Game of the Names:
Branding in Smartphone Industry

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ABSTRACT

Brand name and product positioning have been a critical issue in the field of branding, especially for the growing market of smartphones. The booming market has made industry to invest more capital in research and development of more sophisticated devices featuring advanced features from basic calling technology to advance computing. Many companies have developed various technologies differentiating themselves from their competitors. The companies are seen following a particular pattern of updating on particular attributes of their products. The purpose of the research study is to understand the preferences of consumers in an experimental item and main item setup. This study explores the fundamental change in preferences along the basic features of a smartphone and change in purchase intentions due to influence of brand title. The study uses paired sample t test, conjoint analysis, and positioning mapping to address the issue of brand influence in experimental item and main item setup. The study uses the Euclidean distance model to explore the dimensions that define particular brands. Overall the study concludes by proving the effect of brand title on preferences and defining the dimensions along which brands are compared.

Introduction

Brand is a combination of name, symbol, and the offerings which create a distinctive identity of the brand within a crowd of choices through its different brand features (Farhana, 2012). The targeting approach of different brand features causes a high level of brand awareness and familiarity among target consumers and later on individually or collectively, brand features work as clue to consumers to recall and recognize the brand (Farhana, 2012). Brand promises a particular level of quality, trustworthiness and distinctive position among different choices and differentiates itself from other competitor brands.

Brands today function as symbols that enable consumers to identify and separate different brands (Koehn, 2001). Brands are today believed to have characteristics that serve as a strategic business asset essential for firms to develop if they are to compete successfully with their competitors (Aaker, 1991; Kapferer, 2004).

Branding today has emerged as a phenomenon of top management priority due to the growing realization that brands are one of the most valuable intangible assets that firms have on which the firm can strive to stay in the markets for years to come. For customers, brands stand out to simplify choices, promise a particular

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quality level, reduce risk, and engender trust (Keller & Lehmann, 2006). Brand elements can be chosen to enhance brand awareness among existing and prospective customers; facilitate the formation of strong, favorable and unique brand associations; or elicit positive brand judgments and feelings (Keller, 2001, Keller, 2003). Brand features differentiate a brand and try to keep consumers aware of the benefits that come from those features. Each brand today tries to develop a unique set of features which they believe will make their product different from others. Each product today is more precisely known for its features rather than its function. Many products falling into the same category, type benefit themselves from this differentiation technique.

Brand features facilitate the process of consumer brain mapping and play a key role in building brand equity (Keller, 2001). These features help brands to take a strong position in the market and make consumers prefer their products the most of their competitors. The discussion of brands has come to include the management of psychological associations developed under a brand name from the manufacturers and consumer perspectives (Keller, 1993). Brand features can be chosen to both enhance brand awareness and facilitate the formation of strong, favorable, and unique brand associations (Keller, 2003). These brand associations help brands to acquire new customers and retain old ones. The association lies in the mind of the consumer where the desire to acquire the same brand not only guarantees satisfaction, but also reduces perceived risks associated with the product. The value directly or indirectly accrued by various brand features is often called brand equity (Kapferer, 2005; Keller, 2003). The concept refers to the basic idea that a product's value to consumers, the trade and the firm is somehow enhanced when it is associated or identified over time with a set of unique elements that define the brand concept (Erdem, sweet, Broniarczyk, Chakravartti, Kapferef, Keane, 1999).

The concept of brand equity is rooted in cognitive psychology and focuses on consumer cognitive processes (Erdem & Swait, 1998). The real power of a brand is in thoughts, feelings, images, beliefs, attitudes, experiences and so on that exist in the minds of consumers (Keller, 2003). Customer based brand equity occurs when the consumer has a high level of awareness and familiarity with the brand and holds some strong, favorable, and unique brand associations in memory (Keller, 2003). Since the name can bring inherent strength to a brand (Kohli and Labahn, 1997; Klink, 2001), brand names need to be actively managed in order to influence external stakeholders (Klink, 2001). Consumers feel strongly associated with their existing brand when the perceived risk is high. The brand name becomes the psychological property of consumers increasing the desire to purchase the same brand again and again (Lerman & Garbarino, 2002). A brand name is an anchor for a product's identity where it carries with it essentially all of the brand equity (Lerman & Garbarino, 2002).

The purpose of the research article is to identify the effect of brand name in a particular setup of an experiment. The research is divided in two parts in which care is taken that the same group of respondents is made to evaluate different measures in different setups. Each setup or section as described in the article deals with a certain number of questions which help evaluate respondent's preferences towards attributes/ features and purchase intentions. Through the 6 sections the research develops multiple results in both the experimental item and main item setups and compares them to evaluate each hypothesis derived through the literature review. Overall the research tries to study how brand name in a particular setup of questions will make a respondent to rate a particular feature higher or lower on that particular scale when compared with a rating of the same feature in an experimental item setup with brand names undisclosed. Overall the study uses multiple analytics to determine such effect.
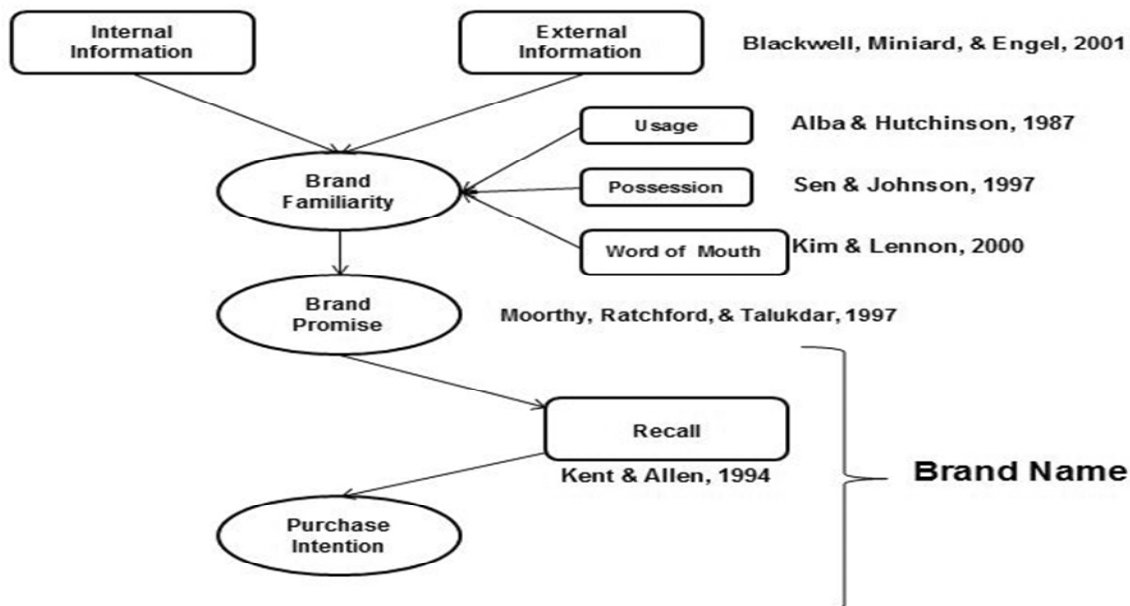
Conceptual Background

