

# Challenges and Opportunities of Growing Performance of Online Animal Selling in Bangladesh During COVID-19 Situation

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**Abstract:** Online animal transaction has become a popular growing technique in the COVID-19 pandemic situation in Bangladesh. The purpose of the study is to evaluate the function of physical, socio-religious, and marketing challenges that accelerated online animal selling in the pandemic situation. Using stratified random sampling in randomized block design, a response to a survey questionnaire has been collected from 200 respondents in Chattogram, Bangladesh via E-mail to know their opinion. The Structure Equation Model (SEM) shows that the Personal challenge factor, Market challenge factor, and Price challenge factor have a significant effect on the performance of online satisfaction animal transactions in the COVID-19 situation. But Social-Religious challenge factor has no significant effect on the performance of online satisfaction animal transactions. It is further observed that the online selling experience group shows high satisfaction than the online buying experience group. There is no significant difference in the performance of online satisfaction for all types of online animal transactions. It is also observed that the online bKash/Rocket/Nagad payment methods have significantly higher satisfaction of performance than cash on delivery and online banking payment method for the animal transaction. The Performance of the online satisfaction factor has a positive significant effect on creating online opportunities in the COVID-19 situation. The result will be used to develop the planning and utilization strategy for smooth and high-quality online animal transactions for ensuring sound health in the future.

**Keywords:** Online Sales, Socio-Religious, Pandemic, Challenges

## Introduction

Eid Al Adha is the second largest festival of the Muslims inherited from the prophet Ibrahim (R). It has been traditionally observed since that period. Animals are to be sacrificed on this occasion as an obligatory prayer for the Muslims. With the elapsed time it has gained a social and cultural flavor also. A lot of events have been introduced on this occasion. It is now a culture and tradition for the children to go to the market with their guardians to buy the sacrificial animals which give them joy. A market of huge turnover has been developed for buying and selling sacrificial animals in different countries in this season. The cattle sellers invest money to produce animals targeting EID to sell. This sector has

grown to a significant size nowadays. The cattle growers are coming up with modern ideas and technologies to nurture animals for EID. However, the world is experiencing a new case of corona pandemic for more than one and a half years. Nobody knows how many coming EIDs will be passed under this situation. Also, a physical purchase may be impeded for other reasons like natural calamities. So, the online market would function better in the future. Additionally, the government emphasized buying and selling animals online for Eid-ul-Azha sacrifice to prevent the transmission of COVID-19. With such an initiative of the government under the supervision of the Department of Livestock, a total of 1 thousand 768 online markets (digital cattle markets) and 602 platforms of the government took part

in the sale and purchase of sacrificial animals all over the country. During Eid-ul-Azha 2021, 2 lakh 38 thousand 68 animals were sold online in two weeks for 1 thousand 665 crores 5 lakh 1 thousand 672 takas as stated by the department of livestock. According to the department, there are currently 1,768 online platforms for the sale of sacrificial animals. Of these, 602 are government-owned and 1,166 are private where information of 15 lakh 93 thousand 692 sacrificial animals have been uploaded in the first 14 days.

According to the Department of Livestock, the number of animals to be sacrificed this year is about 1 crore 19 lakh 16 thousand 765. Of these, cows and buffaloes are 45 lakh 47 thousand, goats and sheep are 73 lakh 65 thousand and others are 4 thousand 765. In 2020, the country's farms and farmers had prepared about 1 crore 18 lakh 97 thousand 500 cattle. Of these, about 94 lakh 50 thousand 263 animals were sacrificed, according to the Ministry of Fisheries and Livestock.

Increases in Bangladeshi e-commerce and social media-based online marketplaces may be attributed to the rapid expansion of digitalization. This new digital economy method is being actively used by a significant segment of the population. Products and services are being advertised, promoted, and bought on a wide range of online venues, from government-created websites to the personal Facebook pages of their vendors (Hassan *et al.*, 2020). Online marketplaces and e-commerce have grown in popularity in recent years as a means of connecting brands with customers. Relevantly, very few studies have found issues on customer satisfaction on online cattle purchasing, the adoption or practice drivers, the degree of association between satisfaction and online cattle transactions, and the rest other also needs to be examined. This research is expected to satisfy the following objectives:

1. To determine the factor that influences the performance of satisfaction in the online animal transaction during the coronavirus (COVID-19) pandemic situation
2. To study the influence of demographic factors (like online buy or sell experience, type of animal transaction, and methods of payment) on the performance of satisfaction in the online animal transaction
3. To study the satisfaction effect of creating online opportunity

### Literature Review

Three elements are likely to influence customer intentions: (a) Shopping channel convenience, (b) product type attributes, and (c) product perceived pricing (Chiang *et al.*, 2003). Moreover, consumer intention to shop online is influenced by convenience and product type. When customers view offline purchasing to be cumbersome, they are more likely to shop online. Also,

when buyers perceive the product to be search products rather than experience goods, they are more likely to shop online. Consumers also demand faster product delivery in online stores than in offline stores, as well as supply at their convenience; prompt and dependable delivery is the foremost reason behind consumers' satisfaction to buy products online (Ahn *et al.*, 2004). The association between time or effort savings and buy intents is improving; if consumers see how little time and effort it takes to complete an online purchase, they will place a higher value on time and effort savings (Broekhuizen and Huizingh, 2009). Customers' time completely reflects the convenience of online purchasing, e-marketers should strengthen the website's transaction capabilities and ensure that all processes can be completed online (Liu *et al.*, 2008). However, despite previous research that has examined the difficulties faced by customers and the use of technology in specific contexts, such as distributed software development, there has been little work that has examined the challenges faced by all virtual teams and their use of technology to mitigate issues. According to the discussion following hypothesis may design,

