

# **Analysis of Challenging Factors of E-commerce Industry in Bangladesh: A Case Study**

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## **Abstract**

Due to competition a good number of E-commerce sites are trying to improve their systematic infrastructure according to customers' choices. Coping up with this, E-commerce companies are facing challenges in the business environment of Bangladesh. Our study is to analyze the challenges of our current e-commerce sector in Bangladesh from both customer and company point of view. From the secondary data, seven challenging factors (customers' point of view) and seven challenging factors (company' spoint of view) were selected. Firstly, two different surveys were launched and Likert scale was analyzed. By one sample t-test, some challenges were rejected due to their low significance value. The RI (Relative importance index) method was applied for the rest of the factors. According to the RII value, challenging factors were ranked. In both perspectives, Trust factor has been ranked as the most significant challenge. Other factors such as product quality, price issue etc. (customers' perspective) and strategic issues, transportation issues etc. (Company's perspective) have been ranked as very important challenges. Necessary steps should be taken to overcome these challenges according to their importance.

## **Keywords**

E-commerce, Industry, Challenges, Environment, Bangladesh.

## **1. Introduction**

E-commerce has made big changes in the business of Bangladesh. Between 2000 and 2008 and began to grow slowly and steadily. E-cab Bangladesh estimates that there are 2000 e-commerce sites and around 50,000 face-book based outlets delivering almost 30,000 products per day (Bangladesh - eCommerce | Privacy Shield n.d). In Dhaka, Chattogram, and Gazipur, online sales account for 80% of total sales (Khan S.S. 2020). Online transaction systems have become more prevalent in Bangladesh over time because of the advancement of technologies and internet connectivity. Now consumer has found the multiple smart options to pay through credit card, debit card services and digital wallet as well as cash on delivery system. Urban areas have seen a rise in B2C (business to customer) websites due to the popularity of expanding online food delivery services. Evensome e-commerce platforms enable Bangladeshi customers to buy goods from foreign countries (Khan S.S. 2020). C2C businesses are also growing. In Bangladesh, a number of B2B websites specialize in offering manufacturing and supply-chain solutions. Due to advancement of digital marketing many companies provide services to abroad. (Bangladesh - eCommerce | Privacy Shield n.d.).

Though there are a rapid growing number of e-commerce industries, the business environment of Bangladesh is still not flexible to establish new companies. Some e-commerce companies have lost their momentum. Often customers are being the victim of fraudulent behavior through some illegal manner of companies. They got attracted by the unethical and unreal offers and motivated to buy from the platform. In the case of a particular company, one of the most popular and growing e-commerce sites attract a section of customers by offering different products at nearly half the market price, but on condition of delayed delivery and advance payment after its 2018 launch (Troubled online marketplace Evaly 'forcing' workers out 2021). As many of the customers' wait for the products, the company was accused of tricking the clients into making advance payment and the company made the customers to engage with them (Troubled online marketplace Evaly 'forcing' workers out 2021). And a handful companies have also shown the same scenario.

Only 22% of total internet users are using online channel to purchase and the market size in amount is below BDT 150 crore (A Brief History Of E-commerce In Bangladesh... 2017). E-commerce is being used by not more than 1.5 million. They are mainly Dhaka based people. Plagued by fraud and unsustainable business models there emerged problematic e-commerce platforms (E-commerce in Bangladesh faced its own pandemic in 2021 2021). Lots of challenges have been arisen from both of the company and customer perspective. Our concern is to analyze the main challenging factors of e-commerce industry in Bangladesh business environment from both customer and company perspective.

### **1.1 Objectives**

Our research objective is to find out the major challenges of the current situation in Bangladesh. As there are two sided perspectives, we will make an analysis from both sides. In a word, finding out the challenges of the current e-commerce situation in Bangladesh from customer & company perspectives & prioritizing themselves in a statistical manner is our key objective.

