SANJIDA FARHANA OISHE
Pine Solutions Limited, Bangladesh

CUSTOMERS' BEHAVIOR TOWARDS E-COMMERCE IN BANGLADESH: AN EMPIRICAL STUDY ON SOME SELECTED B2C E-COMMERCE SITES

Abstract:

This study aims at identifying salient attributes of e-commerce sites in Bangladesh. The study tries to assess the perception of customers about the performance of major-e-commerce sites on those attributes. Eighteen potential attributes are preliminarily selected, and after conducting a pre-test on 50 sample respondents eleven salient attributes are selected for the study.

Finally 108 respondents are taken as the study sample. Mertin Fishbein's multi-attribute attitude models adopted to measure the customers' attitude. Respondents were asked their belief and evaluation towards some B2C ecommerce sites. The benchmark of positive belief is hypothesized as 4 in a 5 point scale. The significance of the difference between observed mean of customers' belief and the predetermined benchmark is measured by left tailed Z statistic. It is found that the sample respondents believe that the performance of the B2C e-commerce sites in Bangladesh is up to the benchmark in teams of only two attributes among the eleven. The findings of this study may be used by the existing B2C e-commerce companies as well as

by the future e-commerce entrepreneurs in Bangladesh to establish a quality and customer driven B2C e-commerce industry. Even the customers will be benefitting if the industry considers the findings of the study.

Keywords:

B2C e-commerce, Attitude, Belief, Evaluation

I.   INTRODUCTION

Internet is now an important element for every dimensions of our life such as communication, profession, study, entertainment, shopping, business, travelling, security, governance and everything. Electronic commerce is experiencing rapid growth in Bangladesh. The most commercial use of internet is the development of e-commerce. The internet based economy is the most established virtual reality of the world today. Small retailing to heavy industrial all kinds of business are now growing in the form of e-commerce. Amazon.com, ebay.com, alibaba.com, yahoo, Google, face book are the few examples of success of multibillion Dollar global e-commerce firms. Bangladesh is an emerging developing country in south Asia with annual growth of GDP about 6% (World Bank Country data, 2014).The size of population of Bangladesh is about 154.41 million (Bangladesh Bureau of Statistics, 2015) including 42.766 million internet users (BTRC, 2015).The growth of e-commerce is hardly dependent on the

growth of internet accessibility of people. An increasing number of dealings in global trade are carried through online. Japan, China and India are the most significant e-commerce based economies in the Asian and Pacific area, with an average yearly growing rate of e-commerce turnover of 143 per cent all over the last five years (Roni Bhowmik, 2012). E-commerce is growing in Bangladesh significantly though still it is in childhood period. Hundreds of e-commerce websites are operating their business in Bangladesh. To develop this economically potential industry in the country from the appropriate dimensions of customer's perceptions and requirements, some salient aspects have t be understood quite thoroughly. Because, to make the any offerings accepted to customers, they should be tailored to the needs of customers' preference.

This study is aimed:

i.   To identify the main attributes of B2C e-commerce sites those are mostly important to the e-commerce customers of Bangladesh according to their evaluation to form a perception, and

ii.   To measure the Bangladeshi e-commerce customers' perceptions towards the performance of major B2C e-commerce sites in Bangladesh according to the customers' belief. Completing this research the outcome will help the e-commerce industry to improve performance as customers' desire.

II. LITERATURE REVIEW

Attitude theories illustrate that consumer attitudes towards a product or service will affect consumer behavior or action against these products or services, marketers need to know the attitude of consumers towards the products it markets, and then formulate strategies to influence consumer attitudes.

Online shopping or marketing is the use of technology (i.e., computer, internet) for better marketing performance. And retailers are mixing strategies to meet the demand of online shoppers; they are busy in studying consumer in the field of online shopping, to see the

consumer attitudes towards online shopping and specifically studying the factors influencing consumers to shop online. Consumers' attitude in this regard is influenced by the knowledge about ecommerce sites, perceived reputation and perceived ease of use and the perceived risks regarding security of payment and refund.

