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Management

RELATIVE IMPORTANCE OF ATTRIBUTES OF MOBILE PHONES: A PERCEPTION STUDY ON STUDENTS OF ASSAM UNIVERSITY

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ABSTRACT In the race to add more utility to inventions of communications, telephones were made mobile. The race does not stop here and it keeps on adding more and more to a phone. Soon, it starts to be termed as a device which in addition to do internet surfing, playing music, reading news papers and playing games one can make calls. Interestingly, the companies concerning manufacturing of phones even do not stop here to influence the behavior of customers of mobile phones but targets to add more eye catching attributes to a calling device which includes attracting colors, biometrics, eye movement sensors and drones among others. Young population of India which largely includes students is such a group of customer which is more attracted towards these attributes. In this study an effort has been made to know the attributes of mobile phones and to find out the relative importance of these in the eyes of University students. And in addition to it, an effort has also been made to know if there is any statistically significant difference present in the opinion of students from different demography and backgrounds viz., gender, number of mobile phones already used and costliest mobile phone ever used. Among the various categories of attributes basic function is the most dominating one and attributes like brand, battery life, ram capacity, internet connectivity and sensitivity to eye movements are the most important attributes in respective categories of attributes. The numbers of mobile phones a student have already used have a statistically significant difference regarding the opinion for importance of the group 'appearance and identity'.

1. INTRODUCTION

In all the countries and economies where the market economy is in place, the buyers, needless to say, command higher bargaining power than the sellers. In order to face the competition in the market, which in most of the cases is international, the sellers need to check the correctness of the product in every respect they push to market. The 'correctness' in the market economy is naturally to be seen in light of the age old phrase –customer is always right. In addition to other angles, one of the angles of the customers being right is their frequently changing tastes and preferences. The sellers therefore, need to identify the direction, the degree, the magnitude and the dimensions of the change in tastes and preferences of the customers. The said change in taste and preference become more applicable to products which are technology, rather high technology, based as the technology in this era is fast changing.

By taking into consideration the above mentioned matter it was considered prudent to concentrate on one such product which continues to change fast and that is –mobile phone. In the light of the fact that it is the youngsters who are largest set of users of the mobile phones the present study is aimed at identifying the latest preferences of the students with regards to various attributes of this product.

2. LITERATURE REVIEW

Consumers' buying behavior:

Consumer buying behavior refers to the buying behavior of the ultimate consumer. It is the sum total of a consumers' attitudes, preferences, intentions and decisions regarding the consumers' behavior in the market place when purchasing a product or service. The term consumer behavior is defined as the behavior that consumer displays in searching for purchasing, using, evaluating and disposing of products and services that they expect, will satisfy their needs.

Consumers behavior focuses on how individuals make decision to spend their available resources (time, money and efforts) on consumption related items that included what they buy it, how often they buy it, how often they use it, how they evaluate it after the purchase & the impact of such evaluation on future purchases, and how they dispose of it.

According to Kotler (1994), consumer behavior is the study of how people buy what they buy, when they buy and why they buy. It is a subcategory of marketing that blends elements from psychology, sociology, socio psychology, anthropology and economics. It attempts to understand the buyer decision making process, both individually and in categories. It studies characteristics of individual consumers such as demographics, psychographics, and behavioral variables in an attempt to understand peoples' needs. It also tries to assess influence categories, and society in general. For example when consumers purchase shoe, they go for family decision, in addition to the factors like comfort, satisfaction, price and quality. Every family member doesn't have the same opinion to buy the product. So, in every family consumer behavior is different.

Good number of studies has been made across the globe on factors influencing consumers' purchase decision of mobile phones. This section presents a brief review of the existing studies made around the said area in India as well as other countries in chronological order.

Subramanyam & Venkateswarlu (2012) initiated a study to identify which factor influence the mostly buying behavior of customer. This study was conducted at Kadapa district in India. The study found a different kind of a marketing strategy adopted by mobile company to acquire and retain the potential customer and these marketing strategy effects on consumer buying behaviors. The findings of the study reveals that advertising, level of education, income and past experiences by friend and family member are the main factor which influence the customer at the time of owning mobile phone.

Malviya and et. at. (2013) conducted a study on factors influencing consumer's purchase decision towards smart-phones in Indore. The major objective of this study was to identify the key factors which have a dominating effect on the consumers' minds while making a purchase of Smartphone. The study reveals that the people in Indore buy Smart phones irrespective of its prices. Other features like brand, social image, technology and durability play a major role in buying decisions of consumers in Indore. The collected data were analyzed and interpreted using chi-square, reliability analysis, Factor analysis and Confirmatory Factor Analysis.

