ABSTRACT: Banks in Saudi Arabia are well-capitalized, profitable and highly liquid despite recent oil price shock. Today, commercial banks are facing the competition like never. The level of competition with innovation in technologies and emergence of FinTech have gone higher. There are 24 banks operating in the Saudi Arabia, giving fierce competition to each other. With the entrance of foreign banks in Saudi economy, local banks are revising their marketing strategies in order to compete and retain their customer base. Since, all the top banks have same type of capitalization and customer base, it is very difficult for the banks to know who the true competitors are for them. The study will help the bank as well as customers to identify who the closest competitor for local as well as foreign banks. The study consisted mainly of the primary data collected from the sample respondents. Total 10 banks were chosen for the study based on their capitalization. Total 1000 sample was collected from the customers of selected banks, 100 sample from customers of each bank based on stratified random sampling. The data was collected in the Dammam region of Saudi Arabia. We used Similarity based approach of Multidimensional scaling for the analysis of data.

Keywords: Attributes; Commercial Banks; Financial Services; FinTech; MDS; Multidimensional Scaling; Perception; Perceptual Map; Saudi Arabia.

I. INTRODUCTION

Saudi Arabia is a leading Arab country with a rich banking culture. It has both conventional and Islamic banks. There are 24 licensed commercial banks in the kingdom, out of which 12 are domestic banks and remaining 12 are foreign banks licensed to operate in the Kingdom. It was in the year 1952 that Saudi authorities they established a regulating body named as Saudi Arabia Monetary Agency (SAMA) to keep an eye on the working of commercial banks in the kingdom. Because of the ongoing technological advancements and adoption of technologies by the commercial banks in the region the banks are profitable, and they are likely to be more profitable in the future also. Even in the wake of Global financial crisis and recent oil price shock it has hardly affected the banks here as it continues to flourish and make profit. The innovation taking place in the banking world has not spared the Saudi Arabia banking also. There have been drastic changes in the way banking was done before. New and innovative services have been offered by the banks with the new channels and new partners. Saudi banking has adopted technology to almost to its perfection. The changes are visible as more and more banks are adopting the technology and getting their fintech partner [3].

The year 2016 was a real litmus test for the region and specially for the banking sector because of the oil price shock (9). The performance of the banks has been good during this period. According to the report published in SAMA the reason for continued profitability of the banks in the country can be because of two reasons. First being the large amount of reserve with the banks. The large amount of reserve helps the banks to smooth out the transition from government spending to the private sector spending. Success of banks in comfortably absorbing the oil shock can be attributed to the two layers of the protection that they enjoy. The second being the banks enjoy is of ample capital buffers, high liquidity and ample profitability. In addition to all these SAMA’s updated and successful monetary policy has helped the banking sector to remain stable and make continuous profit. The Saudi banking sector will continue to have reserve and its capital adequacy ratio is well above BASEL requirement and SAMA cut off [18].

The banks in Saudi Arabia are market oriented, though market orientations of the banks are unrelated to the Return on Assets (ROA) or Return on Investment (ROE). There is need on the part of the management of the banks to lay more emphasis to the external environment of the banks. External environment is more important for devising the marketing strategies than the market orientation (Bhuian 1997). The completion in the banking sector have gone to another level due to the evolution of Financial Technology (FinTech). Though evidences suggest that the Saudi banks adopted FinTech very early and it is already showing in their performance [17]. Saudi Arabia is one the early arrivals in the FinTech world and growth in the FinTech sector is not slowing down. The growth of FinTech has certainly given new dimension to the competition in the banking sector [1]. The banks are not only facing completion from the banks but also from the FinTech companies. The banks are intelligent as they have partnered with the FinTech companies instead of having competition with them [7, 14, 15]. There are several studies regarding the banking performance, adoption of online banking and other marketing aspect of banks in Saudi
Arabia. There is no study based on the empirical evidences collected through the primary data analyzing the completion in the Saudi banks. The present study is the first of its kind and it is going to be a steppingstone in this direction. ‘The study will have positive contribution in this direction, and it will add value to the understanding of competition in the Saudi banking sector and it will also help the banks to design marketing strategies based on the results of the study.’

II. LITERATURE REVIEW

Although very few researches have been done in this context. Whatever studies have been done are relevant and helps the researchers, academic and investors to make the informed and updated decision based on these researches. As Saudi plays an important role in the development of the Arab region and it is very critical for the growth of the GCC. Relevant studies are reviewed here to get the insight into the topic of the present study.

The studies reviewed for the current research have been divided into two sections. The first section deals with the problems and prospects of in Saudi Arabia. While the second section analyses the selection of attributes for perceptual mapping and multidimensional scaling as a tool of positioning.

Al-Faraj et al., (2006) [2] has been concluded that the Saudi banking sector is on an upward trend. Even the strongest economies of the world were affected badly during the global recession, but Saudi banking sector stood firmly and made a good amount of profit mainly because of the highly efficient environment in which they are operating.

There is huge potential for development of Islamic banking in Saudi Arabia. This is because this region values the Islamic views and practices more than any other region in the world (16). They also concluded that there is a lack of expertise in the conventions and Islamic finance, and therefore the ministry of higher education should take appropriate steps to develop more institutions to promote Islamic finance [6] It’s not necessary that the banks which has high total assets will have more profit. [8] Saudi banks are more efficient in managing their resources as they have less NPA than other countries in GCC [2].

Multidimensional scaling was used to study the perception of the individual investors. The regulatory framework is to be changed to enhance the customer experience and confidence in the product [10]. Shakeel and Chaudhry (2015) investigated the multidimensional scaling for perceptual mapping. They used the attribute-based approach to study the different schemes of the mutual fund. They concluded normally the mutual advisors are biased in analyzing the mutual fund. They should not be biased and should more focus on the technical and fundamental analysis [19].

