

## Measuring Consumers Attitude toward the Perception of Purchasing Smartphone: A Study on Some Selected Brands in Bangladesh

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### Abstract

*Cell phone has become a popular product in recent years because of the high popularity of mobile communication and the favorable attitude of consumer toward the smartphone day by day. This study analyses the consumer attitude toward the perception of purchasing smartphone related to internal (i.e. different model and performance of smartphone) and external factors (i.e. brand image, price, and country of origin). The study firstly identifies some attributes which are considered by Bangladeshi consumers for the perception of purchasing smartphone. Secondly the study examines consumer's attitude toward the perception of purchasing smartphone using Fishbein's Multiattribute Attitude Model and rank the brands position in Bangladesh depending upon five attributes of different brands. This study also identifies some factors which are helpful to form positive attitude for Bangladeshi consumers toward the perception of purchasing smartphone by using percentages methods. Three hypotheses are developed based on three independent variables to look for whether consumers consider those independent variables to make decision before purchasing smartphone in our country or not. The study reveals that three external elements: brand image, price, and country of origin have positive and significant influence on consumers' attitude formation for purchasing smartphone.*

**Keywords:** Consumer's Attitude, Brand Image, Price, Country of origin, Smartphone, Multi-Attribute Attitude Model.

### Introduction

The concept of attitude is very wide and many different contexts used this concept (Solomon, 2009). Attitude is defined as learned predisposition to behave in a consistently favorable or unfavorable way with respect to a given object (Schiffman *et al.*, 2010). Attitudes are not overt behaviors but rather are covert or unobservable internal reactions (Azam, 2004). Consumers learn these attitudes over time by being exposed to the object directly or through receiving information about the object. People learn attitudes to overt behavior with respect to the attitude object, giving rise to a consistency favorable or unfavorable pattern of response. The attitude of the consumers towards a product depends on benefit expected from the concern product and how will the product deliver the benefit (Mia, 1999). Favorable attitude can be the cause of favorable purchasing decision. It is related with the intention to buy a product or service. This study is conducted to find out the total attitude of consumers toward the perception of purchasing smartphone in Bangladesh. Both internal and external features (olson and Jaceoby, 2001) of any product have strong influencing capability to form the attitude of consumers towards selected brands. Internal features are physical characteristics of a product that serve to influence

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consumers' perception regarding choosing brands. Consumers generally consider some internal features like the different model (size, color etc) and performance of the product for purchasing. The demand of smartphone is increasing day by day and consumers are converting in smartphone from features phone because of many reasons such as easy to use, use of different applications and game, capture reading material and store, and easy to read different file like pdf, word, excel etc. This study also considers some external features of smartphone such as brand image, price and country of origin of the smartphone.

The total number of Mobile Phone subscribers in Bangladesh has reached 114.808 million at the end of January 2014 ([www.btrc.gov.bd](http://www.btrc.gov.bd)). Industry insiders said reduction in SIM tax, value-added tax (VAT) applied on 3G spectrum prices, introduction of third generation mobile broadband and availability of low cost handset have virtually played a vital role to the booming growth in subscription last year. ([www.gulf-times.com](http://www.gulf-times.com)). Mobile phone has become an indispensable part of Bangladesh's every day. This is the dominant device that can express and share pains and pleasures with. The number of mobile phone user has been dramatically increased around the world. The position of Bangladesh is now top. The following table shows in detail:

Rank	Country or regions	Number of mobile phones	Population	Connections /100 citizens	Data evaluation date
	<b>World</b>	<b>6,800,000,000+</b>	<b>7,012,000,000</b>	<b>97.00</b>	<b>2013</b>
1	China	1,227,360,000	1,349,585,838	90.90	December 2013
2	India	904,510,000	1,220,800,359	74.09	31 March 2014
3	USA	327,577,529	317,874,628	103.10	April 2014
4	Brazil	276,200,000	201,032,714	136.20	July 2014
5	Russia	256,116,000	142,905,200	155.50	July 2013
6	Indonesia	236,800,000	237,556,363	99.68	September 2013
7	Nigeria	167,371,945	177,155,754	94.50	Feb 2014
8	Pakistan	140,000,000	180,854,781	77.00	July 2014
9	Japan	121,246,700	127,628,095	95.10	June 2013
10	<b>Bangladesh</b>	<b>116,508,000</b>	<b>165,039,000</b>	<b>69.50</b>	<b>August 2014</b>

