

Fraudulence Issues in E-commerce and its Remedies: Cases during COVID-19 Pandemic in Bangladesh

Md. Shahnur Azad Chowdhuryⁱ✉, Md. Shahidul Islamⁱⁱ✉, Md. Shariful Hoqueⁱⁱⁱ✉
Md. Arafat Uddin Bappi^{iv}✉, and Mohammad Masrurul Mowla^v✉

Received: 25 August, 2021

Final Revision: 03 November, 2021

Accepted: 11 November 2021

e Published: 21 December 2021

 [10.52283/NSWRCA.AJBMR.20210601A10](https://doi.org/10.52283/NSWRCA.AJBMR.20210601A10)

Abstract

This research aims at determining the present position, customer satisfaction, fraudulence practice and protective remedies in the COVID-19 pandemic situation. The primary data is collected from commercial port city Chattogram in Bangladesh during June, 2021 to July, 2021 by survey questionnaire method from 120 respondents of systematic random sampling in randomized block design. Descriptive statistics, Chi-Square test, Mann-Whitney Test and Kruskal-Wallis test methods are used to verify data and test the hypothesis. The study shows, there is no relation between product purchase with during and before COVID-19 period. But there is a relation between payment methods with COVID-19 period, which shows mobile banking (bKash / Nagad / Rocket) is increases in E-commerce transaction during COVID-19 period. The survey result shows female has significantly higher satisfaction in online transaction than male. Also the lower age group (25 or less years) and lower education level (HSC) are significantly more satisfied than higher age group and education. The customers are significantly much satisfied during the COVID-19 pandemic situation than the before COVID-19 period, as the E-commerce system is most convenient system in the situation. The result shows there is no effect of fraudulence practice on gender, age group and education level in the E-commerce in Bangladesh. But the online fraudulence practice increases during the COVID-19 period from before COVID-19 period, specially no refund after returning product fraudulence arise, which didn't exist before the pandemic situation and not getting delivery fraudulence is increased in the pandemic situation. It is observed that most of the customers do not take any action against E-commerce fraudulence. So, awareness program may be conducted with the E-commerce customers about the rules and regulations and Government should take action against fraudulence to recovery the customer loss and stop the fraudulence practice to create an excellent E-commerce environment. As a result, the present E-commerce market will increase gradually as a safe online market place with full customer satisfaction in the society during the COVID-19 pandemic situation in Bangladesh.

Keywords: COVID-19, E-commerce, Fraudulence, Remedies, Customer Satisfaction

ⁱ (Associate Professor) Department of Business Administration, Int'l Islamic University Chittagong

✉ tipu_iuuc@yahoo.com (Corresponding Author)

 <https://orcid.org/0000-0003-1547-157X>

ⁱⁱ (Divisional Officer) Service Engineering Division, Bangladesh Forest Research Institute, Chittagong

✉ enr.shahidul.islam@gmail.com

 <https://orcid.org/0000-0001-5755-2365>

ⁱⁱⁱ (Research fellow) Department of Business Administration, Int'l Islamic University Chittagong

✉ arafatbappi@gmail.com

 <https://orcid.org/0000-0003-4575-1169>

^{iv} (Associate Professor) Department of Business Administration

✉ sharif.unimap@gmail.com

 <https://orcid.org/0000-0002-2692-3634>

^v (Professor and Dean) Faculty of Business Studies, Int'l Islamic University Chittagong

✉ mmmiuuc@gmail.com

 <https://orcid.org/0000-0002-8326-8066>

1. Introduction

The E-commerce sector in Bangladesh has been growing rapidly for the 2-3 years with more and more consumers buying goods online. In 2009, Bangladesh Bank officially permitted the online payment system in the country and Wimax Internet was the first company to start the business. Currently, there are approximately 2,500 e-commerce sites and 150,000 Facebook-based outlets operating in Bangladesh and 80% of the total online sales are taking place in Dhaka, Chattogram, and Gazipur. According to the president of the e-commerce association of Bangladesh (e-cab), the current market size of E-commerce in Bangladesh is around USD1 billion (BDT 8,000 crore). The sector is also thriving in Bangladesh and expected to hit USD 3 billion mark by 2023.

During COVID-19 outbreak and nationwide lockdown, the practice & market of online shopping in Bangladesh expanded dramatically. Along with hundreds of entrepreneurial organizations, about four lakh women entrepreneurs are also selling products on Facebook and in other online based platforms. When it started, it spread to the urban to villages. In the big cities, from the grocery stores to the big companies, they gave more importance to online shopping. LOCAL shoppers in the COVID-19 started online shop. Even in the time of COVID-19 pandemic, the cattle market featured to the digital platform for this Eid-ul-Adha. As a result, e-commerce started booming around the Bangladesh. With the increase of E-commerce, the scope of fraudulence in E-commerce has also been evidenced.

