PERCEPTUAL MAPPING ANALYSIS: EVALUATING BRAND POSITIONING OF MOBILE PHONE BRANDS

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Abstract
Ten years ago, mobile phones were still viewed as a luxury item due to their limited usefulness, but now, many people consider them a necessary tool. In the United States, this was most pronounced. The United States of America is a prime example of this phenomenon. Modern smartphones are capable of doing a plethora of tasks that were previously impossible. Many individuals held to this view even after several limits were placed on the amount of power any one individual might have. Despite this, mobile phones have become a commodity, with many extra features and capabilities pre-installed before sale. Moreover, contemporary mobile phones are far more flexible than their forerunners, enabling users to engage in a wider range of activities. In addition to internet connectivity, cameras, audio/video players, Bluetooth, social networking capabilities, and GPRS, such a mobile device may be equipped with a plethora of other functions. These are just a few examples of enhancements that might be made in the not-too-distant future. It's hard to imagine modern life without this technical development, which has grown more indispensable as time has passed. It's hard to see us being productive without it right now. When mobile phones were originally made accessible to the public in India, buyers had to select between the most basic offerings from Motorola and Nokia. These variants were exclusive to India. As mobile phones are so common in India, many more alternatives were made accessible to customers. At the time, consumers in India could only purchase a single, basic kind of mobile phone. More sophisticated mobile phones joined the market as time went on. There were no other kind of phones available to buyers in India save mobile telephones. Customers had no other choice than to use their cell phones, therefore this was inevitable. The Indian mobile phone industry has become more competitive and crowded as about 150 new manufacturers have joined the market in the last few years. As a consequence, competition is fierce in this sector. As a result, it's harder than ever to make a name for yourself in the industry. As a consequence, the market is already saturated with products and services from a wide variety of vendors. This causal connection is directly to blame for the current state of the market, which is characterised by an oversupply of products and services. The already fierce competition in today's markets has been ratcheted up a notch as a result of this transition.

Introduction
The company's no-nonsense approach to business may be a major factor in Micromax's success. One of their tactics was to rebrand Chinese-made phones as their own and sell them at a discount. It's possible that this approach was crucial to Micromax's success. Soon after, several more manufacturers entered the fray, each claiming a quarter of the market share. Karbonn, Lava, Spice, and Maxx are some examples of such manufacturers. Karbonn was a very successful company all around. Of these businesses, Karbonn saw the most success. Despite the continued phones, many of the more than 150 local and Chinese device manufacturers are currently in a state known as "survival mode" as a result of the rising proportion of revenue being generated by sales of smartphone devices and the falling proportion of revenue being generated by sales to first-time buyers. This is due to the fact that most of the world's largest electronics manufacturers are still concentrating on the low-end feature phone market. This is because the percentage of sales made by returning consumers has decreased over the last several years. Many of them are having trouble meeting the ever-increasing demand for their wares, and there are a lot of them. Because of how many there are, this is certain to happen.There has been a lot of focus on studying Indian customers' opinions on mobile phone brands and models. This is because of the intense rivalry present in the Indian mobile phone market. Much

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of India's consumer research activities are concentrated here. The decision-making process prior to purchasing a smartphone is an important aspect of our study.

Finding out what factors into buying a mobile device is the focus of this study. Despite this, it pays little attention to the real reasons why people buy the things they do. While looking at mobile devices, it's important to always keep in mind a few key factors. This cannot be ignored under any circumstances. Throughout the purchasing process, customers focus heavily on these aspects, since they are often regarded as the most crucial ones. The study also attempts to plot customers' opinions of various companies against a wide range of differentiating features.

Review of Literature

As it aids in formulating a product or service's positioning strategy in the market, perceptual mapping goes by the name "positioning map." During the last thirty years, it has been a staple of strategic management. Understanding the intricate web of inter dependencies between vendors and the standards by which consumers evaluate their purchases is made possible through perceptual mapping. Its simple, effective graphics are appealing to upper management and may spark debate and strategic thinking across a company. Market researchers may use perceptual mapping to create visual representations of how consumers feel about goods, qualities, brands, promotions, and services. Information demands in marketing and advertising about product positioning. In this research, we use a method that does not rely on attributes. As Per Dr Naveen Prasadula Respondents use similarities and differences across brands as criteria for their assessments.Respondents' opinions and inclinations may be visualised in three dimensions using a technique called multidimensional scaling (MDS). Points in a multidimensional space are used to symbolise the perceived or psychological connections between stimuli.In order to better understand how respondents evaluate items, multidimensional scaling (MDS) might be used. It's often utilised in marketing to tease out the factors that really matter to people when they're evaluating a brand.

