

IDENTIFYING AND RANKING THE FACTORS AFFECTING THE POSITIONING OF MEHR EQTESAD BANK (CASE STUDY OF SHIRAZ)

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ABSTRACT

The main objective of this study is to Identify and rank the factors affecting the positioning of Mehr Eqtesad Bank by using the techniques of multiple decision. In other words, in this study, it is tried to answer the question of “what are the important criteria and sub-criteria for selecting the location of Mehr Eqtesad Bank branches?” In the present study, 39 managers, experts and heads of branches as well as 30 customers were selected in Shiraz to identify suitable locations for establishing the branches by using Analytic Hierarchy Process approaches to weight the indicators. The data were collected using two questionnaires; one for the experts entitled “questionnaire of paired comparison of positioning criteria in the experts' view” and the other one for customers which was a researcher made questionnaire using the paired comparison. The reliability of both questionnaires was calculated using Cronbach's alpha for each benchmark. For data analysis, Expert Choice software was used. Based on the obtained parameters, the results show that the most important sub-criterion in selecting the location of Mehr Bank branches, from the perspective of experts, is the sub-criterion of cost and competition. The most important sub-criterion in selecting the location of Mehr Bank branches, from the perspective of customers, is, first of all, the payment of less commission and facilities reception with higher profits and then the more numbers of bank branches. Given the intense competition and also the opportunities and threats facing the banking industry, banks are able to examine their strengths and opportunities in the market to take the strategy to achieve a suitable competitive position.

Keywords: *The Identification of Criteria and Sub-criteria, Positioning, AHP Technique, Mehr Eqtesad Bank*

INTRODUCTION

In recent years, significant changes have occurred in the banking sector (Miltos *et al.*, 2002). One of the factors that many studies have been done about it is the location of bank branches. In a study by Sang-Raven (1985), it was observed that the branches location will be effective on the received deposit amount and consequently the amount of interest. In a study by Cho (1990), it was found that the profits and losses of banks highly depend on the location and the number of their branches in the region (Won, 2010). So, choosing a location for the company is an important decision, because it is very costly and any wrong decision will be very difficult to be compensated. A wrong decision will lead to excessive transfer fees, loss of effort, loss of competitive advantage, etc (Synar, 2010).

Decision makers should choose locations that not only correspond well with the current system status, but also, as a lifelong area, it should be suitable continuously, even if environmental factors, population and market trends change (Zanjiri and Hokmfar, 2009). Due to the increasing intensity of competition, providing services in place and location of customers is a determining factor in attracting and keeping customers. For this reason, today, banks and other service organizations establish branches in various regions to provide better service as well as to cover a wider area (Ebrahimi *et al.*, 2007). Growing competition and similar services provided by banks make it increasingly clear, because this factor is the basic criterion for customers to choose products of financial services provider. As a result, the issue of customers' choice of banks is considered by researchers (Hedayati and Eshghi, 2011). The multi-criteria decision-making methods have been developed for this purpose.

Research Article

Processing and analysis of these decisions can be seen as a process in which the spatial data and the amount of evaluations are combined with together (Malczewski, 2006). The purpose of decision to locate the facility is to find the best places with favorable conditions which meet the selected predetermined criteria (Yewis, 2001). Positioning in urban emergency services such as; emergency, firefighting, banks and police stations, is considered by and many researchers (Gamal and Salhi, 2003). If these issues do not get an optimal response, authorities will face serious problem in meeting the citizens' demand. However, in many countries, the locations of these centers are determined without considering scientific solutions and the general policy of providing power or deployment of power and location of service centers in cities are not often based on accurate scientific methods and plans (Schmid and Doerner, 2010).

The first concern of the directors of an institute is the suitable and optimized conversion of available capital resources to the possible maximum revenue through an investment in some suitable field, time and place. In today's economic conditions, "how and where to invest" is a complicated and risky issue (Guneri et al., 2009). Wang and Others (2003) have studied the problem of locating facilities with budget constraint. They consider both; the establishment of new facilities and the closure of existing facilities (Monterio, 2004).

With the expansion of Shiraz and its population, it seems that the current bank branches located in the city (in terms of number and location) cannot meet the needs of the growing population and expanding city of Shiraz. In this regard, the recognition of correct criteria for establishment of bank branches and serious study of the location of bank branches in Shiraz should be conducted by using the knowledge management. So, the key issue in this study is ranking the criteria for the location of Mehr Eqtesad Bank branches in Shiraz. With the increasing population of Shiraz and the intense competition in the banking industry, if the Mehr Eqtesad Bank branches are in the unsuitable places, the service delivery and responding the citizens' demands by banking institutions will be faced with a serious problem.

