ATTRIBUTE BASED PERCEPTUAL MAPPING OF SUN CARE BRANDS: AN EMPIRICAL INVESTIGATION AMONG CONSUMERS IN DELHI & ANDHRA PRADESH

Dr. Supriti Agrawal,
Assistant Professor,
Amity Business School, Noida, India

Dr. Sonia Singh,
Assistant Professor (Adjunct)
Al Falah University, Dubai.

ABSTRACT

Rising aspiration, change in lifestyle & younger generation is entering into employment market. Due to this there is a splurge of new categories of products in personal care industry. This boom is reflected in the potential comparative study of consumer's perception for sun care products covering five major brands in Delhi & AP. This study focuses on how consumers associate with their selected brands. Discriminant analysis is used to map selected sun care brands along with their attributes. Study investigated about the consumers association of attributes in different dimensions with reference to leading sun care brands. Brands do significantly differ with regard to attributes and thus they fit in to different customer perception.

Keywords*: Brand, Quality of product, Durability, Price, Discriminant analysis, Perception mapping.*

Introduction:

This study explores the determinant of consumer perception towards sun care brands. Acceptance of these sun care brands depends on various factors such as climate, gender; texture of the skin and most important the extent of ultra violet radiation. India is an amazing country as it has 28 states and all these states differ in various perspectives. This study is focusing on two major geographical areas i.e. Delhi & Andhra Pradesh. Delhi being capital city comprise of cosmopolitan population 22 million has an atypical version of the humid sub-tropical climate**.** Delhi & AP have seemed to be the optimum place being on Northern & Southern parts of India for the study of consumer perception towards sun care brands.

Sun care protection has triggered a glamorous aspect in the personal care industry. According to Data monitor in India the sun care category was valued at INR987.2m ($22.7m) in 2009, representing a CAGR of 5.8% since 2004. By the end of 2014, the sun care category will be worth INR1, 254.8m ($28.8m), with an expected CAGR of 4.9% between 2009 and 2014. The sun care market volume totalled 4 million units in 2009, representing a CAGR of 4.4% since 2004. By the end of 2014, the sun care market will total 4.7 million units, with an expected CAGR of 3.5% between 2009 and 2014.The sun care market was led by sun protection (representing 79.6% of the total value) followed by after-sun, with a 15.1% share. Self-tan accounts for the remaining 5.3% share. Unilever is the market leader with a 38.6% share of the market.

According to Euro monitor International, the global sun care market comprise of sun protection, self-tanning and after sun products was valued at $7,987.3m in 2012, representing a compound annual growth rate CAGR of 5.0% between 2008 and 2012. Market consumption volumes increased with a CAGR of 4.1% between 2008-2012. It is expected to reach a total of 803.3 million units in 2012. The performance of the market is forecast to accelerate, with an anticipated CAGR of 6.1% for the five-year period 2012 - 2017, which is expected to drive the market to a value of $10,748.4m by the end of 2017.

Sun Protection's Dominance:

Dominance of Sun Protection (90% of the market in value terms) category is unquestionable and the category had registered the growth of 7%in 2013. It is registering its strong growth in emerging regions and self-tanning slowed down globally.

Opportunities for manufacturers:

This situation offers manufacturers with vast opportunities. More and more consumers are looking for products to cope with allergic reactions caused by sun exposure, which means manufacturers can boost sales of value-added Flores says the challenge will be to convince consumers to use these products more regularly and see market competition care widest skin with products such as the Foundation now offers SPF. This change in perception is definitely going to pose the challenge in convincing consumers for daily usage.

Convenience Leads Innovation:

Unsurprisingly, sunscreen continues to represent the lion's share of new product innovation as actor’s sun care continues to seek a competitive advantage. The convenience of a multifunctional product offering seems to be irresistible to consumers in the short time. In terms of format, sprays continue to dominate, despite the security problems in the United. Other formats have benefited from the advantage offered too, with more companies to launch foam products such as foam wacky Children Coppertone. Sticks being quick and easy to apply, but the traditional creams and lotions still have a viable place in the market. And dry oils still benefit from the growing popularity of oils in hair care and skin care. Finally, the increasing availability of travel sizes is another indication that convenience is the most important factor in shaping the care market

Niche Consumer Groups in the Spotlight:

With the high competition racing sun care, consumer segmentation has become increasingly important. There are now various products available specifically for babies rather than children, for athletes, for extreme sports, for skiers, etc. Merck has even launched a Coppertone sunscreen that is specifically for consumers with tattoos, is protect combustion and protect the tattoo from fading, as evidenced by the product name, Guard tattoo.