Source: <http://en.wikipedia.org/wiki>

In tandem with the growing subscriber base, sales of mobile handsets has increased at a phenomenal pace. However, nearly 70% of mobile handsets available in the local market have been entering through informal channels, depriving the Government and importers of a huge amount of revenue each year (<http://cmrindia.com>). According to BIS Shrapnel research, Bangladesh's mobile handset market is dominated by first-time users (nearly 85%), as the country is still in its infancy in terms of mobile phone usage. Further, 80% of the handset market is dominated by ultra-low to low-end handsets, available for less than US\$68; due to the country's low per capita income levels. As with many other Asia-Pacific countries, the Bangladesh Smartphone handset market is predominantly captured by global handset giant Nokia (approximately 48% market share) ([www.cellular-news.com](http://www.cellular-news.com)).

Google's Android operating system captured 52.5 percent of the smartphone market during the third quarter, more than doubling its share from the same time period last year, among handset makers, and while Nokia was the leader in mobile phone device sales, Samsung was the world's number one smartphone maker. Samsung sales reached 24 million and Apple was number four (<http://cmrindia.com>).

The Bangladesh market saw a rise of smartphone shipments by 197.2% during the period April-June 2013, over January-March, 2013, taking the overall contribution of smartphones to 7.7% in unit terms. From the survey of CMR Bangladesh at the end of 2013, the number of smartphone user increase 222.2% whereas Featurephones decrease 8.5%. The leading smartphone players in Bangladesh at the end of 2013 are symphony (54%), Walton (13%) and Samsung (12%) respectively ([www.slideshare.net](http://www.slideshare.net))

### **Literature Review**

Mobile wireless technology (MWT) has been used widely, and mobile phones are getting fully integrated in many individuals and organizational user's lifestyle (Dohmen, 2009). Smartphone as a new type of mobile device can be used both as a traditional mobile telephone and as a handheld computer, enabling users to use ubiquitous computing capabilities (Verkasalo, 2010). The term 'Smartphone', refers to a multimedia phone handset, which is a multifunctional electronic device that has features ranging from Camera, Audio-Video Playback, Web browsing to a high-density screen display along with several other multimedia options. As per [Businessdictionary.com](http://Businessdictionary.com), Smartphone is a mobile phone which includes functions similar to those found on personal computers. Smartphone provides a one-stop solution for mobile calls, email sending, and Internet access. Smartphone is compact in size and often only slightly bigger than standard mobile telephones. A Smartphone is actually a mobile phone, based on an Operating System, which possess all the major functions of a Computer, like web browsing, emailing, video and voice chatting, audio-video playback, and others (Malviya et. al. 2013). According to Cassavoy (2012), Smartphone can be defined to be a device that enables the user to make telephone calls and at the same time has some features that allow the user to do some activities that in the past was not possible unless using a computer or a personal digital assistant (PDA), such as sending and receiving e-mails, amending an office document etc. Nowadays brand plays a very vital role in consumer buying decision. Mobile communication has made such an impact on the ways people interact and conduct business (Das, 2012). Nowadays, smart phones becoming a must-have item for business people since smart phones offer more advanced computing power and connectivity than a regular mobile phone (Utomo, 2012).