Research Questions

1. What are the important criteria and sub-criteria for selecting the location of Mehr Eqtesad Bank branches?
2. How is the hierarchy of these criteria and sub-criteria in terms of their importance?

Research Literature

Definition of Positioning

The positioning includes the determination of the location of a set of facilities (resources) so that to minimize the cost to satisfy the customer demand according to the restrictions set.

The four main components that describe positioning issues are:

1. Customers: they have already been deployed in places.
2. Facilities: their location will be determined.
3. Space: in which the customers and facilities will be placed.
4. System of Measurement: the indicator of the distance or time between customers and facilities. (Zanjirani, 2009)

The Underlying Principles and Assumptions in the Definition of Criteria for Positioning

The suitability of a specific place for each facility depends largely on some factors which are selected and evaluated during the positioning of that facility. In this regard, several factors can be considered which affect the positioning decisions (Yang and Lee, 1997). In order to identify factors associated with positioning the facilities, first of all, it is necessary to consider the principles and assumptions that affect the spatial behavior of customers and managers who are the holder of services facilities. Using the definition, the Spatial Behavior Pattern is a set of behavioral relationships upon which a customer chooses a kind of facility or a banking company to cover his needs (Jiaxi, 2003). In the following, two aspects of this pattern; consumers and corporate executives, will be investigated.

Research Article

A. The Underlying Assumptions in the Definition of Positioning Criteria from the Customers Perspective

In general, the initial approaches, dealing with the spatial patterns of customers, are based on a set of customers' normative assumptions. According to this view, from the customer perspective, the distance criterion is the most important factor in decisions related to a kind of facility (Craig *et al.*, 1984).

The simplest assumption in the identification of the selecting process of a kind of facility by a customer is the Nearest-Center Hypothesis. This hypothesis, which was presented by the classical theorists as a fundamental assumption, states that always the nearest facility which meets the service needs of the customer will be selected by the customer. Based on this hypothesis, the range covered by a kind of facility can be considered as the nearest choice by determining the area of all existing customers (the same source).

Based on other researches on the positioning of service centers, in addition to the above theory, several other factors including; the size of branches, the beauty of branches, etc., are considered. So, mere focusing on this criterion is often simplistic.

B. The Underlying Assumptions in the Definition of Positioning Criteria from the Managers Perspective

One of the principles which are considered by managers of organizations, especially the profit organizations, during the positioning decisions, is the "Economic Principle" or the "Cost-Profit Principle". Accordingly, the first goal followed by managers is to maximize the profits and minimize the costs. For example, in the analysis related to the facility positioning of discrete environments, the conventional measure is to maximize the total net profit. In this regard, the total net profit can be calculated by the subtraction of the benefits of providing a number of services with the fixed costs of the facility (Jiayi, 2003).

It should be noted that the distance-based principles are highly regarded by managers. The nature of services provided by their respective organizations is so that these services are supplied in their own places (the same source).

Decision Criteria on Positioning Studies

All organizations must consider meaningful criteria in selecting a suitable place in order to make a strategic and efficient decision for their mission and strategies. Selecting the location may vary depending on the type of business. Therefore, the factors considered by a business are different compared with other businesses (Cinar, 2010).

The Key Criteria and Sub-criteria of Positioning

In positioning studies, several criteria are used in solving the positioning problems. Here we examine the importance of these criteria. Each of these criteria is divided into other sub-criteria and can be measured and investigated by other set of criteria. In the following, these criteria and sub-criteria will be discussed.