Studies conducted in other countries are listed in the following paragraphs.

Siddiqui & Awan (2008) conducted a research on analysis of consumer preference of mobile phones through the use of conjoint analysis. The aim of this article was to analyze the consumer preference based on the value that the consumers attach to the attributes of the goods that they intend to purchase. The study involves the use of the tool of conjoint Analysis to evaluate consumer preference vis-a-vis Brand, Price Level, FM Radio, and Camera. The results of the study indicated that

the most important attribute behind consumer preference for mobile phones was Brand followed by Price, Camera, and FM Radio.

Zhang & Zhou (2014) conducted a research on consumer perception of mobile phone attributes at china. The study was conducted to find out the latent constructs of mobile phone product attributes, which also reflect consumers' variation. The attributes identified in the study are Common functions, appearance, multimedia functions, connectivity, personal information management functions, body design, brand and country, and product image. Tools like 7-point Likert scale, exploratory factor analysis were use to find out the result.

The survey of existing literatures pointed out the fact that handful of studies have been conducted to know the preferred attributes of mobile phones. And in addition to that no study was found, even after best efforts, which concentrates to find out the *relative worth* of attributes of mobile phones and that too with reference to *student community*.

Therefore, the present study makes an attempt to address the present research gap and thus the study aims to attain the following research objectives:

4. RESEARCH OBJECTIVES
I) To identify different attributes of mobile phones those are capable of influencing the consumer buying behavior.
ii) To gauge the relative importance of different categories of attributes of mobile phones in being able to influence the buying behavior of students of Assam University.
iii) To gauge the relative importance of the attributes under each categories of attributes of mobile phones in being able to influence the buying behavior of students of Assam University.
iv) To analyze if there is any significant difference between the respondents' select demographic variables and their perception regarding the different group of attributes of a phone.

In order to examine the fourth objective, i.e., to analyze if there is any significant difference between the respondents' select demographic variables and their perception regarding the different group of attributes of a phone the following hypotheses are framed which is shown in Table 1.

Table 1 Hypotheses For The Study

Sl. No	Hypotheses
1	There is no significant difference between respondents gender on their perception for the different group of attributes of a mobile phone.
2	There is no significant difference between respondents number of mobile phones owned on the perception for the different group of attributes of a mobile phone.
3	There is no significant difference between respondents costliest mobile phone owned by them till now on their perception for the different group of attributes of a phone

5. Research Methodology
- **Type of Research:** Descriptive
- **Selection of attributes of mobile phone:** In order to attain the objectives of the study initially an extensive review of the existing literature was carried out to identify the attributes that are attached to mobile phones generally preferred by the students in India. In order to ensure the correctness of the attributes identified through the said literature review, some personal interviews with mobile phone sellers of Silchar town of Assam were conducted in addition to consultation held with some fellow students. The two exercises as above facilitated the selection of 30 attributes of mobile phones. Five categories of attributes were developed based on the affinity of the attributes. These categories of attributes and the attributes were made a part of the questionnaire to identify the *relative worth of the attributes of mobile phones* that are capable of influencing the buying decisions of the students studying at P.G. course in commerce.
- ·**Survey instrument**: Since the study called for collection of primary data, *a structured questionnaire* was developed to have the views, over the matter, of the students studying commerce at P.G. level in Assam University. The questionnaire included in it two sections; section one containing the questions relating to demographic factors and the section two such questions which are capable of eliciting the perceptions of the students over **the capability of the attributes of the mobile phones preferred by the students to influence their buying decisions**.
- **Survey Method**- The respondents were asked to share their view over each of the attribute of mobile phone on a scale of 1 to 100. The language with which the question was asked to them was- Share the **degree of influence** of the attributes of mobile phones each attribute is capable of influencing your buying decisions on a scale of 1 to 100, where 1 means the least and 100 means the most. Thus the respondents were free to put any figure, between 1 to 100, they felt right exhibiting the degree of influence the concerned attribute puts on them while deciding to buy a mobile phone.

After the collection of data the responses 1 to 20 were marked as '**Least influential**', 21 to 40 as '**Marginally influential**', 41 to 60 as '**Moderately influential**', 61 to 80 as '**Greatly influential**' and 81 to 100 as '**Most influential**'.