Hypothesis (Null) 1: Personal challenge, market challenge, social-religious challenge, and price challenge have no significant effect on the performance of online satisfaction

Electronic commerce or e-commerce refers to the buying and sale of goods and services over the Internet. E-commerce is fundamentally about the people, process, and technology involved in letting a customer or business buy goods or services from another firm or individual. Traditional commerce, they claimed, has involved tangible brick and mortar firms, storefronts, shopping malls, catalog sales, and so on for ages. Other forms of business, such as telephone and television sales, have emerged in the previous century. In the 1990s, as the Internet became popular and more widely available, a significant amount of trade shifted to the World Wide Web. Consumers now use their favorite e-commerce sites to research, evaluate and comment on items and services in addition to buying and selling. Conducted a questionnaire survey, where he found that 87.5% of customers have used the Internet to make a purchase, with 32.7% reporting that they do it regularly. Security is a big worry for both e-commerce businesses and consumers. They noted that consumers are concerned about the loss of their financial information, while e-commerce companies are concerned about the financial losses associated with break-ins and the negative publicity that may occur. According to the discussion following hypothesis may design,

Hypothesis (Null) 2: Online experience (Buy or Sell) has no significant effect on the performance of online satisfaction

E-commerce sites and customers must not only identify security vulnerabilities and viable technical solutions, but they must also assess, evaluate and resolve the risks. The user's Web browser links to the merchant or business owner on the front end. When a customer makes an online purchase, the merchant's Web server typically saves the personal information from the sale in a cache of recent orders. Using this archive one may commit credit card fraud. Companies that build superior e-business solutions will outperform their competitors (Buffam, 2000). Companies that develop the most advanced e-business solutions will become zero-latency businesses. Companies who refuse to embrace e-business, or that do so inefficiently, will underperform or go out of business. According to, the following managerial factors are critical: Electronic commerce management; sales promotion; reengineering of the purchase process; just-in-time delivery; new electronic middleman company; solution provision; business ethics. A major reason for e-commerce's rapid growth, particularly in the business-to-business market, is its enormous impact on expenses related to inventory, sales execution, procurement, and intangibles such as banking and distribution costs (Kamal *et al.*, 2012). The numerous projections of ICT in human life make a compelling case for institutional integration of ICT-related components in rural support programs implemented by governments and non-governmental organizations. Chaffey and Smith (2013) presented a rational but solid approach to E-Business and E-Commerce strategy and applications. He emphasized the importance of e-business and e-commerce for management implications and that a bridge between cutting-edge research and professional practice is essential. E-commerce is the business of conducting commercial transactions between and among companies and individuals using digital technologies. Since its inception in 1995, e-commerce has had annual growth rates of over 100% (Laudon and Traver, 2007). Amazon.com is one of the most well-known and successful online retail companies in the world, having had a transformative impact on e-commerce and acting as an example. South Asia's overall Internet and e-commerce adoption rate in 2005 was lower than the rest of the globe (Abbasi *et al.*, 2011; Kshetri and Dholakia, 2005). However, in the last ten years, this trend has shifted, with the number of Internet users and, as a result, the number of people engaging in various forms of e-business is rapidly expanding. Bangladesh is consistently listed among the top freelance work destinations on sites like work, Freelancer, and People-per-Hour, to mention a few. The prevalence of e-commerce in Bangladesh is mostly due to the widespread use of mobile internet Bangladesh's declining bandwidth prices, as well as the cost of mobile data for the country's leading mobile carriers, and a mobile data pricing comparison with countries with a

robust e-commerce market, although Bangladesh has a low percentage of overall Internet users as compared to other nations. The online transition has grown as a result of the widespread use of Information and Communication Technology (ICT) in marketing, allowing people to purchase from the comfort of their own homes or workplaces. As a result of the rise of social media, consumer participation is widespread and has the potential to provide value.

Hypothesis (Null) 3: The type of animal transaction has no significant effect on the Performance of online satisfaction

Proposed a model of attitudes and shopping intentions in general when it came to Internet shopping. The model comprised several characteristics that fell into four primary categories: Product value, shopping experience, website quality of service, and risk perceptions of Internet retail shopping. Nine characteristics are connected with users' perceptions of online purchasing (Vellido *et al.*, 2000). Among these criteria, users' risk perceptions were found to be the most important differentiator between those who bought online and those who did not. Other distinguishing aspects included control over and convenience of the purchasing process, goods affordability, customer service, and simplicity of shopping site use. Convenience, quickness, time savings, and enticing sales promotional offers are just a few of the reasons why online payments have been so popular in recent years.