Although COVID-19 outbreak amplified the online shopping in Bangladesh, but recent fraudulences with customers has now created new challenges in the sector. There are only a handful of companies that have not failed. Some of the companies started to lead role in destroying this promising sector. They sell products with incredible discounts to customers. Where, customers have to pay first and get the delivery of product after a certain period of time. There are allegations of repeated delays in delivering goods against these companies. In Addition, their business strategy is not clear. The lack of appropriate national policies to support the system, specific roadmaps for e-commerce development, financial transaction security, and inter-operable infrastructure gave good environment to these companies to run the business without any problem. For this reason, there are various doubts among the people. As a result, buyers are losing confidence in e-commerce. The Ministry of Commerce has not taken any effective action against the culprits despite taking various initiatives to restore the confidence of the buyers and keep the market stable.

Therefore, Proper mechanism for resolving consumer dissatisfactions is the major Requirement. Government must include transaction security facilities, e-commerce monitoring committee, incentive packages for development of the e-commerce sector and adequate publicity to reduce country's current fraudulences in e-commerce sector of Bangladesh.

2. Literature Review

Electronic commerce, often known as e-commerce, refers to the buying and selling of goods and services of many types through the internet. Essentially, e-commerce is concerned with the people, processes, and technology that are involved in allowing a consumer or business to acquire products or services from another business or individual through the internet. Traditional commerce has consisted of actual brick and mortar companies, storefronts, shopping malls, catalog sales, and other forms of distribution for millennia. In the last hundred years, new channels of commerce, such as telephone and television sales, have been developed to serve consumers. During the 1990s, as the Internet grew in popularity and became more widely available, a significant amount of business was transferred to the World Wide Web. Consumers now visit their favorite e-commerce websites not just to buy and sell items, but also to conduct research, write reviews, and leave comments on products and services they have purchased. According to a recent comScore presentation, over 70% of consumers believe the Internet to be a significant component in making shopping decisions, and 60% of customers have used the Internet to conduct research before purchasing products in a physical store or on the internet.

Buffam (2000) asserted that better e-business solutions will enable businesses to perform better than rivals and evolve into zero-latency organizations. Companies who choose not to embrace e-business, or who do so ineffectively, will underperform or be forced out of business in the near future. Turban et al. (2012) shared that some aspects of management difficulties are extremely significant, for example: Sales promotion, purchase process reengineering, Just-in-Time delivery, new electronic intermediary business, provision of solutions, and business ethics are all topics covered in this course. Kamal et al. (2012) concludes that one of the primary reasons for the rapid growth of ecommerce is the substantial influence it has had on expenses connected with inventory, sales execution, procurement, intangibles such as banking, and distribution costs. Inadequate security measures and a lack of awareness among users have resulted in a slew of cybercrimes and fraudulence being perpetrated, which has led to a diverse range of crimes and fraudulence. Xanthaki (2009) concluded that use or presentation of fraudulent, erroneous, or incomplete claims or documents via the internet or through websites, resulting in the misuse of the consumer's information online, is known as online fraud. It also includes the disclosure of

information for reasons other than those for which it was initially authorized. According to Anderson (2013) Consumers are becoming increasingly concerned about online fraud, which may be a huge deterrent to them using e-commerce. Typically, fraud occurs as a result of a seller's dishonesty toward their consumer, such as making a promise to their buyer but never following through on it once the transaction has been completed. Mark and Donald (2003) stated that consumers and e-commerce sites alike are concerned about security. They noted that consumers are concerned about the loss of their financial information, while ecommerce companies are concerned about the financial losses connected with break-ins and the negative publicity that may occur. E-commerce sites and customers must not only identify security vulnerabilities and viable technological solutions, but they must also assess, evaluate, and address the risks. Hoffman and Novak (1996) proposed that Goal directed and experiential behavior are two main kinds of behavior that customers participate in during the pre-purchase period of the Internet. They also stated that the flow experience is an important determinant of online purchasing habit. When shoppers are in the flow state, they are completely engrossed in their connection with the websites, filtering away extraneous thoughts and impressions. Li et al. (1999) looked at the impact of four types of customers buying orientations: recreational, experience, convenience, and economic, as well as three perceived channel utilities: communication, distribution, and accessibility. Their findings revealed that a combination of consumer shopping orientation and perceived channel utility influenced online purchasing behavior. By using a sample of 214 online shoppers, Ranganathan and Ganapathy (2002) found B2C websites have four main dimensions: information content, design, security, and privacy. They came to the conclusion that, while all of these factors have an influence on purchase intent, security and privacy have a stronger impact on online buyers' purchase intent. Ho and Wu (1999) found that customer happiness is heavily influenced by the appearance of the site. Other elements that influence pleasure include logical support, technology qualities, information characteristics, and product characteristics.