General speaking, a consumer will feel difficult to make purchase decisions when she or he can not perceive the results after using a product. In other words, a consumer may confront with perceived risk. If a consumer can not undertake this risk, she or he will not buy the product. Therefore, it is worthwhile to understand whether perceived risk will affect consumer purchase intention. In addition, consumer perceived value is considered as a source of business competitive advantage. Perceived value means the evaluation between what consumers give and what

consumers get from a product (Dodds & Monroe, 1991), and many researches show that consumers' perceived value will directly and significantly effect on purchase decision making (Teas & Agarwal, 2000; Wan, 2006).

Many scholars have identified many attributes or variables for recognizing the purchasing decision of consumers such as product features, brand name, price and social influences.

**A. Product Features:** A feature is an attribute of a product that is to meet with the satisfaction level of consumers' needs and wants through the owning of the product, usage, and utilization of a product (Kotler et.al. 2007).

**B. Price:** Nagle and Holden (2002) stated that price can play a role as a monetary value whereby the consumers to trade it with the services or products that were being sold by the sellers. Price will always be the key concern of consumers' before making any purchasing decision.

**C. Brand Name:** In recent changing global environment, competitive advantage, profitable ways and efficiencies are the most important gears that companies are forced to seek for in order to differentiate among them in the business world (Mei Dean and White, 1999). Brand names are the valuable assets that help correspond quality and suggest precise knowledge structures which are related to the brand (Srinivasan and Till, 2002).

**D. Social Influences:** Social influences means one person causes another to make a change on his/her feelings, attitudes, thoughts and Social behaviour, intentionally or unintentionally (Rashotte, 2007). It results from interacting with each other. Social influence includes the influence of media, parents and peers. Social Influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh, 2002).

**E. Other:** There are some other variables which may be considered (1) perceived ease of use refers to the degree to which a prospective user expects that target system to be free of effort (Davis et al., 1989), (2) perceived usefulness is defined as a prospective user's subjective probability that using a specific application system will increase his or her job performance (Bagozzi, & Warshaw, 1989) (3) attitude toward using means that a user's feelings of favorableness or unfavorableness towards using the technology (Taylor & Todd, 1995), and (4) behavioral intention is viewed as being jointly determined by a person's attitude using the system and perceived usefulness (Hsiao & Hung, 2004).

"The attitude is based on a set of information about the object evaluated and progressively accumulated by the individual (cognitive component), the attitude is oriented since it expresses a positive or negative evaluation in relation to the object (affective component), the attitude is dynamic and is a predisposition to action, and as such is a prediction of the behavior (behavioral component)" (Lambin, 2000). Studying and consequently understanding the consumer's purchase intention is the key to winning market share within the respective market segment, it is necessary to understand which factors influence the purchase intention of smartphones (Burton, 1998). Smartphones, a mobile phone that offers a more advanced computing ability and connectivity

than a basic mobile phone, emerge as a powerful tool because of their portability and location detection (can be located via satellite), able to provide highly personalized and localized services (Charlesworth, 2009). Smartphone manufacturers provide, along with their devices, an open operating platform, encouraging creators to develop new mobile applications. Wang *et al.* (Wang, 2011) reveal as such, not only do manufacturers create applications valued by users, but third parties can also develop different applications and deliver them directly to users through the purchased device. Consequently, today the people are witnessing the "apps world" phenomenon, with thousands of applications, whose goal is to provide a variety of information services.

Purchase intention is composed of a consumer's evaluation and attitude toward a product and other external factors. Purchase intention is regarded as a subjective tendency for a consumer to choose a product, and it is an important indicator to predict consumer purchase behavior (Fishbein & Ajzen, 1975). Purchase intention is a most precise item to predict shoppers' behavior (Morwitz & Schmittlein, 1992). Purchase intention refers to the possibility of consumers' willingness to buy a product (Zeithaml, 1988; Dodds et al., 1991; Schiffman & Kanuk, 2000). Spears and Singh (2004) proposed that "purchase intentions are an individual's conscious plan to make an effort to purchase a brand. In brief, if consumers have a good impression and attitude toward a brand or a product, they will have purchase intentions. Zeithaml (1988) measured purchase intention by using possible to buy, desirable to buy, and deliberate to buy. Engel, Blackwell, and Miniard (1995) separated purchase intentions into unplanned purchase behavior, partial planned purchase behavior, and complete planned purchase behavior. Sirohi, McLaughlin and Wittink (1998) indicated that the measurement of consumer purchase intention should be from the view of customers' loyalty including repurchase intention, the willingness to purchase more in the future, and the willingness to recommend others to buy.

