Application of Multidimensional Scaling Model towards Positioning of Commercial Banks: A Case Study of Public Sector v/s Private Sector Banks.

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ABSTRACT

Banks today are operating in a highly competitive and dynamic environment as there are too many players competing with each other to secure market share. It is very difficult for a bank to identify its potential competitors. Therefore, for each bank it is important to develop a well thought marketing strategy keeping in mind the strengths and weaknesses of its closest competitors in the industry. The present research paper attempts to identify the closest competitors of major public sector and private sector bank. And also to find out if there is any need to reposition banks on the basis of customers’ perception. The research work is exploratory as well as descriptive in nature. Primary data has been collected from customers of public and private sector banks residing in Delhi/NCR with the help of a structured questionnaire. Similarity v/s dissimilarity approach of Multidimensional Scaling Model has been used to analyze the data.

Key Words: Multidimensional Space, Financial Services, Service Quality, Loyalty, Customer Satisfaction

INTRODUCTION

Marketing approach in banking sector had taken significance after 1950 in western countries and then after 1980 in India and other South Asian countries. New banking insight oriented towards market had influenced banks to create new market. Banks had started to perform marketing and planning techniques in banking in order to be able to offer their new financial services efficiently.

Marketing scope in banking sector should be considered under the financial services marketing framework. Performed marketing strategy is the case which is determination of the place of financial institutions on customers' mind. Marketing of Financial Services by banks does not only include service selling of the bank but also is the function which gets personality and image for bank on its customers' mind. On the other hand, financial Services marketing are the function which relates uncongenialities, differences and non-similar applications between financial institutions and judgment standards of their customers.

The reasons for marketing scope to have importance in banking and for banks to take interest in marketing subject can be arranged as:

Change in demographic structure: Differentiation of population in the number and composition affect quality and attribute of customer whom benefits from banking services.

Intense competition in financial service sector: The competition became intense due to the growing international banking perceptiveness and recently being non limiting for new enterprises in the sector. Increase in liberalization of interest rates has intensified the competition.
Bank’s wish for increasing profit: Banks have to increase their profits to create new markets, to protect and develop their market shares and to survive on the basis of intense competition and demographic chance levels.

The marketing comprehension that are performed by banks since 1950 can be shown as in the following five stages:

1. Promotion oriented marketing comprehension
2. Marketing comprehension based on having close relations for customers
3. Reformist marketing comprehension
4. Marketing comprehension that focused on specializing in certain areas
5. Research, planning and control oriented marketing comprehension

LITERATURE REVIEW

Positioning is related with creating brand perceptions in the minds of consumers and with achieving differentiated images apart from competitors’ brands/offers and meeting customer needs/expectations (Ghodeswar, 2008:6). In other words, brand positioning refers implicitly to consumers’ memory of the brand’s particular information content (Lee and Liao, 2009:81). A brands’ position differentiates it from competitors on attributes considered important by target customers and gives it a distinctive identity in their minds (Ansari et. al, 1994:248). Firms position their brands by selecting the optimal mix of tangible and intangible product attributes as well as prices (Ansari et. al, 1994:248).

Brooksbank (1994) states that key components of marketing positioning are selecting customer targets, selecting competitor targets and defining competitive advantage. Brand manager's major objective should be to create the desired perception in the target consumer’s mind (Ghodeswar, 2008:6). One of the key tasks of a new product manager is to define a brand’s positioning, and managers of existing brands must continue to monitor the effectiveness of the brand positioning and repositioning when needed (F. Gwin and R. Gwin, 2003:31). According to Gwin and Gwin, in developing a positioning strategy, the marketer must consider the target market, how the product is different or better than competitors, the value of this difference to the target market and the ability to demonstrate or communicate this difference to the target market (F. Gwin and R. Gwin, 2003:31).

In the literature there are numerous attempts to understand brand positioning in different product and service categories. Most of the previous studies focus on product attributes and preferences for explaining positioning of brands. (Bhat and Reddy, 1998; Raj, 2006; Blankson, 2004; Blankson and Kalafatis, 2007; Lii and Liao, 2009; Niculescu, 2006; Ghose and Lovengard, 2001).

One of the examples to these studies is that of Bhat and Reddy’s (1998), in which they underlined managerial implications for brand positioning through focusing on functional and symbolic brand concepts. The results of this study revealed the importance of functionality and symbolism in terms of positioning. In another study, Raj Arora (2006) investigated the utilities of various attributes that may be used in positioning teeth whitening products. The results of this study indicates that, customers prefer a product which provides benefits lasting for several months after use, a product that does not have side-effects and a slight preference for penny-a-day pricing approach. Here, the importance of product benefits are revealed in terms of positioning.

