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## FACTORS AFFECTING ONLINE PURCHASE BEHAVIOR OF CONSUMERS IN BANGLADESH

### ABSTRACT

The study explored the attributes that affect consumers' online purchase behavior in Bangladesh. Thirty-one attributes grouped into five categories (Product, Price, Accessibility & convenience, Company website, and Quality issues) are considered in the study. A questionnaire survey of 219 online shoppers has been conducted using non-probabilistic convenient sampling techniques. Foremost attributes noted are buying unavailable products, quality assurance, time saving, selective product purchase, and payment method. Other important factors include delivery time, discounts, geographical accessibility, size/ quantity assurance, response time, flexible shopping hours, and a wide range of product availability. Apart from these there are refund policy, warranty issues, delivery cost, salespeople behavior, relatively high price of certain products, satisfactory delivery system, and inventory availability. The least significant factors include activity of online store pages, smart filtering, and privacy. On the other hand, the non-agreeable significant attributes are personal relationships with owners, availability of used products, and no face-to-face interaction. It is noted that the respondents' financial risk avoidance is emphasized by their considerations of payment method, discounts, refund policy, warranty issues, delivery cost, high price. As per group indices, the most influencing group in online purchases is quality issues, closely followed by product, accessibility & convenience and price. Comparatively, a less important group is company websites meaning that the consumers are not technophobic.

**Keywords:** accessibility, convenience, price, product, quality, webstore

**JEL Class:** G4, G5



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## 1. Introduction

The Internet has brought a sweeping revolution in consumer shopping behavior (Katawetawaraks & Wang, 2011). With the advent of Internet, online shopping (also known as e-tail or e-shopping) has become popular in the 90s and most preferred by certain consumer segments for products like cosmetics, books, music, gadgets, etc. (Swaminathan, et al., 1999; Mauldin & Arunachalam, 2002). Though the internet penetration online shopping highly evolved in developed nations, in Bangladesh, online business is still not prevalent (Khatun et al., 2020). However, with the fast pace of digitalization, online retails are rising in number, as well as the number of online products. Some major e-commerce websites in Bangladesh include Daraz (general), Chaldal (groceries), Pickaboo (electronics), and Rokomari.com (books). Other popular platforms are Othoba.com, Evaly, Priyoshop, and Ajkerdeal. These sites offer a wide range of products and services, from electronics and fashion to groceries and books.

Internet shopping has become a popular means in the online world beginning this century (Javadi et al., 2004). Consumers through online shopping can directly buy products using an internet supported web browser. It also provides consumers with more information and choices to compare product and price, more convenient as it is easier to find most things online (Reibstein, 2002). Online shopping is found to provide more satisfaction to consumers seeking convenience and speed (Jayasubramanian et al., 2015). This novel type of shopping brings a great number and wide range of merchandise to consumers, offers a huge market and numerous business opportunities (Guo & Noor, 2011). On the other hand, lack of trust in terms of quality and size, for instance, seems to be the major concern that impedes several consumers from buying online (Gefen et al., 2003; Kim et al., 2008).

People mostly like continuity in their daily lives, including their shopping routine. While the online shopping offers consumers a wide breadth and depth of product offerings, it also requires them to go outside their normal shopping routine (Jusoh & Ling, 2012). Online shoppers need to learn new technology skills to search, evaluate and acquire products. Online shopping innovativeness is a function of attitude towards the online environment and individual personal characteristics (Monuwe' et al., 2004). Innovative consumers are more inclined to try new activities, like online shopping. It is expected that person's domain specific innovativeness has a propensity to shop online (Nysveen & Pedersen, 2004; Kim et al., 2008).

The Internet came late to Bangladesh with the country gaining connectivity in 1996. In the last few years, it has grown considerably (Enam et al., 2024). With approximately 77.36 million Internet users in 2024, representing a 44.5% penetration rate, the local internet industry has been preparing to move into the next stage of its development. On the demand side,

consumers are time pressed. With more consumers becoming increasingly familiar with the internet and its benefits, online shopping is gaining popularity and preference among the consumers, irrespective of gender, who seek better value propositions when compared to brick-and-mortar shopping in terms of information, convenience, cost, and choice (Raman, 2014). Besides, youngsters today love to experiment with new ways of shopping which has also led to the popularity and growth of online shopping (Khatun et al., 2020).

The widespread use of the Internet in Bangladesh has let users carry out numerous online activities today and of those, online purchase, has become prominent. Worldwide, researchers have been trying to find out why consumers tend to buy online products, what factors influence them, and what they look for when buying an online product (Lim et al., 2016). These studies have a major contribution to the e-commerce world, which has been emerging largely. Since Bangladeshi consumers are increasingly interested in online purchase, it is important to understand what affects their online purchase behavior. In that context, this study on factors that affect consumers' online purchase behavior is an important and timely effort for consumers, marketers, and policy makers.

## **2. Objectives**

The broad objective of the study is to explore the factors that influence online purchase behavior of consumers. Specifically, the study tried to find out how product, price, accessibility, convenience, quality and web-based factors affect online consumer buying behavior. In addition, the study also identified impact of demographic features on online buying behavior of consumers.

## **3. Literature Review**

### **3.1. Online shopping attitude**

Online shopping attitude refers to a consumer's psychological state in terms of making online purchases (Bellmen et al., 1999). Online shopping consists of five steps like those associated with traditional shopping behavior. In the typical online shopping process, when potential consumers recognize a need for some merchandise or service, they turn to the internet and search for need-related information. However, rather than searching actively, at times potential consumers are attracted by information about products associated with the felt need. They evaluate alternatives and choose the one that best fits their criteria for meeting the felt need. Finally, a transaction is conducted, and post-sales services are provided.

Koufaris (2002) tested factors which come from information systems, marketing and psychology in one model. Pavlou (2003) studied interrelationships between consumer acceptance of e-commerce and trust, risk, perceived usefulness, and perceived ease of use. Pavlou and Fygenson (2006) examined consumer's adoption of e-commerce with the extended theory of planned behavior. In these research models, consumer behavior was found to be influenced by trust and perceived risk, consumer's attitude, social influence, personal online skills, and technology-oriented factors including perceived usefulness, perceived ease of use and web site features. Also, studies have revealed that online buying behavior is affected by demographics, channel knowledge, perceived channel utility and shopping orientations (Luthuli, 2025).

Studies have revealed that attitude towards online shopping is a significant predictor of making online purchases and purchasing behavior (Lim et al., 2016). Clemons et al. (2016) found that the attributes like convenience, accessibility of global brands, attractive rates and offers, had a significant relationship with attitude toward online shopping. Childers et al. (2001) analysis found that convenience and navigations were reliable predictors of ease of use, and shopping enjoyment. Besides, enjoyment is a strong and consistent predictor of attitude in terms of interactive shopping. It has been found that Planned Behavioral Control (PBC)<sup>1</sup> directly affects online shopping behavior and has a strong relationship with actual Internet purchasing (Ashwini & Manjula, 2016).

