

Positioning of Vishal Mega Mart, a Hypermarket and Its Consumer Preferences Through the Implementation of Multi Dimensional Scaling, Factor and Conjoint Analysis w.r.t. Delhi Market

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ABSTRACT

This research study was done mainly aiming to evaluate the positioning of Vishal Mega Mart, one of the successful hypermarkets in India based on similarity and dissimilarity model of multi-dimensional scaling to plot a relevant perceptual map. It was inferred from the study that Vishal Mega Mart is perceived to be similar to Big Bazaar in terms of transparency and value for money. In terms of a shopping convenience, it is similar to Spencer's. Two dimensions which were deduced were: Dimension 1: x represents high shopping convenience and x' represents low shopping convenience and Dimension 2: y represents superior transparency and money value and y' represents inferior transparency and value for money. After that exploratory factor analysis was implemented on certain chosen parameters, based on what Vishal do it's positioning in the market, to extract the most important factors which influences the consumer preferences based on highest factor loading. After implementing factor analysis, from the total of 15 components/variables, 6 factors were extracted. The factors were churned to shopping convenience, Transparency and money value, customer centric, delivery and reliability, essentials and deals for fresh and trendy products. Three product attributes were selected on basis of factor loadings to create various combinations of product offerings. Conjoint analysis was executed to identify the combinations with highest utility value to the customers. From the simulation, it was found out in the study that the market offering with profile of high variety, low price and high quality was what customers of Vishal preferred most from the different combinations of variety, price and quality.

Keywords: Positioning, Hypermarket, Factor Analysis, Multi-Dimensional Scaling, Conjoint Analysis

INTRODUCTION

The word hypermarket is taken from the French word hypermarche, a composition and fusion of a departmental store and a supermarket. The idea of hypermarket is a fresh to Indian consumers. Modern supermarket is synonym to hypermarket. In theory, hypermarkets permit customers to satisfy all their shopping requirements under one roof. Organized retail business development gradually happened after Carrefour was opened in Sainte Genevieve des Bois near Paris, in 1963. A retail store with a selling space of above 2500 square meters and where at least 35% of its area is devoted to non-grocery products is generally

been defined as a hypermarket. As an international norm hypermarkets have an area which ranges from 80,000 to 2,20,000 square feet and provide a high assortment of food and non-food products like beauty products, stationary, electrical appliances and offers supermarket discount and warehouse retailing theory. The hypermarkets operating in India are majorly located in urban areas. Because of their large footprints, many hypermarkets select suburban or out-of-town locations which are easily approachable by transport.

Vishal Mega Mart is one of India's largest fashion-led hypermarket chains with 150 stores across the country,

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with total trading area in excess of 2.5 million square feet, in over 110 cities and towns across India. It started as a retail chain of readymade apparels in the year, 2001, under Vishal Retails (P) Ltd. On March 14, 2011, Texas Pacific Group (TPG) Wholesale Pvt. Ltd and Airplaza Retail Holdings Pvt. Ltd acquired wholesale & retail business of Vishal Retail Ltd respectively.

Vishal mainly focuses on apparel, general merchandise, grocery and personal care in all across the different tiers of cities and towns and is tries to position itself on value for product and variety wherein apparel contributes more than half of its revenue and is one of the fastest growing chains of hypermarkets in India. Vishal Mega Mart targets middle and lower middle class, traditional Indian family who shop at local markets, mom and pop Stores, and who are in the lookout for best deals and value for purchases.

LITERATURE REVIEW

Price is an important factor in a business format like hypermarkets where the pricing strategy of value based pricing is a key to retailer's positioning. Discounters and off price retailers such as Target and TJ Maxx use an efficient pricing policy to provide a good value for money (Lamb, Hair, & McDaniel, 2014).

According to (Sinha, 2004) full line discount stores such as Big Bazaar and Vishal Mega Mart use value based or EDLP (everyday low pricing) pricing strategy which target basically the lower middle and the middle class of the Indian community who constitute the mass of the population which elevates the customer yield in the outlets.

The coming up of multinationals will additionally impede and increase the growth of opening of hypermarkets in India. It's considered as a favorable way to keep pace with the unorganized retailing. Hypermarkets are emerging as one of the most sought after formats as per the study by Indian Retail Sector Analysis (2006-07) (Chandrsekar, 2010).

There have been a lot of factors contributing to the growth of organized retailing. There are two facades to it –factors from demand and factors from supply side. The demand side factors would be rising income levels of Indian middle class, growth in the population of young

workforce, where almost half of the population is below 24 years and 70% of the population is below 35 years, increase in women share in workforce, Urbanization of society and changing customer preferences. On the supply side there has been collaboration among retailers, vendors and mall developers and technological advancements and also the rise of pure retail companies like hypermarkets and supermarkets (Madan, 2009).