Figure 1: Research Outline

A brand name is considered as a producers mark onto their product, which differentiates products, even if they belong in the same product type. Internal information about the brand is gathered by the consumer by retrieving knowledge from memory which encompasses prior brand experience, prior format experience, or prior exposure to advertising (Blackwell, Miniard, & Engel, 2001). External information about the brand is collected from sources such as a reference group (e.g. Peers, family members) and the marketplace (e.g. Product description online) (Blackwell et al., 2001). Internal and external information are both searched by the consumer through which a purchase decision is built, upon which further helps to develop a brand promise among consumers.

Brand promise changes from product to product where each brand is differentiated on different features where the particular feature is used as a tool to fulfill the brand promise. Thus the brand promise is affected from both internal and external information, which may reduce perceived risk and thus result in altering the search behavior (Moorthy, Ratchford, & Talukdar, 1997). Failing to fulfill the promise results in increasing the perceived risks and thus perceived risk results in decreasing the promise that the consumers expect to attain from a particular brand. As a satisfaction of buying goals and/or potential consequences become more important and perceived risk increases, search for information becomes greater (Urbany, Dickson, & Wilkie, 1989). The research tries to explore the gap where a particular brand name is seen to affect the consumer preference when the selection criteria considered for product purchase remains within the featured aspects of the product. Till date there has been a large discrepancy over the brand name influence over product selection when compared with similar or the same value of features.
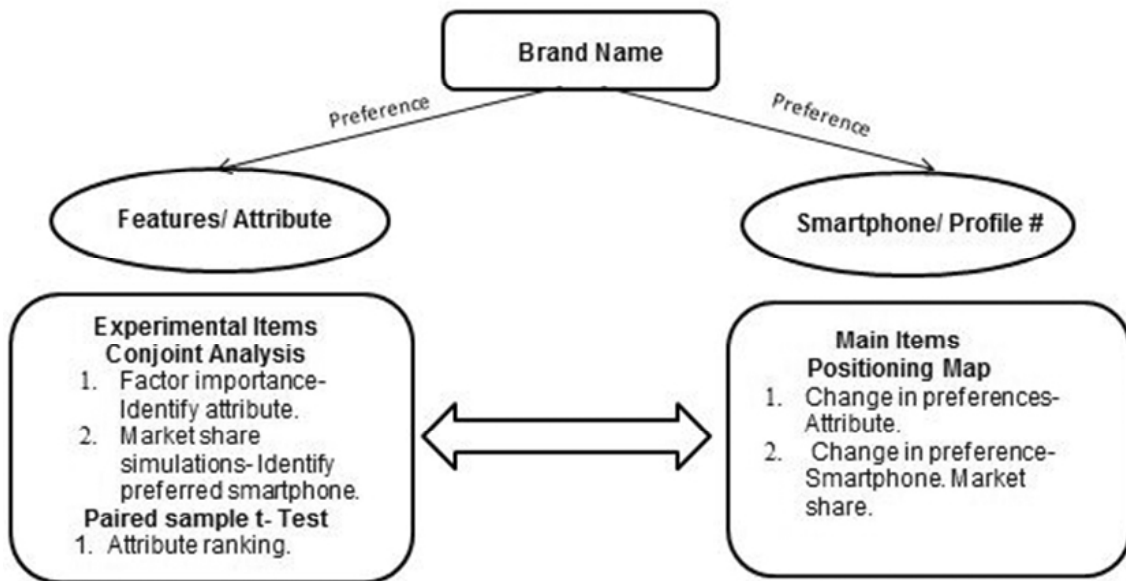
Figure 2: Hypothesis 1

Hypothesis 1: Brand name influences the preferences of a consumer when selecting a brand. Selection of brand occurs when brands are comparable on different attributes.

The search plays an integral part in building the promise that brand claims to deliver. Search in the external form strongly influences the purchase decision where elements like word of mouth influence the preference towards a product. The success of an external search relies on the amount of information available (Kim and Lennon, 2000), and that of an internal search on the extent of prior experience with the product or brand (Elliot and Fowell, 2000).