## **2. Literature Review**

E-commerce trade is a type of online business where buyers and sellers manage every aspect of their transactions online, including selecting things, buying and selling them, paying for them, getting them delivered, returning them, and receiving refunds (Sikder et al. 2021). Due to the sale of fake and unauthentic goods non-delivery of goods after receiving advance payment, theft of customers, the sudden closure of businesses, delivery of goods in delay time, lack of security of money transactions, non-implementation of government rules, and other factors, the scope of this modern e-commerce business in developing countries is decreasing (Sikder et al. 2021). On the other side, various quality problems, such as mismatched product descriptions, refurbished products, and bogus products, make internet buying less reliable (Samarajiva et al. 2013). Nowadays, there are many trusted and popular e-commerce companies in Bangladesh named Rokomari.com, Bikroy.com, Othoba.com etc). In the last few years, Bangladesh has seen incredible growth in this industry. Delivery lead times, which are very long, are one of the main disadvantages of doing business online in Bangladesh. CAB's with the government was taking steps to develop e-commerce and locally entrepreneur-friendly policy. Customers in Bangladesh are still hesitant to embrace electronic or online payment methods (Karim and Qi 2018). 95 percent of all e-commerce transactions in Bangladesh are made using the most popular payment method, cash-on-delivery. Only credit cards are used by 1% of people, mobile payments are used by 2% of people, and 2% used banking methods (Islam Zahidul 2015).

Bangladesh continues to lag behind other countries in the development of logistics and shipment services, particularly in rural areas that are unreachable by these services (Islam, Kazal, and Rahman 2016). It is also important how nations position themselves in the Digital Services Trade Restrictiveness Index (STRI) (Mukhopadhyay 2022). Effective IT security systems are crucial for e-expansion, commerce's and for them, the required technological and legislative frameworks must be continuously improved (Raunaque et al. 2016). In a broader context of internet marketing that also makes use of intranets, extranets, mobile networks, etc., social media is mostly utilized. E-commerce is considerably more integrated into their usage philosophy (Harsono et al. 2011). Numerous small businesses, particularly on Facebook, use social media to conduct their operations (Karim and Qi 2018). E-commerce in Bangladesh currently lacks a reliable payment method, which is why more than 90% of payments are made upon deliver (Karim and Qi 2018, A Brief History Of E-commerce In Bangladesh... 2017). Globally recognized e-commerce sites like Amazon, eBay, Walmart.com, Alibaba, Sony.com, and others are efficiently running in developed nations (Kshetri N. B. 2005). According to the OECD (2001), global e-commerce had a value of US\$ 26 billion in 1997 and was projected to reach US\$ 5 trillion in 2001. Total B2C revenue was around \$225 billion in 2007, a year in which Bangladesh's business environment was relatively new to BD (A Brief History Of E-commerce In Bangladesh... 2017). Today, the online service has grown into a big market capable of serving the entire world's population (Bhowmik 2012).

As previously mentioned, Bangladesh e-commerce sector is still facing some challenges from customer & company perspective, it has to be taken as a big concern. Poor ICT training, Lack of internet facility, lack of the knowledge of marketing, higher price than local market (Samarajiva et al. 2013), Lack of transportation facility, capital shortage, lack of trustworthiness, payment system issue (Karim and Qi 2018) etc are some of the challenges.

### 3. Methods

Some challenging factors of the e-commerce industry from customer and company both perspectives are identified separately. Then, we launched two surveys. The first one is for the customer. 44 respondents (customers) participated in this survey. They rated the factors from the customer perspective on a scale from 1 to 5. Besides this, they were also asked some questions which helped us to achieve more insights into those factors. Similarly, we collected data from companies.

Respondent companies helped us by rating the challenging factors (from the company perspective) on a scale from 1 to 5. Thus, we collected these data on a five-point Likert scale. Then we checked data reliability. Cronbach's alpha value had been shown in appendix D. Alpha value was 0.831. It indicated that data reliability was satisfactory. After that, we made a hypothesis and used one sample t-test to select the factors which are the significant factors. Non-significant factors were rejected in both cases (customer & company perspective) in this procedure. Finally, we used the Relative Importance Index (RII) method to prioritize the selected factors from both perspectives.

### 4. Data Collection

To rate the challenging factors for customer perspective, 44 customers participated. They ranked every factor from 1 to 5. 1 is strongly disagree and 5 is strongly agree. Customers were asked also to describe their opinion and give some analytical data also. We were able to reach 5 companies named Ravens Bd, Gadget Era, Texquad, Rebnal Global Limited & Daraz. The most critical objective of data collection is ensuring that information-rich and reliable data is collected for statistical analysis so that data-driven decisions can be made for research.

### 5. Results and Discussion

From the secondary data, challenges are summarized in Tables 1 and 2 for customer perspective and company perspective respectively.