Todd (1997) proposed a model to identify attitudes and shopping intention towards internet shopping in general, the model included several indicators, belonging to four major categories; the value of the product, the shopping experience, the quality of service offered by the website and the risk perceptions of Internet retail shopping. In the research conducted by Vellido et al. (2000), nine factors associated with users' perception of online shopping were extracted. Among those factors the risk perception of users was demonstrated to be the main discriminator between people buying online and people not buying online. Järvenpää et al. (2000) tested a model of consumer attitude towards specific web base stores, in which perceptions of the store's reputation and size were assumed to affect consumer trust of the retailer. The level of trust was positively related to the attitude toward the store, and inversely related to the perception of the risks involved in buying from that store. It was concluded that the attitude and the risk perception affected the consumer's intention to buy from the store. McAllister (1995) opined that one of the consequences of trust is that it reduces the consumer's perception of risk associated with opportunistic behavior by the seller. Ganesan (1997) included that lack of trust is frequently reported as the reason for consumers not purchasing from Internet shops, as trust is regarded as an important factor under conditions of uncertainty and risk in traditional theories

Mayer et al. (1995) developed a model which combines traditional marketing philosophy on consumer motivation to buy and the trust model. In this model, trust propensity; which is a personality trait possessed by buyers; is an important antecedent of trust. They proposed that ability, benevolence and integrity constitute the main elements of trustworthiness. Ability refers to skills, competencies and characteristics that a seller has in a specific domain. In this context, sellers need to convince buyers of the competence of their companies in the Internet shopping business. Benevolence is the extent to which the seller is perceived by the buyer as wanting to 'do well'. Sellers have to convince buyers that they genuinely want to do good things for buyers, rather than just maximizing profit.

3. Objectives of the Study

This study is conducted with a view to:

- a) investigate the present E-commerce position in the COVID-19 period in Bangladesh.
- b) measure the satisfaction of customer in the E-commerce market in Bangladesh during COVID-19 position.
- c) examine the fraudulence of E-commerce with remedies in Bangladesh in the COVID-19 situation.

4. Methodology

To assess the present position and fraudulence issues of E-commerce during COVID-19, a survey questionnaire is developed from the literature review and experience of the authors. The survey questionnaire was pre-tested with 14 respondents. After necessary modification and correction, the survey questionnaire (Appendix A) was distributed to 120 respondents selected by systematic random sampling in randomized block design with E-commerce experience in commercial port city Chattogram (between 22°14' and 22°24' N

Latitude and between 91°46' and 91°53' E Longitude) in Bangladesh during the period June, 2021 to July, 2021. Among the respondents 69 (57.5%) are male and 51 (42.5%) are female with age group 25 or less years is 15%(18) respondents, 25 – 40 years is 72.5%(87) respondents and more than 40 years is 12.5%(15) respondents. All the respondents are experience with E- commerce use with educational qualification HSC is 12.5%(15) respondents, Bachelors / Honors is 32.5%(39) respondents and Masters is 55%(66) respondents. The HSC qualification respondents are now the student of graduate, the graduate qualification respondents are now the student of masters and master’s qualification respondents are now the service holders.57.5% of the respondents (69) are started E-commerce during COVID-19 period (Less than 2 years) and 42.5% of the respondents (51) started E-commerce before COVID-19 period (More than 2 years).Collected responses of the questionnaire from respondents necessary correction is made for errors and coded into MS Excel 2010 and IBM SPSS Statistics 20 for further analysis. Descriptive statistics, Chi-Square test, Mann- Whitney Test and Kruskal-Wallis test methods are used to verify data and test the hypothesis.

Hypothesis H1

Null Hypothesis: There is no relation of E-commerce product purchase and payment method in the COVID-19 period.

Alternative Hypothesis: There is a relation of E-commerce product purchase and payment method in the COVID-19 period.

Hypothesis H2

Null Hypothesis: There is no significant difference of E-commerce online satisfaction with gender, age, education and COVID-19 period.

Alternative Hypothesis: There is no significant difference of E-commerce online satisfaction with gender, age, education and COVID-19 period.

Hypothesis H3

Null Hypothesis: There is no relation between E-commerce online fraud with gender, age, education and COVID-19 period.

Alternative Hypothesis: There is a relation between E-commerce online fraud with gender, age, education and COVID-19 period.

5. Results and Discussion

The distribution of E-commerce product purchased of the respondents is shown in Figure 1.

