Factors Influencing Consumers' Continuance Usage Intention Toward Food Delivery Apps during COVID-19 in Bangladesh

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Raihan Sharif*
Amit Barua**

Abstract: *The aim of this research is to identify the factors that are crucial to formulating consumers' attitude toward using food delivery apps (FDAs) continuingly during the coronavirus pandemic. Due to the pandemic, the catering enterprises changed their way of doing business significantly and gone through a digital transformation to survive. Consequently, this marked a shift in consumers' attitude towards FDAs. To understand the shift and how consumers' technological and mental perceptions are contributing to continuance usage intentions, a hypothetical model was proposed using variables from Unified Theory of Acceptance and Use of Technology (UTAUT), Expectancy Confirmation Model (ECM) and the Task-Technology fit Model. A structured questionnaire was used to collect feedback from the repeat users of the FDAs through online social media sites and food review groups. In total 198 valid responses were gathered and analyzed. Structural Equation Modeling (SEM) through AMOS 26 was utilized to test the proposed model fit. Some items in the constructs had to be dropped off to make the model fit. Initially four hypotheses were proposed. Among them only two were validated. The outcomes show that satisfaction and social influence have significant positive impact in determining continuance usage intention toward FDAs among Bangladeshi consumers. While perceived Task-technology fit and trust have non-significant relationship with consumers' continuance intention. These insights might prove helpful for both online food aggregators and catering businesses in designing marketing plan and formulating effective strategies to build a sustainable consumer base. Future research can extend the model by adding more variables to understand relevant technology's continuance usage intention. This paper is a unique contribution to the existing literature on FDA continuance intention on coronavirus emergency because no previous studies were undertaken to investigate Bangladeshi consumers. So, this is an original piece of work according to the best of the researchers' knowledge.*

Keywords: *Continuance usage intention; Satisfaction; Trust; Perceived Task-Technology Fit; Food Delivery Apps; COVID-19; Bangladesh.*

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* Assistant Professor, Institute of Business Administration, Jahangirnagar University, Dhaka-1342, Bangladesh, Email: Raihan.sharif@juniv.edu, Orcid ID: orcid.org/0000-0002-3691-9735

** MBA Graduate, Institute of Business Administration, Jahangirnagar University, Dhaka-1342, Bangladesh, Email: amitideal10@gmail.com

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1.0 Introduction

1.1 Background of Study

The rapid proliferation of cheap smart devices induced millions of people around the globe to adopt smartphones. The multiple functional benefits offered by smartphones have resulted in particular popularity among consumers. 62% of the population of Bangladesh will adopt smartphones by the year 2025 (GSMA, 2021). The robust development of internet infrastructure in Bangladesh has contributed to consumers using app-based services. FDAs are among the most popular mobile application-based services till date (Statistia, 2021a). The functionality of FDAs, convenient online order placement and offline doorstep delivery may be attributed to the popularity of FDAs among both consumers and restaurants alike. FDAs act as an interface for consumers and catering businesses to interact without meeting the actual staff of the catering enterprises.

Meanwhile, COVID-19 emerged as a global public health emergency with the first confirmed case found in Wuhan, China in December 2019 and gradually reaching all countries of the world (WHO, 2020). In Bangladesh, the first confirmed COVID-19 case was found on 8th March, 2020 (Islam et al., 2020). Health authorities emphasized hand washing, wearing masks, social distancing and avoiding gathering and travel restrictions to slow down the spread of coronavirus and contain it locally. Government authorities around the world enforced strict lockdowns from time to time during COVID-19, imposing restrictions on mobility and limiting public service. These measures severely affected restaurants and catering businesses. With no dine-in facility available, the revenue suffered (Statistia, 2021b). That is where FDAs and online food aggregators came to rescue the traditional restaurant businesses. More and more traditional restaurant businesses registered with FDAs providers and the traditional catering industry saw a digital transformation.

Moreover, FDAs started providing additional services to the consumers such as groceries, essentials, medicines and rations supply and COVID insurance to riders. In the new normal situation, FDAs satisfied consumers' food and daily necessities demand and provided safety and convenience (Zhao and Bacao, 2020).

To ensure sustained operations during and after the pandemic businesses need to understand the consumer landscape better. Although a number of works deal with FDA adoption, the literature on continuance intention is limited and focused on different cultural contexts. This study will try to explore factors crucial to FDAs continuance intention in Bangladesh context. The emergence of new strains and recurring waves of coronavirus across the countries imply that this pandemic is not going to be over very soon and the new normal situation will persist. Consequently, this study will help existing online food aggregators and catering enterprises to understand the Bangladeshi consumers better and formulate effective strategies.

1.2 Research Gap

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The existing literature on FDAs is quite scarce, as most of the relevant literature exists on online Food delivery service (OFDS). Even though some research exists on FDA adoption, the number of works on continuance intention is limited and deals with consumers of different cultural contexts. So, there is a gap in related research as it is well accepted in consumer behavior literature that findings of one country or cultural context may not be generalizable to another country or culture (Leo et al., 2005). As no prior work had been done in the context of Bangladesh, this work attempts to understand antecedents of continuance intention toward using FDAs during COVID-19 emergency situation among Bangladeshi consumers. Thus, it is a unique piece of work according to the best of the researchers' knowledge.