General Criteria

A) Quality of Life

The quality of life is appeared by some measures such as good schools, low crime rates, clean environment and recreational facilities. It leads to recruitment in the region and, subsequently, attracts the companies. A large population in a place implies a significant increase in labor that would allow the company to hire people without feeling a big deal of pressure for paying their salaries. It can save the labor costs. The important sub-criteria, in this regard, are:

- Health Facilities (number of hospitals, boarding pharmacies, number of medical specialists, etc.)
- Amusement and recreation facilities (hotels, theaters, parks, public service centers, etc.)
- The existence of the airport, railway and their performance quality
- Level of security (legal, social, etc.)
- Level of ease of provision of housing (Mazaro and Chu, 2003)

B) Infrastructure

To maintain and enhance the competitiveness, the city should have a modern and appropriate infrastructure including; roads, water and sewer systems, airports, transportation facilities, energy systems

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and telecommunications. Effective planning for transportation infrastructure needs awareness of the impact of road infrastructure on new manufacturing location. Improving the communication path makes an area with less economic activity more attractive. Due to the better access to the market, this area will be considered in choice of location. Improving the transportation infrastructure eliminates the market concentration and distributes the business activity in different regions.

The important sub-criteria, in this regard, are:

- The accession of water, electricity, gas
- Existing transportation system
- The existence of telecommunication systems
- The existence of suitable lands
- The accession of supportive facility
- The accession of fuel sources
- etc. (Hell, 2004).

C) Considerations Related to Land

Land requirements depend on the type of industry and factory. Communities that are trying to attract new industries offer the land mostly at a low price, but the investors should be sure about the suitability of land. The important sub-criteria, in this regard, are:

- Land price
- The accession of land for construction
- The existence of land for future development
- The existence of parking for customers
- The free-flowing traffic on routes leading to the desired point
- etc. (Forghani, 2008).

D) Rules

The rules are to protect the health, welfare and safety of society. These are used to make buildings safer and the air cleaner. In many cases, the legislation is used by governments as a restrictive and supportive means. The important sub-criteria, in this regard, are:

- Security rules
- Supportive and incentive rules
- Customs and tax laws
- Judicial rules
- Industrial laws (Badri, 2007)

E) The Number and Quality of Competitors

Considering the competitors is a critical fact, because, for the most part (if there is no unmet demand), success depends on capturing market share. The important sub-criteria, in this regard, are:

- Number of major(active) competitors
- Number of future competitors (number of units under construction)
- The location of actual and potential competitors
- Possible reactions of competitors to the formation of new factory
- Competitors power
- etc. (Saaty and Gonzalez, 2001).

F) Regional Security

In cases where the location is sensitive, the existence of regional security can be an effective measure. The effective measures in this regard are the firefighting stations and the strong police force.

G) Culture, Creativity and Innovation of the Region

Companies that operate in a similar category often understand new needs of buyers faster and sharper. They easily get the new technology, operations and needed sending facilities (Forghani, 2008).

Other effective measures in positioning are transportation, labor, and financial incentives.

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MATERIALS AND METHODS

Table 1: Cronbach's alpha for experts' questionnaire

| Row | Criteria | Sub-criteria | Cronbach's alpha |
|-----|----------------------------|---|------------------|
| 1 | Population characteristics | Customers income | 0.76 |
| 2 | | The population density of the region | |
| 3 | | Cost | |
| 4 | Access to urban facilities | Construction costs (for purchasing the land and construction) or renting to set up the branches | 0.757 |
| 5 | | Access to parking | |
| 6 | | Access to mall and shopping centers | |
| 7 | | Access to hospital | |
| 8 | | Access to hotels and restaurants | |
| 9 | Competition | Access to daily market | 0.89 |
| 10 | | Access to offices and companies | |
| 11 | | Access to rival bank branches | |
| 12 | Flexibility | Access to its own branches | 0.81 |
| 13 | | The existence of land for future development | |
| 14 | Traffic system | Land near the facility (Facility for Development) | 0.763 |
| 15 | | Access to downtown | |
| | | Access to the main squares and intersections | 0.906 |

Table 2: Cronbach's alpha for customers' questionnaire

| Row | Criteria | Sub-criteria | Cronbach's alpha |
|-----|----------------------------------|--|------------------|
| 1 | The quality of banking services | Facility | 0.831 |
| 2 | | Financial receiving and payment | |
| 3 | | Deposit and savings accounts | |
| 4 | | Electronic services | |
| 5 | | Extended warranty | |
| 6 | Building Beauty | Branches appearance | 0.805 |
| 7 | | Branches discipline | |
| 8 | | The distribution of employees | |
| 9 | Urban Facilities | Getting organized and wearing uniforms | 0.92 |
| 10 | | Access to main street | |
| 11 | | Access to petrol station | |
| 12 | | Access to workplace | |
| 13 | | Access to home | |
| 14 | The reason of selecting the Bank | Variety of service and speed of service | 0.72 |
| 15 | | Lower fees as well as facility with more profitable deposits | |
| 16 | | Having more branches | |
| 17 | Region quality | Monopoly in the provision of services | 0.79 |
| 18 | | stylish street near the branches | |
| 19 | | adequate parking space near the branches | |
| 20 | | Regional security near the branches | |

