



Factors Influencing Continuance Intention to Adopt Online Food Delivery Services Among Millennials During the Covid-19 Pandemic

Chui Peng Yap¹(✉) and Weng Onn Lee²

¹ Faculty of Business and Management, Quest International University, Jalan Raja Permaisuri Bainun, 30250 Ipoh, Perak, Malaysia

chuiPeng.yap@qiu.edu.my

² Faculty of Business and Finance, Universiti Tunku Abdul Rahman, Jalan Universiti, Bandar Barat, 31900 Kampar, Perak, Malaysia

leewo@utar.edu.my

Abstract. Online Food Delivery (OFD) services have been widely adopted by the catering businesses and consumers in Southeast Asia such as Malaysia. Especially, under the unusual condition of the Covid-19 pandemic, OFD services rescue catering enterprises while meeting consumers' technological and psychological expectations. However, little is known about the demand of OFD services during the Covid-19 pandemic context in Malaysia. Therefore, the fundamental purpose of this study is to identify and examine the predictors of continuance intention to adopt OFD services in Malaysia. Rather than conducting the research on general consumers, the Millennials who are the largest age cohort and the heaviest OFD users in Malaysia was the focus of the study. This research proposed an integrated model incorporating UTAUT2 and ECM model and found seven determinants of continuance intention to adopt OFD services, namely, performance expectancy, effort expectancy, hedonic motivation, price saving orientation, habit, satisfaction, and trust. The study applied convenience sampling technique to collect 228 responses from OFD services users. As a result, habit is the most significant factor, followed by performance expectancy, effort expectancy and hedonic motivation, were the significant antecedents of continuance intention to adopt OFD services during the Covid-19 pandemic in Malaysia.

Keywords: Online food · Delivery services · Continuance intention · Covid-19 pandemic

1 Introduction

The technology advancement that contributes to the enormous growth in online services change the society and lifestyles at large (Sjahroeddin, 2018). The supply chains for goods and services in a traditional way are increasingly moving towards e-commerce to satisfy consumers preferences to shop easily at anytime and anywhere (Prabowo and Nugroho, 2018). As such, the online food delivery services (OFD) have become

popular among the online shoppers. The real-time connectivity from the OFD services allow speed and convenience, where consumers can browse and order their food from the restaurants easily and without the hassle of traveling to the restaurants. Further, the growth of internet providers and the growing popularity of smartphone usages contributed to the advancement of the OFD services (Kapoor, 2018). This represents a big opportunity for future growth in OFD market as it is quickly catching the global market. Statista projected the global market size of the OFD service sector to achieve USD 154.34 billion, CAGR of 11.51% from 2019 to 2023 (Statista, 2021). Therefore, the growing popularity of OFD has boost up various OFD start-ups (Ken Research Report, 2018).

Meanwhile, the Covid-19 pandemic has caused the global economy slowdown, as most businesses face financial problems. Everyone is required to comply to the strict safety measure of social distancing to avoid direct contact between people. Moreover, restriction to receive diners in brick-and-mortar restaurants affected both restaurants and consumers as most were restricted from lockdowns and physical-distancing requirements. Consequently, the restaurants suffered financial losses due to lack of sales or force to close temporarily. For the business to stay afloat, traditional restaurants forced to be resilient and adopt different market channels such as OFD services (National Restaurant Association, 2019). As a result, Asia countries had witnessed an increase of 16% in the frequency of online food purchase, and 70% in share of online spending on food. This indicates some shifts in consumers' food buying behavior at this new pace, and the change could be lasting. Furthermore, the Southeast Asia's OFD market is projected to grow double in the entire food service spend at the CAGR of 24.4% in 2025 compared to 12.1% in 2020 (Grab SG, 2021). This suggests the need for the traditional restaurants to accelerate their shift to OFD service to support their business need, and to respond to consumers' need under the current crisis and meeting the future one.