Using multidimensional scaling, we can better:

Customers' product evaluation criteria, their relative relevance, and the items' perceptual connections are all topics we'll cover.

Multidimensional scaling (MDS) is used to map customer preferences (such as those for businesses or brands) onto a distance metric. All objects' relative positions are shown in the generated perceptual maps. Object comparison is at the heart of multidimensional scaling. The perceived and objective qualities of any given thing (service, image, etc.) are inseparable. Consumers' perspectives may not align with (or even contain) the researcher's objective dimensions.

Objectives

1. Finding out what customers value most when comparing mobile phone manufacturers.
2. To create a map depicting how consumers feel about certain companies in light of the variables established in the first goal.

Methodology of Research

The goal of this exploratory study was to learn more about the factors that influence people's opinions and choices when it comes to mobile phone brands. The study was conducted with the sole objective of learning more about the criterion. Throughout the course of this study, a participant-friendly technique of sampling was created. The participants were graduate school students studying for degrees in management-related fields. Participants were asked to rate the degree to which they found several matched pairings of mobile phone brands to be similar to or dissimilar from one another. We developed the questions using a seven-point scale that ranged from a high degree of semantic similarity to a high degree of semantic dissimilarity between the two groups of objects. In order to accomplish what needed to be done, the ALSCAL Technique in Multidimensional Scaling was added to SPSS 17.0. When the ALSCAL technique was used, the respondents helped identify the dimensions.

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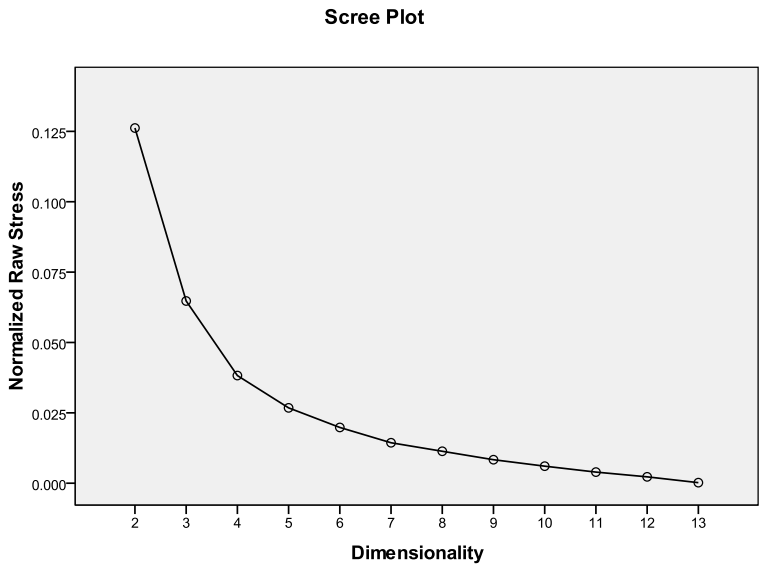
Investigation

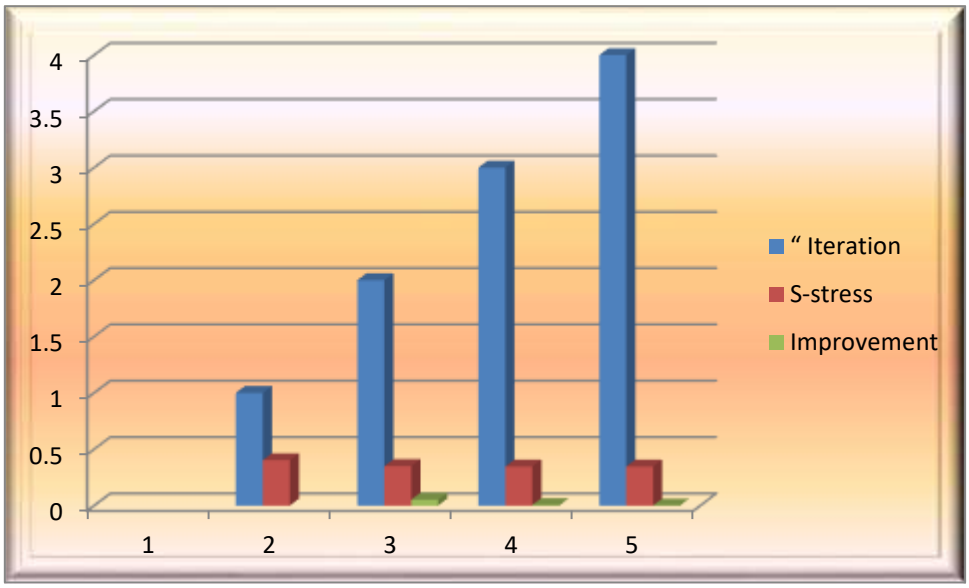
SPSS 17.0 was used to conduct the statistical analysis of the data gathered. The following are the ALSCAL analysis results. The Stress Plot demonstrates the possibility of a 4- or 5-dimensional solution. Using Young's S-stress formula, we determined that the stress in a solution with four spatial dimensions is the lowest possible, coming very near to zero.