### **3.2. *Online purchase intentions***

Online consumer behavior has become a contemporary research area with an increasing number of studies. Novak et al. (1999) identified that factors like product varieties, mismatch between actual and delivered products, sense of intangibility have impact on intention to online purchase. Reibstein (2002) stated that delivery time and search time are the prime factors that affect intention to buy online, and negotiation is another factor which makes greater impact on online shopping. Some research revealed that demographic features have positive influences on purchase intention (Bellman et al., 1999; Raman, 2014).

Nysveen and Pedersen (2004) found that intention to purchase online depends on factors like time saving, less travel of distance, easy payment, customization of products, etc. Mauldin and Arunachalam (2002) identified that certain attributes like long delivery time, speed of the internet, more searching time for a specific product, no negotiation are closely related to intention to purchase the products online. Other studies also revealed that attributes like less variety, anytime shopping, physical evidence have impact on online purchase intention.

### **3.3. *Brick-and-mortar versus online stores***

Compared to physical stores, online stores have numerous advantages. They are convenient and time saving and do not require traveling. They are always open and accessible. These stores provide consumers with free and rich information about products. They also have some online tools to help consumers compare and make purchase decisions among various products (Luarn & Lin, 2003). Today online consumers have more control and bargaining power than consumers of physical stores because the internet offers more interaction between consumers and product providers as well as greater availability of information about products.

Hoffman and Novak (1996) claimed that the internet shifted the balance of power in favor of consumers as it became easy for them to make comparisons and evaluate alternatives without being pressurized by salespeople. Online stores reduce transaction costs and have advantages for both consumers and vendors. However, online stores also have disadvantages compared to brick-and-mortar stores. In online stores, customers cannot use any senses regarding the product they see on the internet (seeing, touching, tasting, smelling, and hearing) as they search for and purchase products. In online stores, consumers may develop low trust and perceive elevated risk highly because of the lack of face-to-face communication (Gefen et al., 2003).

### **3.4. *Perceived risks***

Before purchasing a product, a consumer considers the various risks associated with the purchase. Research suggests that consumers generally prefer to use electronic commerce for purchasing products that do not require physical inspection (Pavlou, 2003). The higher the perceived experience risk, the higher the chances are that the consumer will shift to brick-and-mortar retailers for the purchase of the product and vice versa (Novak et al., 2000). Risks, perceived or real, exist due to technological failure (e.g., breaches in the system) or human error (e.g., data entry mistakes). The most frequently cited risks associated with online shopping include financial risk (e.g., credit card information safety), product risk (e.g., product quality assurance), convenience (e.g., order, return of the merchandise), and non-delivery risk (e.g., product not delivered). The level of uncertainty surrounding the online purchasing process influences consumers' perceptions regarding the perceived risks.

## **4. *Methodology***

The research made use of both primary and secondary data and pertinent literature review. Primary data is collected through a structured self-administered questionnaire by surveying 219 online product purchasers of Bangladesh (significance level of 5%, precision  $\pm$  6.7%,

proportion 0.5). Non-probabilistic convenient and judgmental sampling technique is used to identify the respondents. The secondary data used includes journal articles, reports, and books. A coordination schema is developed focusing on study parameters, complex variables (5), simple variables (32) and values (Appendix 1). Based on the coordination schema the questionnaire is drafted. The questionnaire is designed focusing on the online purchase attributes that affect purchase behavior of the respondents in statement form to rank their perceived concurrence in a 5-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Indifferent, 4: Agree, and 5: Strongly agree). The questionnaire is pretested with 12 respondents for identifying and editing any ambiguous or redundant questions.

The scope of the research is confined to online purchasers of different demographics in Bangladesh. Most responses have been collected from social media pages and social media groups where large numbers of online consumers are found. They were given self-administered questionnaires through Google forms. Other responses include those who agreed to respond to our interview. The questionnaire maintains high face validity in the sense that the questions and options logically relate to the parameters they are supposed to measure. The responses are found reliable (Cronbach's Alpha = 0.787) and consistent. The analysis made use of descriptive and inferential statistics (i.e., T-tests, Chi-square, ANOVA, correlation, regression and factor analysis).

## **5. Analysis and Findings**

### ***5.1. Respondent profile and their online purchase conduct***

#### **Demographic features**

The sample respondents are quite diverse in terms of gender, age, occupation, and income. Of the 219 respondents, 114 were male (52.1%) and 105 females (47.9%). The average age of the respondents is 22.16 years with standard deviation of 5.40 years (Range is 13~69). The age is skewed to right (skewness = +6.4) and quite steep (kurtosis = 52.4). Occupation wise 176 (80.4%) are students, 31 (14.2%) are service holders, 8 (3.7%) are job seekers and 4 (1.8%) are homemakers. Of the total respondents, 8 (4.2%) had monthly income of more than Tk. 100,000 (\$ 833.33), 18 (7.9%) had monthly income between Tk. 50,000–100,000 (\$ 416.67 – \$ 833.33), 19 (40.4%) had between Tk. 25,000–50,000 (\$ 208.33 – \$ 416.67), 63 (36.0%) had monthly income between Tk. 10,000–25,000 (\$ 83.33 – \$ 208.33), and 111 (7.6%) of the respondents had a monthly income less than Tk. 10,000 (\$ 83.33). The average income of the respondents is Tk. 21,625 (\$ 180.21).

### Frequency of online purchases

The frequency of online purchases of the respondents is found to be quite low (Table 1). Most of the purchases are made once a month (18.7%), once in three months (23.7%), once in six months (17.4%), or once a year (26.0%). In few cases purchases are made twice a month (7.8%), or more than twice a month (6.4%). This indicates that online purchases are still in an introductory stage and not yet popular. Also, the reduced purchase frequency can be linked with online financial risk avoidance.

**Table 1**

*Frequency of online purchases*

Online purchase	Frequency	%
More than twice a month	14	6.4
Twice a month	17	7.8
Once a month	41	18.7
Once in 3 months	52	23.7
Once in 6 months	38	17.4
Once a year	57	26.0
Total	219	100.0

### Types of purchased products

The study found that fashion accessories (e.g., watches, bags, wallets, belts, sunglasses, etc.) are the main online purchased products (49.32%) (Table 2). Next to the list are clothing (37.44%), electronic gadgets (28.77%), cosmetics (26.03%), and books (12.79%). Other purchased items include food items, dildos, etc.