Hypothesis (Null) 4: Methods of payment have no significant effect on the Performance of online satisfaction

Consumer attitudes and risk perception affected their intention to purchase from the store (Jarvenpaa *et al.*, 2000). Consumer risk perceptions and concerns about online purchasing are mostly related to elements such as personal information privacy and security, the security of online transaction systems, and product quality uncertainty. Risk and trust are inextricably linked (McAllister, 1995). One of the benefits of a trust is that it lowers the consumer's sense of risk linked with the seller's opportunistic behavior. Lack of trust is frequently stated as a reason for consumers not purchasing from Internet stores because trust is viewed as an important aspect in traditional theories under conditions of uncertainty and risk (Ganesan and Hess, 1977). Mayer *et al.* (1995) created a model that blends the trust model with classic marketing philosophy on the customer incentive to buy. The trust tendency of purchasers, which is a personality attribute, is an important antecedent of trust in this model. Before making a transaction online, the buyer does not have much information about the vendor. A buyer with a

high proclivity for trust is more likely to become a customer than one who has a low proclivity. Mayer *et al.* (1995) proposed that the essential characteristics of trustworthiness are ability, compassion, and honesty. A seller's ability includes talents and traits he or she possesses in a particular domain. Sellers must persuade customers of their organizations' expertise in the Internet shopping sector in this environment.

Hypothesis (Null) 5: Online satisfaction has no significant effect to create online opportunity

The degree to which the buyer perceives the seller as wanting to 'do well' is referred to as benevolence. Sellers must persuade buyers that they are interested to serve them well rather than merely making a profit.

## Materials and Methods

To study the challenge of an online animal transaction during coronavirus (COVID-19) opportunity a survey questionnaire was developed from the literature review and experience of the authors. The developed survey questionnaire was pre-tested with 12 respondents. Then necessary corrections and modifications were made according to the suggestion of the respondents to finalize the final questionnaire from the commercial port city Chattogram, one of the biggest animal transaction markets in Bangladesh. Now to take the opinion of online experienced animal sellers and purchasers, the questionnaire was distributed to 230 respondents by E-mail using stratified random sampling in randomized block design and collected responses in the month of July 2021. Among the collected 207 respondents, 200 response data are selected for final analysis (as some respondents answered all the questions of are the same rank and did not answer many questions). The selected survey response data were coded in IBM SPSS Statistics 20 and IBM SPSS AMOS 22 software in a five-point Likert scale ranging from 1 = Strongly disagree with the opinion to 5 = Strongly agree with the opinion. Among the valid respondents, 123 (61.5%) are experienced in buying and 77 (38.5%) are experienced in the selling of online animal transactions in the COVID-19 situation. Also, 134 (67%) of the respondents are experienced in cow/buffalo and 66 (33%) are experienced in goat/sheep transactions online. After the animal transaction 86 (43%) respondents make payments in cash on delivery, 105 (52.5%) make payments on Bikash/Rocket/Nagad and only 9 (4.5%) make payments in online bank payments. The descriptive analysis value with the frequency of each response variable is calculated. Factor analysis with Cronbach's Alpha value of each factor and Kaiser-Meyer-Olkin measure for sampling adequacy are conducted with all the response variables to classify them into challenge factors.

Then Structure Equation Model (SEM) is developed to identify factors that influence the performance of online satisfaction. Also, Mann-Whitney Test and Kruskal-Wallis Test are conducted to determine the significant difference in the performance of online satisfaction with demographic variables. Finally, the online opportunity creation is measured from the performance of the online satisfaction factor in the COVID-19 situation.

## Online Cattle Sales

The interest in buying and selling sacrificial animals online has been increasing gradually for two or three years. In the meantime, the reliance on online shopping has increased since the coronavirus infection started in Bangladesh in March last year. According to the Department of Livestock, there are 74 thousand 56 farms in the Chattogram division. Of these, at least 20,000 farms are online. They are regularly posting pictures and videos of animals and buyers are buying bargaining. There are 13 thousand 754 temporary farms in the district. According to farmers, people are buying animals by looking at pictures and videos online instead of going to the market because of the pandemic. According to the Department of Livestock, 3 lakh 49 thousand 426 animals have been sold in various online markets run by the government and the private sector from 2<sup>nd</sup> to 19<sup>th</sup> July 2021. These animals have been sold for 2 thousand 424 crores 9 lakh 36 thousand 254 takas. Most of these animals have been traded in the Chattogram division and less in Mymensingh. In the last 18 days, 1 lakh 28 thousand 554 animals have been sold in the Chattogram division. In the Mymensingh division, 2 thousand 264 animals have been sold till last evening. Online sale of animals in Chattogram was already started by the private sector even before Dhaka. Buyers are also familiar with this system there. Officials of the department said that this time the number of online animal markets is 1 thousand 768. Of these, 602 are being run by the government and 1 thousand 166 by the private sector. So far 2 lakh 67 thousand 566 cows and buffaloes and 81 thousand 862 goats and sheep have been traded online.

## Buying Tendency of Buyer by using App

Buyers were distressed to buy a sacrificial animal in a coronavirus situation. Many people are buying cows and goats online without going to the market to avoid infection. Corona outbreak was also quite high at this time last year. So the trend of buying animals online has started, and now the scope has increased even more. When it comes to buying animals online, new buyers are worried. They are confused about which cow is better and which one has more meat. But people who know have made this complex task easier through the app. Some apps give you an idea of the potential weight of the animal and the amount of meat. Then you can set the price per kg of meat yourself. Farmers call this method 'live weight'.

