

Factors Affecting Online Food Delivery Application on Continuous Intention During Covid-19: A Case Study of Food Panda

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Abstract

The purpose of this research is to examine the factors affecting online food delivery applications on the continuous intention during COVID-19. For this research, the sample size of 200 respondents was taken by using a convenient sampling strategy. The questionnaire was adopted from previous studies and it was consisting of a 5-likert scale from strongly disagree to strongly agree. The data was gathered on three independent variables and one dependent variable continuous intention during covid-19. Two techniques were used reliability analysis and multiple regression analysis in SmartPLS version 3. The result of SEM showed that there is a significant impact of habit, price, and social influence on the continuous intention during COVID-19. The findings of this study can be said an empirical support to top management of food pandas and concerned managers who are managing this food application in context of Hyderabad, Pakistan. Due to COVID-19 online to offline become an important in order to survive in this situation where the physical stores are closed for the end customers.

Keywords: *Continuous Intention, Habit, Price Value, Social Influence, COVID-19*

1. Introduction

Today's competitive environment has developed a new form of business which lead to online to offline (O2O) and developed new challenges for doing business in a new way as compared to traditional (Liu et al., 2017; Cho et al., (2019). Most of time the customer used to prefer offline or non-physical stores for buying goods and services for number of reasons including COVID-19. In the mobile applications play a vital role for connecting the buyers with suppliers through smartphone applications (Lyu & Hwang, 2015; Kim et al., 2019). O2O has emerged in service oriented such as hotels, food services, car rentals and real estate so on. This how people are now habitual and getting benefits from these mobile apps (Lee et al., 2017). It has been practically observed that the competition in the food industry is also increased (Lee et al., 2017). Therefore, it need to find out the key factors which may influence the customer continuous intention to use e-commerce in the context of a small-scale restaurant (Jeon et al., 2017).

Online to offline represents a forum for consumers to buy online or from physical stores a wide variety of goods or services. This money-making approach integrates market opportunities offline with Web or market system and renders the Web a fully incorporated, robust, and highly developed e-commerce site (Chan et al., 2008).

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Managers and markets have tried to exploit the O2O business style to drag more Web clients to their apparent offline stores by furnishing improved shopping openings easily, easy to understand the structure, and a wide assortment of goods and services (Hubert et al., 2017). Continuous intention to use mobile applications is directly linked with the perceived value of a customer. Whilst using online food delivery application customer always look for ways through which they can decrease the price (Wang, et al., 2019). People get influenced by their surrounding and they use an application on a continuous basis which then become their habit. A study conducted by Venkatesh et al., (2007), which resulted in that usage of mobile commerce applications are influenced by the social influence. Social influence makes people use the online food delivery application because the watch others how they get their food delivered at their doorstep so, it affects them and they got influence by their surrounding.

2. Literature review and hypothesis development

2.1 Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

The technology acceptance model is taken from the theory of reasoned action (TRA) and many past studies are concluded based on this acceptance of technology (Pavlou, 2003). Especially, in regard of mobile commerce and e-commerce (López-Nicolás et al., 2008; Ha & Stoel, 2009). Individuals have now developed a perception that the new advanced technology can make their life easier and the intention to use of these technology is practically observed (Venkatesh et al., 2012; Alalwan et al., 2018). One of the factors social influences in context of new technology use is enforced to looking close people in circle (Venkatesh et al., 2012). People tend to follow their peers in order to use of new technology (Bagozzi, & Lee, 2002). The social influence is found positive impact on the intention to use of technology in context of new goods and services (Venkatesh et al., 2003). However, this model has certain limitations particularly the psychological factors or cognitive factors are not taken into consideration. In order to make this model more specific and stronger a study was conducted by (Venkatech et al., 2012). In this improved model they introduced a key factor such as price value and habit so on. In context of mobile application, the price value can be defined as “the perceived benefits of using an app versus the monetary costs incurred using the app” (Dodds et al., 1991). When a customer feels that the benefits of new technology more than cost at this point, they prefer to use a newly introduced technology. Another an important factor is Habit may come from learning but sometimes the environmental external factors may suggest to develop that habit (Hsu et al., 2015). Therefore, the habit cannot be ignored for the technology acceptance model.