**Table 2**

*Types of purchased products*

Types of online purchased products	Frequency	%
a) Cosmetics	57	26.03
b) Clothing	82	37.44
c) Fashion accessories (e.g., watch, bag, wallet, belt, sunglasses, etc.)	108	49.32
d) Electronics gadgets	63	28.77
e) Books	28	12.79
f) Others (Food, Dildos, etc.)	15	6.85
Total respondents	219	100.00

### Price range of purchased products

The price range of products purchased (in each purchase) varies from Tk. 500 (\$ 4.17) to Tk. 2,000 (\$ 16.67) plus (Table 3). In majority cases (38.4%) the purchase varies from Tk. 500 (\$ 4.17) to Tk. 1000 (\$ 8.33), followed by Tk. 1000 (\$ 8.33) to Tk. 1500 (\$ 12.50) (24.2%). But in quite a few cases it varies from Tk. 1500 (\$ 12.50) to Tk. 2000 (\$ 16.67) (14.2%) and above Tk. 2000 (\$16.67) (16.0%). In a few cases the price range is below Tk. 500 (\$ 4.17). All these suggest that the online consumers of Bangladesh are tuned to small retail purchases rather than big expensive ones to minimize financial risks.

**Table 3**

*Price range of purchased products*

Online purchase price range	Frequency	%
a) price range < Tk. 500 (\$ 4.17)	16	7.3
b) Tk. 500 (\$ 4.17) ≤ price range < Tk. 1000 (\$ 8.33)	84	38.4
c) Tk. 1000 (\$ 8.33) ≤ price range < Tk. 1500 (\$ 12.50)	53	24.2
d) Tk. 1500 (\$ 12.50) ≤ price range < Tk. 2000 (\$ 16.67)	31	14.2
e) Tk. 2000 (\$16.67) ≤ price range	35	16.0
Total	219	100.0

### 5.2. Factors influencing online purchase behavior

The respondents are given 32 online shopping attributes (31 specific and 1 overall) in statement form in the questionnaire to rank their perceived concurrence in a 5-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Indifferent, 4: Agree, and 5: Strongly agree). These 31 simple variables are again grouped into five categories (complex variables). In this section analysis of the online shopping influencing factors is made based on simple variables, complex variables, and responses by different demographic groups.

#### 5.2.1. Analysis of simple variables

As noted above, there are 32 online shopping related attributes (31 specific and one overall) in the study. The mean responses of these attributes vary from 2.26 to 4.08, implying that the respondents have concurrences between low (2) and strong (4) regarding these factors (Table 4). The findings show that the mean indices of 26 of the variables are 3 (Indifferent) or above, and 6 variables have values below 3. Further, it is noted that 23 attributes (22 specific and one overall) of 26 of the variables with values 3 or above have indices significantly

different from 3 (Indifferent) at 5% level. On the other hand, three of the six variables with means below 3 are significantly different from 3 at 5% level.

From the significantly agreed attributes the most important ones ( $\mu \geq 3.67$ ) are i) Buy certain products that are not available locally (4.08), ii) Quality assurance (4.04), iii) Time saving (4.04), iv) Selective types of product purchase (4.02), v) Payment method (4.01), vi) Delivery time (3.86), vii) Availability of discounts ( $\mu = 3.82$ ), viii) Geographical accessibility (3.75), ix) Size assurance (3.74), x) Response time (3.74), xi) Flexibility of shopping hours ( $\mu = 3.72$ ), and xii) Wide range of products ( $\mu = 3.72$ ). Importance wise next in the list ( $3.67 > \mu \geq 3.33$ ) are i) Refund policy (3.60), ii) Warranty issues (3.56), iii) Delivery cost ( $\mu = 3.53$ ), iv) Behavior of salespeople ( $\mu = 3.48$ ), v) Relatively high price of certain products ( $\mu = 3.45$ ), vi) Satisfactory delivery system (3.41), and vii) Availability of inventory ( $\mu = 3.35$ ).

From the responses it appears that the respondents perceive that online shopping genuine foreign products are available. They also think that the purchased products are quality assured. Time saving is an important factor that affects online shopping decisions. Payment convenience is another factor that they have highlighted. On the other hand, the least important significant factors ( $\mu < 3.33$ ) are i) Frequency of activity of online store pages ( $\mu = 3.31$ ), ii) Smart filtering ( $\mu = 3.29$ ), and iii) Privacy ( $\mu = 3.25$ ). On the other hand, the significant non-agreeable attributes are i) Personal relationships with owners (2.81), ii) Availability of used products ( $\mu = 2.64$ ), iii) No face-to-face interaction (2.26). These findings also have shown consumers' financial concerns in online shopping by emphasizing payment methods, discounts, refund policy, delivery cost, and high price.

The factors not significantly different from 3 (indifferent) are i) tracking of delivery status (3.12), ii) Lack of bargaining power ( $\mu = 3.10$ ), iii) Festivals ( $\mu = 3.0$ ), iv) Relatively low price of certain products ( $\mu = 2.98$ ), and v) Phone application interface (2.96). Also, it can be noted that the response regarding overall satisfaction ( $\mu = 3.47$ ) and mean of the 31 variables ( $\mu = 3.26$ ) are quite consistent and significant. The detailed analysis is as follows.

**Table 4**

*One-sample statistics of the simple variables*

Factors influencing online purchase decision	$\mu$	$\sigma$	Sig.	Factors influencing online purchase decision	$\mu$	$\sigma$	Sig.
1) Buy certain products that are locally unavailable	4.08	1.150	0.000	17) Relatively high price of certain products	3.45	1.201	0.000
2) Time saving	4.04	1.035	0.000	18) Satisfactory delivery system	3.41	0.901	0.000

Factors influencing online purchase decision	$\mu$	$\sigma$	Sig.	Factors influencing online purchase decision	$\mu$	$\sigma$	Sig.
3) Quality assurance	4.04	1.035	0.000	19) Availability of inventory	3.35	1.120	0.000
4) Selective types of product purchase	4.02	1.018	0.000	20) Frequency of activity of online store pages	3.31	1.162	0.000
5) Payment method	4.01	1.081	0.000	21) Smart filtering	3.29	1.098	0.000
6) Delivery time	3.86	1.004	0.000	22) Privacy	3.25	1.175	0.002
7) Availability of discounts	3.82	1.059	0.000	23) Ability to track delivery	3.12	1.091	0.096
8) Geographical accessibility	3.75	1.089	0.000	24) Lack of bargaining power	3.10	1.230	0.228
9) Size/Weight assurance	3.74	1.142	0.000	25) Festivals	3.00	1.287	0.958
10) Response time	3.74	1.051	0.000	26) Relatively low-price of certain products	2.98	1.137	0.812
11) Flexible shopping hours	3.72	1.142	0.000	27) Phone application interface	2.96	1.091	0.621
12) Wide range of products	3.72	1.093	0.000	28) Wide range of prices	2.89	1.117	0.132
13) Refund policy	3.60	1.220	0.000	29) Personal relationships with owners	2.81	1.361	0.038
14) Warranty issues	3.56	1.149	0.000	30) Availability of used products	2.64	1.216	0.000
15) Delivery cost	3.53	1.190	0.000	31) No face-to-face interaction	2.26	1.234	0.000
16) Behavior of salespeople	3.48	1.224	0.000	32) Overall satisfied with online shopping	3.47	0.869	0.000

### 5.2.2. Analysis of complex group variables

Thirty one simple variables are grouped into five categories: i) Product related, ii) Price related, iii) Accessibility & convenience, iv) Online web-based factors, and v) Quality issues (Table 5). It is found that the most important group (mean index wise) is quality issues ( $\mu = 3.61$ ), closely followed by product related attributes ( $\mu = 3.57$ ), accessibility & convenience ( $\mu = 3.54$ ) and price related attributes ( $\mu = 3.33$ ) groups. The respondents are indifferent to online web-based factors ( $\mu = 2.98$ ). Mean index of five groups is found to be 3.41 ( $\mu = 3.41$ ,  $\sigma = 0.26$ ,  $\alpha = 0.03$ ) which is consistent with overall satisfaction of the respondents ( $\mu = 3.47$ ,  $\sigma = 0.87$ ,  $\alpha = 0.00$ ). Group wise analysis is given below.