Indians generally do not shop for their household groceries for the entire month. The shopping frequency is usually once in 10 or 15 days. Most hypermarkets in cases of China are situated within city limits as the consumers do their shopping within a week. Basically shopping is done in a short span of time. Situation of these hypermarkets needs to be centrally located in gig as well as in tier II cities. Understanding of customers changing customer needs in terms of 6Ps (Product, Price, Place, Promotion, People, Promotion) of the store of retailing is also of paramount importance to retailers to maintain cost leadership and give customers overall shopping experience. Low costs and efficient service of the retailers are likely to get more success among Indian consumers (Gupta, Jain, & Dhar, 2007).

Hypermarkets are the key players in value retailing. The prerequisites for the growth of this kind of format would be supply side availability and proximity to consumers. The key demand side factors for the growth of value retailing are meeting basic consumer needs of today which are cheaper prices for same quality, more variety of goods and superior shopping experiences. The success of hypermarket has raised the growth of other retailers like Trent (Star India Bazaar), RPG Retail (Spencer's) (Mehrotra, 2007).

Hypermarkets are poised to be a big retailing opportunity in India. The success of Big Bazaar is a sure indication that hypermarkets could well be the entry to growth success. The big USP of the hypermarkets are the price points. Based on this there have been instances whereby if the consumer could prove that he/she bought any of the displayed products at a lower price point, then that product would be given to him/her for free (Gupta, 2005).

Positioning is not about what a consumer perceives about the firms product offering but it has to do with what the buyer thinks about the organization and the product as a whole (Fill, 2002). It has also been argued that

positioning is not about trying to bring in something new all together or to create something new or different but it's about changing or manipulating by trying attachment and alliance to what already exist (Ries & Trout, 1985).

Positioning is a technique used by organizations to benchmark their offerings and their brand name over their competitors in the minds of the customers and also to get hold of a share and space in the market. The various types of positioning strategies are; feature driven prompts, problem/solution prompts, target driven positioning; competition driven positioning, emotional/psychological positioning, benefit driven positioning, asp rational positioning and value positioning (Fill, 2002). It was argued that brand positioning defines the brands point of testimonial and reference with respect to competition in the market (Hankinson, 1993).

Positioning is about what a buyer thinks about the visibility and recognition of a product. Identification and understanding of the core and intrinsic values of a product becomes a prime importance in a given situation when there is a huge rivalry and competition in the market (Fill, 2002).

It has been discussed that a brand's commercial positioning lies in how the diffusion of trademark with distinctive and notable values can influence purchase decisions and thus impacting the sales (Marsden, 2002). Positioning involves a great deal of subjective interpretation with a high degree of risk involved in trying to select one's brand strategy over competitors (Upsaw, 1995). Kapferer said that branding does not show a brand's all richness nor does it reflect all its capability (Kapferer, 1997).

Factors for positioning of Vishal Mega Mart in this research study have been extracted through proper scanning from the official online website of the company. The various factors or parameters which were extracted and taken into consideration for this research study are its promises like affordable pricing, variety, value, deals and promotions, refund and exchange policy, delivery, convenience, one stop shop, fresh and trendy fashion, complains and feedback reprisal, gifting solution, trustworthiness and reliability compared to its competitors (VishalMegamart_TPG, 2014).

Perceptual mapping is a common used tool for determining the position of a brand in the marketplace (Fill, 2002).

It is a visual representation of consumer perceptions of the brand and its competitors using attributes that are important to the consumers (Jobber, 2001). Four key steps in developing a perceptual map were identified; identify a set of competing brands, identify important attributes that consumers use when choosing between brands, conduct marketing research and finally plot the brands on a two dimensional map. As this study is based on attribute data and attributes rating, multidimensional scaling technique is applied by the researchers to produce the perceptual map based on attributes.

Multidimensional scaling is one of the mostly used tools by marketing professionals and academicians in order to identify the dimensions that the consumers use to evaluate the products and brands in according to and the number of these dimensions besides the positions of each brand according to these dimensions and the ideal position (Malhotra, 1999).

RESEARCH OBJECTIVES

Primary Objective

- To identify the positioning of the brand TPG- Vishal Mega Mart in India.

Secondary Objectives

- To, identify the factors, which, influences the consumer preferences of Vishal Mega Mart.
- To, identify the combination of product attributes which have the highest utility value to the customers.

RESEARCH METHODOLOGY

The research design of the study is partly exploratory and partly descriptive in nature. The objective of exploratory research is to explore or search through a problem or situation to provide insight and understanding (Kothari, 2004). The major objective of exploratory research is to identify and define the problem and scope by helping to arrive at the best research design, method of data collection and sample, which is characterized by highly flexible, unstructured and at times informal research methods (Easwaran, Singh, & Sharmila, 2010). Descriptive studies attempt to determine the frequency with which something occurs or the relationship between two phenomena, here emphasis would be on obtaining the relative frequency of occurrence of the given phenomenon (Mazumdar, 1991).

Type of Data: In this study, the researchers have used both primary and secondary data. Primary data is originated by the researcher for the specific purpose of addressing the problem at hand and secondary data (Kothari, 2004) have already been collected for purposes other than the problem at hand. Primary data is the raw data, which is needed to be further processed and secondary data are the published data.