Shift in Demand:

The category is also seeing a shift in the products that are in demand. Sun care has had a good Share in terms of premium products, but there is also quite a lot of polarization. “We are seeing a rise in the number of private label products on offer, and a shift from premium to mass,” comments Flores. The shifts are most noticeable in Spain, Portugal and Greece, where the weakening economic conditions have played their part. “However, despite private label more and more popular, it is only eight per cent in terms of value of the entire market for sun protection in Western Europe”.

Blurring the Boundaries of Sun Care:

This blurring of the boundaries works both ways, with many sun care products now offering skin care benefits. These usually take the form of anti-aging, moisturizing and protection from environmental factors. Estée Lauder has gone one step further by introducing a sun repairing serum, Re-Nutriv Sun Supreme Rescue Serum, which helps repair the skin from damage caused by the sun but can also be used before sunscreen for extra hydration. The convergence between skin care and sun care is expected to continue, and brands that operate across both categories will have to find the right balance to ensure that there is no detrimental cannibalization of sales.

Sun care Products in India with their Comparative research:

A leading Indian research magazine Consumer Voice has conducted survey on 144 consumers for their perception towards quality, efficacy, performance as well as acceptability from both testing and user points of view. It has even taken into account of creams formulated from organic, inorganic or herbal ingredients based on the label declarations.

Review of Literature:

(McDougall, Packaging & Design , 2012) According to the analyst market Sun care market had projected a steady growth of 6% annual rate even in the economic turbulence. As there is increase in product launches around the world that means more companies for the same market. The packaging has become important task in order to enhance formula protection and this is driving the packaging trend. (Yeomans, 2013) This shows the importance of SPF in the Dollar sales. It implies that whether it is due to health concerns or a more superficial fear of looking older. (Paro, 2008) According to Paro Consumers are demonstrating their willingness to spend more for products that provide higher levels of protection, and they are expecting that trend to continue. (McDougall, Euromonitor urges sun care manufactures to target emerging markets, 2011) According to a recent report by the market research company, the sun care industry has recovered well in the last two years following a poor performance in 2009, the year in which the global recession and economic crisis peaked. Euromonitor says that consumer awareness campaigns need to accompany any attempt by manufacturers to grow sales in developing countries. (Horne, 2006) It talks about the hidden potential in the Sun care market. Even though it has shown considerable growth over the past five years, sun care remains one of the smallest sectors within the cosmetics and toiletries industry. (Lennard, 2010) She is a senior analyst at euro monitor international talks about Sun protection products which accounted for 85% of all sun care sales in 2009.

The thought of correlation between price & better protection from the sun has taken something of a hit in recent times. Other than protection, one of the main selling points in sun care was convenience. (McDougall, Ayurvedic skin care poised for growth in, 2012) According to the McDougall with the overall skin care market in India expected to grow at more than 10 % in the next five years, Kuick states the market for Ayurveda products looks promising and is poised for growth. This is because existing and newer players are constantly working on new and better products to offer to the Indian consumers; who are fuelling the demand.

Research Objectives:

The basic objective of this study is to draw perceptual map using attribute based perceptual and understand the various factors which consumers give due importance when they make choice among the Sun care brands.

- To plot the perceptual mapping of consumers using different sun care brands.
- To study the factors influencing acceptance of sun care products.
- To recommend strategies for sun care brands that would minimise gap between consumer expectations and consumer perception.

Methodology:

An exploratory study was conducted to understand that which sun care are perceived to have an edge in terms of price, quality. Effort had been made to study consumer's perceptions and expectations regarding different sun care brands in the same circle. A questionnaire was used to study the responses of consumers using leading five sun care brands were selected in Delhi & Andhra Pradesh. The sun care brands considered are namely Lotus, Biotique, Nivea, Neutrogena and Himalaya. Total 120 consumers were considered. A simple random sampling method was followed for the study. Perceptions of only those consumers were considered who were using the above mentioned brands. Perceived quality of each variable was measured through questions designed on a 5 point Likert-type scale ranging from Strongly Agree to Strongly Disagree.