Furthermore, in this model Fishbein (1963) says that a person's attitude toward an object is a function of his belief that the object is associated with certain attributes and evaluative responses that connected to that belief. Mathematical formulation of the model of attitude toward the object, by Fishbein

can be formulated as follows:

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

There are different forms of e-commerce based on the type of participants in the transactions. They are Business-to-Consumer (B2C) e-commerce, Business to- Business (B2B) e-commerce, Consumer-to-Consumer (C2C) and Peer-to-Peer (P2P) e-commerce. The use of handheld wireless devices for purchasing goods and services has been termed mobile commerce (m-commerce)

Eight unique features of e-commerce inspire the customers to prefer it rather than traditional business transactions, the features are Ubiquity, Global reach, Universal standards, Richness of different form of information, Interactivity, Information density, Personalization/Customization, and Social

Technology investigated 'Factors Influencing Consumers' Attitude .Towards E-Commerce Purchases Through Online Shopping' and the findings revealed that there is a significant relationship between e-commerce experience and attitude towards online shopping among the respondents($r = - 0.236^{**}$, p 0.05), it is also found that there is a significant relationship between product perception and attitude towards online shopping among the respondents ($r = 0.471^{**}$, $p < 0.01$) and there is also a significant relationship between customers'service and attitude towards online shopping among the respondents ($r = 0.459^{**}$, $p < 0.01$).

Owens and Sarov conducted a research on Determinants of Consumer. Attitudes towards E-commerce where they investigated the influences of various perceived risk, demographic, socioeconomic, and experience factors on consumer behavior online. The findings strongly demonstrate the importance of various socioeconomic and behavioral factors and their significant influence on consumer attitudes towards shopping online. A research initiative was taken by Ashish Bhatt on the Indian consumers' perception on e-commerce website entitled 'Consumer Attitude towards Online Shopping in Selected Regions of Gujarat' which focused on factors which online Indian buyers keep in mind while shopping online that research found that information; perceived usefulness, perceived enjoyment and security/privacy are the five dominant factors which influence consumer perceptions on Online purchasing. Leonard N. K. Lori conducted a research on consumer attitude on C2C e-commerce to find out the

influencing factors of attitude. He examined the risk and trust of buyers and sellers by developing two attitudinal models — attitude towards purchasing (for buyers) and attitude towards selling (for sellers). Collecting 248 survey responses from undergraduate students, the results indicate that both trust of the seller and risk of the seller influence the buyer's attitude towards purchasing, but the model changes for seller's attitude towards selling, trust and attitude are combined into one variable and risk is not found to be an influence.

Vaishalli Nikalje tried to explore show socio-demographic (age, income and occupation), pattern of online buying (types of goods, e-commerce experience and hours use on internet) and purchase perception (product perception, customers' service and consumers' risk) affect consumers' attitude towards online shopping Pune city India and found that five factors among the nine affect consumers' attitude.

III. METHODOLOGY OF THE STUDY

3.1 Variable selection

To identify the principal attributes of e-commerce sites those have major role in forming the perception of Bangladeshi e-commerce customers to the e commerce sites, we conducted a pre-test on 18 preliminary selected attributes with 50 sample customers. We determine the cut off line of 50% that means if at least 50% sample customers think the factor is important for e-commerce site

then that factor was selected for final survey. In the pre-test 11 factors were above the cut-off line, so those 11 factors were selected to measure the customers perception.

TABLE-I

RESULTS OF PRETEST ON PRELIMINARY SELECTED FACTORS

Primary factors	No. of respondents*
Easy information searching opportunity	50 (100%)
Graphical interface of the website	48 (96%)
Product comparison facility	40 (80%)
Diversification of product collection	47 (94%)
Accuracy of delivered product as describe in web	49 (98%)
Less price than physical stores	44 (88%)

Order processing time	42 (84%)
Shipping cost	49 (98%)
Easy and secured payment method	48 (96%)
Return/refund facility if needed	43 (86%)
Activeness of customer care	35 (70%)
Reputation of the company	22 (44%)
Web ranking of the site	13 (26%)
Promotional offers by the site	23 (46%)
Data loading speed of the server	18 (36%)

3.2 Sample Size and Data Collection

To conduct final survey on the selected 11 attributes of e-commerce sites for measuring customers perception 108 people are selected conveniently among whom 82.4% from Dhaka city and remaining 17.6% from out of Dhaka city. The data are collected from the sample respondents through a structured questionnaire. To measure the perception of the respondents on selected 11

attributes of e-commerce site 5 point Likert scale are used.