Data Collection Method: Survey method was used for data collection on opinions, thoughts and feelings and personal interview was been used as media for the study where the sample size was restricted to 100 respondents. The survey is a market research method for collecting information or data as stated by respondents. As a tool for survey, questionnaire (or a series of questions) was used that are administered to research participants who answer the questions themselves.

Data Collection Tool: As a data collecting tool, we have used structured non-disguised questionnaire with both open and close ended questions. A questionnaire is called a scheduled interview form or measuring instrument including formalized set of questions for obtaining information from respondents (Kothari, 2004). Non-disguised approach is a direct approach in which purpose of the project is disclosed to the respondents or is otherwise obvious to them from the questions asked. The reason for asking structured questions is to improve the consistency of the wording used in doing the study at different places which increases the reliability of the study by ensuring that every respondent is asked the same question (Nargundkar, 2004).

Sampling Technique: In the study, researchers have implemented non-probability sampling. A core characteristic of non-probability sampling techniques is that samples are selected based on the subjective judgment of the researcher rather than random selection (i.e., probabilistic methods), which is the cornerstone of probability sampling technique.

Data Analysis: Statistical inferences were drawn from the primary data collected by applying statistical tool like SPSS19. Statistical analysis like multidimensional scaling, factor analysis and conjoint analysis has been implemented in the study to make general inferences.

Timeframe: The planning, implementation, data collection, data tabulation, data coding, data entry, data analysis of the project was done during January, 2015 to May, 2015.

FINDINGS & ANALYSIS

Multidimensional Scaling (MDS)

It is a series of techniques that helps the researchers to identify key dimensions underlying respondents' evaluations of objects. It is often used in marketing to identify key dimensions underlying customer evaluations of products, services or companies.

The main objective of MDS is to analyze consumer judgments of similarity or preference (e.g. preference for stores or brands) into distances represented in multidimensional space. The resulting perceptual maps show the relative positioning of all objects.

The most common and useful marketing application of multidimensional scaling is in product and brand positioning. Positioning is essentially concerned with mapping a consumers mind and placing all the competing brands of a product category in appropriate lots or position on it.

Stress (Kruskal's) function: Measures degree of correspondence between distances among points on the MDS map and the matrix input. There are two basic methods used in multidimensional scaling: 1. Attribute based approach and 2. Similarity or dissimilarity based approach. The second approach was used here because this approach is very easy to understand intuitively and quite useful in gaining a good understanding of consumer psyche. In the similarity or dissimilarity based approach some kind of a distance measure between 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.

For the study four more hypermarkets apart Vishal Mega Mart were identified in Delhi market, namely, Big Bazaar, Reliance Mart, Spencer's and Hypercity were selected on the basis of square feet of space of the retail outlets and the similar type of merchandise offers.

Each of sample respondents was asked to judge how similar or dissimilar the brands are, using 1-10 point likert scale, 1-denoting extremely similar and 10- denoting extremely dissimilar. Thus for 5 brands of hypermarkets, paired judgments was maintained. These opinions regarding similarity between the brands were then presented in a matrix form. A single distance matrix was constructed with integral values by averaging consumers' judgment matrix to an approximated figure. The particular distance matrix has been treated as input data to be analyzed by SPSS.

Q. If you were to rate these hypermarket brands in a scale of 1-10 how would you rate them in terms of similarity and dissimilarity (1= similar 10= not at all similar)?

Table 6 shows the mean rating of 100 respondents, describing the similarity and dissimilarity among the brands. Those brands with lower values are more similar and the brands with higher values are dissimilar with each other.

Table 6: Mean Rating of Respondents

<i>Brands</i>	<i>Vishal Megamart</i>	<i>Big Bazaar</i>	<i>Reliance Mart</i>	<i>Spencer's</i>	<i>Hyper City</i>
Vishal Megamart	0.00	8.58	7.76	2.98	6.91
Big Bazaar	8.58	0.00	2.32	7.63	4.17
Reliance Mart	7.76	2.32	0.00	9.14	5.64
Spencer's	2.98	7.63	9.14	0.00	6.89
Hypercity	6.91	4.17	5.64	6.89	0.00

Iteration history for the 2 dimensional solution (in squared distances) Young's S-stress formula 1 is used.

<i>Iteration</i>	<i>S-stress</i>	<i>Improvement</i>
1	0.00523	
2	0.00439	0.00083

Iteration stopped because S-Stress improvement is less than 0.001000

RSQ values are the proportion of variance of the scaled data in the partition which is accounted for by their corresponding distances. Stress values are Kruskal's stress formula 1.

For Matrix, Stress=0.01740 and RSQ=0.99844

The Stress Value is 0.01740 which is good and the R – square value in the dimension are more than 0.5, so the solution is acceptable.

Table 7: Stimulus Coordinates

<i>Stimulus Number</i>	<i>Stimulus Name</i>	<i>Dimension 1</i>	<i>Dimension 2</i>
1	Vishal Mega mart	1.5909	0.2174
2	Big Bazaar	-1.2741	0.1858
3	Reliance Mart	-1.2088	0.6067
4	Spencer's	1.5833	-0.0358
5	Hyper city	-0.6913	-0.9741

In the above table on *Dimension 1*, we can see that Vishal Mega Mart and Spencer's have the maximum weight age of 1.5909 and 1.5833 respectively. Hypercity has the next lower weightage of -0.6913 followed by Reliance Mart with a weightage of -1.2088. Big Bazaar has the least weightage of -1.2741. They both are showing a great degree of one stop shop and convenience show this dimension is known as "*Shopping Convenience*".