2.2 Causality Orientation Theory (COT)

Causality orientation Theory also supports the conceptual model of this study for a number of reasons. COT is the mini theory of self-determination theory which is considered as a macro concept with many sub-theories (Deci & Ryan, 1985). Causality orientation theory is based on three important components including psychological process, controlled orientation, and autonomy orientation (Vansteenkiste et al., 2010). Psychological or human behavior can be defined as the individual may act as per current

emerging situations such as COVID-19 and they can regulate their behavior (Deci & Ryan, 1985; Vansteenkiste et al., 2010; Gilal et al., 2020). Furthermore, the individual may behave according to external or internal demands that he or she faces at the current situation. This situation or factor can be said the “controlled orientation” (Gilal et al., 2018). Therefore, this theory also supports to factors of this study such as social influence, price value and habit.

2.3 Hypothesis Development

Social Influence

The social influence cannot be ignored in context of using smartphone for using e-commerce applications in today’s competitive business environment. A study conducted by Venkatesh et al., (2003), suggested the idea of social influence “the extent to which an individual perceives that important others believe he or she should apply the new system”. In the mobile food order applications such as food panda is new concept for customers of Hyderabad and it is practically observed most of them influenced by surrounded people in form of family members, friends, and colleagues so on. The opinion of these individuals is considered an important for making decision in regard of marketing (Okumus et al., 2018; Dwivedi et al., 2017). It is also true that the most of people want to get social approval in this new information system and they make the decision accordingly (Verkijika, 2018; Khalilzadeh et al., 2017). There are many empirical studies have been conducted in context of mobile ecommerce. A recent study conducted by Verkijika (2018), confirmed the role of social influence as positive predictor of customer’s intention to use e-commerce mobile applications. Similarly, to this study another study carried by Khalilzadeh et al., (2017), also confirmed the same results as a positive and significant impact of social influence for intention to use of mobile. Lastly, Okumus et al., (2018), social influence is found to have positive and significant impact on intention to use mobile application in USA’ customers as well. Therefore, the following hypothesis is suggested:

H1: Social Influence positively related to continuous intention to use mobile application during COVID-19.

Price Value

The price value is taken into consideration by the customers as the financial feature, especially the newly developed goods and services (Venkatesh et al., 2003). In past many studies also revealed their findings that the customers most of time compare the prices for newly introduced goods and services as the financial cost for using it as the first-time buyer (Venkatesh et al., 2012; Dwivedi et al., 2017). Most of the customers also take the ordering food cost while using the mobile food ordering application with respect to the old way of buying goods and services. Therefore, the price value to be considered as the key factor for the continued intention to use and e-satisfaction. A recent Dwivedi et al., (2017) in regard of mobile banking showed a positive relation between price value and intention to use. Lastly, a study conducted on Canadian customer’s also revealed the role of price value for the intention to use mobile e-commerce. Thus, the following hypothesis is developed.

H2: Price value positively related to continuous intention to use mobile application during COVID-19.

Habit

According to a study by Limayem et al., (2007), habit is can be developed as a customer repeating the same behavior and a learning experience is also observed during this course to time. Now day’s people are more involved in use of smartphones and they also associated themselves with smartphones. A study by Ajzen and Fishbein (2005), the result of learning experience will be converted into habitual behavior. Therefore, an individual may develop attitude that will be turned into behavior in form of continued intention to use mobile phone. In past studies the role of habit has been studied in context of mobile e-commerce and adoption of use of the mobile phone (Sun & Chi, 2018; Rana et al., 2017; Amorso & Lim, 2017). A recent study by Morosan and DeFranco, (2016), confirmed that the habit is positive impact on customer’s intention to use mobile in hotel sector. Similarly, in Jordan habit is also found to have positive role for using the mobile banking application (Alalwan et al., 2018). Lastly, Venkatesh et al., (2012) also revealed a positive habitual behavior for towards mobile food applications in order to use in the future. Therefore, in the light of this review following hypotheses is recommended.

H3: Habit positively related to continuous intention to use the mobile application during COVID-19.