1.3 Research Objective

This study tries to sufficiently address the following two research questions:

1) What are the specific factors that are determining continuance usage intention of FDAs among Bangladeshi consumers amid COVID-19?

2) What can third-party online food aggregators do to influence consumers' continuingly using FDAs in Bangladesh?

1.4 Scope of the Research

This study only focuses on technological and mental expectations of consumers that are contributing to continuance intention of using FDAs in a specific emergency of coronavirus pandemic in Bangladesh context. Technology specific characteristics of FDAs are out of the scope of this study.

The data collection period of the study was from 6th January of 2021 to 3rd February of 2021. So, the results of this study only reflect consumers' perceptions regarding FDAs at that time frame.

1.5 Research Limitations

This study has a few limitations. Due to the COVID-19 crisis, data were collected through an online medium and practical one-to-one data collection was not possible. Due to internet connectivity not being the same among different groups of individuals thus, the variability of the response was not high. Again, this was the first attempt of the researcher in building a model and thus some items had to be dropped to make the model fit.

1.6 Structure of the paper

The next section provides a literature review and hypothesis development. The hypothesized model is showcased in section 03. Section 04 describes research methodology including measurement development and data collection. The reliability and validity tests as well as hypothesis tests are provided in section 05. Section 06 discusses the model results with implication towards marketing as well as theoretical perspectives. Section 07 concludes the paper with future suggestions.

2.0 Literature Review & Hypothesis Development

2.1 Food delivery apps

FDA is a mobile application-based service that allows consumers to place online order and receive offline delivery service. It offers convenience to the consumer by delivering food to their doorsteps and acts as a platform for catering businesses and consumers to interact. Well known restaurant chains such as Pizza Hut, Pizzaburg, Domino's or Sultan's Dine have developed their own FDA. Meanwhile the third-party online food aggregators' FDAs enjoy much more popularity as they offer consumers to order foods from a wide range of restaurants and catering enterprises. Examples of this category include FoodPanda, Pathao Food, Shohoz Food, HungryNaki, Khaas Food, Cookups, Foodfex, and Kludio. In the ongoing coronavirus epidemic context, the features of FDAs proved to be extremely beneficial to consumers, especially the contactless delivery service. Furthermore, FDAs started new ancillary services such as groceries and daily necessities supply, over-the-counter drugs and rations supply to the consumers. These extra services fulfilled the consumers' demand of enjoying food conveniently and enabled them to effectively maintain social distancing. Consequently, consumers' attitude towards FDAs has shifted positively and online food buying budgets have seen a significant increase. Previous researchers focused on FDA behavioral intention or adoption in varied cultural contexts. Yeo et al., (2017) applied Theory of Reasoned Action and Theory of Planned Behavior to investigate Malaysian consumers' behavioral intentions toward FDAs. They concluded that hedonic motivation, price and time-saving motivation, online purchase experience, convenience, perceived usefulness all have significant positive influence on behavioral intention. In the context of South Korean consumers, Lee et al., (2019) utilized the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model and validated that social influence, habit and information quality is associated with FDA continuance intention. Additionally, Roh and Park (2019) used the Technology Acceptance Model (TAM) and concluded that subjective norm, compatibility and perceived usefulness are significant antecedents of FDA adoption. In one of the studies on Chinese consumers, Cho et al., (2019) showed trustworthiness to be the single most significant determiner of users' continuance intention while disregarding additional contributing factors. In another study, Zhao and Bacao (2020) integrated variables from Task-Technology fit model to confirm antecedents of Chinese consumers' continuance intention of using FDAs during the COVID-19 pandemic. Satisfaction, in their findings, had the most crucial role to play in formulating consumers' attitudes toward continuingly using FDAs. At one study in the Middle Eastern context of Jordanian consumers, UTAUT2 variables combined with online tracking, rating and reviews features were found to have significant positive relation with consumers' continuance intention during the new normal situation (Alalwan, 2020). Kapoor and Vij (2018), in India explored technology specific characteristics of FDAs and confirmed that navigational design, information design, visual design, and collaboration design

had significant positive relationship with conversion rate. In another study on Indian consumers, Ray et al., (2019) validated that ease of use, customer experience had significant positive influence on the adoption intentions of consumers and this study largely overlooked technology characteristics of FDAs. Saad (2021) focused on online food delivery services in Bangladesh. Therefore, this study incorporates variables from UTAUT, ECM and Task-Technology fit model for better understanding Bangladeshi consumer dimension and identifying the factors critical to continuance intention during COVID-19 pandemic.