This is an applied research in terms of the purpose. This study intends to use the results of its findings to solve specific problems within organizations. It tries to answer a practical problem which exists in the real world. In terms of data collecting and analyzing, this is a descriptive and non-experimental research. The statistical population of this research consists of two groups; 39 managers, experts and heads of Mehr

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Eqtesad Bank branches and unlimited group of customers which takes the total population of the city. Using the stratified sampling, all managers were selected and the number of selected customers who were volunteers and have more deposit in the bank was 30.

Based on stratified sampling, the 30 subjects were chosen. The intended questionnaire is standard which has been used in researches previously. The reliability of the questionnaire used in the survey for each benchmark is calculated by Cronbach's alpha. Its validity can be calculated by content validity and construct validity. The results of Cronbach's alpha for both questionnaires are presented in Tables 1 and 2. For data analysis and ranking, the Expert Choice software version 11 is used.

Weights of Significance Criteria and Sub-criteria

At this stage, the weights of criteria and sub-criteria will be calculated by the data obtained from the interviews using the using the Expert Choice software version 11. It should be noted that the mentioned criteria for each of the studied populations; 39 managers, experts and heads of branches and 30 customers, were measured and evaluated. These questionnaires are designed as paired comparisons for calculation in software. After entering and combining every member of the communities, the following results were reached for each of the two communities on Expert Choice software.

RESULTS AND DISCUSSION

Weights of Significance Criteria and Sub-criteria from the Perspective of Customers

Table 3: The final weight of customers sub-criteria

| Row | Criteria | Weight of criteria (A) | Sub-criteria | Weight of sub-criteria (B) | Final weight (A)*(B) |
|-----|----------------------------------|------------------------|--|----------------------------|----------------------|
| 1 | The quality of banking services | 0.285 | Facility | 0.266 | 0.064 |
| 2 | | | Financial receiving and payment | 0.276 | 0.079 |
| 3 | | | Deposit and savings accounts | 0.173 | 0.049 |
| 4 | | | Electronic services | 0.203 | 0.058 |
| 5 | | | Extended warranty | 0.122 | 0.035 |
| 6 | Building Beauty | 0.128 | Branches appearance | 0.161 | 0.021 |
| 7 | | | Branches discipline | 0.409 | 0.052 |
| 8 | | | The distribution of employees | 0.247 | 0.032 |
| 9 | | | Getting organized and wearing uniforms | 0.183 | 0.023 |
| 10 | urban facilities | 0.131 | Access to main street | 0.268 | 0.035 |
| 11 | | | Access to petrol station | 0.118 | 0.015 |
| 12 | | | Access to workplace | 0.330 | 0.043 |
| 13 | | | Access to home | 0.284 | 0.37 |
| 14 | The reason of selecting the bank | 0.355 | Variety of service and speed of service | 0.257 | 0.091 |
| 15 | | | Lower fees as well as facility with more profitable deposits | 0.320 | 0.114 |
| 16 | | | Having more branches | 0.294 | 0.104 |
| 17 | Region quality | 0.301 | Monopoly in the provision of services | 0.129 | 0.046 |
| 18 | | | stylish street near the branches | 0.165 | 0.017 |
| 19 | | | adequate parking space near the branches | 0.355 | 0.036 |
| 20 | | | Regional security near the branches | 0.479 | 0.048 |

As can be seen, the inconsistency rate obtained by measures is calculated $0.01 < 0.1$ which is an appropriate inconsistency rate. According to the figure, the criterion of customer relationship with the bank with the weight of 0.355 possesses the first rank from the perspective of the customer. The criterion of regional quality with the weight of 0.101 possesses the last rank.

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The next step is to analyze each customer’s criterion and sub-criterion separately. In the end, for the final ranking of sub-criteria, the Analytical Hierarchy Process is used as the table (3). In this way, the final weights of sub-criteria can be calculated. According to these final weights, the sub-criteria can be ranked from the higher to the lower weight. Given the fact that customers use the banks as a secure place to resolve their financial demands, a situation should be provided to maximize the profit and feel satisfaction about each other.