On Dimension 2, Vishal Mega Mart is leading with a weightage of 0.2174 followed by Big Bazaar with

0.1858 and Reliance Mart, Spencers and Hypercity with a weightage of 0.6067,-0.0358 and -0.9741 respectively. They both are showing a great value for money, No hidden charges and perfect gifting solution. This dimension has thus been named as *Transparency & Value for Money*.

The perceptual map of two dimension solution is shown below. The brands which are seen closer to each other create the similar image in customers' mind. The brand which stands alone is perceived importantly by the customer.

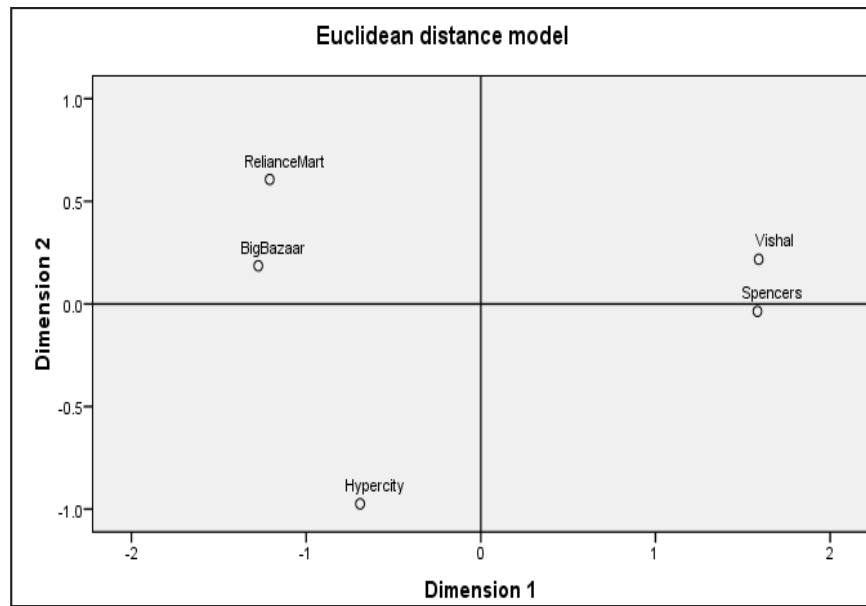


Exhibit 1: Perceptual Map

The dimension is to be named as per the similarities or dissimilarities of the respondents.

Dimension 1: x represents high shopping convenience and x' represents low shopping convenience.

Dimension 2: y represents superior transparency and money value and y' represents inferior transparency and money value.

To sum it up, it can be inferred from the study that Vishal Mega Mart is similar to Big Bazaar in terms of transparency and money value. In terms of a shopping convenience, it is similar to Spencer's.

Factor Analysis

Reliability Analysis

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.827	15

Cronbach's alpha is the most common measure of internal consistency (reliability). It is widely used when you have multiple likert questions in a survey questionnaire. It is an important indicator of the reliability of psychometric test.

A pilot study was conducted initially to check the reliability of the factors included in the study. Thereafter,

those factors with a low reliability score were omitted and a structured final questionnaire was made. In the research study here, the reliability of the factors studied show an internal consistency of 0.827 which lies between Cronbach alpha value of 0.7 to 0.9. Hence, the result is considered to be good. Factor analysis is a very useful method of reducing complexity by reducing the number of variables being studied. It is a good way of resolving the confusion of multiple variables and identifying latent or underlying factors from an area of seemingly important variables. There are two stages in factor analysis.

Stage 1 is called Factor Extraction Process where objective is to identify how many factors will be extracted from the data. The most popular method for this is known as principal component analysis. This is a rule of thumb based on computation of eigen values, to determine how many factors to extract.

Stage 2 is called Rotation of Principal components. This is actually optional but highly recommended. After the number of extracted factors is decided upon in stage 1, the next task of research is to interpret and name factors.

Exploratory factor analysis technique was applied on the data. The correlation matrix table shows the coefficients of correlation between all the variables. The correlation matrix exhibits the simple correlation among all the pairs of variables selected for the analysis. Factor analysis is said to be correctly applied if this matrix contains

sufficient number of correlation coefficient values more than 0.30. From the analyzed data, it is visible that many of the variables are highly correlated. Hence, the data is deemed to be fit for factor analysis.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.735
Bartlett's Test of Sphericity	Approx. Chi-Square	531.668
	Df	505
	Sig.	.000

The significance and adequacy of data results are shown above. The high value of the KMO index is a symbol of adequacy. The value is considered high if it lies between 0.5 to 1. For the data used in the study the KMO statistic comes out to be 0.735 which is close to 1 to ensure the appropriateness of the factor analysis.