Figure 1



The 4-dimensional solution is provided with an iteration history using Young's S-stress formula 1. (in terms of distance squared).

" Iteration	S-stress	Improvement
1	0.40307	
2	0.35105	0.05201
3	0.34699	0.00406
4	0.34613	0.00086



Insufficient progress in reducing S-stress to continue iterating

- Correlation Squared (RSQ) Stress and Distancing

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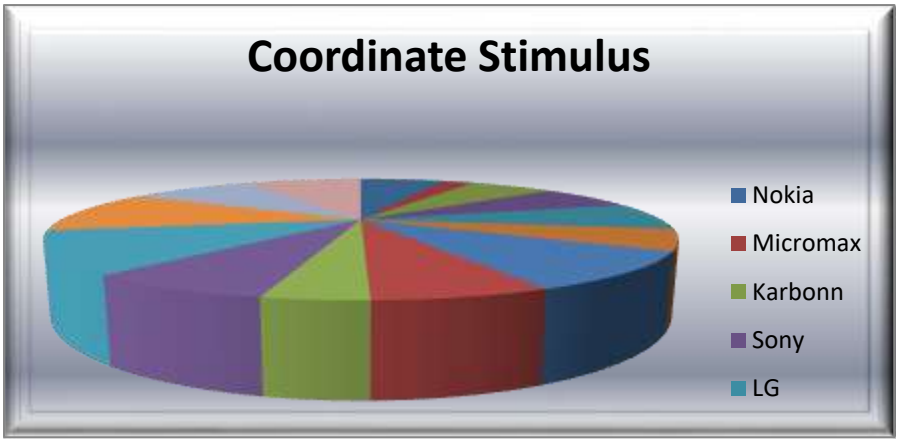
- Values of RSQ indicate the extent to which the distances between the scaled data (disparities) in a given partition (row, matrix, or complete data) explain the variance in the data.
- The Kruskal-Stress formula is used to calculate stress levels..

Averaged (rms) over matrices
Stress = 0.06380 RSQ = 0.87833

Four-dimensional configuration

Coordinate Stimulus

Stimulus Name	Dimensions			
	1	2	3	4
Nokia	0.8609	0.0096	-1.809	-0.7928
Micromax	-0.3106	0.5508	1.3949	-1.2624
Karbonn	-0.8466	-0.9566	1.6217	0.3551
Sony	0.9459	-1.2766	0.2205	-1.152
LG	1.0689	1.0904	1.1034	-0.1422
Samsung	0.8207	1.3016	0.389	-0.9318
BlackBerry	1.4118	-0.9344	-0.0481	0.9803
HTC	0.9946	1.4262	-0.5311	0.5136
Spice	-0.5878	-0.5395	0.6823	1.7623
Huawei	-1.0831	1.2814	-0.3216	1.2361
Maxx	-1.6036	-0.7224	0.103	-0.9886
Fly	-1.6453	0.5421	-0.972	0.4507
Lava	-1.2343	-0.6031	-1.2658	-0.8048
Apple	1.2086	-1.1694	-0.5674	0.7764”



The MDS/perceptual map findings reveal that consumers rate mobile phone brands along the following dimensions:
First Dimension: Cost (High-End vs. Budget Brands).The second axis is the kind of mobile operating system used.Thirdly, battery life is a factor.The Availability of Service Locations is the Fourth Factor. Figures 2, 3, 4, 5, and 6 show where the fourteen brands are seen to fall along the four dimensions.

