Available online at www.elixirpublishers.com (Elixir International Journal)

Marketing Management

Elixir Marketing Mgmt. 75 (2014) 27652-27658

ISSN: 2229-712X

Taken defensiv strategy of prioritizing the capacity of banks to earn fee income from providing services using analytic hierarchy process (Case Study: Bank Mellat)

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ARTICLE INFO

Article history:

Received: 23 August 2014;

Received in revised form:

25 September 2014;

Accepted: 12 October 2014;

Keywords

Defensiv strategy,

Analytic hierarchy process,

Bank Mellat.

ABSTRACT

Due to major changes taken place in the banking system of Iran, Bank Mellat has faced new challenges: restructuring state sectors into private ones through privatization, an increase in their rivals, the intense competition to obtain more market share, bringing about more expenses and costs as to four bank deposits, etc., has led the bank to tends to increase the commission (the income from services' commission). In this paper, the researcher has collected the required information through interviews with experts as well as scientific and library studies.the purpose of this study is Taken defensiv strategy of prioritizing the capacity of banks to earn fee income from providing services using analytic hierarchy process. The analytic hierarchy process (AHP) is a structured technique for dealing with complex decisions that was developed by Thomas L. Saaty in the 1980 year. It provides a comprehensive and rational framework for structuring a decision problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions. The base of this model is comparing variables by pair wise by Matrix relationship. In this way, pair wise of the effective variables on the prioritizing the capacity of banks were considered and based on relative weights the output was extent. In the present research, combination of Indexing system Method with Analytical Hierarchy Process has been applied to assess the prioritizing the capacity of banks. By this process. The findings of the research show that the issue of fees based on the separation of non-shared with 0/179 point and Trying to customer satisfaction with 0/117 point are located in first and second rank.

Introduction

Essential Changes of the modern world disrupt the old paradigms of the modern world in all areas.changes in dealing with our competitors, changes in product life cycles, higher levels of human consciousness through changes in the system of education,the innovative in creasment paradigms of the past, all users have to be able to meet the needs of today's world [12]. Today's world of unlimited desires and limited resources of mankind In this context, all companies are trying to actin such a manner that the maximum potential their own actualized. In this situation capacity survey and planning for capacity of production and services due to usage the effective power of itself for all the organizations are necessary and essential. Nowadays organizations need to compete with other opponents for getting much more advantages and benefits. Bank Mellat is not exempt from this rule and has been in this way since long time.So it, needed to provide banking services in the capacity assessment by especified each branch Considering of, the number and types of customers, employing the power of human resources in the community and opponents and so on...how much you can sell the bank guarantee, the opening of credit (LC) has received various commissions and etc. For this purpose, it is necessary to prioritized efensive strategies by using the analytic hierarchy process. In relation to the literature have demonstrated that Vnzn Daytrych and Reid (2010) research on the factors affecting the profitability of Swiss banks before and during the financial crisis in Europe did. Asana Svglv and colleagues at the University of Athens, Greece, research on the factors that determine the profitability of Greek banks are conducted. Cornet and colleagues (2010) conducted research in the differences between private banks with government to assess the impact of ownership structure on bank performance.

Methodology

The survey, from the perspective of analytical applications and data gathering method "- descriptive analysis" is considered, and methods of data collection by the study of scientific studies (internet, magazines, etc.)

Study population and sample size

This article is taken froma site in Semnan province, the population studied, all the branches of Bank Mellat is Semnan. It should be noted that the social, economic, and political geography and the people of this province who are also customers of the bank, as a population, have been studied. A number of bank branches were 30 branches in the beginning that 5 or 6 of them were mixed together at the end of research. It should be noted although this research has done in Semnan it can also be generalized for Iran totally. From1391to1392, when the territory is also research.

-Anatomy of a defensive strategy

The first factor: Create incentive programs to increase the income of non-bank mutual between line and staff personnel.

The second factor: the formation of a team to pursue the kind of non-bank income The third factor: unforgiveness unnecessary bank fees.

