

A Model of Market Segmentation for the Customers of Mellat Bank in Iran

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Abstract—If organizations like Mellat Bank want to identify its customer market completely to reach its specified goals, it can segment the market to offer the product package to the right segment. Our objective is to offer a segmentation model for Iran banking market in Mellat bank view. The methodology of this project is combined by “segmentation on the basis of four part-quality variables” and “segmentation on the basis of different in means”. Required data are gathered from E-Systems and researcher personal observation. Finally, the research offers the organization that at first step form a four dimensional matrix with 756 segments using four variables named value-based, behavioral, activity style, and activity level, and at the second step calculate the means of profit for every cell of matrix in two distinguished work level (levels α_1 : normal condition and α_2 : high pressure condition) and compare the segments by checking two conditions that are 1- homogeneity every segment with its sub segment and 2- heterogeneity with other segments, and so it can do the necessary segmentation process. After all, the last offer (more explained by an operational example and feedback algorithm) is to test and update the model because of dynamic environment, technology, and banking system.

Keywords—market segmentation model, banking system, Mellat bank

I. INTRODUCTION

IN every bank, it is necessary to completely understand every customer characteristic and needs specifically. But it is not physically accessible and of course if it can be done, then it cannot be profitable. So what is the solution for these problems? The answer is having and using a segmentation model. By using a segmentation model an organization like a bank can know, distinguish, understand the specific needs for every segment and finally behave with every segment as a personal characteristic differently.

Mass customization production is not a miracle but a real work just like a wonderwork that try to produce everyone one product, exactly. Although this way of production try to do a wonderwork in marketing, but there is a problem. More customization the product is, more the cost of production process will be. So segmentation is the best way we can find to solve this problem up to now. As per the contents of Article 1 of Articles of Association of the Bank, approved in the General Assembly of Banks, Bank Mellat started its activity in 1980 by merging of 10 private banks (Dariush, Tehran, Pars, Etebarat Taavoni & Tozie, Iran & Arab, Bein-al-melalie-Iran, Omran, Bimeh-Iran, Tejarat Khareji Iran and Farhangian) and the at the present time it is active enjoying more than 1800 branches all over Iran and other branches in Istanbul, Izmir, Ankara in Turkey, Seoul in South Korea, Yerevan in Armenia, London and Dubai (Persia Bank) and a percentage of the Share of Europaisch-Iranische Handelsbank.

The objective of the bank is rendering bank services throughout Iran and facilitating domestic and foreign commercial affairs and involving in production fields to render services to the economy of Iran. The term of activity of the bank is unlimited and its head office is located in Tehran. The capital of the bank at the beginning of establishment was designated as sum of 33,500 million Rials which at the being it is 16,000 billion Rials. The operations of the bank at the onset of its activities were include opening and keeping current and savings account, accepting deposits, granting loans and credits, carrying out foreign currency transactions, performing duties of trusteeship, administration, attorney ship and representation and performing other bank operations and commercial transaction which were not prohibited by virtue of prevalent laws and regulations of Iran.

This research tries to offer a segmentation model for banking system in Iran. Iran banking system does not have a complete, fit and clear segmentation for its market. So the main problem is to offer a model to do it. Of course here we don't want to make a segmentation model or run it in the market.

In the last 2 years some efforts have been done and finally Mellat Bank had four segments for its customers as list below explain it:

1. Mehan: the most important group of customers those are very active, loyal and valuable.
2. Shayan: the second group of customers those are suitable and worthy for becoming one of Mehan.
3. Pooyan: the third group of customers those are nearly active enough for a good change and grow.
4. Kahan: the last group of customers in the system without any value or benefits.

This segmentation is not enough for the Mellat Bank and we should try the better one that can respond many questions about the best way to behave with all different kinds of customers, because there is no theory or model for segmentation in Iran banking market, all of the aspects of the problem are not obvious.