- **Data Analysis:** The data so collected with the help of questionnaires were fed into computational software i.e., Microsoft Excel for preparing master sheet. The master sheet facilitated the preparation of required number of tables and charts.
- **Population:** The population of the study was (60+68) 128 which comprised both the senior and the junior semester students studying commerce at P.G. level in *Assam (Central) University*. Even though it was decided to have a census study, owing to non availability of some of the students during the period of data collection i.e., the month of April 2018, only 112 respondents could be traceable and their views could be had out of which only (51+54) 105 were accepted after carrying out the exercise of data cleaning.

The details of the data are portrayed in table 2.

Table 2 Population And Traceable Population Of The Study

Gender	2nd Semester		4th Semester		Total	
	Total Population (1)	Traceable Population (2)	Total Population (3)	Traceable Population (4)	Total Population n(1+3)	Traceable Population n(2+4)
Male	28	25	32	30	60	55
Female	32	29	36	21	68	50
Total	60	54	68	51	128	105

Source: Primary data

- **Tools and techniques of analysis:** Statistical tools such as mean and standard deviation were used to analyze the data. In addition to that mean scores were also used for comparing the relative capabilities of the attributes of mobile phones under study.

6. RESULTS AND DISCUSSION
This section presents the result of the objectives framed for the study.

6.1 Reliability of the scale
Reliability test was initiated in order to know the consistency of the scales. Table 4 highlights that the Cronbach's Alpha of the scale is 0.827 for 30 items. The reliability analysis result is more than 0.65 which ensures internal consistency of the scales (Hassan et.al. 2014).

Table 3 Result of Reliability Statistics

Number of items in the scale	30
Cronbach's Alpha Based on Standardized Items	.882
Cronbach's Alpha	.827

Source: Researcher's computation using SPSS 16

6.2 Attributes of mobile phones considered capable of influencing consumer's buying behavior
In order to identify the attributes of mobile phones those are capable of influencing the consumer buying behavior thorough study of available literature was made. Besides, pilot survey was conducted to dot down the attributes of mobile phones capable of luring the consumer buying behavior. Table 4 highlights the selected attributes of mobile phones considered capable of influencing the consumer buying behavior.

Table 4 Table showing the Categories of Attributes and the attributes under the study

Categories of attributes	Appearance and identity	Basic functions	Operation	Connectivity	Advance features

Attributes	Screen size	Dual SIM	Operating system	USB	Flexible screen(can be attach to wrist)
	Weight	Batterylife	CPU capacity	Bluetooth	Biometrics recognition
	Color	Model generation	RAM capacity	FMradio	Projector
	Thickness	Buttonson handset	Expandabl ememory facility	Wi-Fi	Drone facility
	Brand	Camera quality	Inbuilt social media application	GPS	Wireless charging
	Screen resolution	4Gsupport	InbuiltE-mailclient	Handset inbuilt Internet connectivity	Sensitive to eye movement

Source: Review of literature, pilot surveys and websites

6.3 Relative Importance of different categories of categories of Attributes of Mobile phones in being able to Influence the Buying Behavior of the Respondents

6.3.1 Relative worth of the different category of attributes of mobile phones.

Relative worth of the different categories of attributes of mobile phones is depicted in Table 5. The table exhibits that the attribute **Basic functions** ranked 1st with a mean score of 81.39 which shows that the respondents rated this attribute the highest in comparison to the other categories of attributes. And advanced features ranked last that is 5th with mean score of 73.71.

Table 5 Relative worth of the categories of attributes of mobile phones

Categories of attributes	Mean	Rank	S.D	Rank
Appearance and identity related	74.96	4th	16.43	2nd
Basic functions	81.39	1st	16.08	1st
Operation	77.29	3rd	16.60	3rd
Connectivity	78.07	2nd	20.11	4th
Advancefeatures	73.71	5th	22.00	5th

Source: Primary data

Note: The highest score of mean ranks is highlighted in green and the lowest score is highlighted in blue.