Statistical Technique Used:

In order to achieve the objective discriminant analysis had been used to identify the attributes that were best associated with the sun care brands. Number of groups that are generated is five. The discriminant analysis output will give Eigen values of each function and amount of variance would explain from the original data. The discriminate function represents the axes on which the brands are first located and then attributes are located.

Analysis and Results:

Data collected was analysed through series of validated tools and procedures. The critical step involved in the development of a measurement scale is assessment of reliability constructs. The sample respondents were in the age group of 18 to above 32.

From the study conducted, in case of expenditure it is seen that 0-500 (61%) had been the predominant range in Sun care products, while compared to other range even though a slight variation is seen in AP where 501-1000 has constituted about 34%. It may be due to difference in preference towards types of sun care products as they are mainly daily users.

It can be clearly interpreted from table 3 on the whole from the data that Nivea (43%) is considered to be the preferred brand even in Delhi and AP. This is then followed by Neutrogena (22%) and Biotique (18%) which has been opted nearly by same number of respondents and then Biotique (12%) in Delhi & Neutrogena (13%) in AP. Nivea selection is may be due to its highly established brand image while compared to other and also we understand that consumer's highly brand conscious.

From table 6 it can be stated that usage pattern of daily users is quite high may be due to rise in health concern even this can't be said predominantly as occasional users (38%) percentage is quite near to daily users (55%). In case of individual analysis also Occasional users (50%) & daily users (44%) near same in Delhi, while in AP this pattern is not rather Daily users (67%) are predominant over occasional users (27%) seen in AP may be due to high usage of BB creams.

In case of parameters influencing buying decisions Quality (56%) played a major role as it is of health concern to protect against UVA & UVB spectrum. But in next preference there was unexpected selection is seen in Delhi where they preferred form of delivery (18%) over price (10%). In AP it is price (36%) and then followed by form of delivery, availability and packaging this may be due to price sensitive market in south or presence of high frequency of daily users.

Group statistics table is one prominent table that identifies the consumer perception of brands against five different attributes taken. Interpretations that can be drawn from the table 8 are as per the Brand wise. Lotus is preferred due to its price sensitivity according to consumers whereas in case of Nivea, Biotique, Himalaya and Neutrogena its quality.

According to the table 9 data the interpretations that can be stated are price and durability shows strong classification attributes. This is followed by quality & look as the higher standardized canonical discriminant function coefficients describe the strong discriminant classification.

Data from table 11 represents value obtained from comparing standardized and unstandardized canonical discriminant function coefficients along with pooled within groups correlation.

From figure 1 it can be interpreted that Lotus, Nivea, Biotique, Himalaya and Neutrogena have their own unique position on the map. As the dimensions seems to comprise of price, quality, look, durability and fragrance on whose basis the brands unique positioning is done. It can be interpreted that Neutrogena and Himalaya have received the highest satisfaction rating from the respondents and perceived to be brands of value for money even though Nivea is the most preferred brand followed by Biotique which are preferred due to their own unique for Biotique its being natural product and quality while for Lakme its being fragrance and quality. This is followed by Lotus preferred due to its low price, moderate quality and durability. Nivea which is preferred by maximum respondents is seen in negative dimension as consumer perception of this brand is moderate in all aspect.

Conclusion:

According to the data obtained from the survey, it was found that the perception of customers towards sun care products varies from aspiration to safety need. Few of the key points drawn areas follow:

- Daily users are predominantly seen over occasional users and rare users due to the raising health concern and awareness regarding harmful effecting of sun. Daily users are influenced by price, while occasional and rare users are by quality for making buying decisions.
- Nivea is considered to be the most preferred by maximum respondents. While Biotique, Neutrogena and lotus are nearly on the same level. Clinique is the brand preferred by very less respondents due to its high price even though quality is good.
- Quality played a major role in influencing the selection of a brand; this is followed by price but in AP price and quality played an equal role.
- In case of their present product high satisfaction is seen in terms of quality and durability as they signify the maximum protection against the sun. SPF & PA are considered to be of highest importance in selection of a sun care product, which it is followed by spectrum of activity.
- Nivea is perceived as a product of medium quality and price that’s the reason even though it is preferred by most of the respondents; its satisfaction level is low. The respondents observe quality and Durability over price.
- Biotique is rated similar to Nivea as a product of medium quality and price but being a natural product has given it an advantage over Nivea and other brands. Even though Himalaya is also a natural product the respondents opted it are few but its users have shown a high satisfaction level due it low price.
- Neutrogena is at the same level as of Biotique due its quality against price offered being a product of J&J and expectations perceived by consumers are meet. This resulted in high satisfaction and became a competitor to Biotique.