Table 1. Challenges (Customer Perspective)

Serial No.	Challenges
1	Order Placement Issue
2	Money Transaction Issue
3	Higher Price than Local Market
4	Lower Product Quality
5	Delay in Delivery
6	Trust Issue
7	Internet Unavailability

Table 2. Challenges (Company Perspective)

Serial No.	Challenges
1	Lack of Trustworthiness
2	Malfunction of Own Transportation System
3	Dominance of Foreign E-Commerce Company
4	Improper ICT Infrastructure
5	Presence of Third Party Supported Payment System
6	Higher Price than Local Market
7	Strategical Issues

Each factor had been rated on a Likert scale (1-5). 1, 2, 3, 4 & 5 indicated strongly disagreed, disagreed, neutral, agreed & strongly agreed respectively. To filter the significant factors, One Sample T-test was used. Then the RII method was used to rank the filtered factors by determining their relative importance.

#### 5.1 Numerical Results

After converting the data into a five-point Likert scale we performed the t-test analysis by using SPSS. We had fixed the level of confidence as 90%. So, a t-value (significant percentage) below 10% was accepted, otherwise rejected.

Null Hypothesis,  $H_{0n}$  = The  $n^{\text{th}}$  factor is Significant  
 Alternative Hypothesis,  $H_{an}$  = The  $n^{\text{th}}$  factor is not significant.  
 Here, n is the serial number of each challenging factor.

Table 3. Statistical parameters of challenges (Customer Perspective)

<b>One-Sample Statistics</b>				
Challenges	N	Mean	Std. Deviation	Std. Error Mean
Order placement issue	44	2.59	1.127	.170
Money transaction issue	44	2.95	1.346	.203
Higher price than local market	44	3.41	1.300	.196
Lower product quality	44	3.41	1.085	.164
Delay in delivery	44	3.23	1.255	.189
Trust issue	44	3.61	1.185	.179
Internet unavailability	44	2.80	1.286	.194

Table 3 shows statistical parameters of challenges (Customer Perspective) that includes mean, standard. deviation, standard error mean.

Table 4. One sample t-test for Challenges from Customer Perspective

Serial No	Challenges	Test Value = 2.5					
		t	df	Sig. (2-tailed)	Mean Difference	90% Confidence Interval of the Difference	
						Lower	Upper
1	Order placement issue	.535	43	.595	.091	-.19	.38
2	Money transaction issue	2.240	43	.030	.455	.11	.80
3	Higher price than local market	4.640	43	.000	.909	.58	1.24
4	Lower product quality	5.557	43	.000	.909	.63	1.18
5	Delay in delivery	3.844	43	.000	.727	.41	1.05
6	Trust issue	6.231	43	.000	1.114	.81	1.41
7	Internet Unavailability	1.523	43	.135	.295	-.03	.62

From Table 4, it can be seen that all challenging factors from customer analysis, except 1<sup>st</sup>& 7<sup>th</sup>, the significance value is less than 10%. This indicates that we failed to reject the null hypothesis for those challenging factors. In the case of 1<sup>st</sup>& 7<sup>th</sup>, we have to reject the null hypothesis.

Table 5. Statistical parameters of Challenges (Company Perspective)

<b>One-Sample Statistics</b>				
Challenges	N	Mean	Std. Deviation	Std. Error Mean
Lack of trustworthiness	5	4.40	.894	.400
Malfunction of own transportation system	5	2.80	1.095	.490
Dominance of foreign e-commerce company	5	2.40	1.517	.678
Improper ICT infrastructure	5	1.40	.894	.400
Presence of third party supported payment system	5	2.20	1.643	.735
Higher price than local market	5	2.00	1.414	.632
Strategical issues	5	3.00	1.225	.548

Table 5 shows statistical parameters of challenges (Company Perspective) that also includes mean, standard. deviation, standard error mean.

Table 6. One sample t-test for Challenges from Company Perspective.

Serial No	Challenges	Test Value = 0.6					
		t	df	Sig. (2-tailed)	Mean Difference	90% Confidence Interval of the Difference	
						Lower	Upper
1	Lack of trustworthiness	9.500	4	.001	3.800	2.95	4.65
2	Malfunction of own transportation system	4.491	4	.011	2.200	1.16	3.24
3	Dominance of foreign e-commerce company	2.654	4	.057	1.800	.35	3.25
4	Improper ICT infrastructure	2.000	4	.116	.800	-.05	1.65
5	Presence of third party supported payment system	2.177	4	.095	1.600	.03	3.17
6	Higher price than local market	2.214	4	.091	1.400	.05	2.75
7	Strategical issues	4.382	4	.012	2.400	1.23	3.57

In Table 6, all the challenging factors from company perspective except 4<sup>th</sup>, the significance value is less than 10%. This indicates we failed to reject the null hypothesis for those challenging factors. In case of 4<sup>th</sup>, we have to reject the null hypothesis. After that, by calculating RII value, we prioritized the challenging factors from both perspectives. It was calculated in excel, which has been given in the appendix. The whole ranking box of factors (from customer perspective) is given in Table 7. The first rank has greater impact. As the ranking number increases, the importance of factors decreases.