The significant value of Bartlett test Chi square indicates that the correlation coefficient matrix is not an identity matrix. The value of Bartlett's Test of Chi square for the present data is equal to 531.668 with *df* equal to 505 and significance 0.000. So, here the overall inference is that

the data is quite suitable for the application of technique of factor analysis. Fifteen factors were scanned from the Vishal Mega Mart website, on which the hypermarket positions itself according to the perception of the customers. The components are mainly *price, quality, one stop shop, convenient, variety, fresh and trendy, value for money, easy refund and exchange policy, regular deals and surprise promotions, no hidden charges, easy delivery of the goods, attends to complains and suggestions, gifting solution, Trustworthy, and Reliable*. Likert Statements were formed on these parameters and the respondents were asked "How far do you agree or disagree with the following statements when you plan to make your purchase from Vishal Mega Mart? Please mark between 1-5 for each Statement, 1 = Strongly disagree, 2 = Disagree, 3 = neither Agree nor Disagree, 4 = Agree and 5 = Strongly agree".

The factor analysis run on the data extracts **Six** components whose eigen values are more than one and hence can be taken as the major factors. The cumulative explained variations by the six factors are 78.914% which is treated to be very high. Individual variations by the factors are shown below.

Table 3: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.157	24.378	24.378	2.157	24.378	34.377	1.957	24.049	33.049
2	1.512	12.078	36.456	1.512	12.078	44.455	1.506	12.043	53.092
3	1.478	11.853	48.309	1.478	11.853	54.308	1.404	11.358	52.449
4	1.343	10.95	59.259	1.343	10.95	63.258	1.336	10.909	61.358
5	1.229	10.195	69.454	1.229	10.195	71.454	1.335	10.898	70.257
6	1.119	9.46	78.914	1.119	9.46	78.914	1.299	9.657	78.914
7	.978	6.519	85.433						
8	.919	3.992	89.425						
9	.907	2.09	91.515						
10	.773	2.05	93.565						
11	.756	1.81	95.315						
12	.678	1.75	97.125						
13	.656	1.092	98.217						
14	.380	0.993	99.21						
15	.116	0.774	100.00						

Extraction Method: Principal Component Analysis.

Eigen value is the indicator of the variance associated with the factors. The factor which has eigen value more than 1 has been taken as significant.

The perusal of the above table makes it clear, that in this study there are six components which have Eigen value more than 1 and as high as 2.157, 1.512, 1.478, 1.343, 1.229, 1.119 respectively. So these six components are treated to be significant. The first component accounts for 24.378 percent variations and the rest five accounts for 12.078 percent, 11.853 percent, 10.950 percent, 10.195 percent and 9.460 percent respectively. All the six factors jointly explain 78.914 percent of the variations

which are sufficient enough to explain. Table 4 explains the principal components without rotation. However the final results are to be seen after rotation which has been done by Varimax Rotation which means that each factor has a small number of large loadings and a large number of small loadings and each original variable tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables.

Table 3 highlights the exact result of the study. It minimizes the number of variables which have high loading on a factor and lead to good interpretation of factors.

Table 4: Rotated Component Matrix

	<i>Component</i>					
	1	2	3	4	5	6
Price	-.139	.189	.345	-.178	.529	-.324
Quality	.040	.099	-.084	.072	.774	.058
One Stop Shop	.939	.050	.013	-.017	.001	-.039
Convenient	.932	-.120	.098	.007	.134	-.031
Variety	.014	.141	.754	-.091	-.021	.083
Fresh & Trendy	.042	.141	-.025	.187	-.059	.695
Value for Money	-.098	.716	.136	.085	.116	.159
Refund & Exchange Policy	.141	-.265	-.024	.061	.589	.113
Deals And Promotions-Surprises	-.098	-.050	.239	-.122	.166	.620
No Hidden Online Charges	-.018	.640	-.255	-.177	-.067	.372
Easy Delivery	.096	.041	.127	.711	-.054	.028
Attends Complains & Suggestions	-.028	-.122	.478	.441	.008	-.045
Gifting Solution	.026	.608	.001	.007	-.123	-.334
Reliable	-.119	-.013	-.261	.705	.155	.069
Trustworthy	-.346	.154	-.495	-.038	.023	-.136

Table 5: Communalities

	<i>Initial</i>	<i>Extraction</i>
Price	1.000	.590
Quality	1.000	.625
One Stop Shop	1.000	.886
Convenient	1.000	.911
Variety	1.000	.604
Fresh & Trendy	1.000	.544
Value	1.000	.586
Refund & Exchange Policy	1.000	.454
Deals And Promotions-Surprises	1.000	.495
No Hidden Charges	1.000	.649
Delivery	1.000	.536

	<i>Initial</i>	<i>Extraction</i>
Complains & Suggestions	1.000	.441
Gifting Solution	1.000	.497
Reliable	1.000	.608
Trustworthy	1.000	.409

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The communalities show the amount of variance the variables share with each other. They are the proportion of variance explained by common factors. The size of communality is the index for assessing how much variance in a particular variable is accounted for by the factor solution. Large size of communalities indicates that a large amount of variance in a variable has been extracted by the factor solution. Communalities are considered high if they have value more than 0.40 and close to 0.70.