Future growth and challenges:

According to Euro monitor strong global growth of 17.7% in sun care between 2011 and 2016. Sun protection sales are expected to rise even faster by 19.6% to reach $9.5 billion.

An aging population looking for higher SPFs (UVA and UVB protection) to help maintain youthful appearance will be one of the main drivers moving forward. The US is leading the way with several brands chasing ever higher SPFs, such as Coppertone Continuous Spray Sport SPF 100+ Sunscreen and Neutrogena Ultra Sheer Dry-Touch Sunblock SPF 100.

In order to boost demand, manufacturers across the world are launching products with additional benefits such as anti-ageing components, fragrances, vitamins, glittery effects and rapid-drying effects. These attractions are definitely increasing the expectation level of consumers.

Consumers across the world use sun care for different reasons. In the East, they use it for sun-tan and look for whitening claims, whereas in the further West tanned skin is regarded as a sign of health. However, the preference of formulations with higher SPFs is a common trend, made possible by the latest advances in sun care technology

References:

[1] Euromonitor International. (2012, July 9). *Sun Protection Is Driving Growth for Sun Care Products*. Retrieved from Cosmetic design eurpe: http://www.cosmeticsdesign-europe.com/

[2] Euromonitor International. (2012). *Sun Protection is Driving Growth for Sun Care Products.* U.S: Market Wired.

[3] Federation of Indian chambers of commerce and Industry. (2009). FMCG sector - The Road Ahead. *FICCI*, (p. 28). New Delhi.

[4] Hine, H. (2013, September). Targeting, helping sun care consumers through technology. *GCi Magazine*, pp. 66-69.

[5] Horne, U. (2006). Sun Care Radiates untapped success. *GCI Magazine*, 36-39.

[6] Lennard, C. (2010). Mixed fortunes for Sun Care. *GCI*, 36-42.

[7] McDogall, A. (2013, May 07). *Unilever ups investment in India as emerging markets take full focus.* Retrieved from

www.cosmeticsdesign-asia.com/Business-Financial/Unilever-ups-investment-in-India-as-emerging-markets-take-full-focus

[8] McDougall, A. (2011, May 3). *Euromonitor urges sun care manufactures to target emerging markets*. Retrieved from Cosmetics Design Europe: http://www.cosmeticsdesign-europe.com/

[9] McDougall, A. (2012, November 29). *Ayurvedic skin care poised for growth in*. Retrieved from Cosmetic Design asia: http://www.cosmeticsdesign-asia.com/

[10] McDougall, A. (2012, JUne 20). *Packaging & Design* . Retrieved October 30, 13, from Cosmetics Design-Europe: http://www.cosmeticsdesign-europe.com/content/view/print/646610

[11] Paro, J. (2008). Demand grows for sun care options. *GCI*, 38-42.

[12] 12.Yeomans, M. (2013, July 29). *Headline: Market Trends*. (William Reed) Retrieved October 30, 2013, from Cosmetics design-Europe: http://www.cosmeticsdesign-europe.com/content/view/print/803713

Table 1

Geographies	2009	2010	2011
World	7,672.8	8,302.2	9,257.8
Europe	3,276.5	3,226.3	3,434.2
Asia Pacific	1,571.2	1,768.4	2,036.7
North America	1,555.6	1,694.5	1,797.6
Latin America	1,133.1	1,422.1	1,775.4
Middle East and Africa	168.5	190.9	214.0

Source: (Euromonitor International)

Table 2: Major players in the sun care market

Company	Brand	Establishment	Revenue	Sun Care Products	Forms of delivery
Lotus Herbals	Lotus	1993 by Mr Kamal Passi	-	SPF Range – 15 to 90 Block Cream (SPF30), Safe Sun – Daily Sun Block (SPF40)	Creams and Face Packs
Beiersdorf	Nivea	1882 by Carl Paul Beiersdorf	€6 billion in 2013	SPF Range – 15-50	Creams
Biotique	Biotique	1992 by Mrs Vinita Jain	Rs. 11 billion in 2013	SPF Range – 30, 40 & 50	Lotion and cream
Johnson & Johnson	Neutrogena	1886 by Robert Wood Johnson, James Wood Johnson and Edward Mead Johnson	$3.8 billion in 2013	SPF Range – 30, 55, 70 & 100.	Lotion and Spray
Hindustan Unilever Ltd	HUL	1931 as a subsidiary of Uniliver	Rs.252 billion in 2013	SPF Range –24, 30 & 50	Lotion, Gel and Spray