They are selling cows online to buyers by promoting this method. Both the farmer and the buyer say that the chances of cheating are less if the animal is bought at the rate of kg by weight method. Those who bought determining the weight and quantity of meat last year in this way also say that the method is effective.

### *The Effect of Online Sales Upon Cattle Sellers*

Animal traders are claiming that the impact of the epidemic coronavirus has incurred loss to the sale of animals at the sacrificial market in the capital this time. They comment that they have had to sell the animals at a "much lower price" than the desired price like last year. Moreover, the concerned people say that alternative cattle places can affect the sale of cattle in different markets. 71 thousand cows have been sold online in Chattogram from the online market of the Department of Livestock alone. On the other hand, 35 thousand cows have been sold directly from the farm. Analyzing the data provided by the Department of Livestock, it has been seen that Chattogram Division is at the forefront of online animal sales in the whole country. A total of one lakh 26 thousand 465 animals have been sold in this section, the market price of which is 894 crore 43 lakh 14 thousand 948 takas. Dhaka division is in the next place. So far 25 thousand 851 animals have been sold in this district for 261 crores 42 lakh 48 thousand 147 takas. In addition to the online platform, cows are also found in the backyards of different houses in the village. In addition to the farms, cows are being found at relatively low prices at the agro farms of the entrepreneurs who sell fattened cows. Buyers say that there are more beautiful cows in these places than in the market. On the one hand, the fear of corona and to avoid the additional cost of Hasil, buyers are relying on these sources to buy cows instead of the market. While looking for the answer to the question of why there are still fewer buyers in the large animal markets, it was seen that not only the high prices but also the corona issue is coming in front of the buyers as a cause. People are now less inclined towards big markets as they want to avoid crowds. However, most of the cattle sellers of the big markets in Chattogram are from Rajshahi, Natore, Bogra, and Kushtia areas and corona infections are more prevalent in those areas. Considering all aspects, people are choosing small markets, farms, or villages to buy cows at low prices and without any hassle. In contrast, the price of cattle is 20% lower than the market in well-known companies like Sara Agro and Nahar Agro. They have come to the Sagarika cattle market to compare these institutions with the market. It is known that another reason for buyers to go to small markets or farms is the fixed income of the tenants. The buyer has to pay 5 thousand takas if he buys a cow worth one lakh taka from the big market. This money of the buyer is saved if he buys cows from agro or farm. Even thinking about that 'Hasil', many people are

flocking to these yard markets. But this time, the 'online cattle market' of the Department of Livestock has poured water into the arrangements of the big markets. The minister-MP and health-conscious buyers are also buying cows online. For the first time, the Department of Livestock has started selling cows online. Cows of a total of 37 farms are being sold at the online market of the Chattogram District Animal Resources Department.

## **Results and Discussion**

### *Descriptive Statistics of Respondents*

The descriptive statistics (N, Sum, Max, Min, Mean and Standard deviation) result is shown in Table 1.

From the descriptive table, the variation of mean and standard deviation for the satisfaction of online performance are 3.26 to 3.44 and 0.93 to 1.05, for a personal challenge are 2.83 to 2.86 and 1.20 to 1.26, for a market challenge are 2.34 to 2.53 and 0.89 to 0.98, for a social and religious challenge are 2.65 to 2.91 and 1.07 to 1.18, for price challenge are 3.81 to 3.98 and 0.90 to 1.04 and online opportunity respectively.

The result shows that the mean and standard deviation values vary with overlapping each other, so factor analysis is conducted to test the questionnaire and to classify the questionnaire into challenge factors, which is demonstrated in Table 2.

### *Factor Analysis*

In the factor analysis, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy value is 0.862 (significance level 0.000). So, we can apply the factor analysis method to divide the response variable into six different factors. In the factor analysis table, the survey response values are classified into six factors such as satisfaction with online performance (factor loading 0.807 to 0.878), personal challenge (factor loading 0.862 to 0.935), online opportunity (factor loading 0.720 to 0.932), market challenge (factor loading 0.805 to 0.919), social and religious challenge (factor loading 0.820 to 0.929) and price challenge (factor loading 0.794 to 0.947) respectively.

The factor loading result shows all factor loadings are greater than 0.400, which indicates all measurements for each factor have good reliability. The Cronbach's Alpha value of each factor as the satisfaction of online performance is 0.956, personal challenge is 0.959, an online opportunity is 0.906, the market challenge is 0.921, social and religious challenge is 0.920, and price challenge is 0.909 respectively (all the Cronbach's Alpha values are >0.7). It indicates that the survey response with factors is most reliable and consistent. Based on the above factor analysis result, a structural equation model of satisfaction of online performance and opportunity with a challenge is developed (Fig. 1).

From the above structure equation model, the factor loadings for a personal challenge is 0.841-1.000, for a market challenge is 0.795-1.194, for a social and religious challenge is 0.901-1.042, for price challenge is 0.827-1.298, for the satisfaction of online performance is 0.829-1.000 and for online opportunity is 0.980-1.435 respectively. Here all the factor loadings are very high and significant ( $p < 0.05$ ). The error variance for Personal challenges, market challenges, social and religious challenges, price challenges, satisfaction of online performance, and online opportunity is 0.021 to 0.363, -0.024 to 0.384, 0.135 to 0.561, -0.067 to 0.532, 0.187 to 0.359 and 0.026 to 0.423 respectively. The covariance values are -0.076 to 0.167, which are also significant ( $p < 0.05$ ). In the model,  $\chi^2/df$  is 1.189 (which is  $< 3$ ), Comparative Fit Index (CFI) value is 0.980 (which is  $> 0.9$ ), Incremental Fit Index (IFI) is 0.981

(which is  $> 0.9$ ), Tucker Lewis Index (TLI) is 0.979 (which is  $> 0.9$ ), Root Mean Square Error of Approximation is 0.031 (which is  $< 0.08$ ). Here, the model meets all the standards of the survey and hence the model is well-fitted.