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2.2 Relevant Theories

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT model is extremely beneficial to explain consumers' adoption of emerging technologies. The model is a derivative of the TAM (Venkatesh et al., 2003). Several previous studies add extra variables with the UTAUT model to investigate continuance intention of mobile technologies. For instance, Abu-Taieh et al., (2022) expanded UTAUT with the theory of planned behavior (TPB) to prove significant positive influence on customers' continued intention to use mobile banking in Jordan. Furthermore, Alalwan (2020) showed that the extended UTAUT model can be combined with variables from other models to describe continued intention to reuse mobile food ordering apps.

Expectancy confirmation model (ECM)

The ECM model, developed by Bhattacherjee (2001) is quite popular among technology continuance usage researchers. The fundamental component of ECM is expectations, confirmation and satisfaction. Till its inception ECM is widely used in exploring mobile technology continuance intention. Tam et al., (2020) combined ECM variables with UTAUT2 variables to investigate mobile apps continuance intention. Wang et al., (2022) incorporated trust with the ECM and validated trust and satisfaction impact continuance intention positively in the case of mobile food ordering apps.

Task- Technology fit model

The Task-technology fit is extremely crucial in the technology adoption stage. Goodhue and Thompson (1995) argue that a particular technology will receive positive behavioral intention if the technology function matches the user's task. In this COVID-19 pandemic period, FDAs functions provide a contactless food delivery service which is beneficial to consumers as it helps them to effectively maintain social distancing. At the same time FDAs fulfill consumers' requirement of efficient food supply while dine-in options are limited. The Task-technology fit model was applied to explore determinants of information system or service adoption (Kuo and Lee, 2011). Moreover, Task-technology fit model is compatible with other models such as TAM to investigate continuance intention of using wireless technology (Yen et al., 2010).

2.3 Hypothesis Development

The UTAUT and the Task-Technology Fit model's primary emphasis is on technology's initial adoption while the ECM focuses on technology's continuance intentions. Technological expectations are prime focus in both the UTAUT and the Task-Technology Fit model while ECM focuses on mental expectations. In other words, UTAUT, Task-Technology Fit, and ECM complemented each other in explaining technology's continuance usage intention. So, this study incorporates social influence from UTAUT, perceived task-technology fit from task-technology fit model, satisfaction from ECM and another additional variable trust to analyze continuance intention of FDAs usage during the COVID-19.

Perceived Task-Technology Fit

In terms of information systems adoption, Perceived task-technology fit (TTF) is a significant antecedent (Goodhue and Thompson, 1995). It is in the core of the task-technology fit model. It essentially argues that users' will adopt a certain technology if their individual task matches technology's functions. TTF as an extra variable with UTAUT2 variables explained continuance intention of certain mobile technologies such as mobile payments (Wu et al., 2021) and knowledge management systems (Kuo and Lee, 2011). FDAs allow the consumers to enjoy the delivered food at the safety of their home and maintain social distancing. In Bangladesh, FDAs providers launched contactless delivery amid the COVID-19 pandemic. These specific FDA functions are beneficial to consumers in the pandemic period. So, this study assumes that:

H1: Perceived Task-technology fit has a positive relationship with continuance intention of using FDAs during the COVID-19.

Social influence

As defined by Venkatesh et al., (2003) in the UTAUT, social influence is the influence of society on an individual's attitude to use particular technology. Social influence as an important variable of the UTAUT model has been proved to have a significant positive relationship with mobile technology adoption in many previous studies. For instance, Chopdar (2022) found social influence to be a significant determiner of Covid-19 contact tracing app adoption in India. Moreover, social influence was confirmed to have significant positive relationship with the continuance intention of mobile banking apps (Abu-Taieh et al., 2022) and FDAs (Muangmee et al., 2021). So, this study assumes that:

H2: Social influence has a positive relationship with continuance intention of using FDAs during the COVID-19.

Trust

In technological perspective, the definition of trust entails individuals' confidence or reliability in that technology. It is the faith that the individuals can rely on the technology service provider on their promised actions (Gefen, 2000). Trust as an additional variable of UTAUT2 was confirmed as a significant

antecedent of behavioral intention of mobile banking adoption for both the Lebanese and English consumers (Merhi et al., 2019). Moreover, Kilani et al., (2023) incorporated trust with the extended UTAUT2 and validated trust impact continuance usage intention positively in the case of e-wallets. So, this study assumes that:

H3: Trust has a positive relationship with continuance intention of using FDAs during the COVID-19.

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Satisfaction

Bhattacherjee (2001) defined satisfaction as expectation conformations regarding using a certain technology. Satisfaction will occur when technology performance exceeds an individual's prior expectations. Satisfaction is found over and over again in technology continuance literature. As a principal element of Expectancy confirmation model (ECM) satisfaction has a crucial role to play in determining continuance intention of using mobile technologies. For instance, Wang et al., (2022) confirmed that satisfaction impacts continuance intention positively in the case of mobile food ordering apps. Furthermore, satisfaction can be modified with variables from other models such as UTAUT2 to examine continuance intentions of mobile applications (Tam et al., 2020). So, this study assumes that:

H4: Satisfaction has a positive relationship with continuance intention of using FDAs during the COVID-19.