3.3 Data Analysis

To analyze the collected data from sample respondents different models and statistical tools are used. Firstly to measure the customers' attitude towards ecommerce sites Fishbein Multi-attribute model of attitude measurement is used. According to the model, 11 selected attributes of e-commerce sites are measured from two dimensions, first one is belief (b_i) of customers and second one is evaluation (e_i). That means customers' perception about the performance of a site on the certain attribute and the

perception of importance of that attribute respectively. To identify the significance of the data regarding the belief (b_i) of customers comparing the constructed hypothesis left tailed Z test

is used at 5% significance level. To analyze the demographic data of the respondent and the data on other than the selected 11 variables percentage and cumulative percentage is used. To process the data and extract the essential statistics for aforesaid methodology SPSS 16.0 is used.

IV. HYPOTHESIS CONSTRUCTION

It is already said that the proposed model of this study has two components, belief (bi) and evaluation (ei).These components relate to perception on performance and perception on importance of an attribute. The hypothesis is proposed on the belief (bi).

H0 : A0 = 4≤ .(bi), That means customers belief (perception of performance) about each attribute of online shopping site is good(4 or above in the used five point scale)

Ha : A0 = 4> .(bi), That means customers belief (perception of performance) about each attribute of online shopping site is not good (less than 4 in the used five point scale)

Explanation of Hypothesis

Since 5 is the maximum score of belief (bi) in the used scale (i.e. Likert

scale), so 4 is determined as the standard positive (good) score of belief. That

means if respondents believe that the performance of an online shopping website

based on an attribute is 4 or above in a 5 point scale then it is has established a

good (as established standard) attitude in the customers' mind.

V. RESULTS AND DISCUSSION

5.1 Demographic analysis

The primary data are collected from 108 respondents from different divisional cities of Bangladesh. The demographic attributes of the sample respondents are as follows;

TABLE-II

AGE GROUP BASIS DISTRIBUTION OF THE RESPONDENTS

Age Range	Frequency	Percent	Valid Percent	Cumulative Percent
15-25	60	55.6	55.6	55.6

26-35	48	44.4	44.4	100.00
Total	108	100	100	

Young and young adult peoples are mainly interested to online shopping, for this reason the respondents are selected only from the 15 to 35 age groups. 60 respondents are from 15-25 age group and 48 respondents are from 26-35 age group.

TABLE-III

GENDER   BASIS   DISTRIBUTION   OF   THE   RESPONDENTS

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	73	67.6	67.6	67.6
Female	35	32.4	32.4	100.0
Total	108	100.0	100.0	

Among the total 108 respondents 73 are male and 35 are female.

TABLE-IV

DISTRIBUTION OF THE RESPONDENTS BASED ON EDUCATIONAL

QUALIFICATIONS

Educational Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
HSC	6	5.6	5.6	5.6
Hon's	72	66.7	66.7	72.2
Masters	30	27.8	27.8	100.0
Total	108	100.0	100.0	

Occupational status plays a great role on the customers buying behavior. Among the total respondents 97.2% were students and employees.

TABLE-VI

LOCATION-WISE   DISTRIBUTION   OF   THE   RESPONDENTS

Location	Frequency	Percent	Valid Percent	Cumulative Percent
Dhaka	89	82.4	82.4	82.4
Outside Dhaka	19	17.6	17.6	100.0
Total	108	100.0	100.0	

Bangladesh is a small country in terms of the geographical area, and most of the developments are concentrated in/around the capital city Dhaka. The evolution of e-commerce in Bangladesh is also concentrated to the capital city. So most of the respondents (i.e. 82.4%) are taken from Dhaka city and the remaining 17.6% from out of Dhaka city. From the above demographic data it is observed that the online shopping is mostly preferred by the young aged group and who are educated above Higher

Secondary School. They are staying in Dhaka. In Bangladesh there are many e-commerce websites are now operating. Among those most popular and promising sites are the ones given below

(according to our survey).

TABLE-VII

LIST OF MOST POPULAR AND PROMISING ONLINE SHOPPING SITES IN BANGLADESH

E-commerce websites	Percent (%)	Frequency
ClickBD.com	7.8	9
AjkerDeal.com	9.3	10
Akhoni.com	5.5	6
Bikroy.com	23.5	25
Rokomari.com	18.8	20
Ekhanei.com	12.8	14
OLX.com	8.7	9
Others	13.6	15
Total	100.0	108

According to the response of the respondents of this study to the question "Which website(s) do you visit mostly for e-commerce transactions?" Based on the response of the sample respondents most of the users (23.5%) visits bikroy.com, second most users (18.8%) visits rokomari.com, thirdly (12.8%)

ekhanei.com.