Blankson (2004) explored the positioning strategies related with store card brands and determined the related congruence in store card brands. The findings of this study identified the most popular positioning strategies namely, service, value for money, the brand name, top of the range, and brand name. Blankson and Kalafatis (2007) conducted a study about positioning strategies of international and multicultural oriented service brands in UK plastic card industry. The results of the study was similar to Blankskon’ (2004) study. According to the results, the brand name and top of the range positioning strategies were the most preferred ones.

Lee and Liao (2009), aimed to understand how the attributes of Chinese tea beverage brands influence consumers’ evaluations of brand positioning and differences and competition among brands.
The results indicate that, Chinese beverage brands use quenching thirst, attractive advertising and reliable quality aims to develop their positions. Another study conducted by Hartman et. al. (2005), focused on the effect of green positioning on brand attitudes by using car brands. The results indicated that overall positive influence of green brand positioning on brand attitude.

In this study, positioning is undertaken within the context of the banking industry in India. In order to assess the positions of the banks included in this study, multidimensional scaling technique among the perceptual mapping techniques is used.

OBJECTIVES OF THE STUDY

The present study has been carried out with the following objectives:

- To find out the perceptions of customers regarding different banks through marketing variables.
- To identify the closest competitors of SBI, ICICI bank and other major public sector and private sector banks in India.
- To analyse and find out whether there is any need to reposition banks on the basis of customers’ perception.

RESEARCH METHODOLOGY

The aim of this study is to explore the positions of ten banks namely, SBI, ICICI Bank, HDFC Bank, Axis Bank, Kotak Mahindra Bank, Yes bank, Punjab National Bank, bank of India, Canara Bank, and Union Bank of India (5 Public Sector and 5 Private Sector Banks) that exist in the Indian market on a two dimensional perceptual map in order to reveal the proximities between these banks on the map which will represent how similarly and how different these banks are perceived when compared with each other.

The research work is exploratory as well as descriptive in nature. Primary data has been collected from customers of public and private sector banks residing in Delhi/NCR with the help of a structured questionnaire. Similarity v/s dissimilarity approach of Multidimensional Scaling Model has been used to analyze the data.

**Multidimensional Scaling:** MDS is a general term for a class of technique that are been developed to deal with problems of measuring and predicting human judgement. These techniques all have in common the fact that they develop spatial representation of psychological stimuli or other complex objects about which people make judgements (e.g of preference, similarity, relatedness, or the like). This means that the objects are represented as points in a multidimensional vector space.

There are two basic methods used in Multidimensional Scaling

- (a) Attribute Based Approach
- (b) Similarity/Dissimilarity based approach

Here in this paper we have used Similarity/Dissimilarity based approach. I this approach we need some kind of a distance between the brands being rated. The distance measure being the brands being rated. The distance measure being input could be a simple ranking of distance between a brand and all other brands by a customer.

A questionnaire was provided to the customers (respondents) containing a pair of banks total being 45 pairs in all. Respondents were asked to rate the different pairs on a 7 point scale 1 being most Dissimilar and 7 being most Similar. No attribute was specified by which the customer is asked to decide on the difference.

It was assumed that the customer may use parameters such as, Location, Service charges, behavior of staff, time required to deposit and withdraw money, variety of services, minimum balance required to be maintained, and so on,
RESULTS AND DISCUSSION

A set of ten banks operating in Indian market is taken and Multidimensional Scaling Model has been used to determine how the Indian customers perceive them.

SPSS OUTPUT

![3-Dimensional Multidimensional Scaling Map](image_url)

**FIGURE 1.** SPSS 3 Dimensional Multidimensional Scaling Map for Similarity Judgments

<table>
<thead>
<tr>
<th>Stimulus Number</th>
<th>Stimulus Name</th>
<th>Dimension 1</th>
<th>Dimension 2</th>
<th>Dimension 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SBI</td>
<td>1.3371</td>
<td>.7588</td>
<td>-.9847</td>
</tr>
<tr>
<td>2</td>
<td>ICICI</td>
<td>-.6241</td>
<td>.6856</td>
<td>-.8767</td>
</tr>
<tr>
<td>3</td>
<td>HDFC</td>
<td>-.3576</td>
<td>.6045</td>
<td>-.6397</td>
</tr>
<tr>
<td>4</td>
<td>PNB</td>
<td>.3190</td>
<td>1.7766</td>
<td>.8343</td>
</tr>
<tr>
<td>5</td>
<td>BOI</td>
<td>.6793</td>
<td>-.3330</td>
<td>1.1594</td>
</tr>
<tr>
<td>6</td>
<td>UBI</td>
<td>1.5252</td>
<td>-.5292</td>
<td>.8829</td>
</tr>
<tr>
<td>7</td>
<td>AB</td>
<td>-.2620</td>
<td>-.8485</td>
<td>-1.0504</td>
</tr>
<tr>
<td>8</td>
<td>KMB</td>
<td>-.9474</td>
<td>-.4628</td>
<td>1.0133</td>
</tr>
<tr>
<td>9</td>
<td>YB</td>
<td>-2.5157</td>
<td>.1476</td>
<td>.3238</td>
</tr>
<tr>
<td>10</td>
<td>CB</td>
<td>.8464</td>
<td>-1.7996</td>
<td>-.6623</td>
</tr>
</tbody>
</table>
FIGURE 2 Configuration Derived in 3 Dimensions