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The fourth factor; empower and educate staff:

Teaching basic elements of human excellence and the stylized labor relations and management excellence can also be effective. Good to hear from some one who enjoys his work and make him happy and satisfied with the result of the work of the subconscious knows that. The goal is to realizea good education (20).Thanks to the efforts of our employees about the bank's efforts honor society, and today, the bank has a rightful place among the people and authorities(Beam, pg 29, No. 70).

The fifth factor: Due to the delivery of services or products for the duration of the service and hardware products. Compared to competitors.

Agent Sixth: Setting up a comprehensive system of fees

Factor Seventh: Due to the modulus of fees(fees based on the separation of non-shared): Know the income of non-common variety that the amount of fees that the bank's income is different. For example, the issuance of a guarantee or letter of creditis the maximum amount of fees to be included in the next of ficial various types of fees, whether in the current(deposit services) and the credit is received. Also,even though the fees that a resupposedly on the receivin gbranch, the lower the wage guaranteeand LC, but much more than in terms of the Guarantee and LC.

Factor eighth: Development in the Context of E-banking services:

Bank charges are to be scheduled and given a bedmarked. By entering this platform to get customer service, pays their fees.and also in this way banks become much more quiet than the past and number of customers will be low and handling and management will be done easily and quickly.

Factor ninth: identifying and resolving failures and weaknesses, know the types of products and banking services.

Factor tenth: I am the advertisement: Advertising is expensive, Investments (Beam, pg 22, No. 67).

Factor elevnth: Trying to customer satisfaction

Factor twelfth: Bank operation all programs

One of the items that are included in the bank's operating income is a non-communal. The Bank's performance in his recurring income item non-common view, and strategy sessions to review it, to absorb excess acidmet planning the bank to increase its funding walk.

Followed the model parameters:

All the bank's choice of a defensive strategy based on four criteria or indicators are examined:

1-The performance means is that each of these factors on the Difficulty and ease of implementation and performance review. In this index, we try to allow their conditions to the implementation of the review.

2- Costs: All costs for each agent is the first to reach revenue for banks will follow.

3- Incomegains: The most important indicator is an index of all the factors upon which the review and its purposeis to see how each agent run after bank fees will beawarded?

4- the possibility of marketing: know any wagedoes not come without effort and his income does not come looking for us. For non-shared revenue sources such as muster in bank marketing need sare and express purpose of this indicator, reviews of any of the above factors Under the terms of marketing resources.

Theoretical Basis

Analytic hierarchy process (AHP), as a very popular multiple criteria decision making (MCDM) tool, has been considerably criticized for its possible rank reversal phenomenon, which means changes of the relative rankings of the other alternatives after an alternative is added or deleted. If the weights or the number of criteria are also changed, then rankings might be reversed. Such a phenomenon was first noticed and pointed out by Belton and Gear [4], which leads to a long-lasting debate about the validity of AHP [8,11,38,27,34,35,37,39,30], especially about the legitimacy of rank reversal [9,17,29,28,30,31]. In order to avoid the rank reversal, Belton and Gear [4] suggested normalizing the eigenvector weights of alternatives using their maximum rather than their sum, which was usually called B–G modified AHP. Saaty and Vargas [30] provided a counterexample to show that B– G modified AHP was also subject to rank reversal. Belton and Gear [5] argued that their procedure was misunderstood and insisted that their approach would not result in any rank reversal if criteria weights were changed accordingly. Schoner and Wedley [6] presented a referenced AHP to avoid rank reversal phenomenon, which requires the modification of criteria weights when an alternative is added or deleted. Schoner et al. [32] also suggested a method of normalization to the minimum and a linking pin AHP (see also [33]), in which one of the alternatives under each criterion is chosen as the link for criteria comparisons and the values in the linking cells are assigned a value of one, with proportional values in the other cells. Barzilai and Golany [1] showed that no normalization could prevent rank reversal and suggested a multiplicative aggregation rule, which replaces normalized weight vectors with weight–ratio matrices, to avoid rank reversal. Lootsma [15] and Barzilai and Lootsma [2] suggested a multiplicative AHP for rank preservation. Vargas [18] provided a practical counterexample to show the invalidity of the multiplicative AHP. Triantaphyllou [36] offered two new cases to demonstrate that the rank reversals do not occur with the multiplicative AHP, but do occur with the AHP and some of its additive variants. Leung and Cao [14] showed that Sinarchy, a particular form of analytic network process (ANP), could prevent rank reversal. As an integrative view, the AHP now supports four modes, called Absolute, Distributive, Ideal and Supermatrix modes, respectively, for scaling weights to rank alternatives [17,23,24,25]. In the absolute mode, alternatives are rated one at a time and there is no rank reversal when new alternatives are added or removed. The distributive mode normalizes alternative weights under each criterion so that they sum to one, which does not preserve rank. The ideal mode preserves rank by dividing the weight of each alternative only by the weight of the best alternative under each criterion. The supermatrix mode allows one to consider dependencies between different levels of a feedback network. More recently, Ramanathan [22] suggested a DEAHP, which is claimed to have no rank reversal phenomenon. But in fact, it still suffers from rank reversal. Wang and Elhag suggested an approach in which the local priorities remained unchanged. So, the ranking among the alternatives would be preserved.