The path coefficient of Personal challenge to Performance of online satisfaction is 0.284 ( $p < 0.000$ ). Hypothesis (Null) 1 is rejected for Personal Challenge. So, the Personal challenge factor has a positive significant effect on the Performance of online satisfaction. On the other hand, the path coefficient of the Market challenge to Performance of online satisfaction is 0.133 ( $p = 0.022$ ). Hypothesis (Null) 1 is rejected for a Market challenge. So, the Market challenge factor has a positive significant effect on the Performance of online satisfaction.

**Table 1:** Descriptive analysis result of questionnaire variables

Sl. no	Questionnaire	Variable name	N	Min	Max	Sum	Mean	Standard deviation
1.	Satisfaction of online performance							
a.	Satisfied with availability of animals	Satisfy 1	200	2	5	661	3.31	1.00
b.	Satisfied with virtual appearance of animals	Satisfy 2	200	2	5	688	3.44	1.00
c.	Satisfied with quality of animals	Satisfy 3	200	2	5	651	3.25	0.99
d.	Satisfied with price of animal	Satisfy 4	200	2	5	671	3.36	0.93
e.	Satisfied with right choice of animal	Satisfy 5	200	2	5	663	3.32	1.03
f.	Satisfied with delivery of sufficient animals	Satisfy 6	200	1	5	659	3.29	1.05
g.	Satisfied with payment for animals	Satisfy 7	200	2	5	674	3.37	1.01
h.	Satisfied with online animal transaction in COVID-19 situation	Satisfy 7	200	2	5	668	3.34	0.95
2.	Personal challenge							
a.	Hardware facilities (like computer, laptop, mobile etc.) of online work	PerChal 1	200	1	5	566	2.83	1.25
b.	Available software package of online work	PerChal 2	200	1	5	569	2.85	1.20
c.	Knowledge of online work	PerChal 3	200	1	5	566	2.83	1.24
d.	Personal challenge of animal identification	PerChal 4	200	1	5	571	2.86	1.26
e.	Personal skill of online market place	PerChal 5	200	1	5	572	2.86	1.24
3.	Market challenge							
a.	Availability of online market place	MarChal 1	200	1	4	467	2.34	0.96
b.	Available quality of animal	MarChal 2	200	1	4	497	2.49	0.98
c.	Available quantity of animal	MarChal 3	200	1	4	487	2.44	0.89
d.	Available size of animal	MarChal 4	200	1	4	501	2.51	0.91
e.	Available price of animal	MarChal 5	200	1	4	505	2.53	0.93
4.	Social and religious challenge							
a.	Social acceptance of online market	SocChal 1	200	1	5	529	2.65	1.11
b.	Accepted with religious concept	SocChal 2	200	1	5	554	2.77	1.07
c.	Family acceptance of online animal transaction	SocChal 3	200	1	5	580	2.90	1.15
d.	Challenge of defect free animal for Kurban	SocChal 4	200	1	5	573	2.87	1.10
e.	Increasing the acceptability of online animal transaction	SocChal 5	200	1	5	581	2.91	1.18
5.	Price challenge							
a.	Reasonable price of online animal transaction	PriChal 1	200	2	5	761	3.81	1.04
b.	Reasonable price with size (diameter and length) of animal	PriChal 2	200	2	5	777	3.89	1.03
c.	Reasonable price increases animal firm in future	PriChal 3	200	2	5	793	3.97	0.90
d.	Reasonable price increase the online sale of animal	PriChal 4	200	2	5	796	3.98	1.03
e.	Reasonable price will reduce the tradition hat	PriChal 5	200	2	5	791	3.96	0.95
6.	Online opportunity COVID-19 situation							
a.	Animal transaction with safe environment	Opport 1	200	2	5	759	3.80	0.88
b.	Animal transaction with less time consuming and quicker	Opport 2	200	2	5	754	3.77	0.87
c.	Animal transaction with save money transfer	Opport 3	200	2	5	775	3.88	0.87
d.	Animal transaction with COVID-19 free situation	Opport 4	200	2	5	780	3.90	0.81
e.	Animal transaction without going traditional hat	Opport 5	200	2	5	784	3.92	0.83
f.	Reduce the traffic jam and road accident for road side hat	Opport 6	200	2	5	768	3.84	0.86