### Objectives of the Study

**Broad objective:** The broad objective of the study is to measure consumers' attitude towards the perception of purchasing smartphone in Bangladesh.

**Specific Objectives:** The specific objectives of the study are-

- To identify the different attributes those are considered by Bangladeshi consumers for purchasing smartphone.
- To measure the attitudes of consumers towards the perception of purchasing different brands of smartphone based on Fishbein's Multiattributes Attitude Model.
- To identify the reasons that influence to form positive attitude towards smartphone of Bangladeshi consumers.
- To suggest some policy measures to be adopted by the planners and the decision makers.

### Hypotheses

**Hypothesis 1:** ( $H_0$ ) Higher the brand image, higher the perception of choosing a brand.

**Hypothesis 2:** ( $H_0$ ) When the image of the country from where the product originates is perceived higher, the attitude of consumers towards the brand is positive.

**Hypothesis 3:** ( $H_0$ ) Price is the important factors for purchasing a product in Bangladesh for different brands.

### Methodology of the Study

Given the nature of present study, data have been collected both from the primary and the secondary sources. Two pretests are conducted to identify necessary stimuli for this study. The first pretest is conducted to obtain preferable brand name for purchasing product. The selected brand names are Nokia (Microsoft), Samsung, Sony, Symphony and Walton and the considerable internal and external variables are: the different model of the product, performance of the product, brand image, price and country of origin. The purpose of second pretest is to obtain a list of salient attributes that are combined by the Bangladesh consumers for purchasing an item.

Interview technique was used with structured questionnaire for the collection of primary data during the month of August-2014. The stratified random sampling technique has been used in this study. The total numbers of 200 (40 respondents for each brand) respondents were selected from four different location of Dhaka city of the selected five brands who have usage experience of smartphone. To measure the overall evaluation ( $e_i$ ) regarding the selected attributes for the specific brands rating scale ranging from “Extremely good to Extremely bad” (+3 to -3) has been used and the respondents are also asked through the seven point Likert scale to ranging 7 indicates “Very Strongly believe” and 1 indicates “Very Strongly disbelieve” to know how strongly they believe that the individual brand contains the said attributes.

Secondary data have been collected from various documents, such as internet, journals, various publications, and published books etc. Fishbein’s Multi-Attribute Attitude Model was mainly developed by Martin A. Fishbein in 1963. According to this model, attitudes are viewed as having two basic components. One is the belief about the specific factors of an object and another is the overall evaluation about the specific factors of an object. It implies how an individual evaluates the importance of each attribute of the object in satisfying his/her need. So this model is formulated as follows

$$A_0 = \sum_{i=1}^n b_i e_i$$

Where  $A_0$  = Person’s overall attitude towards the object.

$b_i$  = The strength of one’s belief about the attribute (i) or factor of that object.

$e_i$  = the evaluation of feelings of the attribute (i) or factor.

$n$  = the number of salient attributes

Descriptive statistics was used to analyze the data. Tabulations, cross tabulation, and statistical tools like mean, standard deviation were mostly used for analyzing the data. Moreover hypothesis test was also conducted, if the calculated value (z) is greater than critical value (zc), then it rejects the null hypothesis and accepts the alternative hypothesis.

Background Information

Out of 200 respondents from smartphone users 110 were male and 90 were female. The age of the respondents ranging from 18 to 25 was 65%, ranging from 26-35 was 27% and from 36-50 was 8%. The study found that the percentage of below SSC 12%, HSC passed users18%, under graduating users 40% graduating users 27%, and post graduating users 03%. The year of using experience of the respondents was from six months to 2 years. The professions of the respondent were 46% students, 34% service holders, 14% business men and 6% house wife.