Analytical Hierarchy process (AHP)

The Analytic Hierarchy Process (AHP) is an approach that is suitable for dealing with complex systems related to making a choice from among several alternatives and which provides a comparison of the considered options. This method was first presented by Saaty [26]. The AHP is based on the subdivision of the problem in a hierarchical form. The AHP helps the analysts to organize the critical aspects of a problem into a hierarchical structure similar to a family tree. By reducing complex decisions to a series of simple comparisons and rankings, then synthesizing the results, the AHP not only helps the analysts to arrive at the best decision, but also provides a clear rationale for the choices made. The objective of using an analytic hierarchy process (AHP) is to identify the preferred alternative and also determine

a ranking of the alternatives when all the decision criteria are considered simultaneously [26]. Process steps are as follows:
Step 1: building a hierarchy.

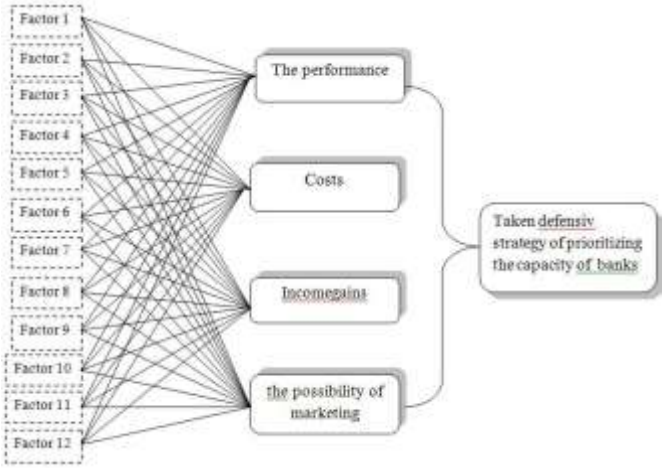

Figure 1. The process of hierarchical analytic

Step 2: determining the coefficients of the importance standards and sub-criteria: To determine the coefficients (weights) of the criteria and sub-criteria to compare the two to two. Judgment based on the quantitative comparison table below (Table 1).

Table 1. Weighting the factors based on preference in paired comparison [10]

Numerical values	Preferences (judging verbal)
9	Extremely preferred
7	Very strongly preferred
5	Strongly preferred
3	Moderately referred
1	Equally preferred
8،6،4،2	Intervals between strong preferences

Step 3: Preparation of paired comparisons matrices and normalization factors: Then the values for each pairwise comparison matrix columns together and each element in matrix paired comparisons were divided into the sum of a column that normalized the paired comparison matrix normalized (Equation 1). Then calculate mean of the elements in each row of the matrix that results in is created normalized weight vector (Equation 2).

$$r_{ij} = \frac{a_{ij}}{\sum_{i=1}^{m} a_{ij}} \qquad (1)$$

$$W_i = \frac{\sum_{i=1}^{n} r_{ij}}{n} \qquad (2)$$

In these equations m: number of columns, n: number of rows, aij: paired comparison of matrix elements rij: Options for normalization of matrix elements i, j index i, and Wi: weight of i-th item.

