.

Table 2
Criteria in the Model's Main Variables

Number	Dimensions of the Model	Compared Criteria
1	Value of a Customer-Friendly	Competitiveness
2	Customer Costs	
3	Easy to buy	
4	Relations	

DEMATEL techniques were also used to detect the relationships among criteria based on pair wise comparison. In developing the questionnaire, 10 experts were asked to give their opinions about the relationships among criteria via paired comparison on the 7-point Likert scale from very effect to no effect. The existing relationships among the variables were measured based on the amount of each variable's effect on other variables.

Another usage of DEMATEL techniques were determining the final relationships among criteria regarding the experts' consensus and drawing diagraph for relationships. Here arithmetic mean was used for evaluating and setting score for consensus among experts:

K =number of experts

m =the type of relationships among the variables

Attaining intensity Matrix (matrix \hat{M}) was the next usage of DEMATEL techniques.

($M = \alpha * \hat{M}$) is the relative intensity matrix for direct relationships, and α is the highest row sum in the matrix.

Following this, obtaining the relative intensity matrix (matrix $S = M(I - M)^{-1}$) for direct and indirect relationships

$$S = M + M^2 + M^3 + \dots + M^t = \frac{M(I - M^t)}{(I - M)}, \lim_{t \rightarrow \infty} M^t = 0$$

$$S = \frac{M}{I - M} = M(I - M)^{-1}$$

And, establishing a hierarchy or possible structure for criteria are among the usages of DEMATEL techniques.

In matrix S, the sum of elements in rows (R_k) and the sum of elements in columns (D_k), the sum of $R_k + D_k$ and the difference of $R_k - D_k$ were calculated for the criterion k. The sum of $R_k + D_k$ for every criterion in the system represents the importance (weight) of that criterion. The value of R_k , for each criterion shows the degree of its effectiveness on other criteria in the system and D_k stands for the degree of its being affected by other criteria.

Therefore, the sum of $R_k + D_k$, can determine the amount of effectiveness and being affected for a criterion in the system. In other words, the criterion that has the highest value of $R_k + D_k$ interacts with other criteria. The final value of each criterion's effectiveness on other criteria in the system can be obtained from $R_k - D_k$. If the value of the ($R_k - D_k$) is positive, the criteria will belong to cause group and if the value of the ($R_k - D_k$) is negative, the criterion will belong to effect group; for example for environmental drive.

As it is shown in Table 5, using DEMATEL method, the ranking of the variables was done on the basis of the degree of effectiveness. The assigned number was 1 for the least effective factor and the weight of the all other factors was calculated based on their difference from the least effective factor.

Table 3 exhibits establishing a hierarchy or possible structure for criteria.

Table 3
Establishing a Hierarchy or Possible Structure for Criteria

	Value	Costs	Easy	Relations	D	D+R	D-R
Value	1.014	1.532	1.485	1.311	5.342	10.059	0.645
Costs	1.65	0.453	1.105	1.004	4.212	7.179	1.245
Easy	1.005	0.748	1.205	1.064	4.022	8.289	-0.245
Relations	1.048	0.234	0.472	0.964	3.124	7.449	-1.201
R	4.717	2.967	4.267	4.325	-	-	-

According to a ranking table, it can be asserted that the most effective factor on return on equity was related to the subset of dividend policy with an effective coefficient of 19.1% and the least effective factor was a size of the company with an effectiveness coefficient of 7.2%. Other calculations related to the variables are presented below in Table 4.

Table 4
Prioritization of the Variables of the Main Model's Dimensions' Subsets

Variable	Effect	Each Criterion's Weight	Standardized/Normalized Weight	Rank
Customer Costs	1.245	2.60	38.20%	1
Value of a Customer-Friendly	0.645	1.75	25.70%	2
Easily Buy	-0.245	1.46	21.40%	3
Relations	-1.201	1	14.70%	4

Figure 5 illustrates the relations between the marketing mix elements.

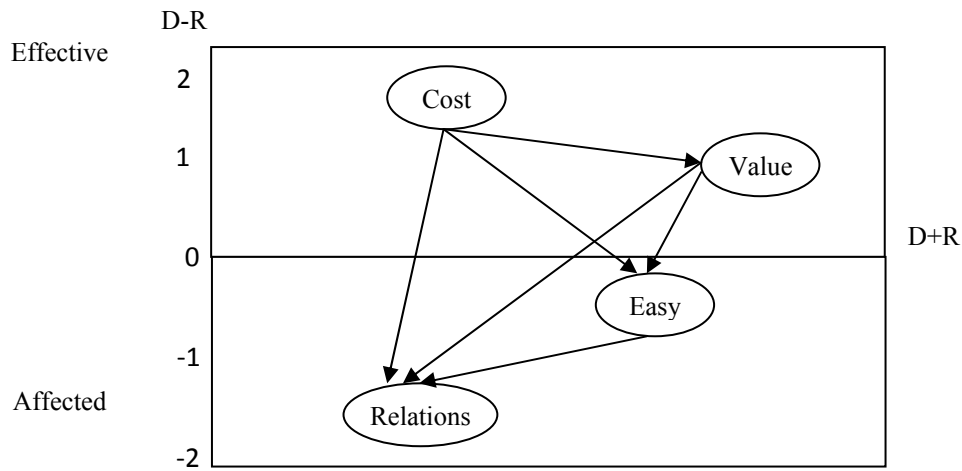


Figure 5. Relations between the marketing mix elements

Conclusion

The results showed that the loading standard of customer-centric marketing mix's impact on competitiveness was 0.89. This amount of influence indicated the significant impact of customer-centric marketing mix on company competitiveness. Therefore, it is essential for each dimension of customer-centric marketing mix to be examined based on its impact on the competitiveness of the insurance companies.