For example some categorization implemented in other countries but in Iran we cannot find some project as complete as this one: Recently, a typology based on bank customers' evaluation of the received relational benefits has identified three segments[16]. Group 1, described as satisfied customers without special treatment, conferred great importance to social and confidence benefits categories and very little importance to special treatment benefits. Group 2, qualified as satisfied customers with special treatment, differed from the two other groups by the relatively greater importance they gave to special treatment benefits. And group 3, described as unsatisfied customers or customers without preferences, was characterized by a below-average valuation of all benefits and particularly of the social benefits. [7]. The importance of this research came from organization foresight and the observation of many deficiencies in implementing the functions and operational activities in the future of Bank Mellat when the other private and foreign banks come to a huge competition.

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One reason for this attempt is the changes that were occurred in some other foreign systems while the competition was being started in high ranges. In the U.S. banking industry, regulation persisted until the late 1970s, constraining consumer choice and capping rates.

Competition was limited to banks in local markets; within the local markets, other financial institutions and out-of-state banks were not allowed to offer banking services. In retailing, hours of operation were often restricted by local governments, and many professionals, such as doctors and lawyers, could not advertise their services.

In the transportation and communication industries, railroad, pipeline, and telecommunications firms were given local or national monopolies to prevent the development of costly duplicative infrastructures.

In the airline, trucking, and other industries, regulations to combat excessive, destructive competition were adopted during the Great Depression. Patterns of regulation were similar in other developed countries in Europe and Asia. As a result of deregulation, many individual businesses are facing a major increase in the level of competition. [13].

Scientific objective: offering a testable segmentation model for using in the customer market of Mellat Bank.

Applicable Objectives: explanation and description of theoretical and operational process for this model.

Subsidiary objectives: modeling a feedback algorithm to test the degree of success of segmentation model in a specific banking market.

Given are two samples from the same population. The first sample is exposed to some factor on the first level $\alpha = 1$, and the second sample is exposed to the same factor on the second level $\alpha = 1$. Both populations are characterized by values of a continuous variable Y (explained variable, dependent variable), values of both discrete and continuous variables X_1, \dots, X_n (explanatory variables, independent variables) and the value of a factor α . We know that the factor α has influence on variable Y , but this influence depends on the values of the explanatory variables.

The general population should be divided into segments (by imposing conditions on the explanatory variables X_1, \dots, X_n) so that the following conditions are fulfilled

- *The condition of homogeneity within the segment*

The difference in means $Y_{\alpha=1}^- - Y_{\alpha=0}^-$ calculated for all the observations from the particular segment should be equal to the difference calculated for observations from any sub segment of this segment.

- *The condition of heterogeneity between the segments*

The difference in means $Y_{\alpha=1}^- - Y_{\alpha=0}^-$ calculated for the observations from the particular segment should be significantly different than the difference calculated for observations from any other segment. [16]

Because the research is just a descriptive one, so there is no population, sampling, gathering the information and no questionnaire.

II. LITERATURE REVIEW

A. Introduction

While reviewing the past researches and categorizing them in this chapter, here the theoretical basics of the research are ready to study. So in this chapter the survey for experimental and theoretical literature is written on the basis of different sets of variables. These variables help us to write the literature review in thematic way so that the conditions for using the historic information would be better with respect to literature review on the basis of time and history. Literature reviewing on the basis of time and history is not good enough to reach an organized system on the basis of subject and content. So it is better to use of thematic way for writing literature review. Of course this method is harder than historic way for literature review

B. Market Segmentation

Market segmentation would seem to serve a number of closely interrelated purposes. It is seen as a means of predicting future behavior a method of detecting, evaluating and selecting homogeneous groups and away of identifying a target market for which a competitive strategy can be formulated. More generally it allows the company to identify key consumer groups, evaluate the importance of each segment to the business and communicate and target products and resources more effectively [11].

C. Market

Most strategy researchers [8],[12],[36] have tended to operationalize strategic mission as a nominal variable, a closer examination The marketing concept has a vertical emphasis, that is, it refers to a dyadic relationship between buyers and sellers. It does not normally comprise horizontal matters. Therefore, the theoretical perspective in this article on the marketing concept is supported by and limited to the channel theory [24] [3]. The marketing channel should be regarded as a single entity, a super-organization or a social system that consists of a number of interdependent firms that are involved in the task of the distribution of products to the ultimate consumer. [22].