Based on above theoretical framework and literature review following the conceptual model of this study is proposed. See the figure 1:

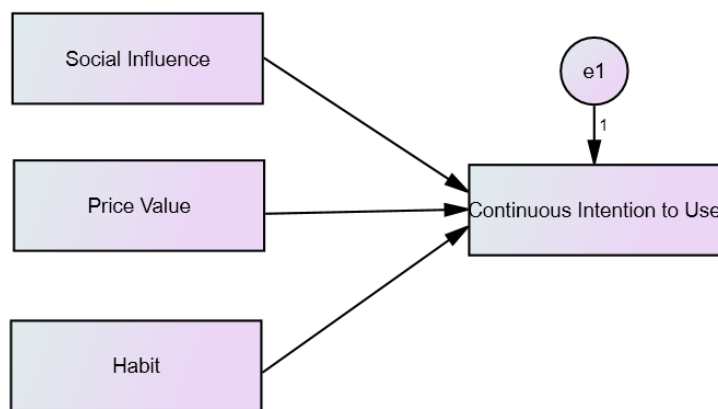


Figure 1. Conceptual Framework

3. MATERIAL & METHODS

3.1 Procedure, sampling strategy and Sample size

Primary data means that the data has been collected for the first time and here the data is collected through an online Google form from the respondents and the structural adopted questionnaire is used which is based on an online food panda delivery application that effects on the continuous intention during COVID-19. The population of this research is customers from different age's group from Hyderabad Pakistan who are using online applications while using the food panda mobile application. Convenience sampling has been used and it is usually one type of non-probability technique and it examine as an attainability and contiguous for the respondents. There is a way which is used to determine the sample size and the method is 10:1 (10 samples for one item). A rule of thumb proposed by Roscoe (1975) that if you are using quantitative research and performing multiple regression analysis so, you must have adopted the criteria as (Number of items * 10). In our research, we used 16 items so, $16*10=160$. In order to get accuracy in our results we collected 200 responses.

3.2 Measurement:

All factors including the dependent variable (continuous intention to use) and independent variables (social influence, price, and habit) research items are adopted from previous studies. Adopted questionnaire based on five Likert scale from strongly disagree to strongly agree (1-5 scaling). The continuous intention to use four items are taken from the study of Lee et al., (2019) and one item from the study of Cho et al., (2018). Research items are "I intend to continue using food delivery apps during COVID-19, I will always try to use food delivery apps in my daily life during COVID-19, I plan to continue to use food delivery apps frequently during COVID-19 I intend to keep ordering food through the delivery app during COVID-19 and I have decided to use food delivery apps for purchasing foods the next time during COVID-19".

Social influence is also taken from the study of Lee et al., (2019). Items are "People who are important to me think that I should use food delivery apps for purchasing foods during COVID-19, People who influence my behavior think that I should use food delivery apps for purchasing food during COVID-19 and People whose opinions I value prefer that I use food delivery apps for purchasing food during COVID-19".

Price value is three items are adopted from the research of Cho et al., (2018) and one item from the study of Lee et al., (2019). Research Items are "When I order food through the delivery app, the food is a good product for the price during COVID-19, When I order food through the delivery app, the food is economical during COVID-19, When I order food through the delivery app, the food is reasonably priced during COVID-19 and I can save money by using food delivery apps for purchasing foods by comparing the prices offered at different online stores during COVID-19".

Lastly, the Habit Lee et al., (2019). Research items are taken are "Purchasing foods through food delivery apps is almost like a habit for me during COVID-19, I am addicted to using food delivery apps for the purchase of foods during COVID-19, I must

use food delivery apps for purchasing foods during COVID-19 and Using food delivery apps for purchasing foods has become natural to me during COVID-19”.

4. Results and discussion

4.1 Demographic of Respondents

The Table 1 below shows the number of respondents which are further categorized as Gender, Age of Respondent, their Frequency to buy online, their expenditure on online purchase and their education. In this research, we collected data through online portal and there were 200 respondents who participated willingly and those were the food panda delivery application users. As shown below that out of 200, 131 were male respondents and 69 were female. Participants were from different age groups like, 27.5% were from 15-20 years’ age group, 33.5% from 21-25 age group and rest of the respondents were from 26-30, 31-35 and 36-40 age groups. Respondents were asked about their expenditure of food through the delivery application so, the greater expenditure percentage was 57% which means people expenditure is 5000-10000 and lowest were 11.5% means Above 20000 expenditures and lastly, we asked regarding their education background so, most percentage respondents were from post-graduation background means 29% and lowest percentage of respondents were from Intermediate background which means 19%.