**Table 5***Grouping variables*

Group variables	$\mu$	$\sigma$	Sig.	Group variables	$\mu$	$\sigma$	Sig.
<b>Product related</b>	<b>3.57</b>	<b>0.48</b>	<b>0.02</b>	<b>Accessibility &amp; Convenience</b>	<b>3.54</b>	<b>0.40</b>	<b>0.01</b>
1) Purchase certain locally unavailable products	4.08	1.15	0.00	1) Geographical accessibility	3.75	1.09	0.00
2) Purchase selective types of products	4.02	1.02	0.00	2) Flexible shopping hours	3.72	1.14	0.00
3) Wide range of products	3.72	1.09	0.00	3) Satisfactory delivery system	3.41	0.90	0.00
4) Availability of inventory	3.35	1.12	0.00	4) Ability to track delivery status	3.12	1.09	0.10
5) Availability of used products	2.64	1.22	0.00	5) Payment method	4.01	1.08	0.00
6) Product refund policy	3.60	1.22	0.00	6) Smart filtering	3.29	1.10	0.00
7) Product warranty issues	3.56	1.15	0.00	7) Time saving	4.04	1.04	0.00
<b>Price related</b>	<b>3.33</b>	<b>0.39</b>	<b>0.13</b>	8) Festivals	3.00	1.29	0.96
1) Relatively high price of certain products	3.45	1.20	0.00	<b>Quality issues</b>	<b>3.61</b>	<b>0.43</b>	<b>0.02</b>
2) Relatively low-price of certain products	2.98	1.14	0.81	1) Quality assurance	4.04	1.04	0.00
3) Wide range of prices	2.89	1.12	0.13	2) Size/Weight assurance	3.74	1.14	0.00
4) Delivery cost	3.53	1.19	0.00	3) Response time	3.74	1.05	0.00
5) Availability of discounts	3.82	1.06	0.00	4) Delivery time	3.86	1.00	0.00
<b>Online web-based factors</b>	<b>2.98</b>	<b>0.42</b>	<b>0.91</b>	5) Behavior of salespeople	3.48	1.22	0.00
1) Frequency of activity of online store pages	3.31	1.16	0.00	6) Personal relationships with owners	2.81	1.36	0.04
2) Phone application interface	2.96	1.09	0.62	<b>Mean Index of 5 groups</b>	3.41	0.26	0.03
3) Privacy	3.25	1.18	0.00	<b>Overall</b>			
4) No face-to-face interaction	2.26	1.23	0.00	1) Overall satisfied with online shopping	3.47	0.87	0.00
5) Lack of bargaining power	3.10	1.23	0.23				

**Product** In a product group there are seven product related variables. All of them are found important factors except one (availability of used products). Importance wise variables in this group are i) buy certain locally unavailable products ( $\mu = 4.08$ ), ii) purchase selective types of products ( $\mu = 4.02$ ), iii) Wide range of products ( $\mu = 3.72$ ), iv) refund policy ( $\mu = 3.60$ ), v) warranty issues ( $\mu = 3.56$ ), and vi) availability of inventory ( $\mu = 3.35$ ). The study noted that

availability of used products ( $\mu = 2.64$ ) has negative impact on online purchases. The mean index of the product group is found to be 3.57.

**Price** In a price group there are five simple variables. Three of them have mean values above 3 (Indifferent) and two have mean values below three. Importance wise variables in this group are i) availability of discounts ( $\mu = 3.82$ ), ii) delivery cost ( $\mu = 3.53$ ), iii) relatively high price of certain products ( $\mu = 3.45$ ), iv) relatively low price of certain products ( $\mu = 2.98$ ), and vi) wide range of prices ( $\mu = 2.89$ ). As noted, discounts, delivery costs, high/low prices, price range appear to be most important for online purchases implicating financial brunt on online shoppers. The mean index of the product group is found to be 3.33.

**Accessibility & convenience** The third group of accessibility & convenience has eight simple variables. All of them have values 3 or above. Importance wise variables in this group are i) Time saving (4.04), ii) Payment method (4.01), iii) Geographical accessibility (3.75), iv) Flexibility of shopping hours ( $\mu = 3.72$ ), v) Satisfactory delivery system (3.41), vi) Smart filtering ( $\mu = 3.29$ ), vii) tracking of delivery status ( $\mu = 3.12$ ), and festivities ( $\mu = 3.0$ ). The mean index of the product group is found to be 3.54.

**Online web-based factors** The group of online web-based factors have five simple variables. Three of them have mean values above 3 (Indifferent) and two have mean values below three. Importance wise variables in this group are i) Frequency of activity of online store pages ( $\mu = 3.31$ ), ii) Privacy ( $\mu = 3.25$ ), iii) Lack of bargaining power (3.10), iv) Phone application interface ( $\mu = 2.96$ ), and v) No face-to-face interaction (2.26). The mean index of the online web-based factors group is found to be 2.98. As noted, the factors in this group do not have much impact on online purchases meaning the respondents are not technophobic.

**Quality issues** The quality issues group appears to be the most significant of the five categories. This group has six variables. All of them are found important factors except one (Personal relationships with owners). Importance wise variables in this group are i) Quality assurance (4.04), ii) Delivery time (3.86), iii) Size assurance (3.74), iv) Response time (3.74), v) Behavior of salespeople ( $\mu = 3.48$ ), and vi) Personal relationships with owners (2.81). The mean index of the online web-based factors group is found to be 3.61. Also, it can be noted that the response regarding overall satisfaction ( $\mu = 3.47$ ) and mean of the five group variables ( $\mu = 3.41$ ) are quite consistent and significant.

### 5.2.3. Demographic Analysis of the responses

The study has considered the impact of demographic factors on consumer purchase decisions. The demographic features considered include gender, age, income and occupation.

**Gender** The analysis of gender-wise response difference noted that only in four cases a significant response difference is found at 5% level. These are i) Geographical accessibility ( $\mu_{\text{female}} = 3.53$ ,  $\mu_{\text{male}} = 3.96$ ), ii) Behavior of salesperson ( $\mu_{\text{female}} = 3.73$ ,  $\mu_{\text{male}} = 3.25$ ), iii) Relationship with owners ( $\mu_{\text{female}} = 3.00$ ,  $\mu_{\text{male}} = 2.63$ ), and iv) Festivals ( $\mu_{\text{female}} = 3.27$ ,  $\mu_{\text{male}} = 2.76$ ). As noted above, females are more positive regarding behavior of salesperson, relationship with owners, and festivals, but they are less concerned regarding geographical accessibility. Overall, it can be said that gender wise much response difference is not noted.