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Figure 2

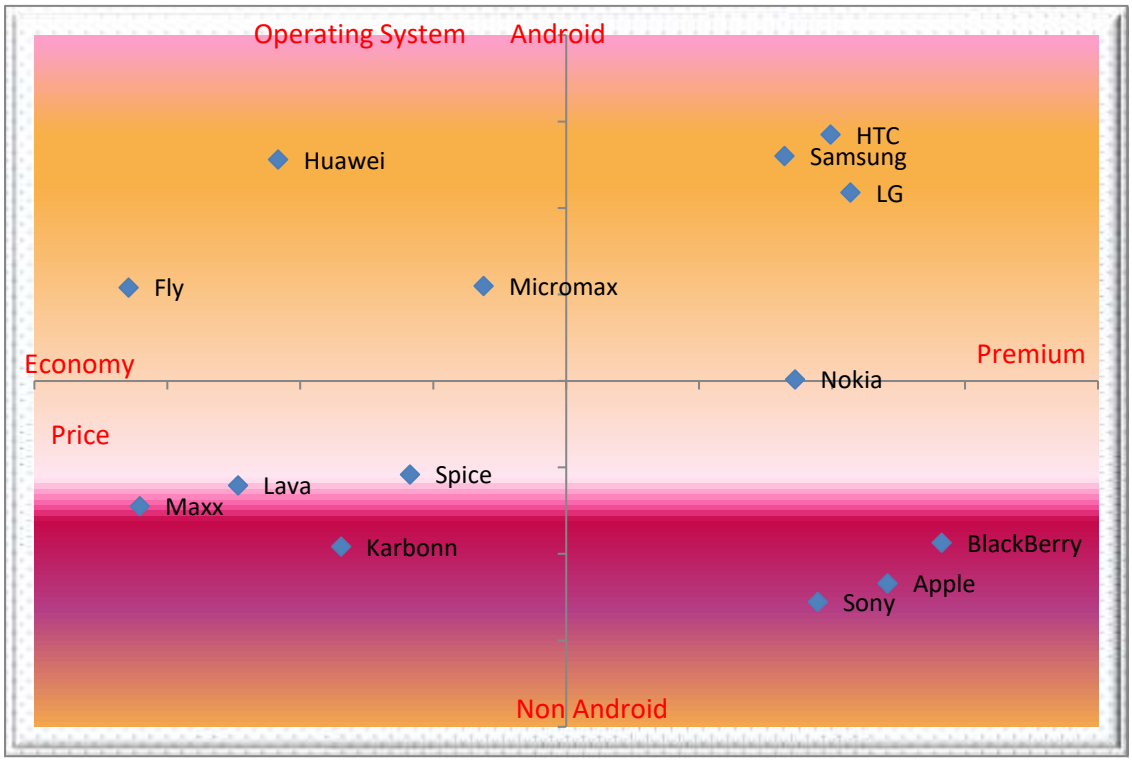

Figure 3

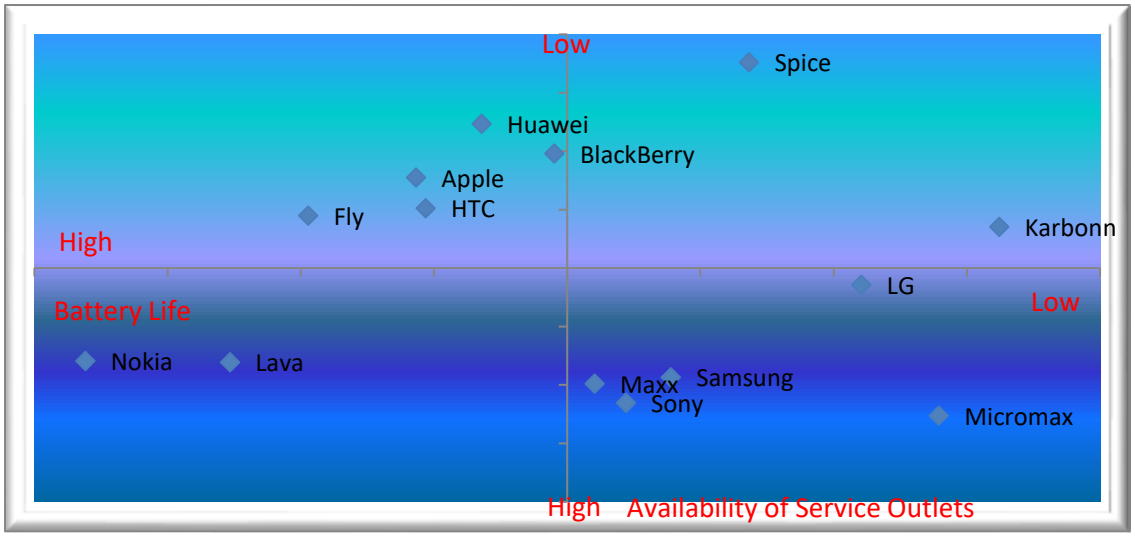

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Figure 4

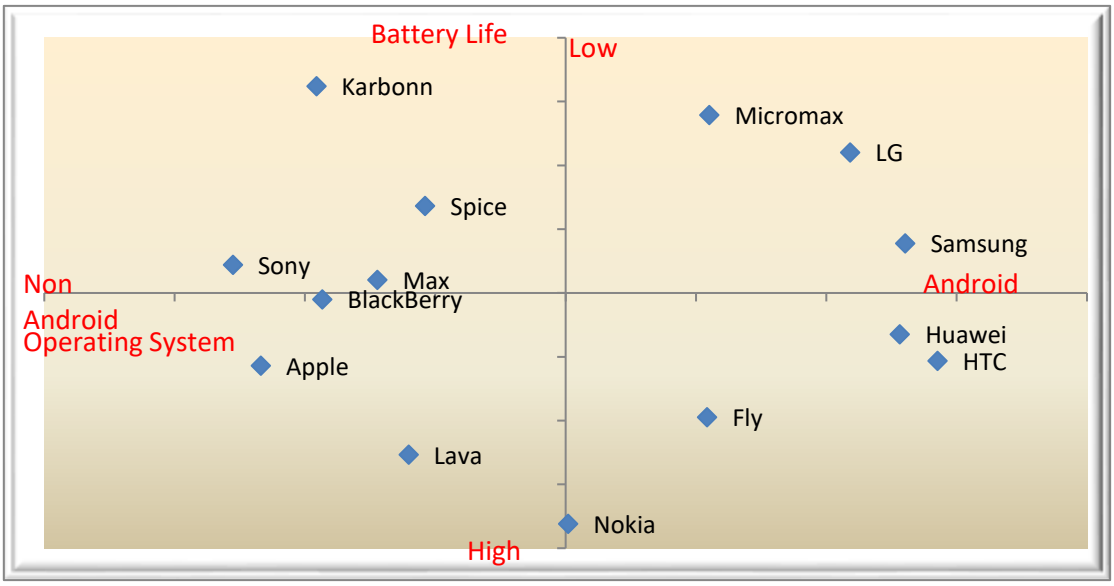

Figure 5

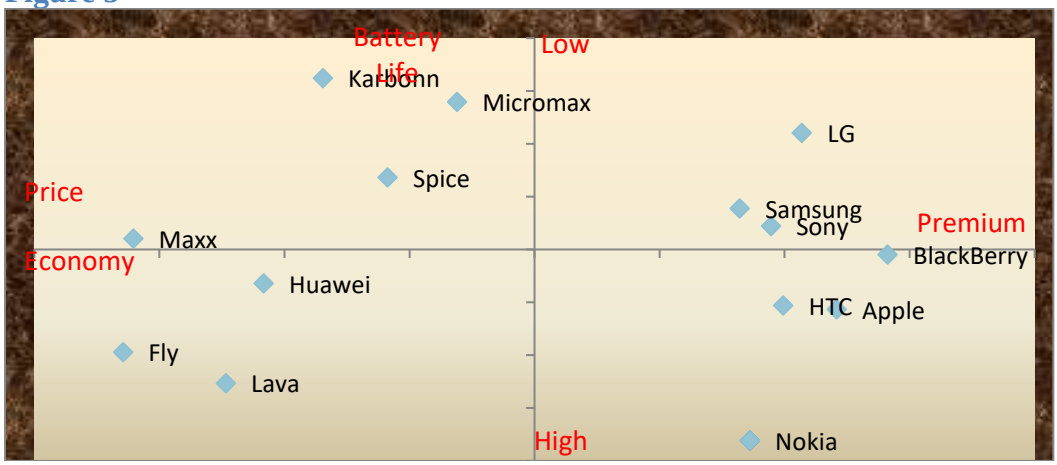