Brand familiarity is defined as the number of brand-related direct or indirect experiences that have been accrued by the consumer. Brand experiences such as exposure to various media advertisements for the brand, exposure to the brand in a store, and purchase or usage of the brand, increase brand familiarity (Alba and Hutchinson, 1987) and are an important internal source of information. Sen and Johnson (1997) found that familiarity resulting from the mere possession of a brand could lead to positive evaluation of the brand. Alba and Hutchinson (1987) also suggested that increasing familiarity with a brand might create a better knowledge structure in an individual's memory and thus, that person would believe that they know a brand well. Most of the current research focuses on the brand name and its influence over purchase intention when considering the value provided by the product. Very few research studies have focused on the sole influence of brand name on purchase intentions where the brand name is seen to overcome all the positive and negative of the features provided by the products. Thus, this research tries buy in on that concept.
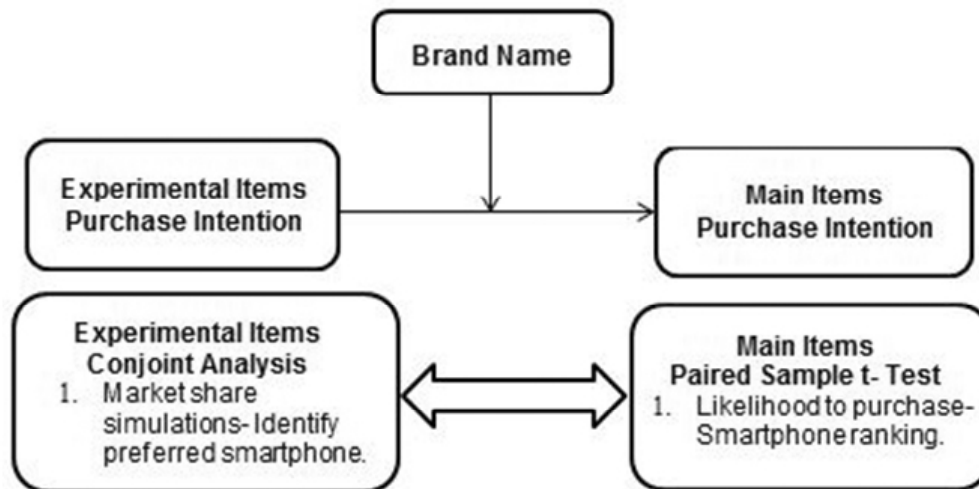
Figure 3: Hypothesis 2

Hypothesis 2: Brand name influences the purchase intentions of a consumer, particularly when selecting a smartphone, irrespective of the features provided by the particular model.

Well-known brands may achieve better recall and are better able to be protected from competitive advertising interference than less familiar brands (Kent & Allen, 1994). One study examined the influence of brand familiarity on confidence in brand evaluation in a traditional store setting (Laroche, Kim, & Zhou, 1996). Well-known brands may have an advantage of being better liked than less familiar brands (Colombo & Morrison, 1989). Howard and Sheth (1969) found that confidence was positively related to purchase intention and negatively related to information search. Bennett and Harrell (1975) found that the buyer's overall confidence in a brand is positively related to intention to purchase the brand, which is also positively related to actual behavior toward the brand (Woodside & Wilson, 1985). The buyer's intention to purchase gets filtered from multiple features to few select features of immediate requirements. These features are considered as dimensions when evaluating the intention to purchase one. This study focuses on this aspect of deriving need based important features of particular products.
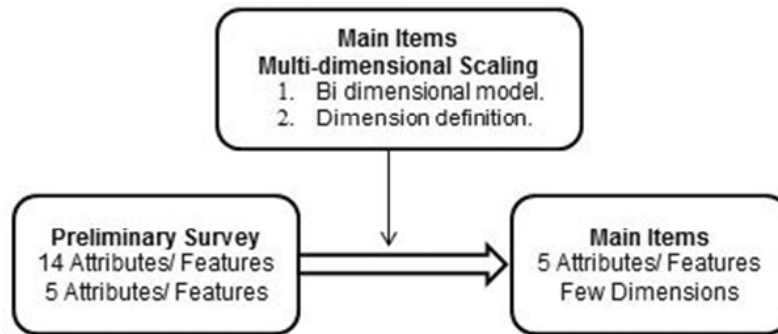
Figure 4: Hypothesis 3

Hypothesis 3: Particular set of dimensions compares smartphones rather than each available technical specification (feature) of the smartphone.

Questionnaire Design and Survey Procedure

The questionnaire was designed into two sections main items section and the experimental items' section. Main items' section consisted of three questions (parts) each question emphasized on a particular aspect to estimate features, likelihood, and comparing and contrasting different features of different smartphone brands. The brand name is explicitly used in these questions to understand the influence that a particular brand will have on consumer rating of particular attributes.

The experimental item section consists of two questions (parts). Question one tells the respondents to rank each feature of the phone. Question two tells the respondent to rank a smartphone considering the different combinations of different features. In both the question the brand name has not been disclosed anywhere. Question two is a typical bundle of conjoint analysis which analysis brandless combination of features to prevent the influence of any particular brand on consumer rating.

Preliminary Survey

The study involves conjoint analysis and perceptual mapping as a part of the analytics. When considering conjoint analysis methodology, multiple attributes and multiple levels make it difficult to attain possible number of profiles for examining each combination. It becomes a tedious job for a respondent to examine each profile and rank it individually. Having too many profiles may result in creating bias towards the first few profiles while responding to the survey. For this reason the initial preliminary survey was created to rank the important attributes/ features that are commonly present in smartphones. A preliminary survey consisting of 30 respondents was surveyed. These respondents were told to rank the 14 features as per their importance. Out of these 14 features first 5 ranked features were selected. These 5 features were used for designing the conjoint template overall reducing the combinations to 16 profiles.
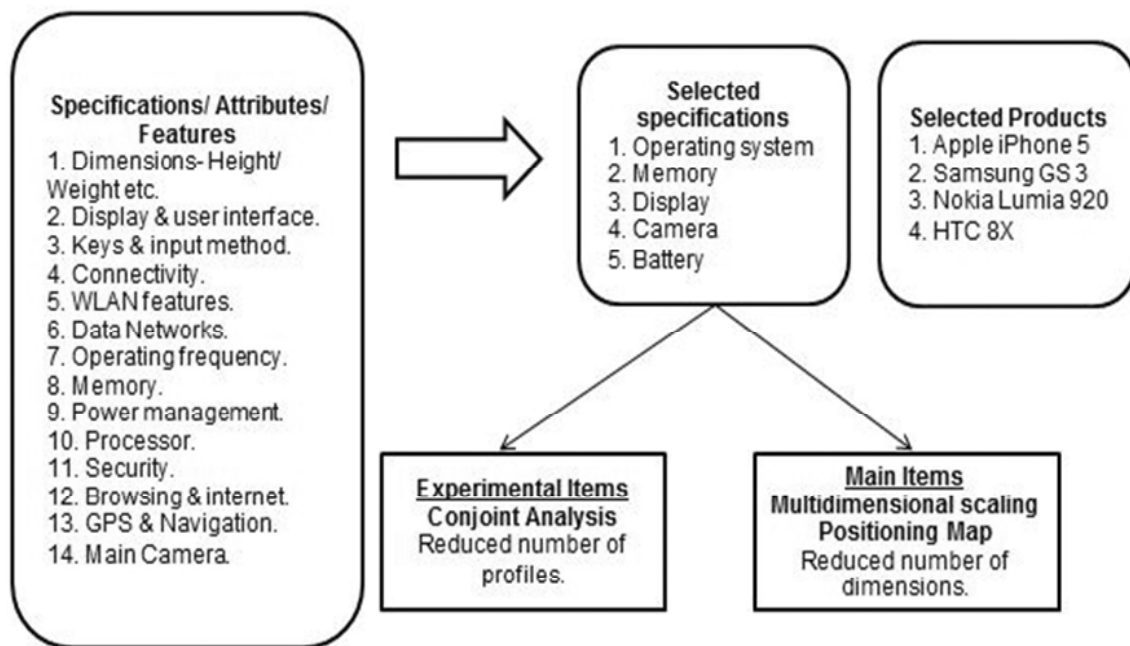
Figure 5: Preliminary Survey