Table 1. Respondent Profile

Gender	Frequency	Percent
Male	131	65.5
Female	69	34.5
Total	200	100.0
Age of Respondent		
15-20	55	27.5
21-25	67	33.5
26-30	50	25
31-35	19	9.5
36-40	09	4.5
Total	200	100.0
Frequency to buy online		
1-2 Times	66	33
3-4 Times	52	26
5-6 Times	35	17.5
Above 7 Times	47	23.5
Total	200	100.0
Expenditure on online purchase		
5000-10000	114	57
10000-15000	38	19
15000-20000	25	12.5
Above 20000	23	11.5
Total	200	100.0

Education		
Intermediate	38	19
Graduation	56	28
Under Graduation	48	24
Post-Graduation	58	29
Total	200	100.0

4.2 Reliability Analysis

As you can see in above Table 2 the reliability statistics, the Cronbach’s alpha value tells us about the decisions for the data on which we have performed the reliability test. We can judge the reliability in terms of if it is 60 means good and if it is above 70 then it will be classified as excellent so, as the Cronbach’s Alpha, the composite reliability of all the variables is above 70 so, it will be classified as Excellent and the variables are judged individually for their total number of items. Lastly, the average variance extracted is also greater than the suggested value .50. The results show that the data is reliable.

Table 2. Reliability and Validity of Variables

Variables	Cronbach’s Alpha	No of Items	Composite Reliability	Average variance Extract
Habit (IV)	0.905	4	0.934	0.779
Price Value (IV)	0.760	4	0.847	0.581
Social Influence (IV)	0.841	3	0.904	0.759
Continuous Intention during covid-19 (DV)	0.883	5	0.915	0.682

4.3 Hypothesis Testing

In this study partial least square-structural equation modeling (PLS-SEM) technique is used in order to test the proposed hypothesis (H1, H2 and H3). This technique is conducted with help of Smart PLS 3.20 software as suggested by Hair et al., (2019) for multiple regression analysis.

The coefficient Table 3 shows the values of beta and p-value so, the value of beta indicates the relationship between the dependent variables and independent variables and the p-values tell us about the level of significance. As the above table shows that all the independent variables like Habit (H), Price value (PV), and social influence (SI) have a positive and significant relationship with the dependent variable which is continuous intention during covid-19. There is a third column in the table which shows the value of the T-value is greater than 1.75 so, it shows that the model has a significant impact of all independent variables (Habit, Price value and Social Influence) on a dependent variable (Continuous Intention).

Table 3. Coefficient

Independent variables	Standardized Coefficients	T-value	P-value
	Beta		
Habit	.531	6.815	.000
Price Value	.208	3.172	.002
Social Influence	.213	3.257	.001

Dependent Variable: Continuous Intention

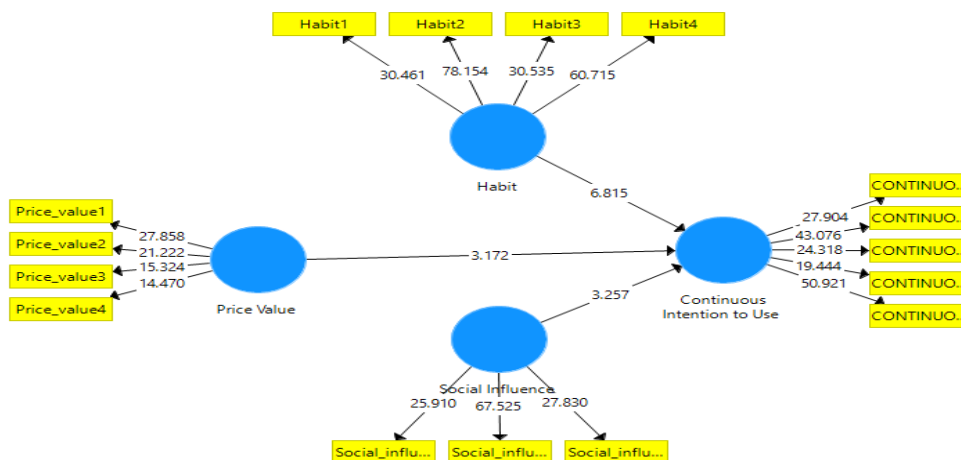


Figure 2. Structural Equation Model (SEM)

4.4 Discussion on Results

Habit

In first hypothesis, the researcher reached to the point that the result of the regression analysis show that the null hypothesis is rejected and the alternate hypothesis is accepted having P-value = 0.000 which is less than 0.05 and beta value is (0.531). The both values indicate that habit has a significant and positive impact on continuous intention in online food delivery application. All findings suggest that price value has a substantial and optimistic effect on the continuous intention to apply for online food delivery. Hence, it is possible to describe habit as something done on an ongoing basis, which then becomes a habit. Further, Habit can be defined as something done on a continuous basis that then becomes a habit. Habit becomes when a person got affected by the current situation, surrounding or the past experiences Ajazen and Fishbein (2005). Like, if a person uses food delivery applications on a continuous basis so, it means he/she has a habit of getting the food delivered at his/her doorstep so, this means that habit has a significant impact on continuous intention. Vanteshk at al., (2007) claim that the consequences of these accumulated learning experiences and their repeated habit formation can have an impact on consumer perceptions and beliefs, which also predict customers' continued intention to behave in the same way as everyone else.