3.0 Hypothesized Model

Consulting previous studies and proposed hypotheses the authors propose the following hypothesized model to examine determinants of continuance intention of using FDAs amid COVID-19 pandemic.
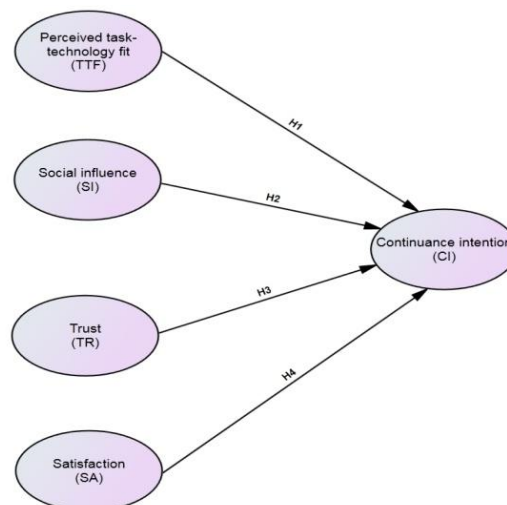

Figure 1. Hypothesized Model

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This proposed model contains four independent variables: Perceived task-technology fit (TTF); Social influence (SI); Trust (TR); Satisfaction (SA) and one dependent variable Continuance intention towards FDAs or (CI). The variables are incorporated from discussed models as no single model can provide comprehensive explanation to the complex phenomenon of consumers' continuance intention of using certain technology in particular emergency (Oliveira et al., 2014).

4.0 Methodology

4.1 Sampling & Data Collection

The questionnaire was distributed through online social media sites targeting the user of FDAs. Respondents belonged to a varied set in terms of gender, age, occupation, education level etc. The sample was obtained through a one month data collection period starting from 6th January 2021 and ending at 3rd February 2021. This was the time when due to COVID-19 lockdown was going on in Bangladesh and many individuals were purchasing food from the third-party online food aggregators. According to Saad (2021), FDAs usage increased to 70-80% in the period of 2020 than that of the previous year. A snowball sampling method was applied. The questionnaire was posted on different Bangladeshi online Food Blogging groups such as FoodBank and Facebook pages. A total of 198 responses were collected. According to Comrey & Lee (2013) sample size should be around 200 would be considered fair enough for SEM analysis. In this study, the sample size is 198 which is close to 200. Again, one of the most popular rules of thumb is to take 20 cases per indicator variable suggested by Nunnally (1978). Moreover, Field (2000) implied sample sizes can be small if the factor loadings are high. Then the sample data set was scrutinized for any kind of anomaly. No data were found missing.

4.2 Measurement

The measures used in this study had appropriate literature support. The items and the constructs used to operationalize the model were adopted from previous studies. The study measured five constructs that are modified for adjusting in the context for FDAs usage of Bangladeshi consumers during pandemic. Each of the constructs was measured with multiple items. The items have been measured with a five-point Likert scale ranging from "1 = Strongly Disagree" to the highest "5 = Strongly Agree". Perceived TTF was incorporated from Goodhue and Thompson (1995); Social influence (SI) was adopted from Venkatesh et al. (2003); Trust (TR) was modified from Cho et al., (2019); Continuance intention (CI) and Satisfaction (SA) were accepted from Bhattacherjee (2001). To ensure the validity of the response received through the questionnaire, each response was pre-tested and the validity of the instrument was tested.

4.3 Statistical Analysis Technique

Various statistical tools were utilized during this study. For Cronbach α coefficient and data validation SPSS 23 was utilized. The proposed model was

tested using the SEM by AMOS 26 software utilizing the maximum likelihood estimation and bootstrapping technique (198 samples, and 95% significance level). This study followed the two-step approach suggested by Anderson & Gerbing (1988). The measurement model was evaluated before examining the structural model. The measurement model states how the proposed constructs are evaluated by the means of the indicator variables whereas the structural model reveals the underlying associations among the latent factors. Confirmatory factor analysis (CFA) was performed to establish the construct validity in the measurement model stage. After verifying internal reliability content and construct validity the structural model was examined to test the hypothesis and model fit.

5.0 Data Analysis and Results

5.1 Demographic Analysis

The demographic characteristics of the respondents are presented in Table 1. it shows a skewness in terms of gender, occupation, and educational level. Male respondents comprised almost 64.1% (n = 127) and females comprised (n = 71) and 35.9% in total. This number is a representation of the fact that male individuals are predominantly the users of FDAs. The majority of the respondents (77.8%) were between the age of 21 and 30 years old. This result is supporting the trend in the literature which reports that the majority of FDAs users are within a younger age as they are more responsive and innovative to technological advancements. The education level of 79.3% of respondents was bachelor's or equivalent degrees completed by individuals, and almost 15.2% of the respondents are currently students taking tertiary or higher degree education. Besides, Students and private service holders encompass the larger part of the group as it is no surprise that their busy work schedule in part contributes to their habit of ordering food using FDAs (Bezerra et al., 2013). Furthermore, 76.8% of the participants in this survey ordered anything using online FDAs during this pandemic.