Experimental Items

The survey was divided into 3 parts in which the experimental items were the part 2. The experimental items design of the survey consisted of two sections. Care was taken while designing the survey such that the name of the brand was explicitly avoided to evaluate the respondents' preferences towards the pre- selected features and profiles only for the experimental item design part, that is part 2. Section 1 of part 2 consisted of questions designed particularly to rank pre-selected 5 features in a context when making the purchase decision. The one thing that was avoided was a particular brand name to prevent any kind of bias from taking place while ranking the features.

The section 2 of part 2 of experimental items design of questions was analyzed using conjoint analysis. Conjoint analysis template consisted of 16 different bundles/ profiles, each profile consisting of 5 different attributes, each attribute has more than 2 levels. The 5 attributes considered were the 5 different technical features which consisted of operating system, memory, display, camera, and battery. Out of the 16 different bundles 12 bundles were created as pseudo profiles. Pseudo profiles were created to hide 4 profiles, which were an exact replica combination of 4 different brands. To prevent any bias while ranking these profiles these 4 bundles were shuffled with other 12 profiles for each respondent. Also preference partworths and factor importance were calculated for each attribute from this analysis. Overall the experimental item design had no influence of any brand name over it.

Main Items

The main item design consisted of three different sections. All the three sections consisted of questions designed such that they explicitly disclosed the names of each brand with a particular product associated with that brand. The sole purpose of the main item design was to measure the change in preferences of respondents that occurred due to the inclusion of brand and product name in the questionnaire. Section 1 consisted of questionnaire, particularly designed to extract a positioning map showcasing position of each brand in two dimensional space. Also the positioning map was used to evaluate preferences towards feature positioned in two dimensional space falling closer towards a particular brand. The simulated market shares for each brand were calculated from the map. Each question was measured on a 5 point Likert scale.

Section 2 consisted of 4 questions; each was used to measure likelihood of purchase using 5 point Likert scale. Each question measured purchase intention of the respondent with respect to a particular brand and product. Section 3 consisted of 6 questions; each question compares the similarities between different brand products on a 5 point Likert scale. This section measures the dimensionality along which the comparisons between brands can be carried out. Dimensionality consists of multiple dimensions, each dimension being a combination of multiple features. Each dimension is then used to differentiate different brand and products in comparison.

Data Collection and Methodology

The questionnaire in the survey consisted of five sections where each section was designed as per its relevance with the hypothesis. During the initial stages of research, the research questions were developed into hypothesis and different analytical methods were assigned to address each hypothesis. The five different analytical methods were used to address three hypotheses. Each section had a relevant scale assigned to a set of questions which were specially designed for a particular method. The questionnaire contained 43 questions out which four were used for demographics; remaining thirty nine were allocated for the different methods.

Total of two hundred questionnaires were mailed, out of those 200 one hundred and ninety two responses were recorded and used for the analysis. Only 157 responses were used for analysis due to its availability at the time of analysis. The responses recorded consisted of different demographics and came from different geographic locations. Demographics consisted of gender and annual income, while as Geographic's consisted of the location of the respondent. Responses were recorded from 14 different countries and consisted of income range from 0 to $100000. The response rate was 96%.

Three hypotheses were addressed by five analytical methods. To address the relationship of brand name and change in the preferences of attributes, the experimental item questionnaire was analyzed using the paired sample t test for comparing the means and conjoint analysis was used to find the preferred feature bundle. The set of main item setup questions was analyzed using perceptual mapping to analyze the change in preferences towards features with the use of brand title in the questionnaire.

The purpose of using these methods was to compare the results of the experimental item of questions with that of main item setup. The results were to address the conclusion on change in perceptions towards technical features of a smartphone.

Different approaches were taken to address each hypothesis synthesizing or formulating a research design by comparing the results from different analytics rather than the analytics as a whole. For addressing the relationship between brand name and purchase intentions the experimental item set of questions was analyzed using conjoint analysis which optimally resulted in estimating a bundle which resembled a particular combination of features of existing brand and this result was compared to the results from the t test on the main item setups. The purpose of comparing results was to support the relationship between the brand name and the likelihood of purchase.