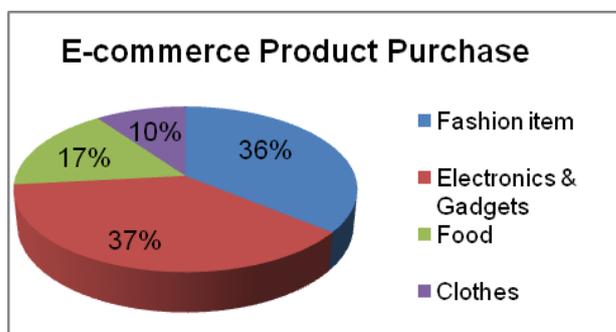


Figure 1: Distribution percent of E-commerce product purchase

The distribution shows that among the respondents, the highest number of E-commerce purchase is electronics & gadgets (37%), followed by fashion item (36%). The lowest number of E-commerce purchase is clothes (10%), followed by food (17%) among the respondents. The distribution shows that among the respondents, the highest number of payment method is used cash on delivery (COD) (45%), followed by mobile banking (bKash / Nagad / Rocket) (35%) and card payment (Debit / Credit) (17%). Only 3% of the respondents used direct bank deposit method for the payment.

The distribution of E-commerce payment method of the respondents is shown in Figure 2.

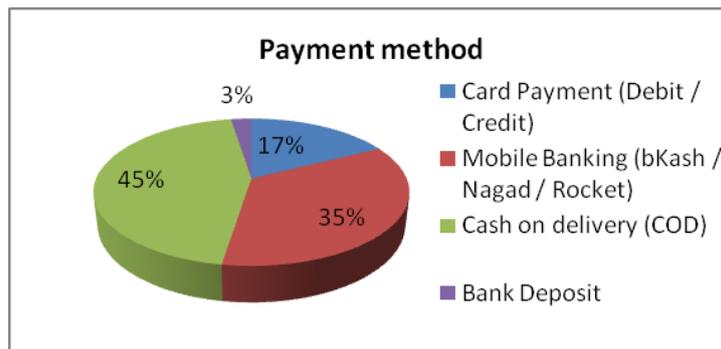


Figure 2: Distribution percent of E-commerce payment method

The Chi-Square test result to determine the relation between product purchase and payment method with COVID-19 period is shown in Table 1.

Table 1: Chi-Square test of product purchase and payment method in COVID-19 period

Variable name	Pearson Chi-Square value	df	Sig. (2-sided)
Product purchase with COVID-19 period	4.826	3	0.185
Payment method with COVID-19 period	18.283	3	0.000

From the Chi-Square test, the Pearson Chi-Square value of product purchase with COVID-19 period is 4.826 (df 3, p 0.185). So, there is not enough evidence to reject the null hypothesis 1 and there is no relation between product purchase with during and before COVID-19 period. But the Pearson Chi-Square value is 18.283 (df 3, p 0.000) for payment method with COVID-19 period. So, the null hypothesis 1 is rejected and there is a relation between payment methods with COVID-19 period. The distribution of payment method with COVID-19 period is shown in Figure 3.

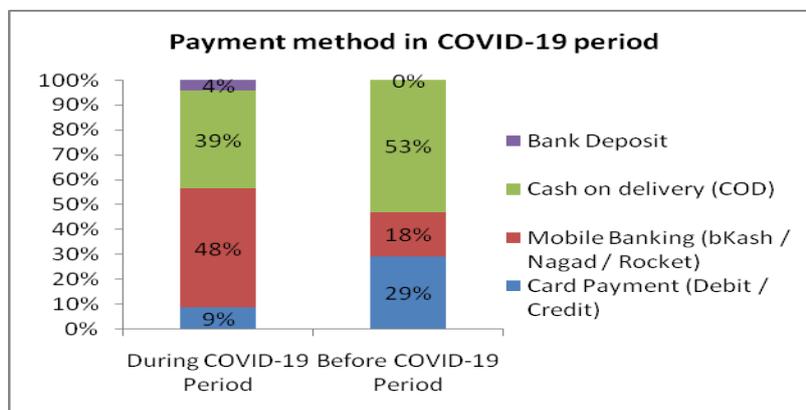


Figure 3: Distribution of payment method with COVID-19 period

It is observed that card payment (Debit / Credit) payment method is decreases to 9% during COVID-19 period from 29% on before COVID-19 period and also cash on delivery (COD) decreases to 39% during COVID-19 period from 53% on before COVID-19 period. But the mobile banking (bKash / Nagad / Rocket) payment method creases to 48% during COVID-19 period from 18% on before COVID-19 period. This is because the availability of mobile banking (bKash / Nagad / Rocket) with the increase of E-commerce transaction during COVID-19 period. Only 4% of the transaction newly created to direct online bank deposit. This may be another good solution of transaction during COVID-19 period with safe and secure. The measure of E-commerce online satisfaction with gender, age, education and COVID-19 period is shown in Table 2.