Table 1. Demographic Characteristics

Measure	Item	Frequency	Percentage
Gender	Male	127	64.1
	Female	71	35.9
Age	<21	33	16.7
	21-30	154	77.8
	31-40	11	5.6
	41-50	0	0
	>50	0	0
Education	High School and lower	10	5.1
	Bachelor's or equivalent	157	79.3
	Master's	30	15.2
	PhD and above	1	0.5
Occupation	Student	161	81.3

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Measure	Item	Frequency	Percentage
	Private Service	26	13.1
	Govt. Service	3	1.5
	Business	3	1.5
	Unemployed	3	1.5
	Freelance	2	1
	Other	0	0
Frequency	At Least 1 Time Every 3 Days	20	10.1
	At Least 1 Time Per 1 Week	50	25.3
	At Least 1 Time Every 2 Weeks	31	15.7
	At Least 1 Time Per 1 Month	51	25.8
	Never Used During The Pandemic	46	23.2

5.2 Measurement Model

CFA has been utilized to evaluate the validity and reliability of the study instrument. The measurement model included twenty items explaining five constructs. Table-2 reveals the findings of the measurement model.
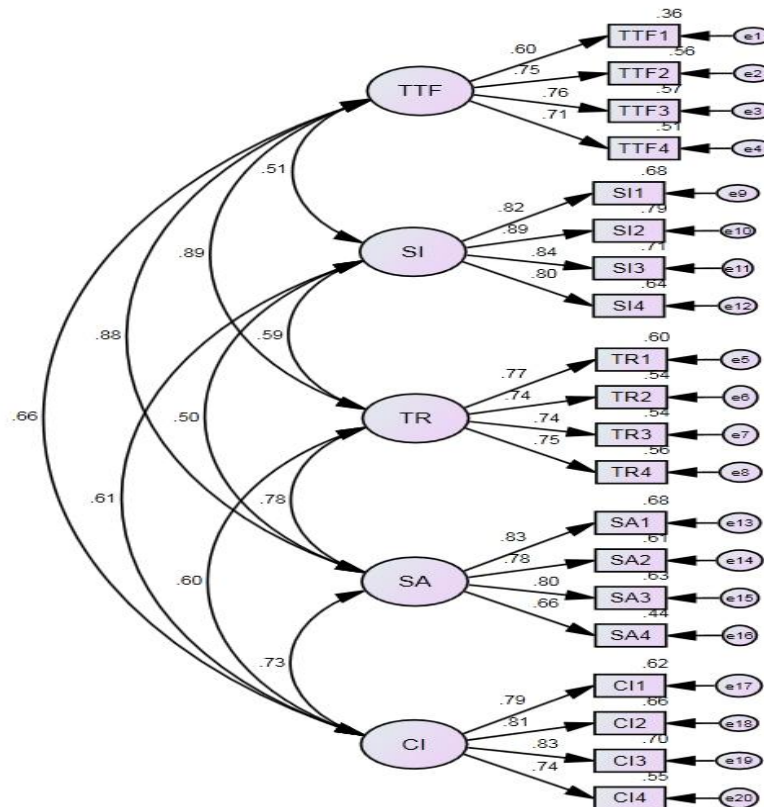

Figure 2. Primary Measurement Analysis

From the initial measurement analysis, it was seen that any of the model fit indices did not reach the cut-off value point. To reach the factor loadings of 0.7 as suggested by SEM literature the constructs TTF1 and SA4 were dropped. The model fit indices were developed after doing the analysis in a loop. Five variables remained with eighteen items.
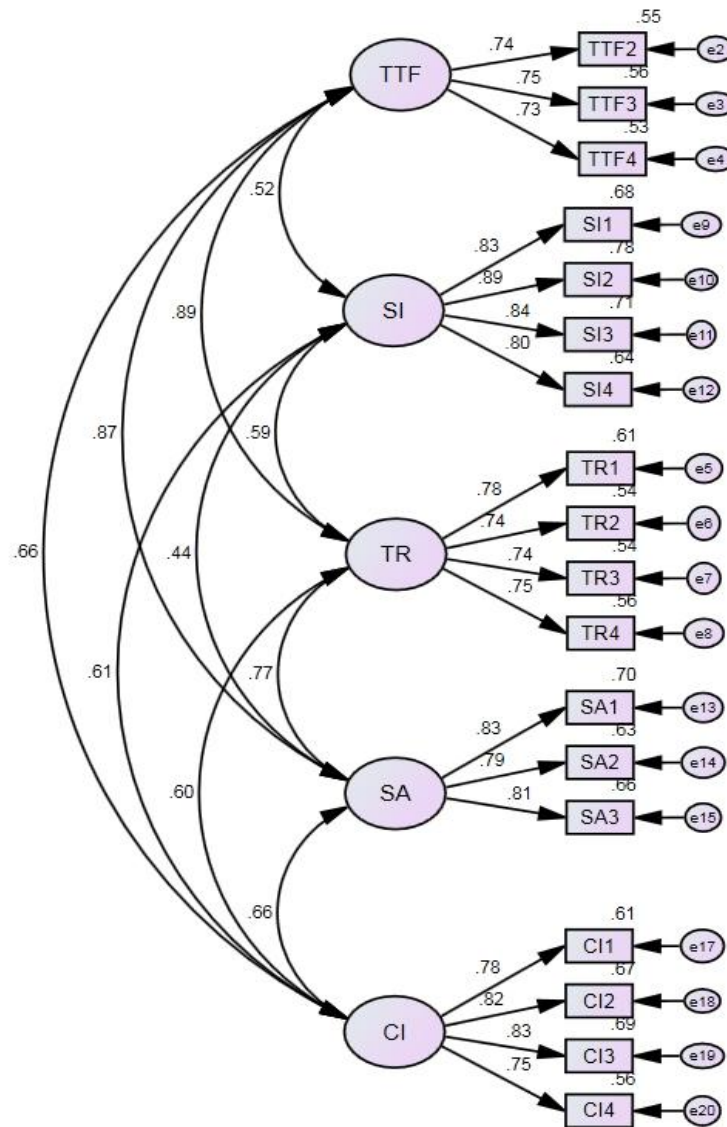