D. Bank

Most strategy researchers [8],[12],[36] have tended to operationalize strategic mission as a nominal variable, a closer examination Given the nature of its operations and services, the banking sector is relatively amenable to innovative technologies. In particular, the development of electronic communication channels has had a profound impact on the industry. The electronic distribution of retail banking services emerged with the introduction of automated teller machines (ATMs), a technology pioneered by Barclays Bank in 1967. [17].

E. Mellat Bank

Most strategy researchers [8],[12],[36] have tended to operationalize strategic mission as a nominal variable, a closer examination Bank Mellat provides commercial banking services in Iran. Its services include access cards, current accounts, banking kiosks, and point of sales terminals, as well as electronic current accounts.

The company also provides tele banking, SMS banking, and Internet banking services. Bank Mellat was founded in 1979 and is based in Tehran, the Islamic Republic of Iran with branches in Iran, as well as Turkey and South Korea[3].

F. Experimental research basics

Most strategy researchers [8],[12],[36] have tended to operationalize strategic mission as a nominal variable, a closer examination In two parts, the first is about marketing segmentation as general researches and the second is about banking marketing segmentation as specialized researches just for banking systems.

And every two parts is divided to 7 subparts(geographic, demographic, psychographic, behavioral, combined, and other variables, and finally segmentation methods).

G.Demographic Variable

Most strategy researchers [8],[12],[36] have tended to operationalize strategic mission as a nominal variable, a closer examination Frequency of use of Consumer segmentation variables; Demographics (choice of sales regions, estimating segment size, choice of local distribution channels that cater different, ages, income & education groups, choice of media that serve different age, income). [2].

Market segments were identified and categorized using demographic and need-based data [19].

H.Behavioral Variable

For a new technology-based product or service at an early stage of diffusion, it is likely that only a small subset of consumers have adopted it[14].

The results confirmed that the older consumer market is not homogeneous. Rather, five distinct segments emerged which differ considerably from one another on a range of variables, including consumer behaviors. [21].

I. Combined Variable

A multi-segmenting methodology is proposed for comparing the segmenting capabilities of segmentation variables and providing complete market segmentation information. Demographic and psychographic variables based on the differentiation of consumer brand preference were used to elicit the characteristics of market segments[15].

In this study, seventeen potential segmenting variables within the five major levels are examined with an initial emphasis on firm graphics and technology[23].

Migros employs a variety of different methods to effectively segment its customer base. These include value, behavioral, lifestyle, lifecycle and activity-based segmentation schemes. These approaches can undoubtedly be used individually, but usually multiple approaches are used in conjunction with each other [5].

It was explained before that the method is combined of two other qualitative and quantitative methodologies orderly. At first step the qualitative way of segmentation is obtained from the Migros Company from Turkey. And the second step which is a quantitative work is obtained from a paper by Marcin Owczarczuk, 2006.

III. RESEARCH METHOD

A. First step: qualitative segmentation on the basis of Migros Company method.

Here we have four general sets of variables: value-based, behavior, activity style, and activity level. In addition, every set of four variables must segment to its sub variable. Now if cross the four sets variables and its details (so you can see in next pages), the segmentation matrix will have 50160 units for banking system.

The problem is that no one or company can offer the suitable product package for every segment. So we must reduce the number of units in the matrix of segmentation. For do that, we must combine and make some close variables in meaning, into the unit variable.

B. Second step: quantitative segmentation respect to the difference in means.

The problem of grouping observations, the clustering, can be described as dividing the set of observations into disjunctive subsets, so that the observations from the same subset are as near to each other as possible and the observations from different subsets are as far to each other as possible. The feature that distinguishes the segments, that is the conditional difference in means $\bar{Y}_{\alpha=1} - \bar{Y}_{\alpha=0}$ can be calculated only for a segment as a whole and it cannot be calculated for a single observation. Besides, there is no measure of distance or dissimilarity between two observations.