5.2 Media used to access the e-commerce sites

Most of the customers of Bangladesh visit online shopping sites by clicking the link or ad in other websites; especially the ad on Face book.
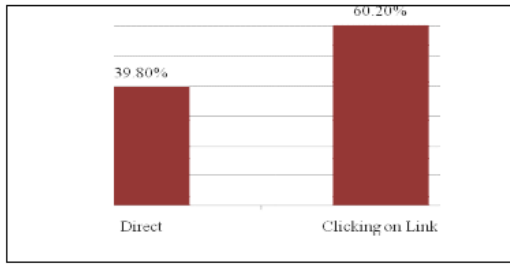
Figure 1: Ways of visiting e-commerce sites by the customers

5.3 Preferred Payment System

One of the biggest fears of online shopping customers of our country is security on payment. And thus the system of Cash on Delivery has become mostly preferred to the customers. Other than this, payment by credit and debit card is preferred by the office going (employees) customers.
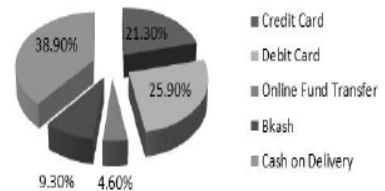
5.4 Attitude towards online shopping

To measure the customers' attitude towards online shopping in Bangladesh Fishbein Multi attribute model are used for attitude measurement, which was developed by Martin A. Fishbein in 1963 and published in his article entitled "An investigation of the relationships between beliefs about an object and the attitude toward that object" in the journal of Human Relations, August 1963, 16:133- 139. This model is constructed based on two factors, one is beliefs about the attributes of an object and another is the evaluation of feelings of the attributes of that object. The Fishbein model is symbolized as follows;

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

Where,

A_o = One's overall attitude towards the object (o)

b_i = The strength of one's belief about attribute (i) or factor of that object

e_i = The evaluation of feelings (goodness or badness) of the attribute (i) or factor of that object

n = The number of attributes considered of that object

i = individual attribute of that object

TABLE-VIII

FACTOR-WISE CUSTOMERS' ATTITUDE TOWARDS E-COMMERCE SITES

S.L.	Attributes of Online Shopping	n = 108		
		b_i	e_i	$b_i e_i$
19.	Easy information searching opportunity	4.47	4.26	19.04
20.	Graphical interface of the website	3.94	3.72	14.66
21.	Product comparison facility	3.60	3.75	13.50
22.	Diversification of product collection	3.48	3.57	12.42
23.	Accuracy of delivered product as described in web	3.44	3.49	12.01
24.	Less price than physical stores	3.83	3.80	14.55
25.	Order processing time	3.63	3.63	13.18
26.	Shipping cost	3.49	3.69	12.88
27.	Easy and secured payment method	3.75	3.76	14.10
28.	Return/refund facility if needed	3.15	2.90	09.14
29.	Activeness of customer care	3.01	3.24	09.75
Total		39.79	39.81	145.23

* **Source**: Field Survey, November 2014
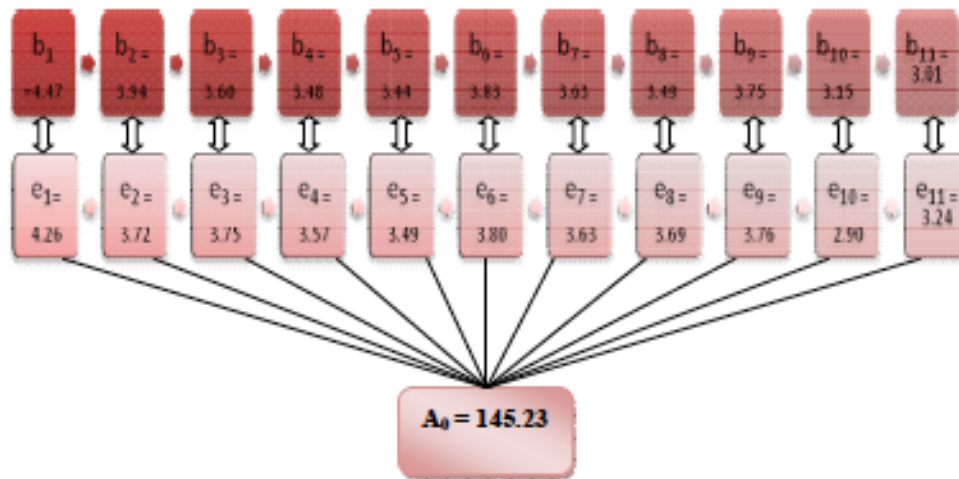
According to the model and the data presented in the above table the overall