**Table 2:** Factor analysis and Cronbach's Alpha values of response variables

	Component						Cronbach's Alpha
	1	2	3	4	5	6	
Satisfy 2	0.878						0.956
Satisfy 7	0.870						
Satisfy 1	0.862						
Satisfy 8	0.851						
Satisfy 3	0.846						
Satisfy 5	0.844						
Satisfy 4	0.828						0.959
Satisfy 6	0.807						
PerChal 1		0.935					
PerChal 4		0.906					
PerChal 3		0.873					
PerChal 5		0.872					
PerCha 12		0.862					0.906
Opport 2			0.932				
Opport 3			0.848				
Opport 4			0.810				
Opport 6			0.802				
Opport1			0.785				
Opport 5			0.720				0.921
MarChal 2				0.919			
MarChal 5				0.863			
MarChal 1				0.853			
MarChal 3				0.842			
MarChal 4				0.805			
SocChal 2					0.929		0.920
SocChal 1					0.890		
SocChal 4					0.873		
SocChal 5					0.840		
SocChal 3					0.820		
PriChal 2						0.947	
PriChal 1						0.877	0.909
PriChal 5						0.823	
PriChal 4						0.797	
PriChal 3						0.794	

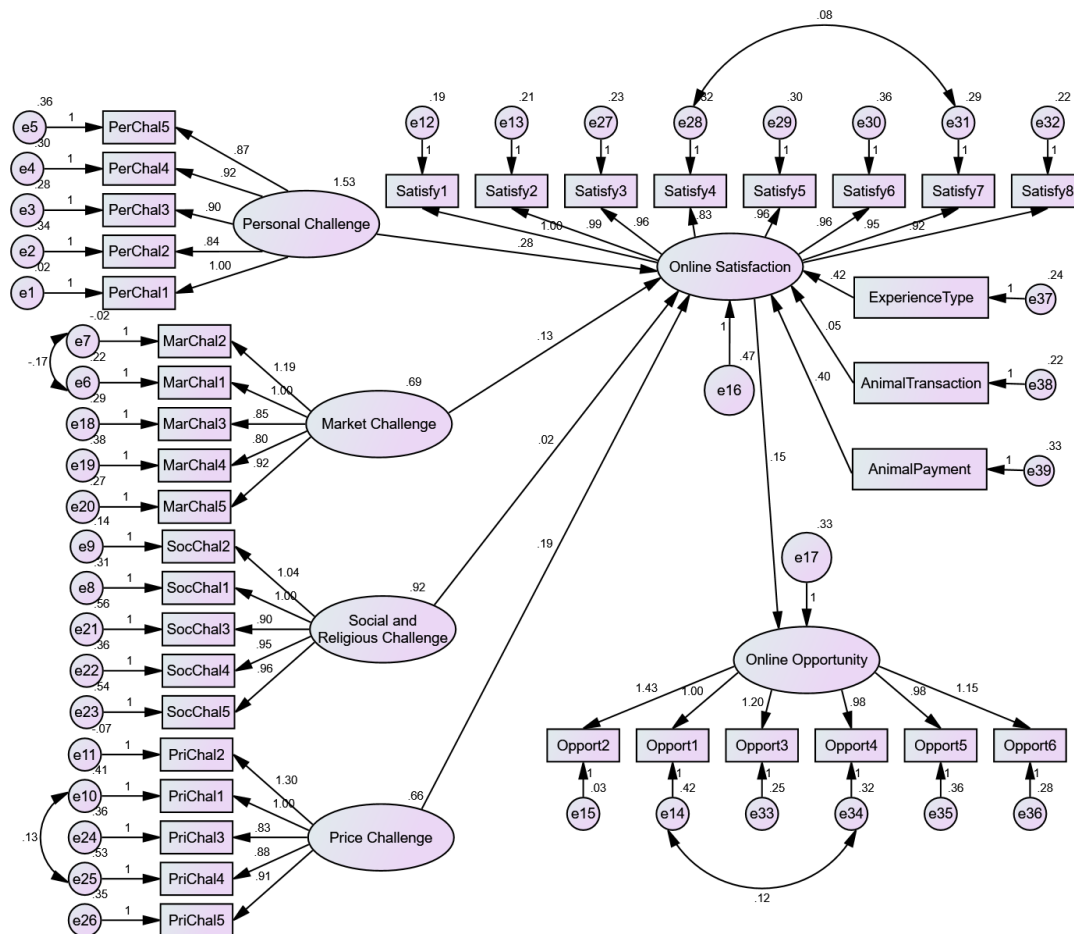
Extraction method: Principal component analysis  
 Rotation Method: Varimax with Kaiser normalization  
 a. Rotation converged in 6 iterations

**Table 3:** Performance of online satisfaction with type of experience, animal transaction and payment method

Measured variable	Measured value	Number of observation	Mean performance of online satisfaction	Standard deviation of online satisfaction	Test	Test-statistic value	Sig. (2 tail)
Online Experience type	Buy	123	3.128	0.824	Mann-Whitney test (z)	4.132	0.000
	Sell	77	3.664	0.848			
Online Animal transaction	Cow/buffalo	134	3.346	0.888	Mann-Whitney test (z)	0.226	0.821
	Goat/sheep	66	3.311	0.842			
Online payment Method for animal transaction	Cash on delivery	86	2.898	0.755	Kruskal-wallis Test (Chi-Square)	42.271	0.000
	Bikash/rocket/nagad	105	3.705	0.811			
	Online bank payment	9	3.194	0.638			

The path coefficient of Social–Religious challenge to Performance of online satisfaction is 0.019 ( $p = 0.723$ ). For Social–Religious Challenge, there is not enough evidence to reject Hypothesis (Null) 1 (as the  $p$ -value is greater than 0.05). So, the Social–Religious challenge factor has no significant effect on the Performance of online satisfaction. The path coefficient

of Price challenge to Performance of online satisfaction is 0.188 ( $p = 0.002$ ). Hypothesis (Null) 1 is rejected for Price Challenge. So, the Price challenge factor has a positive significant effect on the Performance of online satisfaction. Again, the path coefficient of Online experience (Buy or Sell) type to Performance of online satisfaction is 0.416 ( $p < 0.000$ ).