Malaysia has recorded a sharp rise in new Covid-19 cases. As of October 15, 2021, there were a total 2.3 million positive cases and 27,691 deaths. As a result, the needs for restaurant food dropped drastically because consumers avoided dine in. Therefore, many traditional restaurants have transformed or reinvent themselves to adopt new market platform such as OFD services. A record of 30% increase in online food ordering using OFD services is evident during this period (Bernama, 2020). In addition, about 62% of millennials in Malaysia were reportedly having use more OFD services to order food. They usually use OFD once or twice a week during Covid-19 pandemic (Statista, 2021).

In addition, there were 29% of new OFD users during the pandemic period in Malaysia (Grab SG, 2021). The growing popularity of OFD usage during this period contributed to the growing usefulness of the OFD services. However, in the next five years a strong growth is expected in the food and travel industry when travel and dine-in restriction slowly ease (Global Data, 2021). Thus, whether consumers will have intention to continue adopting OFD service is questionable. Moreover, due to the high growth of new adopter of OFD services during this pandemic period, gaining an understanding on the influencing factors that change the consumers' food buying behaviour is necessary. Further, the study of the future demand of new users is little (Troise et al, 2020). There may be many consumers using the OFD services now, but there is no guarantee they will continue to adopt the OFD services in long term.

Consumers' intention to repetitively using the same mobile apps is lesser than the apps developers' expectation (Lee and Kim, 2019). Therefore, in the OFD service context, it is important to study the continuance intention to adopt Food Delivery Apps (FDAs). Hedonic values and the atmosphere of mobile apps influence consumers' continuance intention to use the online shopping apps (Lee & Kim, 2019). However, the OFD system is different from other online shopping apps as its offline entities blend with the online entities (Liu and Lin, 2020). Therefore, understanding the consumers' technological and psychological expectations towards OFD services are necessary and appropriate to understand factors of continuance intention to adopt OFD services during and post covid-19 pandemic.

Despite acknowledging importance of understanding the change in consumers' food buying behaviour towards using OFD services, however, to date, few prior studies concentrate on the factors influencing consumers' continuance intention to adopt OFD services under the pandemic condition (Zhao and Bacao, 2020). Furthermore, studies address the OFD services in Malaysia context remain scant, and the previous studies mainly focus in Klang Valley and Kuala Lumpur (Lau and Ng, 2019; Yeo et al, 2017). By addressing these gaps, in general, the study aims to examine the influencing factors towards continuance intention to adopt OFD services among the millennials during the pandemic.

2 Literature Review

2.1 Online Food Delivery Services (OFD)

OFD is an innovative technology that meet consumers' needs in food purchase (Cho, et al., 2019). OFD also refers to an integrating process of online food purchase and offline delivery services to a specific location straight from the restaurants or multiple-restaurant intermediaries through web pages or food delivery applications. Within the broader context of OFD, Food delivery applications (FDAs) was developed and designed as a downloadable mobile apps to serve as online platforms to purchase food (Alalwan, 2020; Zhao et al., 2020). Due to the pandemic safety measures, contactless delivery can be requested with the OFD services whereby food is delivered to the customers' gates without direct contact (Zhao et al., 2020).

OFD can be categorised into two type of food providers that offer food delivery services. The first are the restaurants themselves or known as Restaurant-to-Consumer Delivery provider. In this category, consumers place order using the online platform developed by the restaurants which are mostly operate in fast food chains (i.e., McDonald's, Domino pizza), then the restaurant prepare the food and make the deliveries themselves. The second category is multiple-restaurant intermediaries which also known as Platform-to-Consumer Delivery service. This is a third-party platform that provide delivery services for a broad range of food provider partners which do not necessarily provide delivery services themselves (Li, et al., 2020).