Given are two samples from the same population. The first sample is exposed to some factor on the first level $\alpha = 1$, and the second sample is exposed to the same factor on the second level $\alpha = 0$. Both populations are characterized by values of a continuous variable Y (explained variable, dependent variable), values of both discrete and continuous variables X_1, \dots, X_n (explanatory variables, independent variables) and the value of a factor α . We know that the factor α has influence on variable Y , but this influence depends on the values of the explanatory variables.

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The difference in means $\bar{Y}_{\alpha=1} - \bar{Y}_{\alpha=0}$ calculated for the observations from the particular segment should be significantly different than the difference calculated for observations from any other segment[2].

C. Joining two models

In two last steps with identifying major and sub variables and making a matrix, then for every unit of the matrix, by calculating the $\bar{Y}_{\alpha=1} - \bar{Y}_{\alpha=0}$ factor and test the conditions about homogeneity/heterogeneity, we could combined the two

models and making a new joined model for segmentation.

Now there is a question. What is Y? $Y = Y_{in} - (Y_{out} + Y_{gf})$ (1)

D. Data identifying

Y_{in} : all of incomes for bank from every single customer that Includes:

- ✓ i: Interest on loans directly from customer
- ✓ g: Interest on loans indirectly from government for customer loans
- ✓ f: Fees on the loans which paying back late
- ✓ l: Lose Charges from customer for law cost in the process of paying back loans
- ✓ c: Wages from customers for loans
- ✓ s: Wages from customers for services
- ✓ m: Money that never want from customers
- ✓ d: Direct incomes for electronic equipment

Y_{out} : all costs that bank pay to the customers.

- ✓ t: Temporary interests on the accounts to the customers
- ✓ n: Final interests on the accounts to the customers
- ✓ a: Awards for the non-interest accounts in their lotteries
- ✓ w: Awards for non-interests accounts special for students and teachers
- ✓ r: Remuneration for some special accounts like Goal account
- ✓ p: Paying back lose charges from bank to the customers because of government order
- ✓ o: Paying back lose charges form bank to the customers because of payoff
- ✓ y: Awards for POS systems special for markets
- ✓ e: Awards for POS systems special for customers
- ✓ u: Awards for electronic customer transactions
- ✓ b: Awards for Mellat Bank customer club

Y_{gf} : indirect cost capitation for every customer

- ✓ h: Rent for the branches and substations
- ✓ j: Water, gas, electricity, telephone, and other monthly costs
- ✓ q: Depreciation costs for equipment
- ✓ k: Human resource costs like monthly wages
- ✓ v: Indirect cost capitation for every branch because of center costs

x: Temporary cost for all vehicles and mobile equipment

E. Data gathering method

Many of data that need for Y factors are in some electronic systems like Concentrate, Loan Concentrate, SAE, SANJESH, Branch, and others. So there is no need to use of other tools.

F. Data process and making information

By use of the detail and the below formula we can calculate the factor Y:

$$Y = Y_{in} - (Y_{out} + Y_{gf}) \\ = (i + g + f + c + l + s + m + d) - ((p + a + w + n + r + o + t + y + e + u + b) + ([h + j + q + k + v + x]/z)) \quad (2)$$

Now with use of this formula we can find the different in means of every unit of matrix.

$$Y_{\alpha=1} - Y_{\alpha=0} \quad (3)$$

IV. CONCLUSION

The final finding of this paper is a combined qualitative/quantitative segmentation banking model. This combined model identifies the necessary and related variables in two orderly steps ("segmentation on the basis of quadruplet qualitative variables" and "segmentation with respect to the difference in means"), then reduces the size of the matrix which is made by cross these (four) quadruplet qualitative variables, by merge the sub close-in-meaning variables. Then in the second step by use of difference in means of every units and sub units in the matrix tries to delete the wrong units and identifies the correct segments of the matrix.

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