Step 4: Determine the final score factors (preferences and priorities): At this stage, the fusion coefficients are determined by the final score of each of the options. For this purpose, can be used the hierarchical composition of the resulting priority vector with respect to all judges at all levels of the hierarchical [16,3].

In other words, the final score of each of the routes be determined of the sum of the coefficients of integration options and criterion (Equation 31).

$$V_H = \sum_{k=1}^{n} W_k \left(g_{ij}\right) \qquad (3)$$

In this respect is: VH: My final choice j, WK: The weight of each criterion and gij: weighing the options regarding the criteria.

Step 5: Calculate the compatibility or incompatibility system: To calculate the rate of adaptability must first paired comparison matrix (A) of the weight vector (W) is multiplied to obtain a good approximation of λ max W λ max W that is A × W = λ max W. Dividing the λ max value of λ max W of W is calculated. Then inconsistency index is calculated of the equation (4) [10]

$$I.I. = \frac{\lambda \max - n}{n - 1} \qquad (4)$$

Inconsistency rate is calculated via equation (5):

$$I.R. = \frac{I.I.}{I.I.R.} \qquad (5)$$

Quantity of I.I.R extracted from this table

Table 2. Quantity of I.I.R

n	1	2	3	4	5	6	7	...
I.I.R	0	0	0/58	0/9	1/12	1/24	1/32	...

If the inconsistency rate less than or equal to 0.1, system consistency is acceptable, If more than 0.1 is better to reconsider its decision on the judgment [7].

Discussion:

The analytical hierarchy procedure (AHP) is proposed by Saaty[26]. AHP was originally applied to uncertain decision problems with multiple criteria, and has been widely used in solving problems of ranking, selection, evaluation, optimization, and prediction decisions.

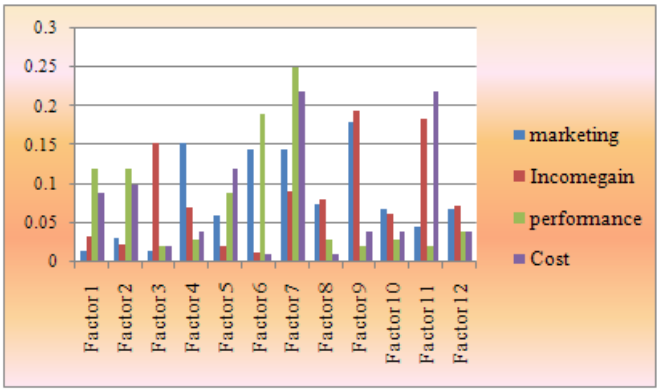

Figure 2. The weight matrix of option according to criteria

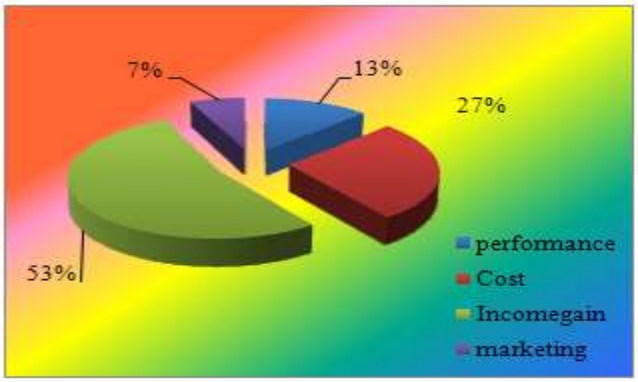

Figure 3. The weight matrix of criteria according to option

The AHP method is expressed by a unidirectional hierarchical relationship among decision levels. The top element of the hierarchy is the overall goal for the decision model. The hierarchy decomposes to a more specific criterion in which a level of manageable decision criteria is met [19]. Under each criteria, sub-criteria elements related to the criterion can be constructed. The AHP separates complex decision problems into elements within a simplified hierarchical system[13]. The AHP usually consists of three stages of problem solving: decomposition, comparative judgment, and synthesis of priority. The decomposition stage aims at the construction of a hierarchical network to represent a decision problem, with the top level representing overall objectives and the lower levels representing criteria, subcriteria and alternatives.