2.2 Continuance Intention

Continuance intention is defined as "to repurchase a product or continue service use" (Bhattacharjee, 2001, p. 353). It is a key factor to achieve long-term success after the

initial adoption of a new technology product or service (Bhattacharjee, 2001). In regards of OFD services, if the attributes of OFD services meet consumers' expectations after their initial adoption, their prior purchasing experiences will likely be satisfied; they will continue using OFD services to order food (Amin, et al., 2021). However, the OFD operating system is a combination of online entities – Information System, and offline entities – restaurants, delivery persons and consumers (Liu & Lin, 2020). It is important to understand consumers' continuance intention to use OFD services in view of the functional characteristic of technology and the perspective of consumers' psychological states to use technology. Thus, satisfying consumer's technological and psychological expectations towards the food delivery apps are necessary approaches to retain consumers during and after covid-19 pandemic (Zhao & Bao, 2020). Therefore, continuance intention will be the dependent variable to assess the potential of consumers adopting OFD services during and post Covid-19 pandemic.

2.3 Conceptual Framework

This research applied Unified Theory of Acceptance and Use of Technology (UTAUT2). UTAUT2 validate the factors that influence consumers' continuance intention to use technology. In this research, five original constructs of UTAUT2 – performance expectancy, effort expectancy, hedonic motivation, price value and habit were adapted for the conceptual framework.

In additional, Expectation Confirmation Model (ECM) was developed to examine the cognitive beliefs and affects that shape one's continuance intention to adopt information system (IS) after the initial acceptance and use (Bhattacharjee, 2001). Thus, satisfaction variable from ECM was adapted for the conceptual framework. In this research, all the variables were derived from UTAUT2 model, ECM, and meta-analysis (Fig. 1).

2.4 Performance Expectancy

Performance expectancy refers to the consumers perceive utility and benefits of a certain technology to facilitate their tasks or activities productively (Venkatesh et al., 2003). Consumers value the cognitive and functional advantages of the OFD services. Therefore, the stronger the perception that the utility and benefits of OFDs can improve their lifestyles, the stronger the intention to accept and use OFD services continuously. Generally, consumers use OFD services with the aim to access to a wide range of restaurants, enable price comparison, time saving, having food delivered to their doorsteps, and among other benefits (Roh and Park, 2019). During the Covid-19 pandemic, satisfying consumers' concerns for social distancing influence their continuance intention to use OFD services. As a result, performance expectancy significantly influences consumers' continuation intention to adopt OFD services during the pandemic (Alalwan, 2020; Amin et al. 2021; Zhao and Bao, 2020). Therefore, the hypothesis is proposed:

H1: Performance expectancy positively influences continuance intention to adopt OFD services.