Price value

The regression analysis shows that the null hypothesis is rejected and the alternate hypothesis is accepted having P-value = 0.002 which is less than 0.05 and beta value is (.208). The both values indicate that price value has a significant and positive impact on continuous intention in online food delivery applications. All values indicate that price value has an important and optimistic effect on the continuous intention to apply for online food delivery. Price value plays an important role and it really impact the continuous intentions because the product's value is derived by the customers and customers want to get the product in lowest possible price so, price values derived by the customer's decision because they check upon the worth of the product they are getting. Customer always looks for their benefits which derive price value (Shih et al., 2013).

Social Influence

In third hypothesis, the researcher reached to the point that the result of the regression analysis show that the null hypothesis is rejected and the alternate hypothesis is accepted having P-value = 0.000 which is less than 0.05 and beta value is (.213). The both values indicate that social influence has a significant and positive impact on continuous intention in online food delivery application. All results represent that price value has a major and positive impact on the continuous intention to apply for online food delivery. Equally important, it is possible to describe social influence as the way people behave the way others do. Social influence can be defined as the way people react the way others do. Social influence is that what others are doing in our surrounding and we see them and try to use those ways for our benefit like, if someone use the food delivery application regularly, they will share it with others so, it affects other people and they really adopt the same way in which they can also get their food on their doorstep (Mun et al, 2006). Social influence encourages more people to use the online food delivery application and they watch others how their food is delivered at their doorstep, because it influences them and they influence their environment. Social influence has a great impact on continuous intention.

5. Concluding Remarks and Implications

5.1 Conclusion

The main purpose for this study was to determine the factors that affect online food delivery applications on continuous intention a case study of food panda Hyderabad. Establish on the analysis of this research and the reason of the research is to check which are the factors that affect the online delivery application on continuous intention. The findings of this research analysis audibly acknowledge that all independent variables are positively corresponded and possess a significant impact on continuous intention. The P-value instructs us about the level of significance and all the independent variables like Habit (H), Price value (PV) and social influence (SI) has a positive and significant relationship with the dependent variable that is continuous intention during covid-19. Lastly it is concluded that all independent variables of online food delivery applications have a great impact on continuous intention during covid-19.

5.2 Practical Implications

The findings of this study can be said an empirical support to top management of food panda and concerned managers who are managing this food application in context of Hyderabad, Pakistan. Due to COVID-19 online to offline become an important in order to survive in this situation where the physical stores are closed for the end customers. This study identified key factors including social influence, price value and habit for continuous intention to use mobile applications as food pandas for ordering the food just like away.

Social Influences can play a vital role in this regard because people tend to discuss each-others as word of mouth. This is considered an important in the field of marketing for service-oriented firms such as food panda. The price value should be taken into consideration because extra fees may lead to dissatisfaction among customers and may they avoid using the food panda mobile application in this regard. In this regard, fees should be visible to customers and no hidden charges to be taken from them. Lastly, the habit to use of newly introduced technology also cannot be ignored to some extent. It becomes a challenging job for online food delivery businesses such as food panda to change the habit of food orders of individuals from traditional to online.

5.3 Future Research Directions

There are a few contributions to this study with certain limitations, which can be an opportunity for the future researchers. This study was limited to only on firm food panda and Hyderabad, Pakistan. In the future more firms can be taken as a sample and geographical expansion can be done in other developing countries. Second, due to COVID-19, it was difficult to gather data physically from respondents a google form chosen by us and this limited to us in the context of sample size. Lastly, the mediation effect of age and gender can be checked in order to valid the existing results.

Author Contributions:

All authors have contributed equally.

Data Availability Statement:

The data that support the findings of this study are available on request from the firstauthor.

Conflict of Interest:

The authors have declared no conflicts of interest.

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