Table 3. Paired comparison table to the criteria according to the purpose

	performance	Cost	Incomegain	marketing						Wij
performance	1	0/33	0/20	3	Normalization →	0/107	0/074	0/115	0/214	0/128
Cost	3	1	0/33	5		0/321	0/221	0/192	0/357	0/273
Incomegain	5	3	1	5		0/536	0/662	0/577	0/357	0/533
marketing	0/33	0/20	0/20	1		0/036	0/044	0/115	0/071	0/067
Sum	9	4/5	1/7	14		1	1	1	1	1

Table 4. Paired comparison table to the options according to Cost Index

Cost	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Wij
Factor 1	1	0/33	5	5	0/33	7	0/14	5	5	5	0/20	5	0/09
Factor 2		1	5	5	0/33	7	0/14	7	3	3	0/14	7	0/10
Factor 3			1	0/33	0/20	3	0/14	3	0/33	0/33	0/11	0/33	0/02
Factor 4				1	0/33	5	0/20	5	1	1	0/14	1	0/04
Factor 5					1	7	0/33	7	5	5	0/33	5	0/12
Factor 6						1	0/11	0/33	0/20	0/20	0/11	0/20	0/01
Factor 7							1	7	5	5	1	5	0/22
Factor 8								1	0/33	0/33	0/14	0/33	0/01
Factor 9									1	1	0/20	1	0/04
Factor 10										1	0/20	1	0/04
Factor 11											1	5	0/22
Factor 12												1	0/04
Sum	20/3	20	44/6	29/7	9/08	66	3/08	51/3	27/8	27/8	3/7	31/8	1

Table 5. Paired comparison table to the options according to performance Index

performance	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Wij
Factor 1	1	1	5	7	3	0/20	0/20	9	7	5	9	7	0/12
Factor 2		1	9	7	3	0/20	0/20	9	7	5	9	7	0/12
Factor 3			1	0/33	0/20	0/11	0/11	1	0/33	0/33	5	0/33	0/02
Factor 4				1	0/20	0/14	0/14	3	1	1	3	1	0/03
Factor 5					1	0/33	0/33	7	5	5	7	5	0/09
Factor 6						1	1	9	5	5	9	5	0/19
Factor 7							1	9	5	5	9	5	0/25
Factor 8								1	3	3	1	3	0/03
Factor 9									1	1	3	1	0/02
Factor 10										1	3	1	0/03
Factor 11											1	0/33	0/02
Factor 12												1	0/04
Sum	13/3	16/1	52	37/8	42/3	3/8	4	50	37/3	35/3	60	36/6	1

Table 6. Paired comparison table to the options according to Incomegain Index

Incomegain	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Wij
Factor 1	1	3	0/14	0/14	3	5	0/20	0/14	0/33	0/20	0/33	0/33	0.033
Factor 2		1	0/14	0/14	1	7	0/14	0/11	0/33	0/33	0/14	0/20	0.023

Factor 3			1	3	5	7	5	0/33	3	3	1	3	0.153
Factor 4				1	5	9	0/20	0/20	0/33	0/33	0/20	0/33	0.070
Factor 5					1	5	0/20	0/14	0/14	0/20	0/14	0/20	0.021
Factor 6						1	0/11	0/20	0/14	0/20	0/14	0/20	0.013
Factor 7							1	0/33	1	3	0/20	3	0.090
Factor 8								1	3	5	1	3	0.081
Factor 9									1	3	0/33	1	0.193
Factor 10										1	0/20	0/33	0.061
Factor 11											1	5	0.184
Factor 12												1	0.073
Sum	41/86	53/14	7/52	25/59	51/2	68	16/52	4/33	14/28	24/26	5/02	15/60	1