Figure 3. Measurement Model

Then internal consistency, and convergent validity, and discriminant validity were checked. Internal consistency has been examined by Cronbach α coefficient and composite reliability (CR). The construct reliability considers the real factor loadings. It is revealed from table 2 that the CR values of each construct safely

surpassed the cut-off point 0.6 suggested by Bagozzi & Yi (1988). Since the latent constructs have been measured by multi-items, corresponding validity tests for each factor were carried out. Convergent validity signifies the degree to which manifold measures of every construct comply with each other. According to Bagozzi & Yi (1988) a low level of a sign of convergent validity is existent when factor loadings of items are not significant.

The average variance extracted (AVE) reflects the overall amount of shared variance among the indicators measuring a particular latent construct, in this case, the values for all are above the accepted level of 0.50 (Bagozzi & Yi, 1988). Table 2 depicts factor loadings, CR, and AVEs of all constructs. It can be seen that three of the constructs were deducted as they did not pass the cutoff point. Thus, ultimately three constructs and the statements presented in table two were the ones used for further analysis.

Table 2. Results of Measurement Model

Constructs	Items	Factor loadings	Internal reliability Cronbach α	Composite Reliability (CR)	Average Variance Extracted (AVE)
Perceived task-technology fit (TTF)	TTF2	0.742	0.782	0.78410883	0.74
	TTF3	0.75			
	TTF4	0.728			
Trust (TR)	TR1	0.778	0.837	0.837089657	0.74975
	TR2	0.737			
	TR3	0.737			
	TR4	0.747			
Social influence (SI)	SI1	0.826	0.904	0.904434811	0.838
	SI2	0.885			
	SI3	0.841			
	SI4	0.8			
Satisfaction (SA)	SA1	0.834	0.854	0.854387836	0.813333333
	SA2	0.794			
	SA3	0.812			
Continuance intention (CI)	CI1	0.781	0.871	0.872697	0.79425
	CI2	0.818			
	CI3	0.831			
	CI4	0.747			

Discriminant validity is defined as the extent to which a set of variables of a particular construct differ from other constructs in the model. This suggests that the variance shared among a set of items measuring a construct and their construct is higher than the variance shared with other constructs in the model. Following the criterion suggested by Fornell & Larcker (1981) the discriminant validity is determined by comparing the square root of the AVE values with the correlations among the constructs. The result is presented in Table 3. It indicates

that the square root of AVE as represented in the diagonal is higher than other values in its row and columns. These results verify that the model has adequate discriminant validity.

Table 3. Results of Discriminant Validity

	CI	SI	TR	TTF	SA
CI	**0.891**				
SI	0.608	**0.915**			
TR	0.604	0.587	**0.866**		
TTF	0.662	0.519	0.687	**0.860**	
SA	0.657	0.437	0.771	0.761	**0.902**

5.3 Goodness of Fit Indicators

The measurement model was assessed on various goodness of indices. Including relative χ2; Approximate good of fit index (AGFI); Normed fit index (NFI); Comparative fit index (CFI); Standardized root-mean-square-residual (SRMR) and Root mean square of approximation (RMSEA). The overall goodness of fit of the model was acceptable when compared to the threshold values suggested in the SEM literature.

The observed normed χ2 for measurement model was 1.972 (χ2 = 246.526, df = 125) which is ≤ 3.000 suggested by Bagozzi & Yi (1988) so this fit is quite good.

Other fit indexes also indicated a good fit for the measurement model. The adjusted goodness of fit model (AGFI) was 0.832 which is higher than the threshold value of 0.800 as suggested in the SEM literature Chau & Hu (2001). The non-normed fit index (NNFI or TLI) and comparative fit index (CFI) were 0.932 and 0.944, respectively higher than 0.900 suggested by Hu & Bentler (1999).