Figure 6

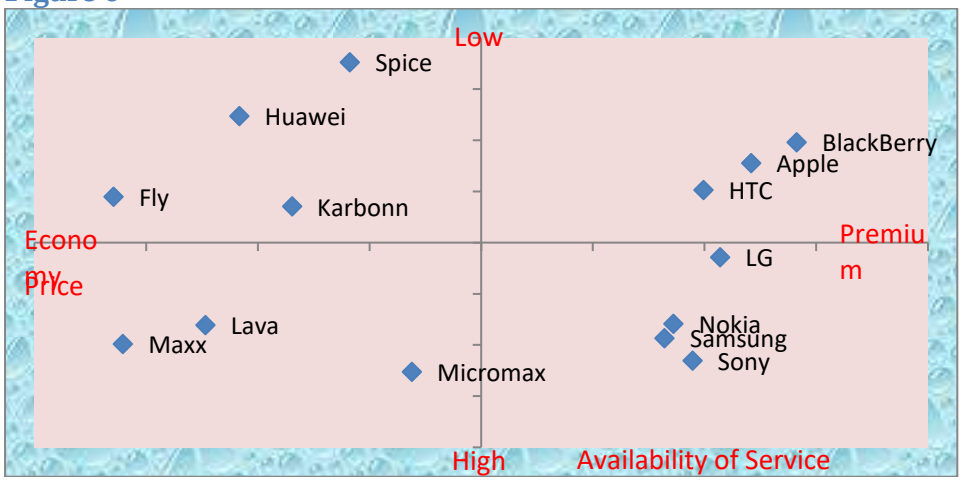

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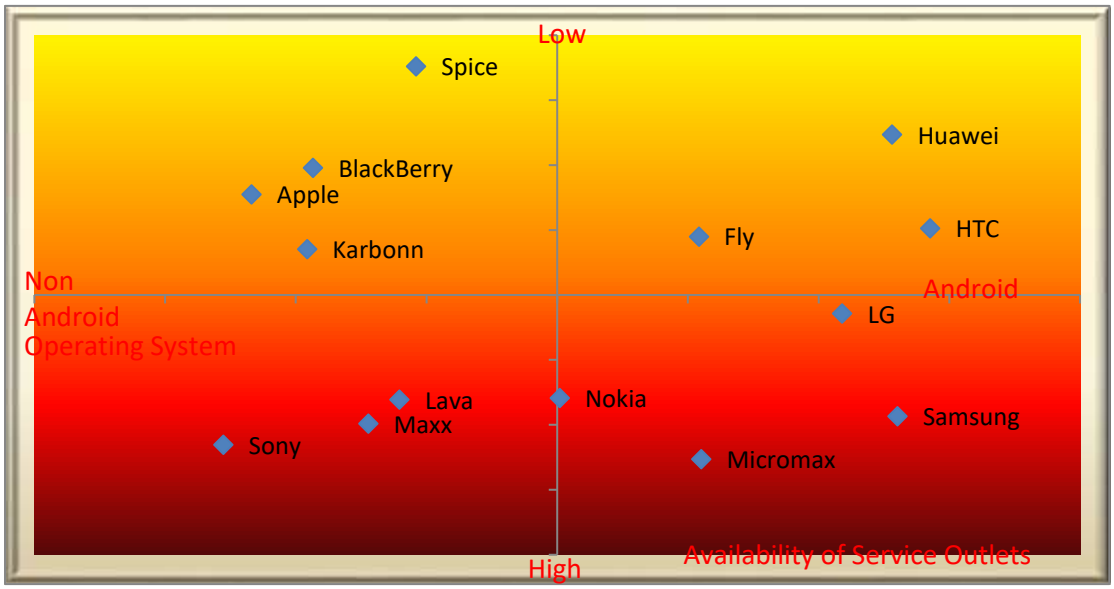
Figure 7



Smartphones have been categorised as either Android or non-Android based on their operating systems. Android is an open-source operating system that is built on the Linux kernel. Because of this open source support, the software may be freely changed and distributed by hardware makers and hobbyist programmers. The Android operating system is present on the Maxx, Lava, Karbonn, and Spice models. It's often believed that Nokia supports both operating systems.