The whole set of variables can be summed up into six main factors i.e. F-1, F-2, F-3, F-4, F5 and F6 which are sufficient enough to explain the cumulative variations to the tune of 78.914 percent which is reasonably significant. The six factors which come out to be most significant in this study are explained as follows.

Factor 1: Shopping Convenience

This is the most significant factor which explains which explains 24.049 % of the total variations. Two variables are loaded on this factor and both the variables are positively loaded. Vishal Mega Mart offering a large variety of products as a *one stop shop* and *convenient* shopping experience to its customers are loaded on this factor with value as high as 0.939 and 0.932 respectively. This factor reveals that customer greatly agree with the promise and positioning of Vishal Mega Mart as a shop offering a large variety of products and its promise of ensuring convenient shopping experience to its customers.

Factor 2: Transparency and Money Value

The second factor is comprised of its promise of offering customers *value for money*, its declaration that there are no hidden charges when they customers buy online on *www.myvishal.com* and its statement that its gift vouchers offer a perfect gifting solution. They are loaded on this factor with value as high as 0.716, 0.640 and 0.608 respectively. This factor reveals that customers greatly agree with the positioning of Vishal Mega Mart as a brand offering customers a value for money and also on its declaration

that there are no hidden charges when customers make an online purchase. This factor here explains 12.043% of the variations.

Factor 3: Customer Centric

The 3rd factor explains that product mix of Vishal Mega Mart is very wide, it listens to its customers complains and suggestions and that it is more trustworthy than its competitors. The promise made by the brand of offering a wide assortment of goods is explained by a value of 0.754. Vishal Mega Mart being more trustworthy than its competitors is explained by a value of 0.495 and Vishal Mega Mart listens to customer complain and suggestions is explained by a loading of 0.478. This 3rd factor explains 11.358% of the variations.

Factor 4: Delivery and Reliability

The factor here explains 0.711 and 0.705 of the variations. The promise made by the brand of timely delivery of its goods to the customers is explained by a value of 0.711. Vishal Mega Mart being more reliable than its competitors is explained by a value of 0.705. Together they explain 10.909 % of the variations.

Factor 5: Essentials

The factor here explains 0.529, 0.774 and 0.589 of the variations. The promise made by Vishal Mega Mart of its products being affordable is explained by a value of 0.529. Similarly, the promise of Vishal Mega Mart offering *quality* products and having well facilitated *refund & exchange* policy are explained with loadings of 0.774 and 0.589 respectively. Together the loadings explain 10.898% of the variations.

Factor 6: Deals for Fresh and Trendy Products

The factor here explains 9.657% of the total variations. The promise of Vishal Mega Mart offering fresh and trendy products and giving *surprises* by offering regular deals and promotions is explained with loadings of 0.695 and 0.620 respectively.

CONJOINT ANALYSIS

Conjoint analysis is a marketing tool to develop effective product design. It uses the full profile approach where respondents rank, order or score a set of profiles, or cards, according to preference. Each profile consists of a different combination of factor labels for all factors (attributes) of interest. It requires individuals to make a series of tradeoffs. Analysis of these tradeoffs will reveal the relative importance of component attributes. For the study three specific products attributes, namely, *Variety, Price and Quality* were chosen based on highest factor loading among the product attributes. Apart from this Vishal Mega Mart also focuses on the same parameters in their marketing communications. In the conjoint analysis the researchers have used the *full-profile* (also known as full-concept) *approach*, where respondents rank, order, or score a set of profiles, or cards, according to preference. Each profile describes a complete product or service and consists of a different combination of factor levels for all factors (attributes) of interest.

An Orthogonal Array

The full-profile approach uses *fractional factorial design*, which includes an appropriate fraction of all probable combinations of the factor levels. The consequential set, called an *orthogonal array*, is designed to confine the main effects for each factor level. Connections between levels of one factor with levels of another factor are assumed to be insignificant. It is also used to create factor-level combinations, known as *holdout cases*, which are

rated by the subjects but are not used to construct the preference model and *simulations*, which is the ability to forecast preference for product profiles that weren't rated by the respondents. In this study no holdout cases were used but four simulation cases were used to predict the preference of first four product profiles which were listed separately following the experimental profiles in the orthogonal plan. Simulation cases were not rated by the subjects but represent product profiles of interest to the researchers. The conjoint procedure uses the analysis of the experimental data to make predictions about the relative preference for each of the simulation profiles. But for this study, as the combination of product attributes are limited the holdout cases are nil and have used only regular plan cases.

The Experimental Stimuli

Each set of factor levels in an orthogonal design correspond to a different description of the product under study and is presented to the respondents in the form of a personage product profile. This helps the respondent to focus on only the one product presently under assessment. The stimuli is been standardized by making sure that the profiles are all analogous in physical manifestation except for the dissimilar combinations of features.

COLLECTING AND ANALYSING THE DATA

To generalize the result, a random sample of subjects from the group results can be selected. The sample size chosen in this research is 40 respondents. The subjects are asked to assign a rank from 1 to 8 for a 2*2*2 matrix to the total number of profiles.