Table 2: E-commerce online satisfaction with gender, age, education and COVID-19 period

Measured variable	Measured value	Number of observation	Mean online satisfaction	Standard deviation of online satisfaction	Test	Test-statistic value	Sig. (2 tail)
Gender	Male	69	2.30	0.863	Mann-Whitney Test (z)	3.307	0.001
	Female	51	2.76	0.551			
Age	25 or less years	18	2.83	0.383	Kruskal-Wallis Test (Chi-Square)	6.056	0.048
	26-40 years	87	2.41	0.771			
	Above 40 years	15	2.60	1.056			
Education	HSC	15	2.87	0.352	Kruskal-Wallis Test (Chi-Square)	8.555	0.014
	Bachelors/Honors	39	2.62	0.747			
	Masters	66	2.35	0.832			
COVID-19 Period	During COVID-19 Period	69	2.65	0.764	Mann-Whitney Test (z)	2.119	0.034
	Before COVID-19 Period	51	2.29	0.756			

The mean with standard deviation of online satisfaction for male and female are 2.30 ± 0.863 and 2.76 ± 0.551 respectively. The Mann-Whitney Test (z) statistic value of gender for online satisfaction is 3.307 (p 0.001). So, the null hypothesis 2 is rejected and the online satisfaction of female is significantly higher than that of male.

The mean with standard deviation of online satisfaction for 25 or less years, 26-40 years and Above 40 years are 2.83 ± 0.383 , 2.41 ± 0.771 and 2.60 ± 1.056 respectively. The Kruskal-Wallis Test (Chi-Square) statistic value of age for online satisfaction is 6.056 (p 0.048). So, the null hypothesis 2 is rejected and there is a significant difference of online satisfaction for different age group. The satisfaction is highest in the age group 25 or less years and lowest in 26-40 years age group.

The mean with standard deviation of online satisfaction for HSC, Bachelors/Honors and Masters are 2.87 ± 0.352 , 2.62 ± 0.747 and 2.35 ± 0.832 respectively. The Kruskal-Wallis Test (Chi-Square) statistic value of education for online satisfaction is 8.555 (p 0.014). So, the null hypothesis 2 is rejected and there is a significant difference of online satisfaction for different education level. The satisfaction is highest in the lower education level (HSC) and lowest in higher education level (Masters).

The mean with standard deviation of online satisfaction for during COVID-19 period and before COVID-19 period are 2.65 ± 0.764 and 2.29 ± 0.756 respectively. The Mann-Whitney Test (z) statistic value of COVID-19 period for online satisfaction is 2.119 (p 0.034). So, the null hypothesis 2 is rejected and the online satisfaction of during COVID-19 period is significantly higher than that of before COVID-19 period. As the E-commerce is tremendously increases during the COVID-19 period, the customers are much satisfied in the COVID-19 pandemic situation.

The Chi-Square test result to determine the relation between online fraud with gender, age, education and COVID-19 period is shown in Table 3.

Table 3: Chi-Square test of online fraud with gender, age, education and COVID-19 period

Variable name	Pearson Chi-Square value	df	Sig. (2-sided)
Online fraud with gender	1.103	2	0.576
Online fraud with age	4.489	4	0.344
Online fraud with education	8.761	4	0.067
Online fraud with COVID-19 Period	18.926	2	0.000

The Pearson Chi-Square value of online fraud with gender, online fraud with age and online fraud with education are 1.103 (df 2, p 0.576), 4.489 (df 4, p 0.344) and 8.761 (df 4, p 0.067) respectively. So, there is not enough evidence to reject the null hypothesis 3 and no relation between online fraud with gender, age and education. But the Pearson Chi-Square value of online fraud with COVID-19 period is 18.926 (df 2, p 0.000). So, the null

hypothesis 3 is rejected and there is a relation between online fraud with COVID-19 period. The distribution of online fraud with COVID-19 period is shown Figure 4.