Table 7. Challenges are ranked order (from customer perspective).

Serial No.	Challenges	Relative Importance Index	Rank
2	Money Transaction Issue	0.59	4
3	Higher Price than local market	0.68	3
4	Lower Product quality	0.68	2
5	Delay in delivery	0.65	4
6	Trust Issue	0.72	1

From the table, we can see that ‘Trust issue’ has the highest RII value which is 0.72. This indicates that ‘Trust issue’ is the most significant challenge. ‘Money transaction issue’ has the lowest RII value which indicates that it is the least significant challenge (from customer perspective).

Table 8. Challenges are ranked order (from company perspective)

Serial No.	Challenges	Relative Importance Index	Rank
1	Lack of trustworthiness	0.88	1
2	Malfunction of own transportation system	0.56	3
3	Dominance of foreign e-commerce company	0.48	4
5	Presence of third party supported payment system	0.44	5
6	Higher price than local market	0.4	6
7	Strategical issues	0.6	2

The whole ranking box of factors (from the company perspective) is given in Table 8. The first rank has the greatest impact. As the rank increases, the significance of factors decreases. From the table, we can see that ‘Lack of trustworthiness’ has the highest RII value which indicates it is the most significant challenge from customer perspective. ‘Higher price than local market’ has the lower RII value. So, it can be said that it has the least significant factor from the company perspective.

## 5.2 Validation

To check the validation & internal consistency of our data (Figure 1), which we got from our survey, we used Cronbach's alpha method.

Case Processing Summary			
		N	%
Cases	Valid	44	100.0
	Excluded <sup>a</sup>	0	.0
	Total	44	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.831	7

Figure 1. Reliability analysis of our data

After using SPSS software, we came to know that Cronbach's alpha value of our survey from customer perspective is .831. It means our data is in acceptable range.

## 6. Conclusion

This study is mainly for making an organized list of the factors which have impacts on the e-commerce sector in Bangladesh from both customer & company perspectives. The factors were analyzed by their significance value & rank. Based on the rating, factors were ranked. Probability of error is minimized by running hypothesis procedures. As the number of respondents is low, the data set may contain some unintentional noise that may affect the ranking list of the factor. 'Trust Issue' & 'Lack of trustworthiness' are ranked as the most significant values from customer & company perspective respectively. Also, 'lower product quality' & 'higher price than local market' ranked as important facts from customer perspective and 'strategical issues' & 'malfunction of own transportation system' are ranked as important facts from company perspective.

It is high time to think & try to overcome the challenges related to e-commerce. To fix these, time is needed. But it can be in a structured way considering their priority. The process of overcoming these challenges should be taken as an opportunity. Thus, the e-commerce sector will be the most significant sector to make our country more developed.

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## Biographies

**Shafina Sultana** is an undergraduate student from department of Industrial & Production Engineering at Rajshahi University of Engineering & Technology. She completed her SSC from Dhaka Shiksha Board Laboratory School & College and HSC from Dhaka City College. She is preparing for her career what she chose. Recently she has done with a paper published on the field of supply chain management and designed a prototype mini, portable & sustainable refrigerator with her teammate in an academic “Product Design” course. She is quite ambitious and looking forward to work in Supply Chain Management.

**S. M. Sohaeb Bin Islam** is an undergraduate student of Rajshahi University of Engineering & Technology (RUET) under the Department of Industrial & Production Engineering. He has published a paper entitled “Selection of Optimal location selection for Super Shops in Bangladesh Using AHP method” in Supply Chain Insider journal. He has interests in supply chain management, quality control management, operation research and operations management and wants to do more research works in future.

**Prof. Dr. Md. Mosharraf Hossain** is serving as a faculty member at RUET Rajshahi. He has long term experience in education in Bangladesh and some exposure in industry in Thailand and Singapore. He has supervised couple of PhD and Masters Students and published more than 50 journal papers. Other than research he involved in administration of RUET in various capacities from 2010 to now and established IQAC at RUET for enhancing educational quality. He organized ICMIME 2015 as organizing secretary and served IC<sup>4</sup>ME<sup>2</sup> as Co-Chair and attended several conferences. Currently He is serving as Chair, IEOM International Bangladesh chapter.