Table 8: Orthogonal Design

	Card ID	1	2	3	Preference from 1 to 8
1	1	High Variety	High Price	High Quality	
2	2	Low Variety	Low Price	Low Quality	
3	3	High Price	High Variety	Low Quality	
4	4	Low Price	High Variety	High Quality	
5	5	High Quality	High Price	Low Variety	
6	6	Low Quality	High Price	Low Variety	
7	7	High Quality	Low Price	Low Variety	
8	8	High Variety	Low Price	Low Quality	

Analysis of the data is completed with conjoint procedure and the results in a utility score are called a part-worth, for each factor label. Part-worth is expressed in a common unit

allowing them to be added together to give the total utility. The utility scores, analogous to regression coefficients provide a quantitative measure of the preference for each

factor label, with larger values corresponding to greater preferences. The part-worth constitutes a model for predicting the preference of any product profile, including profiles, referred to as simulation cases that were not actually presented in the experiment.

Table 9: Utilities

		<i>Utility Estimate</i>	<i>Std. Error</i>
Variety	High Variety	-1.750	.529
	Low Variety	-3.500	1.058
Price	High Price	.163	.529
	Low Price	.325	1.058
Quality	High Quality	-.887	.529
	Low Quality	-1.775	1.058
(Constant)		8.212	1.400

Table 9 above shows the utility scores and their standard errors for each factor level. Higher utility indicates greater preference. There is an inverse relationship between price and utility, with higher prices corresponding to lower utility (larger negative value mean lower utility). The presence of a variety corresponds to higher utility. All the utilities can be added to give the total utility of any combination. The various utilities as shown below are derived from orthogonal design using 2*2*2 matrix.

Profile 1: High Variety, High Price & High Quality
+Constant= $-1.750+0.163+(-0.887)+8.212 = 5.738$

Profile 2: High Variety, High Price & Low Quality
+Constant = $-1.750+0.163+(-1.775)+8.212 = 4.85$

Profile 3: High Variety, Low Price & High Quality
+Constant = $-1.750+0.325+(-0.887)+8.212 = 5.9$

Profile 4: High Variety, Low Price & Low Quality
+Constant= $-1.750+0.325+(-1.775)+8.212 = 5.012$

Profile 5: Low Variety, Low Price & High Quality
+Constant= $-3.500+0.325+(-0.887)+8.212 = 4.15$

Profile 6: Low Variety, High Price & Low Quality
+Constant= $-3.500+0.163+(-1.775)+8.212 = 3.10$

Profile 7: Low Variety, Low Price & Low Quality
+Constant= $-3.500+0.325+(-1.775)+8.212 = 3.262$

Profile 8: Low Variety, High Price & High Quality
+Constant= $-3.500+0.163+(-0.887)+8.212 = 3.988$

From the above table of calculation of utility it can be easily deduced that combination 3 has the highest utility value. It implies that a combination of high variety, low price and high quality gives the utility in a 2*2*2 matrix of 5.9. Thus majority of the respondents believe that a combination of high variety, low price and high quality gives them the greatest utility than all the other combinations.

Table 10: Importance Values

<i>Variety</i>	<i>48.718</i>
Price	27.520
Quality	23.762

Averaged Importance Score

Table 10 states the relative importance of each factor known as important score or value. The result above shows that variety has the most influence on overall preference of the customers. The result also shows that quality plays the least role in determining overall preference. It can also be inferred that price plays an important role but not as important as variety. The reason may be because the range of price is not that large in the merchandise mix across the categories.

Table 11: Coefficients

	<i>B Coefficient Estimate</i>
Variety	-1.750
Price	.163
Quality	-.887

Table 11 above shows the linear regression coefficients for those factors specified as linear. The utility for a particular factor label is calculated by multiplying the level by the coefficient. For example, the predicted utility for a price was multiplied by the coefficient of 0.163 gives us the predicted utility.

Table 12: Correlations^a

	<i>Value</i>	<i>Sig.</i>
Pearson's R	.881	.002
Kendall's tau	.837	.002

^aCorrelations between observed and estimated preferences

The above Table 12 shows the correlation between the observed and estimated preferences. The strength of

relationship in the above table by Pearson's R and Kendall tau are tending towards 1 and hence considered to have a healthy and a strong correlation.

Table 13: Reversal Summary

<i>N of Reversals</i>	<i>N of Subjects</i>
1	8
2	17
3	11

This table displays the number of subjects that have the given number of reversals.

The Linear models for variety, price and quality was used specifying the expected direction (Less or More) for the linear relationship between the value of the variable and the preference for that value. The conjoint procedure keeps track of the number of subjects whose preference showed the opposite of the predictable relationship- for example, a greater predilection for higher Variety, or a lower preference for a lower quality. This kind of situation is called reversals.