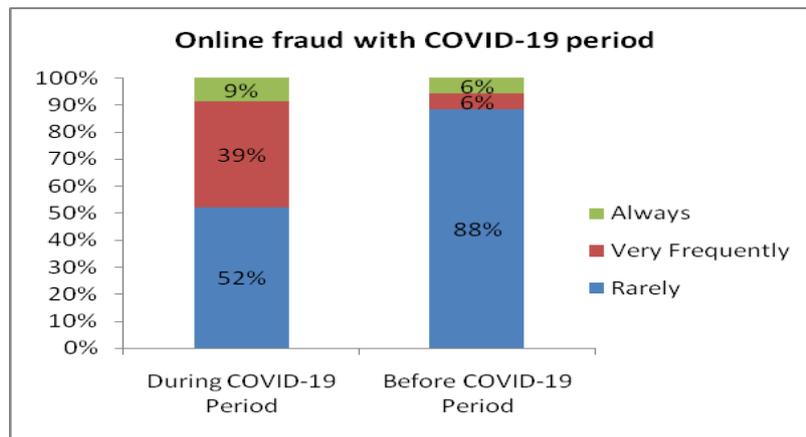


Figure 4: Distribution of online fraud with COVID-19 period

The distribution of online fraud with COVID-19 period shows, before COVID-19 period the online fraud rarely occurs 88%, very frequently occurs 6% and always occurs 6%. But during the COVID-19 period the online fraud rarely occurs 52%, very frequently occurs 39% and always occurs 9%. So, it may be concluded that the online fraud increases in the COVID-19 period, which is also shows in the Chi-Square test result. The distribution of online fraud type in COVID-19 situation is shown in Figure 5.

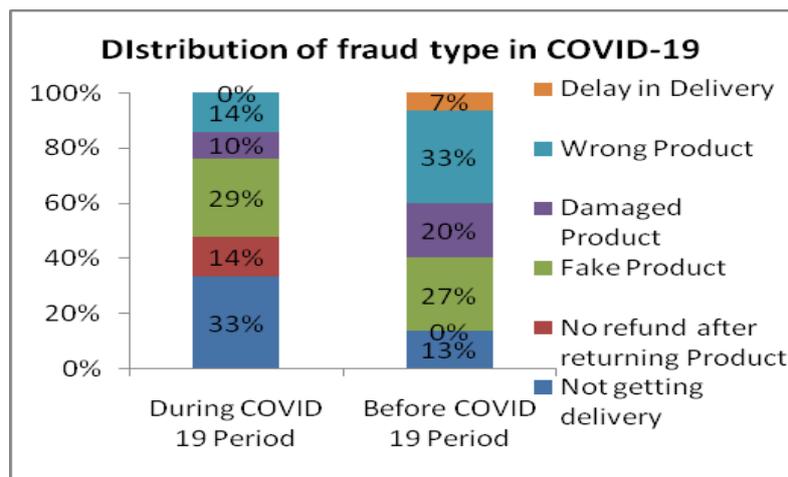


Figure 5: Distribution of online fraud type with COVID-19 period

It is observed that delay in delivery in before COVID-19 situation stopped during the COVID-19 period. Wrong product delivery reduces from 33% in before COVID-19 period to 14% in the during COVID-19 period. Also damaged product delivery reduces from 20% in before COVID-19 period to 10% in the pandemic situation. The delivery of fake product is similar (27% and 29%) before and during COVID-19 period. As a result, the study observed earlier that the customers are better satisfied in the during COVID-19 period from the before pandemic situation. But in the pandemic situation, no refund after returning product fraudulence arise 14%, which was not exist before the pandemic situation. Also, the not getting delivery fraudulence is increased from 13% in before COVID-19 period to 33% in the pandemic situation. The distribution of action taken against fraudulence is shown in Figure 5.

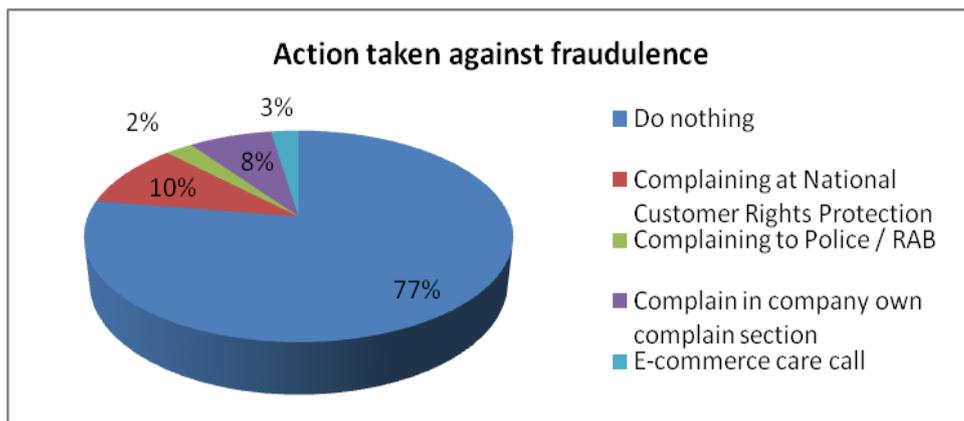


Figure 5: Action taken against fraudulence

The study observes that most of the customers (77%) do not take any action against E-commerce fraudulence. Only 10% complained at National customer rights production authority and 8% complain in company own complain section. Only a few customers (2%) complained to Police / RAB (Rapid Action Battalion) and 3% complained in E-commerce care cell. So, a mass awareness program may be conducted to the E-commerce customers about the rules and regulations to take action against fraudulence to recovery the customer loss and stop the fraudulence practice in Bangladesh.