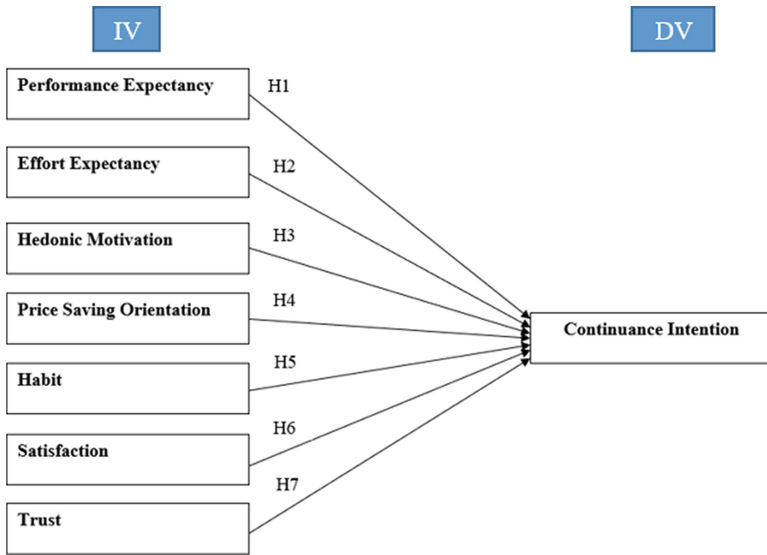


Fig. 1. Conceptual Framework

2.5 Effort Expectancy

Effort expectancy describe as the users' perceived easiness to use a certain technology (Venkatesh et al., 2003). A critical element on technology acceptance and innovation adoption (Okumus, et al., 2018). Generally, OFD services are considered as easy to use technology that involve few steps in the food ordering process, and with multiple choices of payments offered (Amin et al., 2021). This explain the greater the perception that OFD service is easy to use, the greater the likelihood the consumers have intention of continuous usage after the first adoption. This proposition is supported by several studies in the OFD services context that effort expectancy proved to be an influential predictor (Troise et al, 2020; Muangmee et al, 2021; Zhao and Bacao, 2020; Ray et al, 2019).

On the other hand, some studies reported contradictory findings that effort expectancy has no direct significant relationship with the continuance intention to use mobile shopping apps because over a long term, the users become increasingly familiarised with the mobile technology, their continuance intention will not be affected by effort expectancy (Chopdar and Sivakumar, 2019). During the Covid-19 pandemic in Malaysia, OFD services usage has intensified with new users, it is important to evaluate effort expectancy variable in relation to continuance intention to use OFD services. The hypothesis is proposed as:

H2: Effort expectancy positively influences continuance intention to adopt OFD services.

2.6 Hedonic Motivation

Hedonic motivation is intrinsic and is viewed as a critical influencer of consumers' intention and continuance intention to use a new technology (Alalwan, 2020; Brown and Venkatesh, 2005). Better hedonic values provided by the OFD platform tends to positively influence the consumers' intention to use OFD service in food purchase. If consumers perceived the OFD services able to provide fun, it will stimulate them to use OFD service repetitively to order food (Yeo et al. 2017). Contrarily to the rationality of acquiring products (i.e., ease of use), hedonic motivation is connected to the intrinsic motivation as it is "the fun or pleasure derived from using a technology" (Venkatesh et al., 2003). Hedonic value generated from the sensory, imaginative, and emotional experience of shopping. Therefore, hedonic motivation is subjective because consumers obtained hedonic value through experience-based pleasure during the buying process. It is empirically proven that hedonic motivation has significant influence on consumers' satisfaction when using OFD platform (Alalwan, 2020). Hedonic motivation influenced consumers' continuance intention to purchase food online. The hypothesis is proposed as:

H3: Hedonic motivation positively influences continuance intention to adopt OFD services.

2.7 Price Saving Orientation

Price value is the "consumers' cognitive exchange between perceived benefits of the applications and monetary cost for using them" (Venkatesh et al., 2012, p. 161). If one's beliefs the value gain from the OFD services is greater than the price paid, it will likely influence their intention to use the service continuously. The relative advantage in online shopping is it enables consumers to browse at different sites to compare prices, thus allow consumers to make purchases at a better bargain (Chiu et al., 2014). However, some argued there is no monetary cost by downloading a free OFD mobile apps (Alalwan, 2020; Shaw & Sergueeva, 2019). Thus, in this study, price value is adapted to price saving orientation because price saving can be obtained in a form of monetary savings through loyalty programs, cash back, rewards and discounts. An increased popularity of food purchase using OFD services due to such price saving programs offered (Market Watch, 2019). The hypothesis is proposed as:

H4: Price saving orientation positively influences continuance intention to adopt OFD services.

2.8 Habit

Habit refers to the accumulated learning experience leading to the tendency to act spontaneously (Limayem et al., 2007). Habit was among the key influential factors for technology use, and the future acceptance of technology as consumers tend to act automatically due to their positive past experiences (Venkatesh et al., 2012). Habit plays a critical role in mobile technology as people are growing attached to their smartphones. Thus, it is

likelier for the users to use the mobile apps continuously out of habit if they are pleased with the apps (Amorosa and Lim, 2017). Habit is a significant driver to increase consumers' intention to use OFD services continuously (Le and Thuan An, 2021; Lee et al., 2019; Chotiga and Kadono, 2021). Align with the past studies, we assume Malaysian consumers who form habitual behaviour of using OFD services are most likely going to continue using the apps. The hypothesis proposed as:

H5: Habit positively influences continuance intention to adopt OFD services.