**Fig. 1:** Structural equation model of satisfaction of online performance and opportunity with a challenge

Hypothesis (Null) 2 is rejected for the Online experience (Buy or Sell) type. So, there is a significant effect on the Performance of online satisfaction. The mean performance of online satisfaction for buy and sell are 3.128 and 3.664 with a standard deviation of 0.824 and 0.848 respectively (Table 3). The Mann-Whitney Test (z) statistic value of the performance on online satisfaction for a type of online experience (buy and sell) is 4.132 (p 0.000). The result shows to reject hypothesis (Null) 2 and the online selling experience group shows significantly higher satisfaction than the online buying experience group.

The path coefficient for a type of online animal transaction to Performance of online satisfaction is 0.051 (p = 0.637). For online animal transactions (Cow/Bufalo and Goat/Sheep), there is not enough evidence to reject Hypothesis (Null) 3. So, there is no significant effect on the Performance of online satisfaction. The mean performances of online satisfaction for Cow/Bufalo and Goat/Sheep are 3.346 and 3.311 with a standard deviation of 0.888 and 0.842 respectively (Table 3). The Mann-Whitney Test (z) statistic value of the performance on online satisfaction for a type of online animal transaction (cow/bufalo and goat/sheep) is

0.226 (p 0.821). The result shows not enough evidence to reject hypothesis (Null) 3 and there is no significant difference in the performance of online satisfaction for a type of online animal transaction.

The path coefficient of the online payment method for an animal transaction to Performance of online satisfaction is 0.400 (p<0.000). Hypothesis (Null) 4 is rejected for the online payment method for the animal transaction. So, there is a significant effect on the Performance of online satisfaction. The mean performance of online satisfaction for Cash on delivery, Bikash/Rocket/Nagad, and Online bank payment is 2.898, 3.705, and 3.194 with a standard deviation of 0.755, 0.811, and 0.638 respectively (Table 3). The Kruskal-Wallis Test (Chi-Square) statistic value of the performance on online satisfaction for the online payment method for an animal transaction is 42.271 (p 0.000). Based on this result hypothesis (Null) 4 is rejected and the online Bikash/Rocket/Nagad payment method has significantly higher satisfaction of performance than cash on delivery and online banking payment method for the animal transaction.



The path coefficient of Performance of online satisfaction to online opportunity create in the COVID-19 situation is 0.151 ( $p = 0.003$ ). Hypothesis (Null) 5 is rejected for online opportunities created in the COVID-19 situation. So, the Performance of the online satisfaction factor has a positive significant effect on online opportunity creation in the COVID-19 situation.

## Discussion

The factor leading result shows all factor loadings are greater than 0.400, which indicates all measurements for each factor have good reliability. Here all the factor loadings are very high and significant ( $p < 0.05$ ). The error variance for Personal challenges, market challenges, social and religious challenges, price challenges, satisfaction with online performance, and online opportunity is 0.021 to 0.363, -0.024 to 0.384, 0.135 to 0.561, -0.067 to 0.532, 0.187 to 0.359 and 0.026 to 0.423 respectively. The covariance values are -0.076 to 0.167, which are also significant ( $p < 0.05$ ). Here, the model meets all the standards of the survey and hence the model is well-fitted. The path coefficient of the Social-Religious challenge to Performance of online satisfaction is 0.019 ( $p = 0.723$ ). For Social-Religious Challenge, there is not enough evidence to reject Hypothesis (Null) 1 So, the Social-Religious challenge factor has no significant effect on the Performance of online satisfaction. The path coefficient of Price challenge to Performance of online satisfaction is 0.188 ( $p = 0.002$ ). Hypothesis (Null) 1 is rejected for Price Challenge. So, the Price challenge factor has a positive significant effect on the Performance of online satisfaction. Again, the path coefficient of Online experience (Buy or Sell) type to Performance of online satisfaction is 0.416 ( $p < 0.000$ ). Hypothesis (Null) 2 is rejected for the Online experience (Buy or Sell) type. The path coefficient for a type of online animal transaction to Performance of online satisfaction is 0.051 ( $p = 0.637$ ). For online animal transactions (Cow/Buffalo and Goat/Sheep), there is not enough evidence to reject Hypothesis (Null) 3. The path coefficient of the online payment method for an animal transaction to Performance of online satisfaction is 0.400 ( $p < 0.000$ ). Hypothesis (Null) 4 is rejected for the online payment method for the animal transaction. So, there is a significant effect on the Performance of online satisfaction. The path coefficient of Performance of online satisfaction to online opportunity create in the COVID-19 situation is 0.151 ( $p = 0.003$ ). Hypothesis (Null) 5 is rejected for online opportunities created in the COVID-19 situation. So, the Performance of the online satisfaction factor has a positive significant effect on online opportunity creation in the COVID-19 situation.