**Age** A correlation analysis is conducted between age and the 32 variables. The analysis noted that in seven cases a significant relationship is found at 5% level (Table 6). These are i) Quality assurance ( $r = -0.184$ ), ii) Delivery time ( $r = -0.168$ ), iii) Delivery cost ( $r = -0.141$ ), and iv) Availability of discounts ( $r = -0.134$ ), v) Wide range of products ( $r = -0.166$ ), vi) Products not available locally ( $r = -0.188$ ), and vii) Selective products purchase ( $r = -0.146$ ). In each case a negative weak correlation is observed. In these cases, also some financial implications can be observed, especially regarding delivery cost and discount. Hence, it can be said that with age, in seven cases, the response level goes down.

**Table 6**

*Correlation between age and the factors*

Factor	r	Sig.	Factor	r	Sig.
1) Quality assurance	-0.184	0.006	1) Wide range of products	-0.166	0.014
2) Delivery time	-0.168	0.013	2) Products not available locally	-0.188	0.005
3) Delivery cost	-0.141	0.037	3) Selective products purchase	-0.146	0.031
4) Availability of discounts	-0.134	0.047			

**Income** A correlation analysis is conducted between income and the 32 variables. The analysis noted that in six cases a significant relationship is found at 5% level (Table 7). These are i) Lack of bargaining scope ( $r = -0.162$ ), ii) Relatively high price of certain products ( $r = -0.150$ ), iii) Behavior of salespersons ( $r = -0.157$ ), iv) Tracking of delivery status ( $r = -0.145$ ), v) Availability of used products ( $r = -0.188$ ), and vi) Activity of online store pages ( $r = -0.152$ ). In each case a negative weak correlation is observed. It can be noted that high prices of certain products and bargaining scope are concerns for senior consumers, which can have some impact on online shopping environment. Overall, it can be said that the consumers' financial capability has not much influence on online purchase behavior.

**Table 7***Correlation between income and the factors*

Factor	r	Sig.	Factor	r	Sig.
1) Lack of bargaining scope	-0.162	0.017	4) Tracking of delivery status	-0.145	0.031
2) Relatively high price of certain products	-0.150	0.026	5) Availability of used products	-0.188	0.005
3) Behavior of salespersons	-0.157	0.020	6) Activity of online store pages	-0.152	0.025

**Occupation** As noted, occupation wise majority of the respondents in the study are students (176, 80.37%) and service holders (31, 14.16%). Hence, the study tried to see if there is any mean response difference between these two groups. It is noted that only in four cases the mean response difference is observed. These are: i) Flexibility of shopping hours ( $\mu_{\text{student}} = 3.69$ ,  $\mu_{\text{service}} = 4.26$ ), ii) Response time ( $\mu_{\text{student}} = 3.70$ ,  $\mu_{\text{service}} = 4.06$ ), iii) Availability of used products ( $\mu_{\text{student}} = 2.71$ ,  $\mu_{\text{service}} = 2.19$ ), and iv) Smart filtering ( $\mu_{\text{student}} = 3.22$ ,  $\mu_{\text{service}} = 3.74$ ). Overall, it can be said that occupation wise much mean response difference is not noted.

## 6. GROUPING BY FACTOR ANALYSIS

### 6.1. Factor Analysis

Factor analysis<sup>2</sup> is conducted on the data to select grouping of variables under common premises. The result grouped the 31 variables into 11 factors that explained 64.15% of the total variance (Table 8). The factor analysis of 31 variables with 219 sample<sup>3</sup> is found adequate (KMO = 0.679  $\geq$  0.5) and valid (Bartlett's test of sphericity significance level = 0.000). The communalities<sup>4</sup> of the variables that constitute the factors, are found to be very strong, which indicates strong relationships among the variables (Appendix 2).

**Table 8***Total Variance Explained*

Factors	Initial Eigenvalues		
	Total	Variance (%)	Cumulative %
1) Responsiveness & Accessibility	4.615	14.886	14.886
2) Product-price range	2.858	9.219	24.105
3) Warranty terms	2.042	6.586	30.691

Factors	Initial Eigenvalues		
	Total	Variance (%)	Cumulative %
4) Conformance	1.757	5.667	36.358
5) Exceptional cases	1.538	4.963	41.321
6) Courtesy & Convenience	1.363	4.398	45.719
7) Time efficiency	1.270	4.098	49.817
8) Unique products	1.185	3.824	53.641
9) Flexibility & Convenience	1.163	3.751	57.392
10) Confidentiality/ No peer pressure	1.066	3.438	60.830
11) Privacy	1.029	3.318	64.148

The high factors loadings<sup>5</sup> in each of the 11 factors show a strong correlation between the factors and the corresponding variables (Table 9). As noted, the first factor (Responsiveness & Accessibility) consists of five of thirty one variables and appears to be the most important as it explains 14.886% of the variability. The second important factor (Product-price range) explains 9.219% of the variability and consists of five variables. The third one (Warranty terms) consisting of two variables explains 6.586% of the variability. The fourth (Conformance), fifth (Exceptional cases), sixth (Courtesy & Convenience) and seventh (Time efficiency) factor explain 5.667%, 4.963%, 4.398%, and 4.098% respectively. The remaining factors explain very little variability. Further it is noted that the variables under eleven factors and the variables under six groups (complex variables) formed in the schema are quite similar and consistent.

**Table 9**

*Factors with corresponding variables*

Factors with variables ( $\sigma^2$ )	Factor loading	Factors with variables ( $\sigma^2$ )	Factor loading
<b>Factor 1: Responsiveness &amp; Accessibility (<math>\sigma^2 = 14.886\%</math>)</b>		<b>Factor 6: Courtesy &amp; Convenience (<math>\sigma^2 = 4.398\%</math>)</b>	
1) Response time	0.739	1) Behavior of salespeople	0.674
2) Delivery time	0.735	2) Payment method	0.633
3) Geographical accessibility	0.596	3) Lack of bargaining scope	-0.627