Result of consumers’ considerable internal and external attributes for the perception of purchasing smartphone in Bangladesh

Table-01: Considerable internal and external attributes

Attributes	Not Important (1)	Below important (2)	Average Important (3)	Important (4)	Very Important (5)	Weighted Average	Ranks
Model	12	38	43	48	59	3.52	4
Performance	8	22	42	56	72	3.81	2
Brand Image	2	12	25	68	93	4.19	1
Price	9	33	41	51	66	3.66	3
Country of Origin	19	36	45	44	56	3.41	5

Source: Field Survey  
Note: Weighted average is calculated given weight 1 for to 5 for “Very Important”

Weighted average = 
$$\frac{No.I \times 1 + B.I \times 2 + A.I \times 3 + I \times 4 + V.I \times 5}{Total \cdot Number \cdot of \cdot respondents}$$

The above table reveals that all the respondents consider five attributes which affect on consumer mind for purchasing the smartphone. Brand image has got the highest importance (4.19) and next impotent attributes are performance (3.81), price (3.66), model (3.52) and country of origin (3.41); hence the country of origin is less important attributes to respondents of Bangladesh.

Attitude of consumers towards different attribute of perception of purchasing smartphone based on Fishbein’s Multiattributes Attitude Model.

Table-02: Consumer overall evaluation (ei) and strength of belief (bi) for different brands on the basis of different attributes

Attributes	Nokia			Samsung			Sony			Symphony			Walton		
	ei	bi	eibi	ei	bi	eibi	ei	bi	eibi	ei	bi	eibi	ei	bi	eibi
Model	1.11	4.29	4.7619	1.43	5.86	8.3798	1.16	5.19	6.0204	0.52	4.77	2.4804	0.73	4.75	3.4675
Performance	0.79	4.5	3.555	1.29	5.36	6.9144	0.84	5.03	4.2252	0.4	2.36	0.944	0.86	3.98	3.4228
Brand Image	1.44	5.06	7.2864	1.2	5.57	6.684	1.88	4.91	9.2308	0.33	3.29	1.0857	0.61	3.38	2.0618
Price	0.98	4.47	4.3806	1.31	4.46	5.8426	1.29	4.56	5.8824	0.68	4.12	2.8016	0.52	4.63	2.4076
C: of Origin	0.92	4.46	4.1032	1.65	4.92	8.118	1.57	4.61	7.2377	0.32	2.35	0.752	0.36	3.4	1.224
A0			24.0871			35.9388			32.5965			8.0637			12.5837
Ranks	3			1			2			5			4		

Source: Field Survey

From the above table, it is found that the strength of belief (bi) is measured by having consumer rate in probability of association for each of their salient belief. The belief associate with the belief of evaluation (ei) that is reflected how favorably consumers perceive the attributes. It is clear from the table that the overall attitude of consumers (A0) towards the perception of purchasing smartphone of different brands in Bangladesh on the basis of Fishbein’s Multiattribrutes Attitude Model are: Nokia 24.09, Samsung 35.94, Sony 32.60 Symphony 8.07 and Walton 12.59. So on the basis of findings among the above five brands in Bangladesh Samsung is most favorable position because it received total (eibi) 35.94 on all desire attributes. Sony has next position among the brands by samples. Like these Nokia, Walton, and Symphony place the position third to five respectively based on overall attitude towards object. From the Fishbein’s Model, it can explain overall position of consumers’ attitude toward the individual brand on the basis of different attributes.