As we can see in the figure 1 which is based on the Stimulus Coordinates shown in figure 2 clearly indicates that respondents have assigned similar values to the ICICI bank, HDFC bank and SBI, which are very similar according to the perceptions of the respondents. On the other hand, banks such as, Kotak Mahindra Bank and Yes Bank is similar in one respect where as Union Bank of India, Axis bank and Bank of India is Similar on the other respect. The MDS analysis also displays theIteration History for the 3-D solution shown in figure 3.

<table>
<thead>
<tr>
<th>Iteration</th>
<th>S-stress</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.22202</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.17691</td>
<td>.04510</td>
</tr>
<tr>
<td>3</td>
<td>.17086</td>
<td>.00605</td>
</tr>
<tr>
<td>4</td>
<td>.16923</td>
<td>.00164</td>
</tr>
<tr>
<td>5</td>
<td>.16818</td>
<td>.00105</td>
</tr>
<tr>
<td>6</td>
<td>.16728</td>
<td>.00090</td>
</tr>
</tbody>
</table>

Iterations stopped because
S-stress improvement is less than .00100

Figure 3: Iteration history for the 3 dimensional solution (in squared distances)

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix
Stress = .012191   RSQ = .82928

Figure 4: Stress and Squared Correlation (RSQ) in Distances

As mentioned earlier, a high stress reflects a poor fit of the model to the data. As a result two types of stresses are produced- One is Young's Stress also known as S- Stress and the other is Kruskal's Stress, Simply Known as Stress.

Figure 4 reports three dimensional measure of fit -Kruskal Stress (.012191) and R-squared (RSQ) value .82928. Going by the guidelines for evaluating the Kruskal's Stress, we find that the 3-D solution indicates an "excellent" fit of the model. The RSQ of the .82298 reflects that 82.29% of the variance of the put distance data is accounted for by the scaled data.
Figure 5: Scatterplot of the Linear Fit

The scatter plot of the linear fit shown in figure 1.4 displays only minor departure from linearity between "Distances" and "Disparities" which are the model reproduced distances between any two objects in a pair. These distances and Disparities will be same in the case of a perfect model, thus indicating a linear fit (the best fit) of the model to the data forming a linear line. Indeed as shown in the figure 1.4 large ranks appear to be making better fit than the small ranks. Thus, overall we say that the model developed is an excellent fit for 3-D solution.

Naming the Dimensions:

It's very important in MDS to name the dimensions. because we have got the 3-dimensional solution, so all these dimensions have to be given a proper name. In MDS, we compare the brands at the left most and right most of the map and then top vs. bottom and so on. To try to determine what they have in common and how they differ, in order to deduce a sensible name for the dimensions. Several approaches can be used to name the dimensions.

1. The first approach is when the individual can be asked to evaluate the objects (here banks) in terms of several attributes such as banks location, behavior of staff, efficiency factor, quality of services etc. The researcher then correlate the attribute for each object with the coordinates for each object.
2. Second approach is to have the manager interpret the dimensions using his or her own experience and a visual configuration of the points.
3. Third approach is to attempt to relate the dimension to the special characteristics of the banks, such as quality of services, efficiency factor, customer satisfaction etc.

In this research we have used mix of the second and third method to name the dimensions. The dimensions have been named as follows.

Dimension 1 = Quality of Services
Dimension 2 = Cost Factor (Such as, cost of transactions interest on loan, min. balance to be maintained etc.)
Dimension 3 = Customer Satisfaction
CONCLUSION

From the Figure 1 and all above discussions, we can conclude that: SBI is most closely associated with the ICICI Bank and HDFC Bank, with respondents considering them almost identical.

The largest competitor of ICICI bank appears to be the HDFC Bank and second largest is SBI. in terms of first and third dimensions i.e. Quality of Services, and Customer Satisfaction

Other pair of the banks which is considered almost identical by the respondents are the Kotak Mahindra Bank and Yes Bank on second dimension i.e. Cost of transaction. I would like to mention here that both these banks offers the highest amount of interest rate on saving account, 6% and 7 % respectively.

The Closest competitor for the SBI is ICICI Bank, HDFC bank and Punjab National Bank. SBI should devise the marketing strategies to tackle them.

'Big Four Banks of India' i.e. SBI, ICICI Bank, HDFC Bank and Punjab National Bank are placed together on a perceptual map. They are the biggest competitor of each other. So they have to fight it out within themselves.

REFERENCES