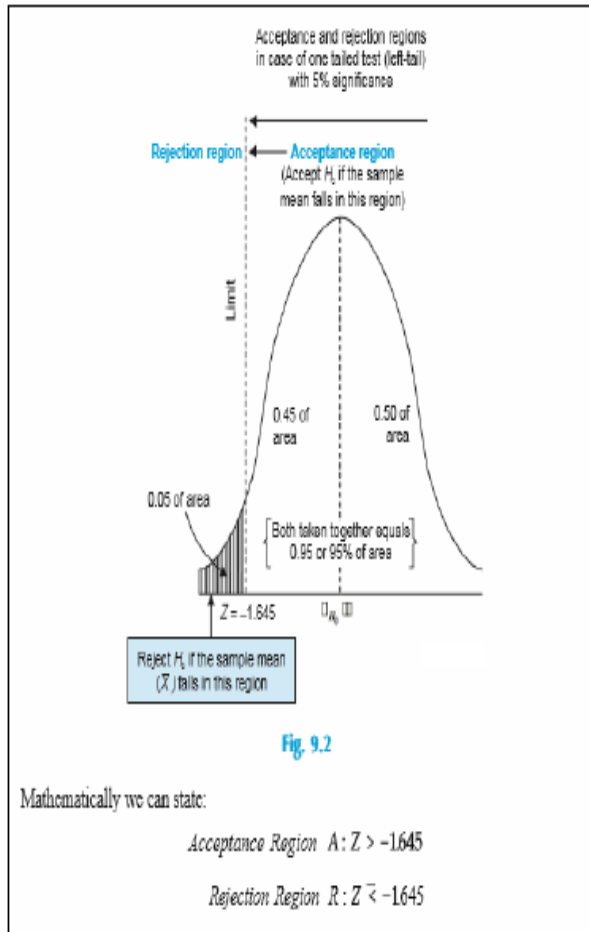attitude of customers to the major online shopping sites in Bangladesh is;

Attitude Online Shopping Sites

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

(4.47)(4.26)+(3.94)(3.72)+(3.60)(3.75)+(3.48)(3.57)+(3.44)(3.49)+(3.83)(3.80)

+(3.63)(3.63)+(3.49)(3.69)+(3.75)(3.76)+(3.15)(2.90)+(3.0)(3.24)

= 19.04+14.66+13.50+12.42+12.01+14.55+13.18++12.88+14.10+9.14+9.75

= 145.23

In the above mentioned model bi indicates the strength of one's belief about attributes (i) or factors of an object based on the respondent actual perception or experience from that object. And ei indicates the evaluation of feelings (goodness or badness) of the attribute (i) or factor of that object based on the perceived importance of that attribute to the respondent. To measure both bi and ei 5 point Likert scale is used in which 1 represents the lowest performance and lowest importance, in cases of bi and ei respectively. And 5 represent the highest performance and highest importance, in cases of bi and ei respectively; and 3 represents the middle of both.

Figure 4 : Acceptance/Rejection region of Z in case of left tailed at 5% sig. level

Acceptance and rejection regions
in case of one tailed test (left-tail)
with 5% significance

Rejection region | ← Acceptance region
(Accept H_1 if the sample
mean falls in this region)

Limit

0.45 of
area

0.50 of
area

0.05 of area

{ Both taken together equals }
0.95 or 95% of area

Z = -1.645 μ_{H_0}

Reject H_1 if the sample mean
($\bar{X}$) falls in this region

Fig. 9.2

Mathematically we can state:

Acceptance Region A : Z > -1.645

Rejection Region R : Z < -1.645

The computed values of Z (for b_i) mentioned in the above table are calculated by using the formula;

The observed attitude A0 = 145.23 and the Hypothesized (expected) attitude

is A0= 159.24.

According to the result of hypothesis test the H0 is rejected at 5%

$$ Z = \frac{\bar{X} - \mu_{H_0}}{\frac{\sigma_{\bar{x}}}{\sqrt{n}}} $$

Where,

$\bar{x} = Sample\ mean$

$\mu_{H_0} = Hypothesized\ Population\ mean$

$\sigma_{\bar{x}} = Standard\ Deviation\ of\ Sample$

$n = Sample\ size$

significance. If we consider factor wise hypothesis only H0 is accepted against

two factors namely Easiness of information searching opportunity and graphical

interface of the website among the eleven factors. Against remaining nine factors

H0 is rejected that means customers belief about those attributes is not favorable.