The reasons of consumers’ positive attitude towards the smartphone in Bangladesh

Table-03: Reasons of consumers’ positive attitude towards the smartphone

Reasons	No. of Respondents	%
Easy to use	168	84%
Use of different applications and game	144	72%
Capture reading material and store	94	47%
Easy to read different files like pdf, word, excel etc	86	43%
Collecting and sharing everything through wifi and internet	108	54%
Total Number of Respondents	200	100

Source: Field Survey



Consumers must consider the quality of products, when they want to purchase or use the products. The quality of product depends on some influencing factors. The above table showed that 84% respondents has positive attitude to the smartphone only for easy to use. The other reasons for that the respondents showed their positive attitudes to the smartphone are: Use of different applications and game (72%), Collecting and sharing everything through wifi and internet (54%), Capture reading material and store (47%), Easy to read different files like pdf, word, excel etc (43%).

### Test of Hypothesis

Independent Variables	Std. Dev	Calculated Z value	(5% level of significance) Critical z value	Result H <sub>0</sub>
Brand Image	0.40	1.38	1.96	Accepted
Country of origin	1.12	1.34	1.96	Accepted
Price	0.91	1.28	1.96	Accepted

At 5% level of significance, the critical value of z for two tailed test is  $\pm 1.96$ . If the computed value of z is greater than +1.96 or less than -1.96, then reject H<sub>0</sub>, otherwise accept H<sub>1</sub>. Moreover, the above table represents that the three variables are accepted that means there is no significant difference among those variables.

**Hypothesis 1:** It predicts that the brand image has positive influence on consumers' attitude formation. The above table shows that the calculated value of Z (1.38) is less than the table value of Z at 5% level of significance. So the hypothesis holds true. That means H<sub>1</sub> is accepted or higher the brand image, higher the perception of choosing a brand.

**Hypothesis 2:** It predicts that the country of origin has positive influence on consumers' attitude formation. The result indicates a positive relationship between country of origin and favorable attitude of consumers. The above table shows that the calculated value of Z (1.34) is less than the table value of Z at 5% level of significance. So the hypothesis is true. That means H<sub>1</sub> is accepted or when the image of the country from where the product originates is perceived higher, the attitude of consumers towards the brand is positive.

**Hypothesis 3:** Price is one of the impotent factors for Bangladeshi consumers. It predicts that the price has positive influence on consumers' attitude formation. The result indicates a positive relationship between price and favorable attitude of consumers. The above table shows that the calculated value of Z (1.28) is less than the table value of Z at 5% level of significance. So the hypothesis is true. That means H<sub>1</sub> is accepted or price is the important factors for purchasing a product in Bangladesh for different brands.

### **Recommendations**

The recommendations for this study on the basis of above findings are given below:

- (i) The managers can take different strategies such as maintain and develop some the internal and external attributes for the consumers; product differentiation and operate some effective promotional activities etc. for gaining competitive advantages in the market
- (ii) The products of different brands can follow all possible strategies which can add new salient belief about the attitude of customers. If the strength of an existing positive belief increases, the evaluation of that belief will increase.
- (iii) For gaining the competitive advantage in the market for the long time, the marketers should take different marketing strategies on the basis of customization.

### **Conclusion and Limitations of the Study**

This study has been affianced for measuring consumers overall attitude for the perception of purchasing smartphone in Bangladesh. This model is applied on five brands those are widely used in Bangladesh. A considerable five attributes have been selected as determinants of purchasing smartphone. The result has been repeated here that brand image is the most important factors with the consumers. Samsung's bear highest attitude of consumer, Sony is the second most popular brand and symphony is the lowest popular brand in Bangladesh as per the opinion of the consumers. It is to be found that both the internal and external attributes are responsible for building the positive attitude toward the perception of purchasing the smartphone in Bangladesh. So the marketer should consider all the above attributes of a smartphone before selling in the market so that they can enjoy some competitive advantages.

The main limitation of the study is to deliberate only five internal and external attributes/variables for collecting attitude of consumers regarding the perception of purchasing smartphone and other limitations are: the study contemplates only five brands though there are many brands operating in Bangladesh, only three hypotheses are examined and the number of respondent ruminates 200. So if those limitations are overwhelmed, the findings consequence may be different.

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