With 0 missing judgments.

Figure 1: The main criteria from the perspective of Mehr Eqtesad Bank customers

In this ranking, the criterion of paying less fees and get more profits with the weight of 0.114 possesses the first rank.

According to this ranking, the combination of customers and experts opinions will lead to selecting a better location.

The Weight of the Significant Criteria and Sub-criteria in View of Customers and Experts of Mehr Eqtesad Bank

Table 3: The final weight of experts’ sub-criteria

| Criteria | Weight of criteria (A) | Sub-criteria | Weight of sub-criteria (B) | Final weight (A)*(B) |
|----------------------------|------------------------|---|----------------------------|----------------------|
| Population characteristics | 0.168 | Customers income | 0.496 | 0.0833 |
| | | The population density of the region | 0.504 | 0.0847 |
| Cost | 0.165 | Construction costs (for purchasing the land and construction) or renting to set up the branches | 0.165 | 0.165 |
| Access to urban facilities | 0.226 | Access to parking | 0.094 | 0.0212 |
| | | Access to mall and shopping centers | 0.316 | 0.0704 |
| | | Access to hospital | 0.075 | 0.0169 |
| | | Access to hotels and restaurants | 0.125 | 0.0282 |
| | | Access to daily market | 0.247 | 0.0558 |
| Competition | 0.165 | Access to offices and companies | 0.142 | 0.0321 |
| | 0.148 | Access to rival bank branches | 0.165 | 0.165 |
| Flexibility | 0.148 | Access to its own branches | 0.495 | 0.0733 |
| | | The existence of land for future development | 0.505 | 0.0747 |
| Traffic system | 0.128 | Land near the facility (Facility for Development) | 0.587 | 0.0751 |
| | | Access to downtown | 0.413 | 0.0529 |

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At this stage, we should do the same thing for ranking the experts criteria. In the beginning, the criteria are ranked. The obtained weights can be seen in figure (1). Among the measured criteria, the criterion of access to urban facilities, with the weight of 0.226, possesses the first rank in view of Mehr Eqtesad Bank experts.



Figure 2: The main criteria from the perspective of Mehr Eqtesad Bank experts

As can be seen, the inconsistency rate obtained by measures is calculated $0.007 < 0.1$ which is an appropriate inconsistency rate.

The next step is to analyze each customer’s criterion and sub-criterion. At the end, we should do the same thing for ranking the final sub-criteria.

According to the table, the criterion of access to rival branches and the criterion of construction cost (for purchasing the land and construction) or renting to set up the branches, with the weight of 0.165, possess the first rank.

Conclusion

First Question: What are the important criteria and sub-criteria for selecting the location of Mehr Eqtesad Bank branches?

By studying two communities of experts and customers and their opinions, the important criteria and sub-criteria were collected. The results of this part are presented in table (1) and (2). The experts have 6 criteria and 15 sub-criteria and the customers have 5 criteria and 20 sub-criteria

Second Question: How is the hierarchy of these criteria and sub-criteria in terms of their importance?

To determine the relative importance of each criteria and sub-criteria (calculating the weights of the criteria and sub-criteria), each group should be considered separately. The results of this part are presented in table (3) and (4). According to table (4), in the experts’ questionnaire, the criterion of access to urban facilities with the weight of 0.226 and the sub-criteria of cost and competition with the weight of 0.165 possess the first rank from the experts’ point of view.

According to table (3), the criterion of the reason of selecting the bank with the weight of 0.355 and the sub-criterion of paying less fees and get more profits with the weight of 0.144 possess the first rank from the customer’s point of view. The sub-criterion of more branches with the weight of 0.104 possesses the second rank. According to Elahi Roudphoshti about the experts, the sub-criterion of competition has the highest weight. His results are close to our results and support them. The difference is that, in present study, the sub-criterion of cost is equal the sub-criterion of competition. With respect to customers’ opinion, more thoughtful decisions can be made about the branches location.

Suggestions

-Instead of Analytic Hierarchy Process approaches, other techniques such as ANP can be used to weight the indicators. In this way, the dependency among criteria and sub-criteria can be vanished and more precise positioning can be obtained.

-The spatial interaction model which is an efficient model can be used for positioning and mathematical modeling. This model considers the important variables of the appearance of the branch and the size of the branch.

-Some applications such as IDRISI and Arc GIS can be used to weight the layers.

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