Also, the root mean square error of approximation (RMSEA) was 0.070 which is lower than 0.08 which was proposed by Browne & Cudeck (1992). The combination of these indicators confirms that the measurement model has fitted the data and it can efficiently reproduce the covariance matrix

5.4 Model Fit Results for Measurement Model

Table 4. Model fit indices for the Measurement Model

Fit Indices	Score	Recommended value	Reference
CMIN/Df	1.972	≤ 3.000	(Bagozzi & Yi, 1988)
AGFI	0.832	≥ 0.800	(Chau & Hu, 2001)
CFI	0.944	≥ 0.900	(Hu & Bentler, 1999)
TLI	0.932	≥ 0.900	(Hu & Bentler, 1999)
RMSEA	0.070	≤ 0.080	(Browne & Cudeck, 1992)

*Notes: Diagonal values represent the square root of the average variance extracted (AVE) while the off-diagonal values represent the correlation among the latent constructs.

5.5 Structural Model Results

Having confirmed the validity and reliability of the measurement model, the next step was to test the hypotheses by running the structural model. The structural equation model was developed according to the previous hypotheses. As the data was not normal, maximum likelihood estimation and bootstrapping technique (198 samples, and 95 % significance level) were used. Figure 3 shows the causal linkages and fit statistics for the structural model.

The overall goodness of fit of the model was acceptable when compared to the threshold values that were suggested in the SEM literature. The observed normed $\chi2$ for the measurement model was 1.972 ($\chi2 = 246.526$, df = 125) which is lower than 3.0; AGFI value was 0.832 greater than 0.800; CFI was 0.944 which is greater than 0.900 and RMSEA 0.070 which is less than 0.08.

Now the path analysis was done. Upon running the analysis, it was seen that the Social influence has a positive impact on Continuance intention with a ($\beta = 0.395$, p<.001). So, H2 is supported. Again, hypothesis H4 predicted that Satisfaction had an impact on Continuance intention which is found to be positive ($\beta = 0.355$, p<.05) at the significance level of .05. So H4 is supported. Hence H2 and H4 were supported as postulated in the study.
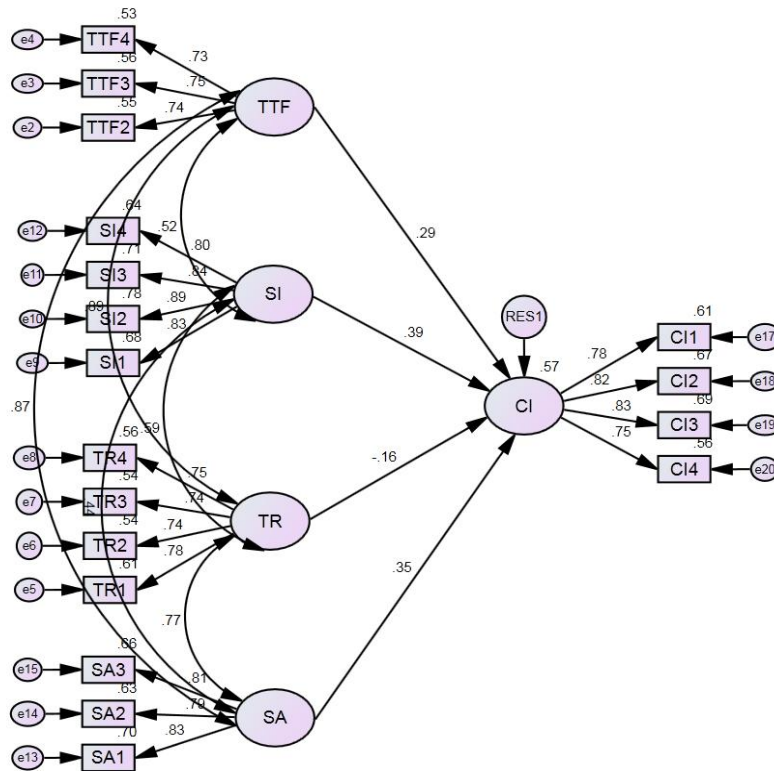

Figure 4. Structural Model Results

On the other hand, the impact of Perceived task-technology fit had no impact on Continuance intention (β = -0.291, p> .05). Thus, H1 was not supported as it was proposed in the study.

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Again, the impact of Trust had no impact on Continuance intention (β = -0.159, p> .05). Again, one thing to notice here it was assumed Trust would have a positive impact but here the path coefficient is showing negative. Thus, H3 was also not supported.

Table 5. Results of the Hypotheses tests

Hypothesis	Hypothesized direct effect	Path Coefficient	*p*-value	Decision
H1	Perceived task-technology fit has a positive relationship with continuance intention	0.291	0.352	**Not Supported**
H2	Social influence has a positive relationship with continuance intention	0.395	***	**Supported**
H3	Trust has a positive relationship with continuance intention	-0.159	0.483	**Not Supported**
H4	Satisfaction has a positive relationship with continuance intention	0.355	0.043	**Supported**

Notes: ***$p < 0.001$; **$p < 0.05$

The coefficient of determination, r2 is 0.57 for Continuance intention (CI) endogenous latent variable. This means that the latent variables explain only 57% of the continuance usage intention of consumers.