Table 3

Rank	Brand	Variant	Declared SPF Value	MRP (RS.)	Packaging material
1	Nivea	Moisturizing Immediate	30	199	HDPE (bottle)
2	Jovees	Sun Cover – Sandalwood	30	165	PVC (flexible tube)
3	Neutrogena	Fine Fairness	30	299	HDPE (bottle)
4	Lacto Calamine	Calamine with Lemon Extract	30	199	PVC (flexible tube)
5	VLCC	Matte Look – With Pineapple Extract	30	295	PVC (flexible tube)
6	Olay	Natural White Rich	24	299	HDPE (bottle)
7	Ayur	Protection Fairness	30	125	HDPE (bottle)
8	Revlon	Touch & Glow	N/A	145	PVC (flexible tube)
9	Lakme	Sun Expert – Oily Skin	30	250	PVC (flexible tube)
10	Dabur	Uveda	30	175	PVC (flexible tube)
11	Lotus	Sweat & Waterproof/Non-Greasy	30	275	PVC (flexible tube)
12	Biotique	Bio Aloe Vera	30	199	PVC (flexible tube)

Source: (Consumer Voice, 2013)

Table 4: Demographic Characteristics of Respondents

Family Annual Income	Percent
3-6 lakhs	23
6-8 lakhs	26
8-10 lakhs	37
More than 10 lakhs	14
Occupation	
Students	70
Employees	22
Business	8
Monthly Expenditure on Sun care products	
0-500	61
501-1000	29
1000-1500	7
1500-2500	3

Source: Field Data

Table 5: Sun Care Brands used by the sample Respondents

Sun Care Brand	Delhi Percent	AP Percent	Total Percent
Lotus	9	4	13
Nivea	17	26	43
Biotique	12	6	18
Himalaya	3	1	4
Neutrogena	9	13	22

Source: Field Data

Table 6: Frequency of usage pattern seen in consumers

Usage pattern	Delhi Percent	AP Percent	Total Percent
Daily	22	33	55
Occasionally	25	13	38
Rarely	3	4	7

Source: Field Data

Table 7: Factors Considered by consumers for selection Sun Care Brands

Factors	Very Important	Somewhat important	Neutral	Not Very Important	Not at all important
Price	15	57	28	-	-
Quality	56	42	2	-	-
Packaging	-	37	40	23	-
Easy availability	8	59	30	3	-
Form	5	56	33	6	-

Source: Field Data
Note: figures given in Percent

Table 8: Group Statistic

Brands Preference		Mean	Std. Deviation	Valid N (list wise)	
				Unweighted	Weighted
Lotus	Factor rating price	1.85	.801	13	13.000
	Factor rating Quality	1.92	.760	13	13.000
	Factor rating Look	2.31	.630	13	13.000
	Factor rating Durability	2.00	.577	13	13.000
	Factor rating Fragrance	2.54	1.198	13	13.000
Nivea	Factor rating price	2.12	.697	43	43.000
	Factor rating Quality	1.56	.590	43	43.000
	Factor rating Look	2.19	.824	43	43.000
	Factor rating Durability	1.84	.652	43	43.000
	Factor rating Fragrance	1.86	.861	43	43.000
Biotique	Factor rating price	2.44	.511	18	18.000
	Factor rating Quality	1.67	.485	18	18.000
	Factor rating Look	2.28	.895	18	18.000
	Factor rating Durability	2.17	.514	18	18.000
	Factor rating Fragrance	2.33	.686	18	18.000
Himalaya	Factor rating price	2.25	.500	4	4.000
	Factor rating Quality	1.25	.500	4	4.000
	Factor rating Look	2.50	.577	4	4.000
	Factor rating Durability	2.75	1.500	4	4.000
	Factor rating Fragrance	2.50	.577	4	4.000
Neutrogena	Factor rating price	2.23	.429	22	22.000
	Factor rating Quality	1.68	.568	22	22.000
	Factor rating Look	2.50	.740	22	22.000
	Factor rating Durability	2.41	.796	22	22.000
	Factor rating Fragrance	2.45	.963	22	22.000
Total	Factor rating price	2.17	.637	100	100.000
	Factor rating Quality	1.64	.595	100	100.000
	Factor rating Look	2.30	.785	100	100.000
	Factor rating Durability	2.08	.734	100	100.000
	Factor rating Fragrance	2.19	.929	100	100.000