## Conclusion

The result and discussion depict that the Personal challenge factor, Market challenge factor, and Price challenge factor have a significant effect on the

performance of online satisfaction animal transactions in the COVID-19 situation. But Social-Religious challenge factor has no significant effect on the performance of online satisfaction animal transactions. The experiment shows the online selling experience group is significantly more satisfied than the online buying experience group. There is no significant difference in the performance of online satisfaction for all types of online animal transactions. It is also observed that the online Bikash/Rocket/Nagad payment method has significantly higher satisfaction of performance than cash on delivery and online banking payment method for the animal transaction. Finally, the Performance of the online satisfaction factor has a positive significant effect on online opportunity creation in the COVID-19 situation.

## Recommendations

Personal challenge factor, Market challenge factor, and Price challenge factor have a significant effect on the performance of online satisfaction of animal transactions. So, it is recommended to overcome these factors to develop the online animal transaction in the COVID-19 pandemic situation in Bangladesh:

1. The social-Religious challenge factor has no significant effect on the performance of online satisfaction animal transactions. So, the online animal transaction is highly socially and religiously acceptable in the COVID-19 pandemic situation to ensure safety
2. The online selling experience group is significantly more satisfied than the online buying experience group's online satisfaction with the animal transaction. So, the selling group should improve the quality of service in online animal selling, so that the buying group becomes more satisfied. Thus the online market may sustain and continue to expand in future
3. The result shows there is no significant difference in the performance of online satisfaction for a type of online animal transaction. So, all types of animal transactions may be feasible and applicable in online safe health position in the COVID-19 situation
4. The online Bikash/Rocket/Nagad payment method has significantly higher satisfaction of performance than cash on delivery and online banking payment method for the animal transaction. So, the online Bikash/Rocket/Nagad payment method may widely be used in the online selling of animals regularly for the satisfaction of buyers and sellers
5. Finally, the performance of the online satisfaction factor has a positive significant effect on online opportunity creation. So, the factor of online satisfaction performance may create the opportunity to increase the online animal transaction market in the COVID-19 pandemic situation or any other adverse situation in future

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## Author's Contributions

**Md. Shahnur Azad Chowdhury:** Conceived and develop the idea and hypothesis.

**Md. Shahidul Islam:** Contributed to do the major analysis.

**A. M. Shahbuddin:** Contributed to identify crucial findings based on the analysis and designed the discussion part, policy implication and concluding remarks.

**Mustafa Manir Chowdhury:** Performed the experiments, contributed to materials/analysis tools, prepared figures and/or tables of the paper.

**Mohammad Shyfur Rahman Chowdhury:** Reviewed the literature, performed mathematical calculations and looked after the linguistic coherence.

**Farah Israt Tania:** Developed questionnaire, collected data and rectify the same.

**Mohammad Nazmul Hoq:** Adjusted the 1<sup>st</sup> and 2<sup>nd</sup> tiers reviewer's comments.

## Ethics

This article is original and contains unpublished material. The corresponding author confirms that all of the other authors have read and approved the manuscript and no ethical issues involved.

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## Appendix:

### Challenges and opportunities of growing performance online animal selling in Bangladesh for the COVID-19 situation

Name	Yes	No
Do you have any experience in online animal selling or buying		
What type of experience in online work	Buying	Selling
What type animal transaction online	Cow/Buffalo	Goat/Sheep
How made payment for animal transaction	Cash on delivery	Bikash/Rocket/Nagad
		Online bank payment

### Survey questionnaire

Serial No.	Description of questionnaire	Strongly agreed	Agreed	Neutral	Disagreed	Strongly disagree
1.	<b>Satisfaction of online performance</b>					
a.	Satisfied with the availability of animals					
b.	Satisfied with virtual appearance of animals					
c.	Satisfied with the quality of animals					
d.	Satisfied with the price of animals					
e.	Satisfied with animals selection					
f.	Satisfied with the delivery of sufficient quantity animals					
g.	Satisfied with payment system of animals					
h.	In the COVID-19 circumstance, satisfied with online animal transactions					
2.	<b>Personal challenge</b>					
a.	Non availability of hardware facilities (like computer, laptop, mobile, etc.) for online work					
b.	Non availability of software package					
c.	Lack of proper experience for online work					
d.	Lack of proper identification of animals					
e.	Lack of technical skill on online market					
3.	<b>Market challenge</b>					
a.	Insufficient online marketplaces					
b.	Availability of quality selection of animals					
c.	Available quantity of animals					
d.	Proper identification of animals' size and shape					
e.	Reasonable price of animals					
4.	<b>Religious and Social challenge</b>					
a.	Acceptance of religious concept					
b.	Social acceptance of online market					
c.	Family acceptance of online animal transaction					
d.	Challenge of defect-free animal for <i>Qurbani</i>					
e.	Challenge of acceptance of online animal transaction					
5.	<b>Price challenge</b>					
a.	Unusual price of online transaction					
b.	Higher price in relation to size and shape of animal					
c.	Unusual price increases of animal farms in future					
d.	Higher price of online sale of animals					
e.	Unusual price of keeping animals in tradition hat					
6.	<b>Online opportunity COVID-19 situation</b>					
a.	Safe environment					
b.	Time saving					
c.	Safety of money transfer					
d.	Animal transaction with COVID-19 free situation					
e.	Avoiding inconvenience to go to the traditional hat					
f.	Avoid traffic jam and road accidents					