The distribution of safest online platform for E-commerce opinion is shown in Figure 6.

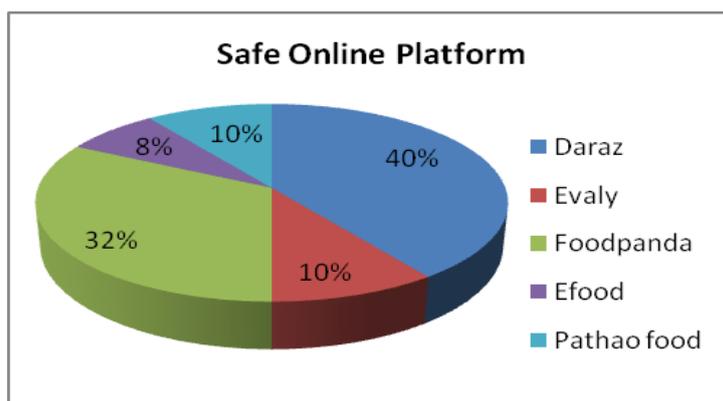


Figure 6: Safe online platform for E-commerce

The result shows, 40% of the respondents identify Daraz as safest online platform, followed by Food Panda (32%). Both Evaly and Pathao Food are identified as safe online platform (each 10%). Only 8% of the respondents identify Efood as safe online platform.

The respondents express their opinion to protect E-commerce fraudulence as the supplier company should provide genuine product which one shown in display, follow the real MRP of product, product price should not be variable or change within short time, right product and due time delivery, transparency in payment and delivery system, cash refund in case of wrong product, provide Cash on Delivery (COD) system, product confirmation through checking before make the payment of the product, maintain product quality and customer satisfaction. A customer E-commerce awareness program may be developed to know the right and rules to protect against fraudulence. Government may create cyber-crime department to always monitor E-commerce activity to stop fraudulence of e-commerce and take action to implement with existing acts and rules to create an excellent E-commerce environment to increase the current market in Bangladesh.

6. Conclusion

The study shows, there is no relation between product purchase with during and before COVID-19 period. But there is a relation between payment methods with COVID-19 period, which shows mobile banking (bKash / Nagad / Rocket) is increases in E-commerce transaction during COVID-19 period. Only 4% of the transaction

newly created to direct online bank deposit, which may be another good solution of transaction during COVID-19 period with safe and secure. The survey result shows female has significantly higher satisfaction in online transaction than male. Also the satisfaction is highest in the age group 25 or less years and lowest in 26-40 years' age group. The satisfaction is highest in the lower education level (HSC) and lowest in higher education level (Masters). As the E-commerce is tremendously increases during the COVID-19 period, the customers are much satisfied in the during COVID-19 period than before COVID-19 period. The result shows there is no effect of fraudulence practice on gender, age group and education level in the E-commerce in Bangladesh. But the online fraudulence practice increases during the COVID-19 period from before COVID-19 period, specially no refund after returning product fraudulence arise, which was not exist before the pandemic situation and not getting delivery fraudulence is increased in the pandemic situation. It is observed that most of the customers do not take any action against E-commerce fraudulence. Only a few customers complained to Police / RAB (Rapid Action Battalion) and complained in E-commerce care cell. The respondents identify Daraz as safest online platform, followed by Food Panda. Also, the lowest respondents identify Efood as safe online platform.

7. Implication

The result shows, all the customers are not fully satisfied in the online E-commerce business. Also, the online fraudulence practice increases during the COVID-19 period from before COVID-19 period, for which most the customers do not take any action against E-commerce fraudulence. In the study, the respondents express their opinion to protect E-commerce fraudulence as the supplier company should provide genuine product which one shown in display, follow the real MRP of product, product price should not be variable or change within short time, right product and due time delivery, transparency in payment and delivery system, cash refund in case of wrong product, provide Cash on Delivery (COD) system, product confirmation through checking before make the payment of the product, maintain product quality to increase the customer satisfaction. A customer E-commerce awareness program may be developed to know the right and rules to protect against fraudulence. Government may create cyber-crime department to always monitor E-commerce activity to stop fraudulence of e-commerce and take action to implement with existing acts and rules to create an excellent E-commerce environment. As a result, the present E-commerce market will increase gradually as a safe online market place with full customer satisfaction in the society during the COVID-19 pandemic situation in Bangladesh.