When comparing battery life, many people believe that Nokia has the best while Karbonn has the worst. The duration of a battery is often described in terms of its standby and talk times. The official maximum amount of time a single battery charge will last while the phone is always connected to the network but not in use is called the "stand-by time." A phone's "speak time" is the maximum amount of time that may be claimed while using the device for nothing but chatting. Battery life is now now being mentioned in other senses, such as music playing time, because of the growing functionalities in mobile phones.The Availability of Service Outlets refers to the presence or absence of physical locations where repairs may be performed.

Advantages vs Competitors

Both Nokia and Micromax have distinguished niches in the eyes of consumers. Spice has also carved out a niche for itself, although it faces competition from the likes of Maxx, Lava, and Karbonn.Customers have very comparable impressions of Apple and BlackBerry across all four dimensions. They're in constant competition with one another and haven't differentiated themselves enough to succeed. HTC is struggling with its positioning since it is being compared to both luxury and budget companies.

Sony, like HTC, clusters with Apple and Blackberry on the first two dimensions, and Maxx and Samsung on the third and fourth.Fly is often considered to be the most budget-friendly option for a decently-powered smartphone. It has also been speculated that Fly has a smaller selection of service locations. The market's rejection of Huawei might be devastating to the company.Samsung and LG are regarded as luxury brands with convenient repair options, although their battery life is often criticised.Lava may be a budget brand, but it competes well with Nokia when it comes to battery life and repair possibilities.Both the Maxx and the Karbonn have a limited battery life and are considered budget versions, but the Maxx has the advantage thanks to its serviceability.

The Study's Implications for Managers

The research has shed light on several important concerns for the cellular industry. Second, the brand's position in the market is reflected in the perceptual maps across all four dimensions. Here, dimension 1 has been interpreted in terms of dimension 2 and dimension 3 in terms of dimension 4. Brand managers may learn about their brand's consumer perceptions and whether or not such

perceptions align with the brand's positioning strategy by looking at the brands' perceptual positions across various combinations of dimensions (Fig. 2 - Fig. 7).
Finally, this research reveals the standing of competitors inside their particular markets. This research provides brand managers with a comprehensive understanding of the many subsets of the market and the companies that operate inside them.Fourth, the perceptual maps show where mobile phone companies may differentiate themselves from the competition.

Conclusion

As the data was analysed and presented to consumers, it was evident that there was a significant divide in how people felt about different mobile phone brands. As the survey data was analysed and presented to the clients, this became very evident. Once the results of the poll were analysed and presented to the customers, this fact became readily apparent. When the survey results were analysed and presented to the clients, one particular aspect stood out like a sore thumb. It was one of the things that really stuck out as crucial. Businesses may set themselves apart from one another in a limited number of ways, one of which is by emphasising features that are highly appreciated by the consumers that make up their target markets. Only by acting in this way, as opposed to any other, can businesses really differentiate themselves from their competitors. The bulk of the data used in this analysis was collected from the students themselves via their replies. With the use of segmentation tools, organisations may focus in on the traits that are most essential to each of the numerous groups that make up their client base, and do similar research with a vast array of other sorts of segments. Several different types of participants may be used in this study.

References:

1. http://www.thehindubusinessline.com/industry-and-economy/info-tech/india-mobile-handset-sales-to-touch-251-million-units-in-2013/article3987854.ece
2. Lilien Gary L. and Rangaswamy Arvind, Marketing Engineering, Revised Second Edition 2004, pg 119
3. Green, P.E. and Y. Wind (1975), New way to measure consumers' judgments.", Harvard Business. Review., 53: 107-117.
4. Jawarharlal and KBS Kumar (2004)," Branding Insurance: An Indian Prospective", Insurance Chronicle, October, pp15-18
5. DeSarbo, W.S. and V.R. Rao (1984). GENFOLD2: A set of models and algorithms for the general unfolding analysis of preference/dominance data. J. Classif., 1: 147-186. DOI: 10.1007/BF01890122
   Wind, Y., 1982. Product Policy: Concepts, Methods and Strategy. Addison-Wesley Publishing, Reading, MA., ISBN: 10: 0201083434
6. Srivastava, R.K., M.I. Alpert and A.D. Shocker, 1984. A consumer oriented approach for determining market structures. J. Market., 48: 32-45.
7. Malhotra Naresh K. and Dash Satyabhushan, Marketing Research, Sixth Edition 2011, pg 240