The meaning of value from the client's vision can be defined as the perceived value that is the difference between business interests and fees. In this regard, payments and revenues are influenced by perceptions and expectations of the client during the search, acquisition, and maintenance of the goods or services. For having a privileged position in the customer's mind, creating lasting relationships, elevating the levels of loyalty, and meeting the needs of the consumer efficiently, market should produce and deliver services that suit the needs of clients of insurance companies and determine a price to be paid in exchange for the use of financial resources, human, and information. In addition, to meet their needs customers pay the price to achieve the desired product. The person who gets the service is linked to the organization and its services is a complex process that is much more than just the cost of services and his assessment of the process is beyond the price paid and functional characteristics of services. In other words, the value which is determined by a buyer in this process involves several factors besides the price and functionality of the product that is known as the value from the customer's perspective; and, it is noticed by research and the manager of organizations as one of the key factors for a sustainable competitive advantage in the market orientated market and customer-center world.

To improve customer's perception of value, customer friendly organizations should find requirements of each client to identify the particular product or service to be offered. Offering customized services specifically for each customer is not unattainable due to advances in information technology and database access programs available at a lower price.

The service must be performed in minimum possible time and without wasting customer's time. In addition, customers who purchase are entitled to after purchase services. Insurance companies should take notice of the channels through which you can hear the voice of the customer. Listening to the voice of the customer and asking him is not a motto but an undeniable necessity to achieve a sustainable competitive advantage to win the competition.

The customer's cost and its impact on competitive advantage is such an important factor that Porter in his famous model has chosen the "cost leadership" as one of the pillars for a sustainable competitive advantage.

The organizations' performance in pricing of services should be in a way that the customer feel their attempt in bringing down the price of services to reduce the cost of customers. For example, insurance companies can provide ancillary, quick, and special services to reduce the total cost of customers. In addition, offering free advice and helping customers to reduce the total cost of customers would be useful. The view of customers should be considered in the pricing strategy for services. In the traditional approach to marketing mix, price is the only element that leads to the organization's income. However, if you look at it from the customers' perspective, price will be changed into costs. Moreover, it should be considered that insurance clients pay non-monetary costs such as time, energy, mental cost, the cost of changing suppliers and the cost of the lack of accountability apart from local costs to obtain the desired insurance services. Therefore, companies must try to reduce customer costs to increase their loyalty and the profitability of themselves. Thus, the decrease in revenues that was created due to the decline in prices will be covered by increasing customers' loyalty to retain existing customers and to increase the number of customers (new customer acquisition). If any insurance service is combined with a series of ancillary services and with each service provided to the customer as a special service package, the customer's perception of the price paid will improve and insurance companies will be able to take advantage of this demand for their competitive advantage.

Considering the convenience purchase and relationship management and their impact on competitive advantage, the results showed that the elements of convenience purchase and relationship management had a huge impact on competitiveness of insurance companies. To increase the ease of purchase several branches should be created for customers. Consumer electronics facilities (telephone, Internet, etc.) for customers is also important. Providing several pamphlets and brochures for customers can facilitate the purchase. The setting up of exhibitions to provide services is also recommended. It should be pointed out that the diversity of accessibility, inclusiveness, and public welcome require contexts that maybe not been provided yet. The move that has been done in electronic banking to provide electronic banking services can also be used in the Insurance field. In the field of internet and mobile banking a lot of academic studies and field activities have been done which could be applied for insurance companies, too. The discussions of purchase convenience can be compared to the IT adoption models as ease of use. Another point that has been neglected in the use of electronic services is the answer to this question that what is the literacy level of citizens? Providing the necessary contexts for e-services offering and information literacy of users should be considered as the fundamental point in making the decision to provide web-based services.

Using financial institutions, "Insurance Bank" is another case that is recommended for faster, easier, and effective interaction to customers of insurance. During the past three decades, the interaction between the insurance industry and money market had a significant expansion in developed countries to develop both markets by this way. The formation of a new financial institution called insurance bank is one of the innovations which have been provided in this field and it has created the unique advantage in the development of both markets. In general, insurance bank is a strategy by which bankers and insurers work together in an integrated manner for being in the financial markets. At the core of its activities, it includes the distribution of insurance products by the banks. The collaboration between insurance companies and banks has been noticed by many European countries in the recent period. This cooperation can be a major factor for insurance companies to gain competitive advantage and increase competitiveness.

Besides, prioritizing the elements of the marketing mix in terms of the effectiveness on the competitiveness of the consumer's perspective using the technique of DEMATEL shows that the most important elements of the marketing mix in order of preference are customer costs, value of a customer-friendly, easily buy, and relations.

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