Table 7. Paired comparison table to the options according to the possibility of marketing Index

marketing	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12	Wij
Factor 1	1	0/20	3	0/14	0/20	0/14	0/14	0/20	0/14	0/20	0/20	0/20	0/015
Factor 2		1	5	0/20	0/33	0/20	0/20	0/33	0/20	0/33	0/33	0/33	0.030
Factor 3			1	0/20	0/20	0/14	0/14	0/33	0/14	0/33	1	0/33	0.014
Factor 4				1	3	1	1	7	3	3	7	3	0.152
Factor 5					1	0/33	0/33	5	0/33	1	0/33	1	0.060
Factor 6						1	1	5	3	3	5	3	0.145
Factor 7							1	5	3	3	5	3	0.145
Factor 8								1	0/33	0/33	1	0/33	0.073
Factor 9									1	1	3	0/33	0.180
Factor 10										1	5	1	0.068
Factor 11											1	1	0.045
Factor 12												1	0.068
Sum	59/33	36/4	50	12/01	21/73	10/01	10/01	33/56	15/48	14/40	29/86	14/53	1

Table 8.The weight matrix of options according to the criteria table

criteria / options	Marketing (Wij)	Incomegain (Wij)	Performance (Wij)	Cost (Wij)
Factor 1	0.015	0.033	0.12	0.09
Factor 2	0.030	0.023	0.12	0.1
Factor 3	0.014	0.153	0.02	0.02
Factor 4	0.152	0.070	0.03	0.04
Factor 5	0.060	0.021	0.09	0.12
Factor 6	0.145	0.013	0.19	0.01
Factor 7	0.145	0.090	0.25	0.22
Factor 8	0.073	0.081	0.03	0.01
Factor 9	0.180	0.193	0.02	0.04
Factor 10	0.068	0.061	0.03	0.04
Factor 11	0.045	0.184	0.02	0.22
Factor 12	0.068	0.073	0.04	0.04

Table 9. The weight matrix of criteria according to option

object / Criteria	Wij
performance	0/128
Cost	0/273
Incomegain	0/533
marketing	0/067

Table 10. Points and Ranks

Indexes	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10	Factor 11	Factor 12
point	0/064	0/068	0/059	0/073	0/072	0/089	0/179	0/048	0/108	0/05	0/117	0/055
Rank	Eighth	Seventh	Ninth	Fifth	Sixth	Fourth	First	Twelfth	Third	Eleventh	Second	Tenth

With comparative judgments, expert users are requested to set up a comparison matrix at each hierarchy by comparing pairs of criteria or sub-criteria. Finally, in the synthesis of priority stage, each comparison matrix is then solved by an eigenvector[38] method for determining the criteria importance and alternative performance. The purpose of the AHP enquiry in this paper was to Taken defensiv strategy of prioritizing the capacity of banks to earn fee income from providing services. The results of AHP method for Taken defensiv strategy of prioritizing the capacity of banks showed in tables (3) to (10) and figures (2) to (4).

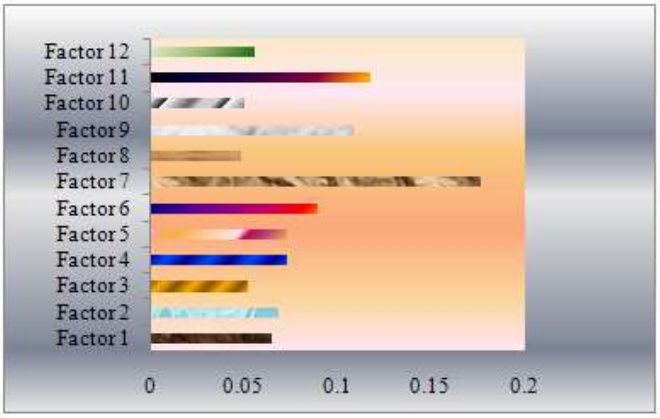

Figure 4. Points and Ranks

Conclusion:

What suggestion offered as a researcher for the bank recommended that: methods due to various constraints in implementing the strategy of defense, national banks should try to actin accordance with the priorities set out in the Model That the issue of fees based on the separation of non-shared more important factor considering factor Trying to customer satisfaction and identifying and resolving failures and weaknesses are also much more attention. It is ofcourse never mean ignoring the other factors area defensive strategy.

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