Factors with variables ( $\sigma^2$ )	Factor loading	Factors with variables ( $\sigma^2$ )	Factor loading
4) Delivery cost	0.492	<b>Factor 7: Time efficiency (<math>\sigma^2 = 4.098\%</math>)</b>	
5) Tracking of delivery status	0.490	1) Time saving	0.732
<b>Factor 2: Product &amp; price range (<math>\sigma^2 = 9.219\%</math>)</b>		2) Smart filtering	0.724
1) Wide range of prices	0.710	<b>Factor 8: Unique products (<math>\sigma^2 = 3.824\%</math>)</b>	
2) Wide range of products	0.651	1) Certain products that are unavailable locally	0.682
3) Availability of discounts	0.532	2) Selective types of product purchase	0.645
4) Availability of inventory	0.508	<b>Factor 9: Flexibility &amp; Convenience (<math>\sigma^2 = 3.751\%</math>)</b>	
5) Frequency of activity on online store pages	0.407	1) Flexibility of shopping hours	0.700
<b>Factor 3: Warranty terms (<math>\sigma^2 = 6.586\%</math>)</b>		2) Satisfaction with delivery system	0.670
1) Warranty issues	0.850	<b>Factor 10: Confidentiality/ No peer pressure (<math>\sigma^2 = 3.438\%</math>)</b>	
2) Refund policy	0.841	1) No face-to-face interaction	0.843
<b>Factor 4: Conformance (<math>\sigma^2 = 5.667\%</math>)</b>		<b>Factor 11: Privacy (<math>\sigma^2 = 3.418\%</math>)</b>	
1) Size assurance	0.822	1) Privacy	0.693
2) Quality assurance	0.713	2) Certain products have relatively low price	-0.638
3) Relatively high price of certain products	0.581	Notes:	
<b>Factor 5: Exceptional/Unique cases (<math>\sigma^2 = 4.963\%</math>)</b>		Extraction Method: Principal Component Analysis.	
1) Festivals	0.710	Rotation Method: Varimax with Kaiser Normalization.	
2) Personal relationship with owners	0.656	Rotation converged in 11 iterations.	
3) Availability of used products	0.620		
4) Phone application interface	0.466		

## 6.2. Regression Analysis with Factors

Factor analysis has identified eleven factors as independent variables. Associated with these factors are thirty one variables which independently affect the overall satisfaction level of online purchase decisions. A regression analysis (both enter and stepwise method) is conducted taking these factors as the independent variable and the “Overall satisfaction of online purchase” as the dependent one (Table 10). The model is found significant (0.000) with an adjusted  $r^2$  of 23.4%. Regression factors 1, 3, 5, 6, 11 are found insignificant at 5% level. One factor has a negative coefficient (Factor 4). Coefficientwise the contributory factors in descending order are 9 (0.325), 8 (0.158), 7 (0.146), 10 (0.137), 2 (0.125), and 4 (-0.112).

**Table 10**

*Regression model with eleven factors*

REGR factor	Factor labels	Coefficients	Standardized Coefficients	Significance (p-value)
(Constant)		3.466	–	0.000
REGR factor score 1	Responsiveness & Accessibility	0.009	0.010	0.867
REGR factor score 2 *	Product-price range	0.125	0.144	0.016
REGR factor score 3	Warranty terms	-0.025	-0.029	0.628
REGR factor score 4 *	Conformance	-0.112	-0.129	0.031
REGR factor score 5	Exceptional cases	-0.001	-0.001	0.985
REGR factor score 6	Courtesy & Convenience	-0.076	-0.088	0.139
REGR factor score 7 *	Time efficiency	0.146	0.168	0.005
REGR factor score 8 *	Unique products	0.158	0.182	0.002
REGR factor score 9 *	Flexibility & Convenience	0.325	0.374	0.000
REGR factor score 10 *	Confidentiality/ No peer pressure	0.137	0.158	0.008
REGR factor score 11	Privacy	0.017	0.020	0.737
N.B.: Dependent variable: Overall satisfaction, * Significant at 5% level				

## 7. Summary, Conclusions and Recommendations

Despite being heavily popular worldwide, the number of online businesses in Bangladesh is still very low in number. The paper tried to identify the factors affecting consumers’ online purchase decisions. Specifically, the study tried to find out how product, price, accessibility, convenience, quality and online store websites affect online consumer buying behavior. The

research made use of both primary and secondary data and pertinent literature review. Primary data is collected through a structured self-administered questionnaire by surveying 219 online product purchasers of Bangladesh. Non-probabilistic convenient and judgmental sampling technique is used to identify the respondents.

A coordination schema is developed focusing on study parameters, complex variables (5), simple variables (32) and values. Based on the coordination schema the questionnaire is drafted focusing on the online purchase influencing attributes in a 5-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Indifferent, 4: Agree, and 5: Strongly agree). The questionnaire maintains high face validity in the sense that the questions and options logically relate to the parameters they are supposed to measure. The responses are found reliable (Cronbach's Alpha = 0.787) and consistent. The analysis made use of descriptive and inferential statistics. T-tests, Chi-square, ANOVA, correlation, regression and factor analysis are used in the study.

Out of the 219 respondents, 114 were male (52.1%) and 105 females (47.9%). The average age of the respondents is 22.16 years. Occupation wise 176 (80.4%) are students, 31 (14.2%) are service holders, 8 (3.7%) are job seekers and 4 (1.8%) are homemakers. Out of the total number of respondents, 8 (4.2%) had monthly income of more than Tk. 100,000 (\$ 833.33), 18 (7.9%) had monthly income between Tk. 50,000–100,000 (\$ 416.67 – \$ 833.33), 19 (40.4%) had between Tk. 25,000–50,000 (\$ 208.33 – \$ 416.67), 63 (36.0%) had monthly income between Tk. 10,000–25,000 (\$ 83.33 – \$ 208.33), and 111 (7.6%) of the respondents had a monthly income less than Tk. 10,000 (\$ 83.33). The average income of the respondents is Tk. 21,625 (\$ 180.21).

The frequency of online purchases of the respondents is found to be quite low. Most of the purchases are made once a month (18.7%), once in three months (23.7%), once in six months (17.4%), or once a year (26.0%). In few cases purchases are made twice a month (7.8%), or more than twice a month (6.4%). This indicates that online purchases are still in an introductory stage and not yet popular. The study found that fashion accessories (e.g., watches, bags, wallets, belts, sunglasses, etc.) are the main online purchased products (49.32%). Next to the list are clothing (37.44%), electronic gadgets (28.77%), cosmetics (26.03%), and books (12.79%). Other purchased items include food items, dildos, etc.

The price range of products (in each purchase) varies from Tk. 500 (\$ 4.17) to Tk. 2,000 (\$ 16.67) +. In majority cases (38.4%) the purchase varies from Tk. 500 (\$ 4.17) to Tk. 1000 (\$ 8.33), followed by (24.2%) Tk. 1000 (\$ 8.33) to Tk. 1500 (\$ 12.50). But in quite a few cases (14.2%) it varies from Tk. 1500 (\$ 12.50) to Tk. 2000 (\$ 16.67) and above Tk. 2000 (\$ 16.67)

(16.0%). In a few cases the price range is below Tk. 500 (\$ 4.17). All these aspects suggest that the online consumers of Bangladesh are tuned to small retail purchases rather than big expensive ones.