References

- Abbasi, M. S., Chandio, F. H., Soomro, A. F., & Shah, F. (2011). Social influence, voluntariness, experience and the internet acceptance: An extension of technology acceptance model within a South-Asian country context. *Journal of Enterprise Information Management*, 24(1), 30-52.
- Buffam, W. J. (2000). *E-business and IS solutions: an architectural approach to business problems and opportunities*, Addison-Wesley Longman Publishing Co., Inc.
- Ganesan, S. and Hess, R. (1997). "Dimensions and levels of trust: implications for commitment to a relationship." *Marketing letters* 8(4): 439-448.
- Hassan, T. (2020). "Prevalence and associated factors of internet addiction among young adults in Bangladesh." *Journal of the Egyptian Public Health Association* 95(1): 1-8.
- Jarvenpaa, S. L. (2000). "Consumer trust in an Internet store." *Information technology and management* 1(1): 45-71.
- Kamal, M. M.,(2012). "Nature of cyber-crime and its impacts on young people: A case from Bangladesh." *Asian Social Science* 8(15): 171.
- Mayer, R. C. (1995). "An integrative model of organizational trust." *Academy of management review* 20(3): 709-734.
- McAllister, D. J. (1995). "Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations." *Academy of management journal* 38(1): 24-59.
- Turban, E. (2012). *Social commerce*, Springer.
- Xanthaki, H. (2009). "What is EU fraud? And can OLAF really combat it?" *Journal of Financial Crime*, pp.133-151
- Anderson, K. (2013). *Consumer fraud in the United States, 2011: The third FTC Survey*. Federal Trade Commission.
- Mark S.A and Donald T.D (2003).—*Privacy and Security Issues in ECommerce*, Elsevier Science (USA),.
- Jarvenpaa, S.L. and Todd, P.A. (1997) "Consumer Reactions to Electronic Shopping on the World Wide Web", *International Journal of Electronic Commerce*, Vol. 1, No. 2: 59-88, .
- Ho, C.F. and Wu, W.H. (1999). "Antecedents of Customer Satisfaction on The Internet: An empirical study of Online shopping", *Proceedings of 32nd Hawaii International Conference on System Sciences*, held on 5-8 , January 1999 at Hawaii by Institute of Electrical and Electronics Engineers (IEEE),

- Hoffman, D.L. and Novak, T.P. (1996). "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations", *Journal of Marketing*, Vol. 60, Vol. 3: 50-68.
- Li, H., Kuo, C. and Russell, M.G. (1999). "The Impact of Perceived Channel Utilities, Shopping Orientations, and Demographics on the Consumer's Online buying Behavior", *Journal of Computer-Mediated Communication*, Vol. 5, No. 2: 2-25.
- Ranganathan, C. and Ganapathy, S. (2002). S. "Key dimensions of business-to-consumer web sites", *Information and Management*, Vol. 39, No. 6: 457-465.
- Vellido, A. (2000). "Quantitative characterization and prediction of on-line purchasing behavior: A latent variable approach." *International journal of electronic commerce* 4(4): 83- 104.

Appendix

Appendix A

Fraudulence issues and remedies of E-commerce during COVID-19 period in Bangladesh

The information provided by the respondents will kept confidential and will be used only in research purpose

Questionnaire

1. Name:
2. Gender:
 - Male
 - Female
3. Age:
 - 25 or less years
 - 26-40 years
 - Above 40 years
4. Education:
 - HSC
 - Bachelors/Honors
 - Masters
 - Other (specify)
5. Have you used E-commerce before?
 - Yes
 - No
6. For how long have you used E-commerce?
 - Less than 2 years (During COVID 19 Period)
 - More than 2 years (Before COVID 19 Period)
7. What type of product do you purchase through e-commerce?
 - Fashion item
 - Electronics & Gadgets
 - Food
 - Cloths
 - Other (specify)
8. Which Payment method do you use most while purchasing through e-commerce?
 - Card payment (Debit / Credit)
 - Mobile Banking (bKash / Nagad / Rocket)
 - Cash on delivery (COD)
 - Other (specify)

9. Are you satisfied with the e-commerce in Bangladesh?
Not satisfied
Less satisfied
Satisfied
Very satisfied
10. Do you have experience in fraud while using e-commerce?
Rarely
Very frequently
Always
11. What type of most fraud you have faced?
Not getting delivery
No refund after returning Product
Fake Product
Damaged Product
Wrong Product
Other (specify)
12. What action do you take against fraudulence?
Do nothing
Complained at National customer rights production
Complained the Police / RAB
Complain in company own complain section
Other (specify)
13. Which online platform is most safe while using e-commerce in Bangladesh?
Daraz
Evaly
Foodpanda
Efood
Pathao food
Other (specify)
14. What do you suggest to improve against fraud of e-commerce in Bangladesh?