The third and the final issue of determining the number of dimensions for evaluating and comparing particular brands was done with the help of a main item setup questionnaire, where the respondents were subjected to evaluating a feature belonging to a particular brand. In this section the main item setup questionnaire was analyzed using multidimensional scaling in which each brand was plotted in a two dimensional plot using the Euclidean distance model. Measurements of distances were used to address the relationship of a particular dimension with a particular brand.
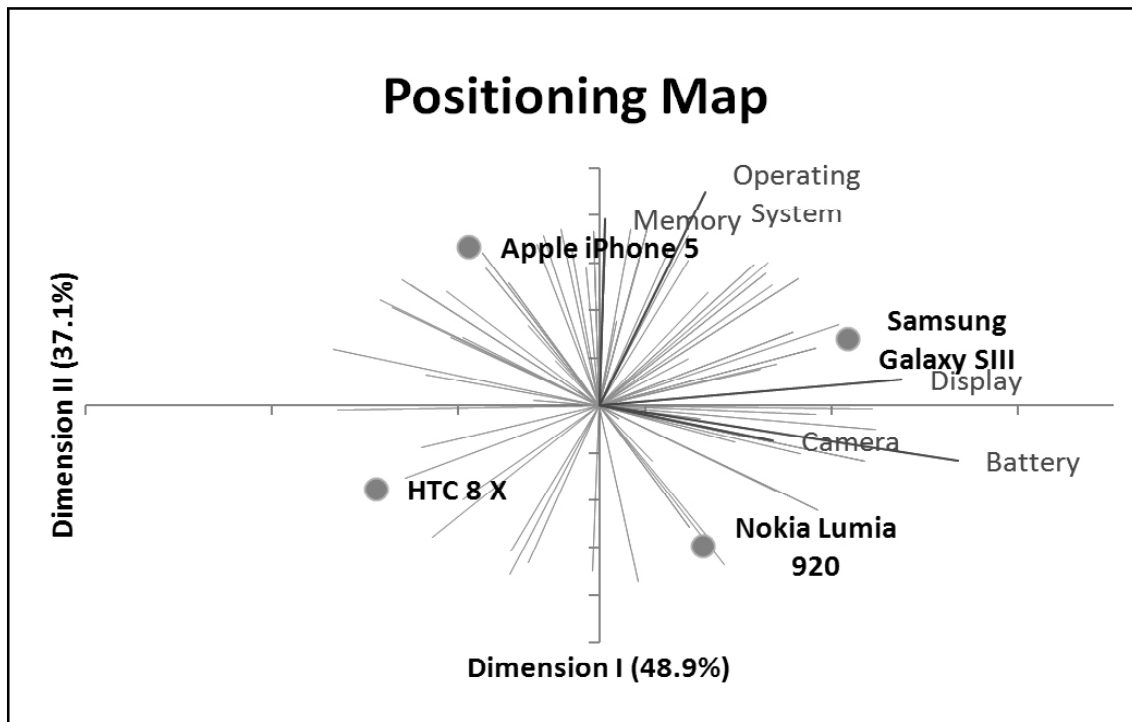
Results

Figure 6: Positioning Map

Results from positioning map (figure 6) indicate that in the main item questionnaire the market share for Samsung Galaxy S3 and Apple iPhone 5 are same in the sample set. The map also indicates that the market share for HTC 8X and Nokia Lumia 920 are the lowest in the sample. Also the positioning map indicates that the variance present in technical features differs due to influence of brand titles. The variance present in the variable battery is the highest, followed by the variable operating system and then by display, memory, and camera. High variance in each feature indicates that the ranking made by the respondents differs heavily along the featured variable.

From the map (figure 6) it can be concluded that Apple iPhone 5 is perceived by the respondents to be superior in features like memory and operating system, while as brand Samsung Galaxy S3 is seen to be superior in features like display, battery, and camera. Nokia Lumia 920 and HTC 8X are perceived to be inferior compared to the other two when compared on the basis of these 5 features.

Table 1: Paired Sample t Test

	Paired Differences					t	Df	Sig. (2 tailed)
	Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Operating System- Memory	-.551	1.491	.119	-.785	-.316	-4.642	157	.000
Pair 2 Operating System- Display	-.531	1.583	.126	-.761	-.264	-4.071	157	.000
Pair 3 Operating System- Camera	-.741	1.862	.148	-1.033	-.448	-4.999	157	.000
Pair 4 Operating System- Battery	-.316	1.712	.136	-.585	-.047	-2.323	157	.021
Pair 5 Memory- Display	.038	1.488	.118	-.196	.272	.321	157	.749
Pair 6 Memory-Camera	-.190	1.523	.121	-.429	.049	-1.567	157	.119
Pair 7 Memory-Battery	.234	1.528	.122	-.006	.474	1.927	157	.056
Pair 8 Display- Camera	-.228	1.700	.135	-.495	.039	-1.685	157	.094
Pair 9 Display- Battery	.196	1.815	.144	-.089	.481	1.359	157	.176
Pair 10 Camera-Battery	.224	1.762	.140	.147	.701	3.022	157	.003

The results from the experimental item questionnaire indicate that variance differs across all the variables, but is highest in battery followed by the operating system, camera, display, and memory. The experimental set of questions was also used to compare the rankings among the features, means for each variable were used to rank the features. The lowest mean was considered as a tool to differentiate variables according to their ranking.

Table 2 : Descriptive Statistics

Attribute	N	Mean	Std. Dev	Variance
Operating System	158	2.25	1.476	2.178
Memory	158	2.80	1.328	1.764
Display	158	2.77	1.355	1.837
Camera	158	2.99	1.465	2.146
Battery	158	2.57	1.578	2.489

The results (Table 2) indicate that the operating system has the lowest mean and is ranked as 1, which is then followed by a battery (2), display (3), memory (4), and camera (5). A paired sample t test was carried out on the experimental item to compare the means and check for differences between the mean. It can be concluded from Table 1 that the difference between the means of pair's operating system- memory, operating system- display, operating system- camera, operating system- battery, and camera- battery are found to be significant at 1% significance level. But the differences between means of memory- display, memory- camera, display- camera, and display- battery are found to be non-significant. The reason for the non-significance was strong correlation that was found between these features at a significant level.

The second set of experimental item of questions was analyzed using conjoint analysis, where 16 different bundles consisted of 5 different attribute each attribute has more than 2 levels.

Table 3 : Market Share Simulations

Market share predictions for different scenarios, using the First-Choice Rule.