Ghosh and Chakraborty (2004) provided the detailed analysis on how to generate the solution for MDS, highlighted the importance of MDS technique in analyzing the data for perceptual mapping [5]. In another study [11] reveals that MDS are to be used to understand the perception of the markets to know about a product and service and then based on the perception the management can plan course of action. MDS can be used to analyze the perception of customers on a special and based on special map the marketers can design the marketing strategies [13].

As in the above reviewed studies. It provided an overview of the use of MDS to study the perception of customers about a product or service and based on the perception of the customers on different attribute of a product or service a company design its marketing strategy and position its product in the minds of the customers.

III. RESEARCH METHODOLOGY

Questionnaire Design and Data: Top 10 commercial banks operating in the Saudi Arabia economy were chosen for the study on the basis of their capitalization as on 31 Dec. 2019, from the website http://www.relbanks.com/asia/saudi-arabia. A questionnaire was designed by selecting these 10 commercial banks operating in Saudi Arabia. A Table was made where we mentioned banks in the rows and attributes on the columns. The respondents were required to rate these attributes as per their perception.

Data collection: The Sample was collected from the customers of the banks selected for the study. Total 1000 responses (100 customers from each bank) were collected and analyzed. The data was collected through the pre-tested structured questionnaire. The aim of the present study is to know the positioning of sample banks in the minds on the customer on selected attributes. Through the generated perceptual one can easily draw a conclusion on the positioning of the sample banks. The responses were taken for overall similarity. After the data was collected from the sample respondents and similarity matrix was generated and then SPSS 22.0 was used to do the further analysis by multidimensional scaling and generate the perceptual based map.

Multidimensional Scaling: it is group of techniques to measure the perception of the customers for a product or service. Based on the solution generated by the MDS technique the organization can reposition its product or service.

There are two popular methods of the technique. Namely,

(a) MDS based on attributes
(b) MDs based on similarity

Here in the present study we have used both similarity-based approach. For getting the Multidimensional space for the overall similarity-based approach, questionnaires containing a total of 45 pairs of banks, were provided to the customers (respondents). The selected sample respondents were required 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.

IV. ANALYSIS OF DATA

Since, we used the similarity-based model of MDS, no attribute was given to the respondents. They haven rated the pair of banks as similar or dissimilar based on
their own judgement. This is very subjective argument; different customers might use different factor for rating the same pair of banks. The SPSS has given the two-dimensional solution. Is a two-dimensional space where banks are grouped as similar or dissimilar? The banks which are very close to each other are perceived as like each other and banks which are far from each other on a multidimensional space are considered as dissimilar [6].

<table>
<thead>
<tr>
<th>Stimulus Coordinates</th>
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<tr>
<td><strong>Dimension</strong></td>
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</table>

Fig. 2. Stimulus coordinates.

As we can see, the Fig. 1, which is based on the Stimulus Coordinates shown in Fig. 2, clearly indicates that respondents have assigned similar values to the Arab National bank, Alrajhi bank and bank Aljazira which are very similar according to the perceptions of the respondents. On the other hand, banks such as, National Commercial bank, Riyadh bank and Islamic development bank are similar in one respect whereas Samba and Banqui Saudi Faransi are similar in another respect. As per the perceptual map and responses from the respondents, Saudi Hollandi bank is perceived as being entirely different. The above results are in consistent with the results obtained by Panda & Tripathy [12]. The MDS analysis also displays the Iteration History for the 2-D solution shown in Fig. 3.

Fig. 3. Iteration history.

### Young’s Stress 1

<table>
<thead>
<tr>
<th>Iteration</th>
<th>S-stress</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.37514</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.34351</td>
<td>0.03164</td>
</tr>
<tr>
<td>3</td>
<td>0.33845</td>
<td>0.00706</td>
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<td>4</td>
<td>0.33447</td>
<td>0.00198</td>
</tr>
<tr>
<td>5</td>
<td>0.33429</td>
<td>0.00017</td>
</tr>
</tbody>
</table>

Fig. 4. Stress Formula.

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

Fig. 4 reports two-dimensional measure of fit -Kruskal Stress (.25562) and R-squared (RSQ) value. 89455. Going by the guidelines for evaluating the Kruskal’s Stress, we find that the 2-D solution indicates an “excellent” fit of the model. The RSQ of the .89455 reflects that 89.45% validity to the result of MDs solution.

**Naming the Dimensions:** It is very important in MDS to name the dimensions because we have got the 3-dimensional solution and all these dimensions must 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 and 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 correlates 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.)

V. CONCLUSION

The results obtained are in consistent with the results for the MDS analysis by the [11, 13]. From the Fig. 1 and all above discussions, we can conclude that: Alrajhi bank is most closely associated with the National Commercial Bank and Islamic Development Bank, with respondents considering them almost identical. The largest competitor of SABB bank appears to be the Arab National Bank and second largest is Alrajhi bank in terms of first dimensions i.e. Quality of Services. The Closest competitor for the Alrajhi bank is National Commercial Bank and Islamic Development bank. They should devise the marketing strategies to tackle them.

VI. FUTURE SCOPE

The present study has used the similarity-based approach of Multidimensional scaling to know the closest competitor of the banks without identifying any dimension to it. It will be interesting to give different dimensions to the customers and ask them to rate based on mentioned dimension (Attribute based perceptual mapping).

Conflict of Interest. The author declares that there is no conflict of interest of any kind.

REFERENCES