In this study, two of the four hypotheses were accepted as significant. Table 6 summarizes the standardized path coefficient and the probability level of it. Perceived task-technology fit and Trust had no causal relationship with Continuance intention towards FDA usage during pandemic.

6.0 Discussion

The study aimed to identify key drivers, driving consumers' continuingly using third-party FDAs amid the coronavirus pandemic. Initially, this paper assumed four main factors that would affect the continuance usage intention of FDAs among Bangladeshi consumers but in the end, it was seen that only two of the variables which are satisfaction and social influence were the two significant variables affecting FDA continuance intention.

The study findings validated that satisfaction significantly contributes to FDA continuance usage intention which is similar to the results found by Alalwan (2020); Chotigo and Kadono (2021). The positive beta coefficient (β = 0.355) indicates that consumers will continue using FDAs amid the pandemic if they are

satisfied. An increase in 1 unit of satisfaction will increase the continuance intention by 0.355 unit or 35.5%.

Social influence was found to be significant and has a positive impact which again is similar to the results found by Muangmee et al. (2021) ; Abu-Taieh et al. (2022). Social influence (β = 0.395) had positive beta coefficients which indicate 1 unit increase in Social influence would increase 0.395 unit for continuance intention. From the values, it is clear that Social influence had a positive impact on Bangladeshi consumers' continuance usage intention. This may be a cultural effect of Bangladeshi consumers as they belong to a more collectivistic society.

However, Perceived task-technology fit as well as Trust had no significant relationship with FDA continuance usage intention. The results are against previous research done by Zhao and Bacao (2020) but consistent with a study done by Chotigo and Kadono (2021). The perceived task-technology fit and trustworthiness had become irrelevant in formulating continuance usage intention regarding FDAs as consumers are familiar with the apps' functions and services from their experience of initial adoption.

6.1 Theoretical Implications

The theoretical contribution of the paper is that it extends the technology continuance usage literature in specific emergency contexts (COVID-19) by exploring the case of FDAs in Bangladesh. Many previous researches used traditional technology adoption models to investigate mobile technology's continuance usage intention among consumers, but the unique contribution of this study is to incorporating variables from UTAUT, Task-technology fit model and ECM model, thus proposing a new model to identify both mental and technological factors regarding FDA continuance intention. This proposed model provides wider modeling flexibility to incorporate other variables in further examining mobile technology's continuance usage intention. Secondly, this empirical study was made on the Bangladeshi consumers and thus the findings are little bit different from some of the previous research done in the context of other countries. This may be partly attributed to cultural differences such as the effect of collectivist society. Further research may be able to unearth this.

6.2 Managerial Implications

The outcomes of the study have certain managerial implications for businesses. First, it equips relevant stakeholders such as catering enterprises and third-party online food aggregators with the insight that Bangladeshi consumers' continuance intention regarding FDAs is primarily determined by satisfaction and social influence. So, online food delivery aggregators should strive to enhance satisfaction by carefully monitoring the whole process from maintaining proper hygiene in food preparation to efficient and timely delivery. Thus, ensuring a high service quality and getting one step close to customer retention amid the coronavirus pandemic. Secondly, as social influence has a significant role to play in formulating Bangladeshi consumers' continuance attitude toward using FDAs, benefits of the specific functions of FDAs should be highlighted in designing

marketing communications. The principles of social marketing such as selling attitudes and behaviors for greater good of the society must be on the background of any communication attempt by the FDA provider. As young people are the primary users of FDAs by default social networking sites should be the preferred communication medium. Therefore, drawing insights from the study, online food aggregators and catering enterprises will be able to develop effective strategies for retaining customers not only in the COVID-19 pandemic period but also in future after the crisis. Moreover, similar online order and offline delivery businesses such as mobile shopping can also apply the knowledge generated in this study.

7.0 Conclusion & Suggestion for Future Research

This study explored the understanding continuance intention of using FDAs by using variables from UTAUT, Task-technology fit model and ECM. This type of study has not been done much for an emerging country like Bangladesh. Careful attention was paid to avoid any kind of overlapping of attributes of constructs. This study found that satisfaction and social influence were the key constructs in shaping consumers' continuance intention toward FDAs amid the coronavirus pandemic. Trust as similar to some past studies was not significant here. But the astounding fact was the Perceived task-technology fit was found insignificant here. This fact needs to be researched more to find whether truly the consumers do not feel the need for FDAs when the specific situation is ideal for utilizing technology's functions and features.

Finally, the development of FDAs is in the nascent stages. Various companies are entering into the market and the food service market outside the traditional catering business is increasing. Yet, this particular study does not differentiate between the FDAs such as FoodPanda, Pathao Food, Shohoz Food, HungryNaki, Khaas Food, Cookups, Foodfex, and Kludio. Therefore, further study on these effects while considering different FDAs should be made at future to understand the effect of various attributes on the development of FDAs among consumers in the context of Bangladesh.

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