Product Profiles	Profile 1 (HTC 8X)	Profile 8 (Apple iPhone5)	Profile 10 (Samsung GS3)	Profile 11 (NokiaLumia920)
Predicted market shares	12.18 (29.84)	10.91(26.92)	9.56(23.42)	8.27(20.26)

Table 4 : Respondents' Preference Partworths

Respondents/ Attributes & Levels	Average Responses
Operating System	
Windows	21.06
Android 4.0	0.23
iOS6	8.37
Display	
4.5	22.60
4	13.01
4.8	13.01
4.3	0.03
Memory	
16	39.30
32	4.29
64	0.40
Camera	
8	3.27
8.7	0.70
Battery	
1800	22.61
2100	16.62
2000	15.06
1440	15.92

The results indicated (Table 3) that bundle 1 has the highest market share of 12.81%, followed by bundle 8 (10.91%), bundle 10 (9.56%), and bundle 11 (8.27%). Bundle 1 being the replicas of combination for HTC 8X had the highest market share. Also respondent's preference partworth (Table 4) indicated that Microsoft windows phone 8 had the highest average preference (21.06) followed by Apple iOS 6 (8.37). For memory respondents preferred 16 GB (39.03) over 32 and 64, for display respondents preferred 4.5 inches (22.60) over 4, 4.8, and 4.8 inches. The results for camera and battery, stand out, to be mixed; respondents prefer 8 megapixels over 8.7 megapixels for camera and 1800 mH over 2100, 2000, and 1440 for battery. In the discussion section the results of the main item setup questionnaire are compared to the results from the experimental item questionnaire thereby testing the hypothesis 1 for any existing relationship between brand name and respondents' perceptions towards technical features of a smartphone.

Hypothesis 2 tried to explore the issue of influence of brand name on the purchase intentions. For this study the main item setup questionnaire was tested using paired sample t test where the results indicated mean difference between the brands Apple iPhone 5- HTC 8X, Apple iPhone 5- Nokia Lumia 920, Samsung Galaxy S3- HTC 8X, Samsung Galaxy S3- Nokia Lumia 920 to be significant at 1% significance level. The mean difference between Apple iPhone 5- Samsung Galaxy S3 and HTC 8X- Nokia Lumia 920 were found to be nonsignificant. The reason for the non significance was found to be an existing correlation between the purchase intentions of different brand products. The means of the main item setup questionnaire were also used to compare ranks of the brands and their particular products. The results indicated that Samsung Galaxy S3 has the highest likelihood of purchase followed by Apple iPhone 5, HTC 8X, and Nokia Lumia 920.

The experimental item of the questionnaire was tested using conjoint analysis and the results were as discussed above for hypothesis 1. To test the hypothesis 2 both results were compared to see if the purchase intentions change with the inclusion of brand name to a particular set of features.
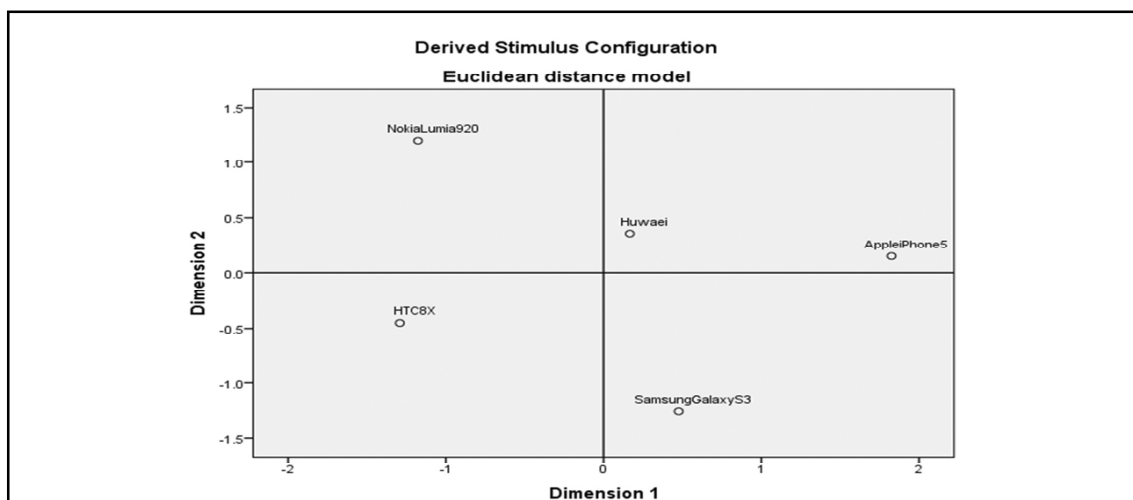

Figure 7: Derived Stimulus Configuration

Table 5 : Stimulus Coordinate

Stimulus Number	Stimulus Name	Dimensions	
		1	**2**
1	Apple iPhone 5	1.8257	0.1505
2	Nokia Lumia 920	-1.1767	1.1965
3	Samsung GS 3	0.4764	-1.254
4	HTC 8X	-1.2919	-0.451
5	Huwaei	0.1664	0.3581

Hypothesis 3 was tested using main item questions. The main item setup questions were analyzed using multi-dimensional scaling using the Euclidean distance model. Particular brands were plotted in two dimensions. Each dimension consisted of particular brand attached to them measured using the distance from the point the brand is plotted to the axis closer to it. The distances were derived from the analysis (Table 5) and it is clear that the distance between dimension 1 (X axis) and brand Apple and HTC is lesser than dimension 2 (Table 5).

Table 6 :

Goodness of Fit	
Stress	0.00337
R square	0.99986

The model shows that five different brands are differentiated into dimensions. Each dimension representing a particular set of attributes. From figure 7 and Table 5 we can conclude Apple and HTC are found to be closer to dimension 1, while as Samsung Galaxy S3, Nokia and Huwaei are found closer to dimension 2. Brand Huwaei being used for analytical purpose only is not considered for interpretation. Therefore Samsung Galaxy S3 and Nokia Lumia 920 are the only brands found to be closer to dimension 2. The goodness of fit was measured using stress, which was found to be significant at the 0.003 level and R square value is 0.99 (Table 6).