Source: Output generated by SPSS

Table 9: Pooled Within-Groups Matrices

		Factor rating price	Factor rating Quality	Factor rating Look	Factor rating Durability	Factor rating Fragrance
Correlation	Factor rating price	1.000	-.055	.074	.016	-.031
	Factor rating Quality	-.055	1.000	.463	.332	.368
	Factor rating Look	.074	.463	1.000	.314	.226
	Factor rating Durability	.016	.332	.314	1.000	.124
	Factor rating Fragrance	-.031	.368	.226	.124	1.000

Source: Output generated by SPSS

Table 10: Standardized Canonical Discriminant Function Coefficients

	Function			
	1	2	3	4
Factor rating price	.251	-.440	.862	.057
Factor rating Quality	-.604	.587	.635	.447
Factor rating Look	.158	-.179	-.441	.665
Factor rating Durability	.807	-.035	-.187	.140
Factor rating Fragrance	.549	.542	.116	-.590

Source: Output generated by SPSS

Table 11: Structure Matrix

	Function			
	1	2	3	4
Factor rating Durability	.729*	.164	-.086	.425
Factor rating Fragrance	.455	.727*	.200	-.259
Factor rating Quality	-.074	.717*	.364	.581
Factor rating price	.292	-.503	.787*	.102
Factor rating Look	.275	.172	-.116	.786*

Source: Output generated by SPSS

Note: Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

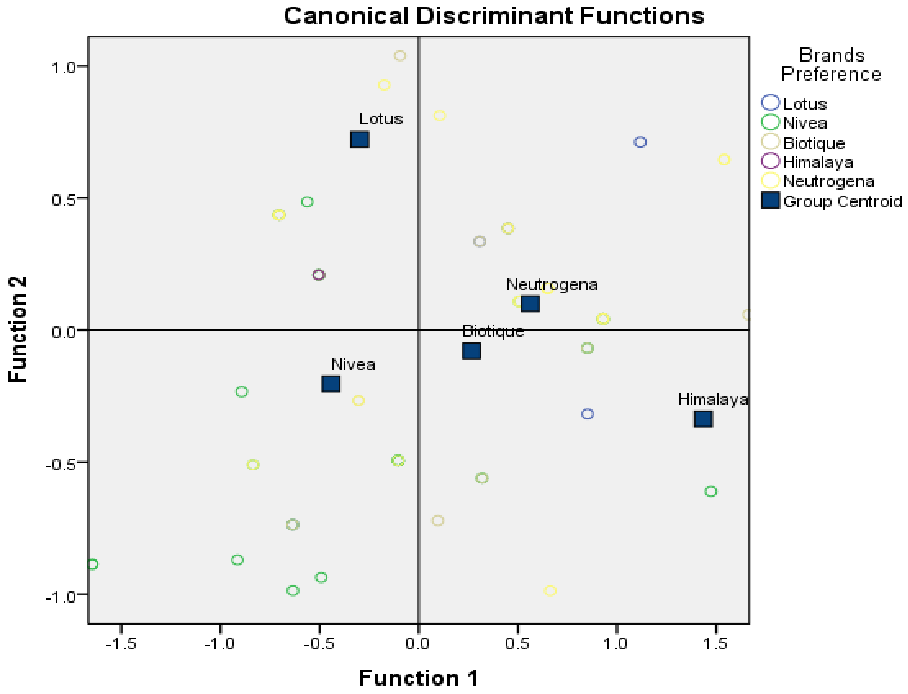
Table 12: Functions at Group Centroids

Brands Preference	Function			
	1	2	3	4
Lotus	-.298	.722	-.079	-.053
Nivea	-.442	-.204	-.076	.005
Biotique	.266	-.079	.414	-.050
Himalaya	1.435	-.337	-.561	-.189
Neutrogena	.562	.099	-.042	.098

Source: Output generated by SPSS

Note: Unstandardized canonical discriminant functions evaluated at group means

Picture 1: Plot of Five Brands on Discriminant Function 1 and 2: Treating functions as Dimensions



******