The respondents are given thirty two online shopping attributes (31 specific and 1 overall) in a statement form to rank their perceived concurrence in a 5-point Likert scale (1: Strongly disagree, 2: Disagree, 3: Indifferent, 4: Agree, and 5: Strongly agree). The mean responses of these attributes vary from 2.26 to 4.08, implying that the respondents have concurrences between low (2) and strong (4) regarding these factors. The mean indices of twenty six variables are 3 (Indifferent) or above and 6 variables have values below 3. Further, it is noted that twenty three of the attributes (22 specific and one overall) of 26 of the variables with values 3 or above have indices significantly different from 3 (Indifferent) at 5% level. On the other hand, three of the six variables with means below 3 are significantly different from 3 at 5% level.

Our of the significantly agreed attributes the most important ones ( $\mu \geq 3.67$ ) are i) Buy certain products that are not available locally (4.08), ii) Quality assurance (4.04), iii) Time saving (4.04), iv) Selective types of product purchase (4.02), v) Payment method (4.01), vi) Delivery time (3.86), vii) Availability of discounts ( $\mu = 3.82$ ), viii) Geographical accessibility (3.75), ix) Size assurance (3.74), x) Response time (3.74), xi) Flexibility of shopping hours ( $\mu = 3.72$ ), and xii) Wide range of products ( $\mu = 3.72$ ). Importance wise next in the list ( $3.67 > \mu \geq 3.33$ ) are i) Refund policy (3.60), ii) Warranty issues (3.56), iii) Delivery cost ( $\mu = 3.53$ ), iv) Behavior of salespeople ( $\mu = 3.48$ ), v) Relatively high price of certain products ( $\mu = 3.45$ ), vi) Satisfactory delivery system (3.41), and vii) Availability of inventory ( $\mu = 3.35$ ).

From the responses, it appears that the respondents perceive that genuine foreign products are available in online shops and the products are quality assured. Time saving is an important factor that affects online shopping decisions. Payment convenience is another factor that they have highlighted. On the other hand, the least important significant factors ( $\mu < 3.33$ ) are i) Frequency of activity of online store pages ( $\mu = 3.31$ ), ii) Smart filtering ( $\mu = 3.29$ ), and iii) Privacy ( $\mu = 3.25$ ). On the other hand, the significant non-agreeable attributes are i) Personal relationships with owners (2.81), ii) Availability of used products ( $\mu = 2.64$ ), iii) No face-to-face interaction (2.26).

The factors not significantly different from 3 (indifferent) are i) tracking of delivery status (3.12), ii) Lack of bargaining power ( $\mu = 3.10$ ), iii) Festivals ( $\mu = 3.0$ ), iv) Relatively low price of certain products ( $\mu = 2.98$ ), and v) Phone application interface (2.96). Also, it can be

noted that the response regarding overall satisfaction ( $\mu = 3.47$ ) and mean of the thirty one variables ( $\mu = 3.26$ ) are quite consistent and significant.

Thirty one simple variables are grouped into five categories: i) Product, ii) Price, iii) Accessibility & convenience, iv) Online web-based factors, and v) Quality issues. It is found that mean index wise the most important group is quality issues ( $\mu = 3.61$ ), closely followed by product ( $\mu = 3.57$ ) and accessibility & convenience ( $\mu = 3.54$ ) groups. Comparatively less important groups are price ( $\mu = 3.33$ ) and online web-based factors ( $\mu = 2.54$ ).

In a product group all the seven product related variables are found important factors except one, (availability of used products). Importance wise variables in this group are i) buy certain locally unavailable products ( $\mu = 4.08$ ), ii) purchase selective types of products ( $\mu = 4.02$ ), iii) Wide range of products ( $\mu = 3.72$ ), iv) refund policy ( $\mu = 3.60$ ), v) warranty issues ( $\mu = 3.56$ ), and vi) availability of inventory ( $\mu = 3.35$ ). The study noted that availability of used products ( $\mu = 2.64$ ) has negative impact on online purchases.

In a price group there are five simple variables. Three of them have mean values above 3 (Indifferent) and two have mean values below three. Importance wise variables in this group are i) availability of discounts ( $\mu = 3.82$ ), ii) delivery cost ( $\mu = 3.53$ ), iii) relatively high price of certain products ( $\mu = 3.45$ ), iv) relatively low price of certain products ( $\mu = 2.98$ ), and vi) wide range of prices ( $\mu = 2.89$ ). As noted, discounts appear to be most important for online purchases.

The third group, accessibility & convenience, has eight simple variables and all of them have values 3 or above. Importance wise variables in this group are i) Time saving (4.04), ii) Payment method (4.01), iii) Geographical accessibility (3.75), iv) Flexibility of shopping hours ( $\mu = 3.72$ ), v) Satisfactory delivery system (3.41), vi) Smart filtering ( $\mu = 3.29$ ), vii) tracking of delivery status ( $\mu = 3.12$ ), and festivities ( $\mu = 3.0$ ).

The group of online web-based factors have five simple variables. Three of them have mean values above 3 (Indifferent) and two have mean values below three. Importance wise variables in this group are i) Frequency of activity of online store pages ( $\mu = 3.31$ ), ii) Privacy ( $\mu = 3.25$ ), iii) Lack of bargaining power (3.10), iv) Phone application interface ( $\mu = 2.96$ ), and v) No face-to-face interaction (2.26). As noted, the factors in this group do not have much impact on online purchases.

The quality issues group appears to be the most significant of the five categories. This group has six variables. All of them are found important factors except one (Personal relationships with owners). Importance wise variables in this group are i) Quality assurance (4.04), ii) Delivery time (3.86), iii) Size assurance (3.74), iv) Response time (3.74), v) Behavior

of salespeople ( $\mu = 3.48$ ), and vi) Personal relationships with owners (2.81). Also, it can be noted that the response regarding overall satisfaction ( $\mu = 3.47$ ) and mean of five group variables ( $\mu = 3.41$ ) are quite consistent and significant.

The gender-wise response difference noted that in only four cases a significant response difference is found. These are i) Geographical accessibility ( $\mu_{\text{female}} = 3.53$ ,  $\mu_{\text{male}} = 3.96$ ), ii) Behavior of salesperson ( $\mu_{\text{female}} = 3.73$ ,  $\mu_{\text{male}} = 3.25$ ), iii) Relationship with owners ( $\mu_{\text{female}} = 3.00$ ,  $\mu_{\text{male}} = 2.63$ ), and iv) Festivals ( $\mu_{\text{female}} = 3.27$ ,  $\mu_{\text{male}} = 2.76$ ). Here, females are found more positive regarding behavior of salesperson, relationship with owners, and festivals, but they are less concerned regarding geographical accessibility. Overall, it can be said that gender wise much response difference is not noted.

Correlation between age and the variables (32) noted that in seven cases a negative weak significant relationship is found. These are i) Quality assurance ( $r = -0.184$ ), ii) Delivery time ( $r = -0.168$ ), iii) Delivery cost ( $r = -0.141$ ), and iv) Availability of discounts ( $r = -0.134$ ), v) Wide range of products ( $r = -0.166$ ), vi) Products not available locally ( $r = -0.188$ ), and vii) Selective products purchase ( $r = -0.146$ ). Hence, it can be said that with age the response level goes down.