From the results of perceptual mapping it is clear that the respondents perceive each brand in two dimensions and their preferences towards features are influenced by brands. In the map particular brands are shown to be related to the particular feature measuring their perpendicular distance from that feature. As discussed above from the positioning map (figure 6) it can be concluded that brands are perceived to be superior to others because of their technical superiority in a particular feature or features. Thus the brand and features relationship from positioning map (figure 6) define the dimensions in the Euclidean distance model (Table 5), where dimension 1 in the Euclidean distance model is represented by brands Apple and HTC by measuring the Euclidean distance (Table 5) from the coordinate axis. Dimension 2 is represented by Samsung Galaxy S3 and Nokia Lumia 920.
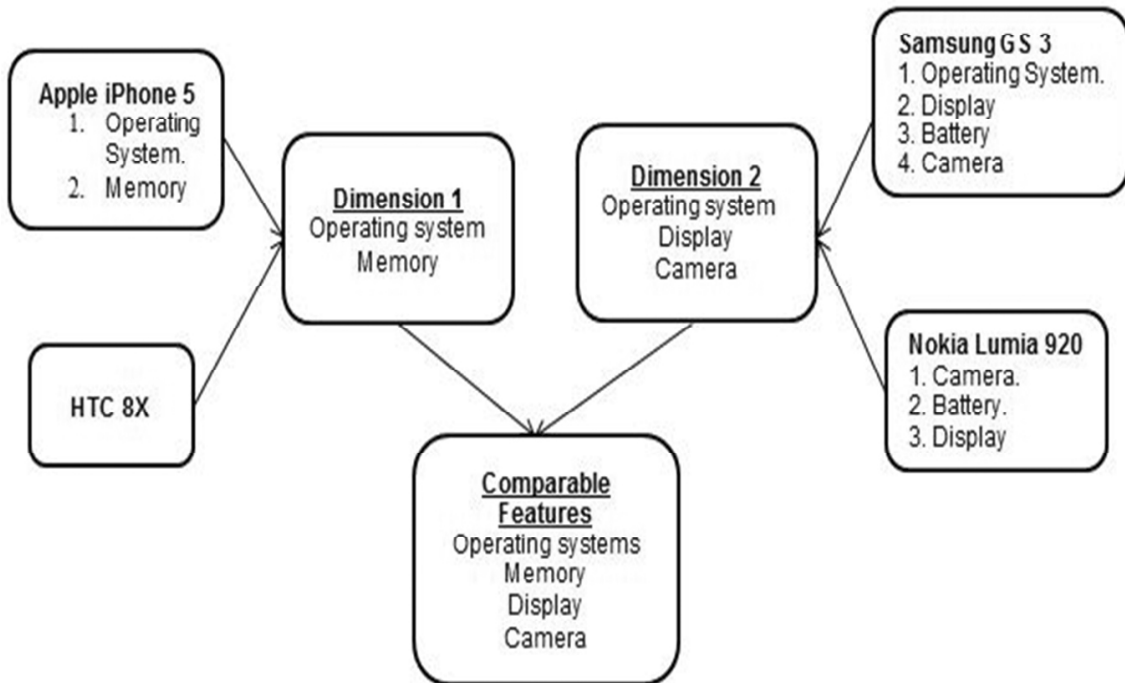
Discussion

Figure 8: Conclusion

The research tries to compare two sets of results from different groups of items (questions) to prove the three hypotheses. With a different approach the study takes a diverse route using analytics like conjoint analysis on an experimental item design, thus contributing to the current literature of the conjoint application for optimal product design. The study also tries to develop dimensions with the help of the Euclidean distance model rather than exploratory factor analysis thus providing a new venue to current literature and standard procedures of dimension reduction and derivation. All three hypotheses are proved by successfully comparing the two groups of items (questions). From conjoint analysis, it is clear that the respondents preferred HTC 8X in a brand name undisclosed set of questions, but the same respondents preferred Samsung GS3 and Apple iPhone 5 in a brand name disclosed set of questions. Inclusion of brand and product name in the questionnaire changed respondent's preferences from one brand to another. Also the conjoint analysis produced factor importance's for different attributes where it is clear that the respondents preferred Windows phone 8 as an operating system in the experimental item setup while in the positioning map the feature operating system was positioned between brands Apple and Samsung displaying preference towards iOS 6 and Android. Therefore, overall it can be concluded that the inclusion of brand name up to certain extent tries to change the preference from one feature to another and from one brand product to another. Overall, it can be concluded that the research proves hypothesis 1 in this setup of the study.

The research further tries to study the effects of brand title on likelihood of purchase of a particular product in the context of both the experimental items and main items (questions) setup. In the experimental items setup the results from conjoint analysis indicate that the purchase intentions are highest towards HTC 8X (Profile 1) followed by Apple iPhone 5 (Profile 2), but in the main item setup Samsung Galaxy S3 is seen to have the highest preference followed by Apple iPhone 5. From these results it can be concluded that the change in intentions occur on the inclusion of brand and product name in the main items (question) questionnaire. Thus the hypothesis 2 stands to be correct in this setup of the study.

Lastly the research uses a single analytic to explore and define the dimensions under which these 4 brands and products are compared. Using Euclidean distance model two dimensions are extracted with a model significant at 0.01% significance level, which is a different and unique perspective to derive dimensions when compared to current practices using exploratory factor analysis. Each dimension is defined with the help of positioning map where particular attributes are assigned to particular brands positioned closer to them. From the results it is clear that two dimensions compare the 4 different brands in which dimension 1 consists of features like operating system and memory, while as dimension 2 consists of features like operating system, display, and camera. Thus, these dimensions produce a set of features along which different products of different brands are compared and overall it can be concluded that features like operating system, display, and camera play are considered to be the variables along which product comparison takes place.

Future Studies and Managerial Implications

The results from this study can be used to position a particular product in a particular customer segment. The responses collected comprised of 14 different countries and 6 different income groups. A thorough research can be conducted to evaluate the preferences towards smartphone and purchase intentions of a particular segment of consumers. A positioning and thus a pricing strategy can be developed by altering the features to suit a particular segment in a particular income range.

The recorded responses consisted of 70% responses collected from respondents from India and 20% from the USA. Further investigation is required to done to investigate the purchase pattern of the consumption of Indian market strongly driven by price. Comparing the higher price tags of Apple and Samsung to lower price tags of Nokia and HTC in the Indian market it is clear that the preference towards Apple and Samsung may have more than one decisive factor affecting the purchase decision. A study can be devised to investigate the relationship between conspicuous consumption and brand name like Apple and Samsung. Thus, this will help such brand, promote themselves as a smartphone for particular segment than general.

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Item Design

The survey was 30 minutes long with 43 questions. Each respondent was paid for completing the survey. The survey was distributed through Amazon mechanical turk and no screener was used. The bolded points in italic are used to simplify the survey for reviewers and readers.