6.3.2 Relative worth of the attributes of mobile phones under each category.

Relative worth of the attributes of mobile phones under each category is presented in Table 6. The table exhibits the highest ranking attributes in each categories of attribute. The attribute **Brand** was ranked 1st with a mean score of 89.49 in the **Appearance and identity related attributes.** The attribute **Battery life** was ranked 1st with a mean score of 89.60 in the **Basic functions related attributes.** The attribute **RAM capacity** was ranked 1st with a mean score of 86.70 in the **Operation related attributes.** The attribute **Handset inbuilt Internet connectivity** was ranked 1st with a mean score of 84.73 in the **Connectivity related attributes**. And lastly, the attribute **Sensitive to eye movement** was ranked 1st with a mean score of 70.32 in the **Advance features related attributes.**

Table 6 Relative worth of the attributes of mobile phones under each category

Appearance and identity related attributes	Attributes of mobile phones	Mean	Rank
Appearance and identity related attributes	Screen size	72.52	2nd
	Weight	53.30	6th
	Color	66.76	4th
	Thickness	59.25	5th
	Brand	89.49	1st
	Screen resolution	70.11	3rd
Basic functions related attributes	Dual SIM	81.32	4th
	Battery life	89.60	1st
	Model generation	71.34	5th
	Buttons on handset	45.28	6th
	Camera quality	86.24	3rd
	4G support	89.02	2nd
Operation related attributes	Operating system	80.62	2nd
	CPU capacity	74.63	4th
	RAM capacity	86.70	1st
	Expandable memory facility	77.14	3rd
	Inbuilt social media application	63.98	5th
	Inbuilt E-mail client	60.81	6th
Connectivity related attributes	USB	75.63	4th
	Bluetooth	68.96	5th
	FM radio	49.17	6th
	Wi-Fi	82.71	2nd
	GPS	78.03	3rd
	Handset inbuilt Internet connectivity	84.73	1st
Advance features related attributes	Flexible screen(can be attach to wrist)	64.90	3rd
	Biometrics recognition	58.91	4th
	Projector	56.93	5th
	Drone facility	50.49	6th
	Wireless charging	65.54	2nd
	Sensitive to eye movements	70.32	1st

Source: Primary data.

Note: The highest score of mean ranks is highlighted in green.

6.4 Analyze if there is any significant difference between the respondents' select demographic variables and their perception regarding the different group of attributes of a phone.

Result of Kruskal-Wallis test is presented in Table 7. The table highlighted that in case of the first grouping variable, i.e., gender of the respondents, there is no significant difference among the respondents' perception in case of any category of phone's attribute. Thus the null hypothesis is accepted. However in case of the second grouping variable, i.e., number of mobile phones owned by the respondents till now, respondents' perception significantly differs in the attribute 'appearance and identity'. Thus in case of the grouping variable number of mobile phones owned by the respondents till now null hypothesis is rejected. Again in case of the last grouping variable, i.e., costliest mobile phone owned by the respondents till now, there is no significant difference among the respondents' perception in case of any category of phone's attribute. Therefore, the null hypothesis is accepted.

Table 7 Statistical significant difference for the importance of the categories of attributes upon the select different demographic backgrounds of student

Demographic backgrounds	Categories	P- values for each categories of attribute of phone				
		Appearance and identity	Basic function	Operation	Connectivity	Advance features
Gender	Male, female	0.923	0.180	0.192	0.943	0.928
No. of mobile phones owned till now	Two or less, Three to four, five or more	0.001	0.221	0.241	0.134	0.068
Costliest mobile phone owned by the respondents till now	Rs.5000 or less, More than Rs. 5,000 but less than Rs 10,000, Rs 10,000 to Rs 15,000 and More than Rs 15,000	0.319	0.756	0.100	0.692	0.708

Source: Researcher's own computation using SPSS

7. Summary of Findings and Conclusion

The study attempted to address the perception of post graduate students regarding various attribute of mobile phone which influence their mobile phone purchase decision. The study put forward the following key findings.

·Respondents ranked 'basic functions' of phone as their most looked-into feature while selecting a phone and 'advance features' of phone is ranked the last. This finding highlighted that the youths too, consider the basic functions of a phone in spite of add-on features while taking purchase decision of their phone.

·In category 'basic function', battery life of a phone is the most preferred attribute. Brand of a phone is the most looked-into attribute in the category 'Appearance and Identity'. In 'Operation' related attributes, RAM capacity is the most preferred attribute. Handset's inbuilt internet capacity and sensitive to eye moment are the most looked-into attribute in the category 'Connectivity' and 'Advanced Feature'.

·Lastly, the study presented that there exists significant difference between the perception of respondents based on their number of ownership of mobile phones till date about the category 'Appearance and Identity of phones'.

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