Correlation between income and the variables (32) noted that in six cases a negative weak significant relationship is found. These are i) Lack of bargaining scope ( $r = -0.162$ ), ii) Relatively high price of certain products ( $r = -0.150$ ), iii) Behavior of salespersons ( $r = -0.157$ ), iv) Tracking of delivery status ( $r = -0.145$ ), v) Availability of used products ( $r = -0.188$ ), and vi) Activity of online store pages ( $r = -0.152$ ). Hence, it can be said that with increase in income the response level goes down.

As noted, occupation wise majority of the respondents in the study are students and service holders. Hence, the study tried to see if there is any mean response difference between these two groups. It is noted that only in four cases the mean response difference is observed. These are: i) Flexibility of shopping hours ( $\mu_{\text{student}} = 3.69$ ,  $\mu_{\text{service}} = 4.26$ ), ii) Response time ( $\mu_{\text{student}} = 3.70$ ,  $\mu_{\text{service}} = 4.06$ ), iii) Availability of used products ( $\mu_{\text{student}} = 2.71$ ,  $\mu_{\text{service}} = 2.19$ ), and iv) Smart filtering ( $\mu_{\text{student}} = 3.22$ ,  $\mu_{\text{service}} = 3.74$ ). Overall, it can be said that occupation wise much mean response difference is not noted.

The study found that the respondents' financial risk avoidance is accentuated by their reflections of payment method, discounts, refund policy, warranty issues, delivery cost, and high price. As noted, discounts, delivery costs, high/low prices, price range appear to be most important attributes for online purchases implicating financial brunt on online shoppers. Also, the reduced purchase frequency can be linked with online financial risk avoidance. In addition,

small retail purchases rather than big expensive ones lead to minimizing financial risks for the consumers. The study has considered the impact of demographic factors (i.e., gender, age, income and occupation) on consumer purchase decisions. Age wise, some financial implications, especially delivery cost and discount are observed. It is noted that high prices of certain products and bargaining scope are concerns for senior consumers, which can have some impact on online shopping environment.

Factor analysis is conducted on the data to group the variables under common premises. The results showed that thirty one variables are grouped into eleven factors explaining 64.15% of the total variance. The factor analysis of thirty one variables with 219 sample is found adequate and valid. The communalities of the variables that constitute the factors are found to be very strong, which indicates strong relationships among the variables. The high factor loadings in each of the eleven factors show a strong correlation between the factors and the corresponding variables.

As noted, the first factor (Responsiveness & Accessibility) consists of five of thirty one variables and appears to be the most important as it explains 14.886% of the variability. The second important factor (Product-price range) explains 9.219% of the variability and consists of five variables. The third one (Warranty terms) consisting of two variables explains 6.586% of the variability. The fourth (Conformance), fifth (Exceptional cases), sixth (Courtesy & Convenience) and seventh (Time efficiency) factor explain 5.667%, 4.963%, 4.398%, and 4.098% respectively. The other factors explain very little variability. Further, it is noted that the variables under eleven factors and the variables under five groups (complex variables) formed in the schema are quite similar and consistent.

## Notes

1. Planned/Perceived Behavioral Control (PBC) refers to an individual's perception of the ease or difficulty of performing a specific behavior. It is a key factor, along with attitude and subjective norms, in determining a person's intention to engage in a behavior and can also directly influence the behavior itself.
2. Factor Analysis is a type of analysis used to discern the underlying dimensions or regularity in a phenomenon. Its general purpose is to summarize the information contained in many variables into a smaller number of factors. It is an interdependence technique in which all variables are simultaneously considered.
3. Ideally the sample size should be at least 150 (subject to variable ratio greater than 5). The factor analysis of 31 variables with 219 samples is found adequate (KMO test result =  $0.679 \geq 0.5$ ) and valid (Bartlett's test of sphericity indicates a significance level of 0.000).
4. Communality refers to a measure of the percentage of a variable's variation that is explained by the factors. It is the amount of variance an original variable shares with all other variables included in the analysis. A relatively higher communality indicates that a variable has much in common with the other variables taken as a group.
5. 'Factor Loading' is a measure of the importance of the variable in measuring each factor. It is used for interpreting and labeling a factor. It is the correlation between the original variables and the factors, and key to understanding the nature of a factor.

## APPENDICES

### Appendix I

#### *Coordination Schema*

Parameter	Complex variable	Simple variable	Value
<b>Factors that influence consumers' online purchase decision</b>	Product related	1) Purchase certain locally unavailable products	Likert Scale
		2) Purchase selective types of products	
		3) Wide range of products	
		4) Availability of Inventory	
		5) Availability of used/refurbished product	
		6) Warranty Issues	
		7) Refund Policy	
	Price related	1) Relatively high price of certain product	Likert Scale
		2) Relatively low price of certain product	
		3) Wide range of prices	
		4) Delivery cost	
		5) Availability of discounts	
	Online web-based factors	1) Frequency of activity of online store pages	Likert Scale
		2) Phone application interface	
		3) Privacy	
		4) No face-to-face interaction	
		5) Lack of bargaining power	
	Accessibility & Convenience	1) Geographical accessibility	Likert Scale
		2) Flexible shopping hours	
		3) Satisfactory delivery system	
		4) Ability to track delivery status	
		5) Payment method	
		6) Smart filtering	
		7) Time saving	
		8) Festivals	
	Quality issues	1) Quality assurance	Likert Scale
		2) Size/Weight assurance	
		3) Response time	
4) Delivery time			
5) Behavior of salespeople			
6) Personal relationships with owners			
Overall	Overall satisfaction with online shopping	Likert Scale	

**Appendix 2***Communalities*

<b>Variables</b>	<b>Extraction</b>	<b>Variables</b>	<b>Extraction</b>
1) Lack of Bargaining scope	0.637	17) Payment method	0.637
2) Geographical accessibility	0.568	18) Personal relationship with owners	0.634
3) Quality assurance	0.702	19) Ability to track delivery status	0.559
4) Size assurance	0.726	20) Festivals	0.673
5) Refund policy	0.790	21) Availability of used products	0.459
6) Warranty issues	0.784	22) Frequency of activity of online store pages	0.586
7) Privacy	0.675	23) Wide range of prices	0.640
8) Flexibility of shopping hours	0.693	24) Wide range of products	0.582
9) Relatively high price of certain products	0.544	25) Certain products are unavailable locally	0.639
10) Response time	0.683	26) Time saving	0.645
11) Delivery time	0.667	27) Smart filtering	0.633
12) Delivery cost	0.620	28) Certain products have relatively low price	0.681
13) Phone application interface	0.529	29) No face-to-face interaction	0.745
14) Behavior of salespeople	0.616	30) Selective types of products purchase	0.626
15) Availability of discounts	0.512	31) Satisfaction with delivery system	0.716
16) Availability of inventory	0.686	Extraction Method: Principal Component Analysis.	

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