Preference Probabilities on Stimulations

The real prospect of a conjoint analysis is the capability to forecast predilection for product profiles that weren't rated by the respondents. These are referred to as stimulation cases. 4 cases in the file are entered-9; High Variety, Low Price and High Quality, 10; High Variety, High Price and High Quality 11; High Variety, Low Price, Low Quality, 12; High Variety, High Price and Low Quality

Table 14: Preference Probabilities of Simulations^b

<i>Card Number</i>	<i>ID</i>	<i>Maximum Utility^a</i>	<i>Bradley-Terry-Luce</i>	<i>Logit</i>
1	9	33.8%	27.1%	34.3%
2	10	36.2%	26.6%	32.0%
3	11	15.0%	23.4%	17.9%
4	12	15.0%	22.9%	15.8%

The table above gives the predicted probabilities of choosing each of the stimulation cases as the most preferred one under three different probabilities-of-choice models. *The maximum utility model* determines the profile with the largest total utility. The Bradley Terry Luce model determines the probability as the ratio of a profile's utility to that for all stimulation profiles which is

aggregated across all respondents. The *Logit Model* is like BTL but uses the normal log of all the utilities instead of the utilities. Across all the subjects under study BTL and logit model study point toward that profile 9 would be the most chosen whereas maximum utility model indicates that profile 10 is the most preferred. Thus this analysis is helpful to marketer as it helps in determining his product and variety. The consumer prefers a high variety, high price, high quality products. This study helps determine the product and variety strategy for the brand which can help it in maximizing profits.

CONCLUSION

With the result of multi dimensional scaling and perceptual mapping, Vishal Mega Mart can position themselves in strategic ways to combat the threats of competitive brands in the market. Every brand tries to position itself in the market on certain parameters. The different brand positioning techniques would help the company in understanding the brand from different perspectives. It explains the uniqueness of the brand and its similarity with the competitive brand. It is one single feature that sets apart the service from the competitors.

With the help of the result from factor analysis, Vishal Mega Mart can concentrate on those factors which are most opted and preferred by the customers. With the help of factor analysis, from the total of 15 components/variables 6 factors were extracted. The factors were churned to shopping convenience, transparency and money value, customer centric, delivery and reliability, essentials and deals for fresh and trendy products.

Conjoint analysis was used to study how customers of Vishal Mega Mart judge the attributes of variety, price and quality conjointly, rather than evaluate each attribute individually. It helped the researchers to understand the importance of the utilities of different Profiles to the customers. From the simulation, it was found out in the study that the market offering with profile of high variety, low price and high quality was what customers of Vishal preferred most from the different combinations of variety, price and quality.

From the conjoint analysis, it was found out that variety was given the highest importance, and quality the least importance. Hence it proves that variety and price are the

most important criteria, while quality is less important to such consumers. Hence a seller can build up a suitable marketing mix to congregate the needs of this segment of Vishal Mega Mart. This study helps to decide the product and variety strategy for the brand, which can help it in maximizing profits. Thus the marketer can maximize his sales by making use of the most preferred combination of his target market.

REFERENCES

- Chandrsekar, K. (2010). *Marketing management*. Tata McGraw-Hill.
- Easwaran, S., & Singh, S. J. (2010). *Marketing research-concepts, practices and cases* (11th ed.). Oxford: Oxford University Press.
- Fill, C. (2002). *Marketing communications: Contents, strategys & opportunities*. Upper Saddle River, NJ: Prentcise Hall.
- Gupta, O. (2005). *Advertising in India: Trends and impact*. Gyan Publishing House.
- Gupta, P., Jain, R. K., & Dhar, U. (2007). *Enhancing enterprise competitiveness*. New Delhi: Allied Publishers.
- Hankinson, G., & Cowking, P. (1993). *Branding in action: Cases and strategies for profitable brand management*. London and New York, NY: McGraw-Hill.
- Jobber, D. (2001). *Principles & practice of marketing*. London: McGraw Hills Ltd.
- Kapferer, J. (1997). *Strategic brand managemengt*. London: Kogan Pages.
- Kothari, C. R. (2004). *Research methodology-methods & techniques* (2nd ed.). New Delhi: New Age International.
- Lamb, C., Hair, J., & McDaniel, C. (2014). *Principles of marketing*. Diane Publishing.
- Madan, K. (2009). *Fundamentals of retailing*. Tata McGraw-Hill Education.
- Malhotra, N. (1999). *Marketing research: An applied orientation* (5th ed.). Pearson Education.
- Marsden, P. (2002). *Brand positioning*. Intelligence & Planning.
- Mazumdar, R. (1991). *Marketing research: Text, applications and case studies*. New Delhi: New Age International (P) Ltd. Publishers.
- Mehrotra, N. (2007). *Indian retail sector*. New Delhi: ICFAI Books.
- Nargundkar, R. (2004). *Marketing research-text and cases* (2nd ed.). Tata McGraw Hill.
- Ries, A., & Trout, J. (1985). *Brand positioning*. McGraw Hill.
- Sinha, P. (2004). *Using transaction utility approach for retail format decision*. Ahmadabad: Indian Institute of Management.
- Upsaw, L. (1995). *Building brand identity: A strategy for success in hostile marketing place*. New York: John Witney & sons.
- VishalMegamart_TPG. (2014). Retrieved 2015, from <http://www.myvishal.com/>.