1. What is your gender? (This information will be kept undisclosed)

2. What is your age? (This information will be kept undisclosed)

3. What is your income? (This information will be kept undisclosed)

4. Feature evaluation- The questions in this section deal with different features of smart phones. There are features displayed which are to be ranked from 1 to 5. *(Note: Experimental Items)*

   1. Rank each of these smart phone features from 1 to 5 as per there importance, 1- Most Important 5- Least important? Feature- Operating System (Ex- Apple- iOS, HTC- Windows etc).

   2. Rank each of these smart phone features from 1 to 5 as per there importance, 1- Most Important 5- Least important? Feature- Memory (Ex- 8GB, 16GB etc).

   3. Rank each of these smart phone features from 1 to 5 as per there importance, 1- Most Important 5- Least important? Feature- Display (Ex- 4 inch, 4.3 inch, 5 inch etc).

   4. Rank each of these smart phone features from 1 to 5 as per there importance, 1- Most Important 5- Least important? Feature- Camera (Ex- 8 mega pixel, 8.5 mega pixel etc).

   5. Rank each of these smart phone features from 1 to 5 as per there importance, 1- Most Important 5- Least important? Feature- Battery (Ex- talk time, standby time, internet use time etc).

5. Please rank each of the smart phones from 1 to 4, rank shouldn't be repeated. Each smart phone has particular specifications (features). Rank these smart phones as per their specifications. *(Note: Experimental Items)*

   1. Smart phone 1- Features- Operating System- Windows, Memory- 16 GB, 1GB RAM, Display- 4.3 inch, Camera- 8 mega pixel, Battery- 1800 mAh, Talk time 7 hrs.

   2. Smart phone 2- Features- Operating System- Android 4.0, Memory- 16 GB, 2 GB RAM, Display- 4.8 inch, Camera- 8 mega pixel, Battery- 2100 mAh, Talk time 8 hrs.

   3. Smart phone 3- Features- Operating System- Windows, Memory- 16 GB, 1GB RAM, Display- 4.5 inch, Camera- 8.7 mega pixel, Battery- 2000 mAh, Talk time 7.5 hrs.

   4. Smart phone 4- Features- Operating System- iOS 6, Memory- 16 GB, 1 GB RAM, Display- 4 inch, Camera- 8 mega pixel, Battery- 1440 mAh, Talk time- 6 hrs.

6. Please rate different features for a particular smart phone model. *(Note: Main Items)*

   1. Apple iPhone 5- Features- Operating System- iOS 6. (1= Very Unsatisfied, 5= Very Satisfied)

   2. Apple iPhone 5- Features- Memory- 16 GB, 32 GB, 64 GB. (1= Very Unsatisfied, 5= Very Satisfied)

   3. Apple iPhone 5- Features- Display- 4 inch. (1= Very Unsatisfied, 5= Very Satisfied)

   4. Apple iPhone 5- Features- Camera- 8 mega pixel. (1= Very Unsatisfied, 5= Very Satisfied)

5. Apple iPhone 5- Features- Battery- 1440 mAh, Talk time- 6 hrs . (1= Very Unsatisfied, 5= Very Satisfied)

6. Samsung Galaxy S3- Features- Operating System- Android 4.0. (1= Very Unsatisfied, 5= Very Satisfied)

7. Samsung Galaxy S3- Features- Memory- 16 GB, 2 GB RAM. (1= Very Unsatisfied, 5= Very Satisfied)

8. Samsung Galaxy S3- Features- Display- 4.8 inch. (1= Very Unsatisfied, 5= Very Satisfied)

9. Samsung Galaxy S3- Features- Camera- 8 mega pixel. (1= Very Unsatisfied, 5= Very Satisfied)

10. Samsung Galaxy S3- Features- Battery- 2100 mAh. (1= Very Unsatisfied, 5= Very Satisfied)

11. HTC 8 X- Features- Operating System- Windows. (1= Very Unsatisfied, 5= Very Satisfied)

12. HTC 8 X - Features- Memory- 16 GB, 1 GB RAM. (1= Very Unsatisfied, 5= Very Satisfied)

13. HTC 8 X - Features- Display- 4.3 inch(1= Very Unsatisfied, 5= Very Satisfied)

14. HTC 8 X - Features- Camera- 8 mega pixel. (1= Very Unsatisfied, 5= Very Satisfied)

15. HTC 8 X - Features- Battery- 1800 mAh, Talk time 7 hrs. (1= Very Unsatisfied, 5= Very Satisfied)

16. Nokia Lumia 920- Features- Operating System- Windows. (1= Very Unsatisfied, 5= Very Satisfied)

17. Nokia Lumia 920- Features- Memory- 32 GB, 1 GB RAM. (1= Very Unsatisfied, 5= Very Satisfied)

18. Nokia Lumia 920- Features- Display- 4.5 inch. (1= Very Unsatisfied, 5= Very Satisfied)

19. Nokia Lumia 920- Features- Camera- 8.7 mega pixel. (1= Very Unsatisfied, 5= Very Satisfied)

20. Nokia Lumia 920 - Features- Battery- 2000 mAh, 7.5 hrs. (1= Very Unsatisfied, 5= Very Satisfied)

7. Please rate the likelihood of buying a smart phone considering all the features given above*. (Note: Main Items)*

1. Apple iPhone 5. (1= Very Unlikely, 5= Very Likely)

2. Samsung Galaxy S3. (1= Very Unlikely, 5= Very Likely)

3. HTC 8X. (1= Very Unlikely, 5= Very Likely)

4. Nokia Lumia 920. (1= Very Unlikely, 5= Very Likely)

8. Please compare and contrast each of the following pair. *(Note: Main Items)*

1. Apple iPhone 5 and Nokia Lumia 920. (1= Very similar, 5= Very different)

2. Apple iPhone 5 and Samsung Galaxy S3. (1= Very similar, 5= Very different)

3. Apple iPhone 5 and HTC 8X. (1= Very similar, 5= Very different)

4. Samsung Galaxy S3 and Nokia Lumia 920. (1= Very similar, 5= Very different)

5. Samsung Galaxy S3 and HTC 8X. (1= Very similar, 5= Very different)

6. HTC 8X and Nokia Lumia 920. (1= Very similar, 5= Very different)

9. What is your current location? (Please type only name of the country. This information will be kept undisclosed)