Figure 5: Factor Wise Customers' Belief about the Performance of E-Commerce Sites

VI. FINDINGS AND RECOMMENDATIONS

Figure 5: Factor Wise Customers' Belief about the Performance of E-Commerce Sites
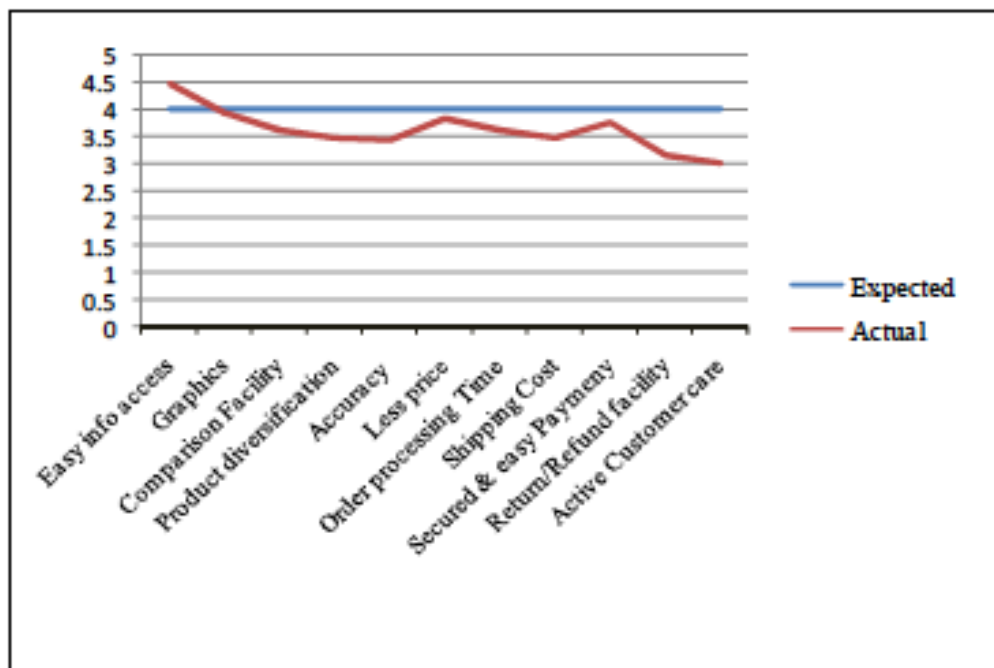
Most of users specifically 60.20 % visit a particular e-commerce website by clicking promoted link or ad on other website they visit like facebook, search engines, public mail servers etc. So e-commerce sites should be promoted on target websites.

Large numbers of customers, 38.90% prefer cash on delivery payment system that means they don't rely on advance payment before receiving the products. But this payment system creates some risks of non-delivery of sent products due the non-payment by the customers. So e-commerce sites should increase their reliability to the customers, they can introduce product return and cash back facilities to minimize this problem.

According to the evaluation (ei) among the eleven attributes of e-commerce site most important attribute is Easy information searching opportunity, second important is Less price than physical stores, thirdly Easy and secured payment method, least important attribute is Return/refund facility if needed and Activeness of customer care. So e-commerce sites should improve their performance based on the most important attributes.

Only on two factors, easy information accessibility and graphics quality of the site among eleven factors H0 is accepted. That means customers formed standard positive belief (04 or above out of 05) on two attributes only. These two attributes are technical performance of website most of the remaining attributes are related to the business performance of the sites. The performances of these remaining nine attributes are not at enough standards to get desired positive perceptions. So e-commerce sites should concentrate their attention to improve the quality of business performance of their sites.

VII. CONCLUSIONS

With the rapid growth of using smart phone, internet and the growth of internet banking and online banking, e-commerce is growing parallel. The Government of Bangladesh also gives priority to development the "digital Bangladesh", which enhances the potentiality of e-commerce here. So a huge opportunity is waiting for e-commerce sites. But the success factors are lying on the capacity of developing e-commerce site based on different important attributes according to the customers' preference. Only the information availability and graphical interface of the website customers' attitude is up to the benchmark and to others researched factors (i.e. product variety, accuracy, price, shipping cost, delivery time, service, refund etc.). Customers' attitude towards ecommerce website of Bangladesh is not enough make to captivate the customers. So the e-commerce entrepreneurs and all others involved with this emerging industry should take customers' attitude seriously for future growth.