2.9 Satisfaction

Ensuring customer satisfaction is an important goal in a business as satisfied customers are expected to stay with the business. Satisfaction is the "overall emotion-based evaluation of an Information System" (Yuan et al, 2016). In the OFD service context, satisfaction refers to the consumers' pleasure from using the OFD service in food purchase (Chotigo and Kadono, 2021). Therefore, if consumers' perceived performance of the OFD service met or exceeded their expectation, they will be satisfied; leading to greater intention to continue using the OFD service to order meal. This proposition is in line with recent studies that satisfaction had positive impact towards continuance intention to use OFD services (Wang et al., 2021; Zhao and Bacao, 2020). With similar result among the millennials in Vietnam, satisfaction influenced continuance intention to use OFD services (Le & Thuan An, 2021). Therefore, the following hypothesis proposed:

H6: Satisfaction positively influences continuance intention to adopt OFD services.

2.10 Trust

Trust is ones' faith that they will gain the best interests from the chosen technology use (Chae et al, 2020). Trust reflects consumers' perceived security against risk and uncertainty, and positively influence consumers' behavioural intention in technology adoption (Shao et al., 2019). From the consumers' viewpoint, a higher level of trustworthiness from the technology increases level of intention to use the technology continuously. Furthermore, trust positively relate to consumers' satisfaction, making an impact to consumers' continuance intention to use the technology. Thus, the reliability, promptness, and personalisation of Food delivery Apps (FDAs) contributed to the consumers' trust (Chotigo et al., 2021). Trust is brought forward in this study as mental perception with a technological sense perceived in the OFD services, to investigate consumers' continuance intention to use OFD services during the pandemic. Therefore, trust is included in the hypothesis:

H7: Trust positively influences continuance intention to adopt OFD services.

3 Research Methodology

This is explanatory research that apply quantitative research method to investigate how the influencing factors influence continuation intention in OFD services adoption among the millennial during Covid-19 pandemic. It is cross-sectional research, whereby the unit of analysis was the individual millennial who has experience using OFD services during Covid-19 pandemic. The data collected from each identified individual was treated as an individual source of data. The research strategy for this research used online survey questionnaire.

3.1 Sampling Design

The target population is the millennials who experienced with any form of OFD services at least once during the covid-19 pandemic in Malaysia. Millennial refers to individual who was born between 1981 and 1996 (age 25–41 in 2022). The rationale of choosing millennials as target population is based on the belief that the millennials are the largest sales-generating target group in the Food and Beverage industry. During this period, 32.4% of consumers using OFD services were aged 25- to 34-year-old (Statista, 2021). In addition, there were more than 97% of millennials in Malaysia order food using OFD services.

Convenience sampling was applied as the target population were conveniently located and available to engage in this research. Survey questionnaires were distributed and compiled through online platforms across different states of Malaysia. The sample size is according to a table developed by Krejcie and Morgan (1970). Since the number of millennials population in Malaysia is 11 million (Department of Statistics, 2021), the sample size for this research is 384.

3.2 Research Procedure

The research instrument is survey questionnaire to collect primary data for this research. By using Google Forms to develop the survey, the web link was shared through online platforms – email, Facebook messenger, WhatsApp and WeChat to the respondents.

The questionnaire consists of section A and B. Section A consists of questions relating to the demographic factors. Section B has questions that were adopted and adapted from the origin of construct (Table 1). Furthermore, the items in Section B were measured using five-point Likert scale.

Table 1. Origin of Construct

Variables	Constructs	Adopted and adapted from	No. of items
DV	Continuance Intention to adopt OFD Services	Bhattacharjee (2001); Zhao and Bacao (2020)	4
IV 1	Performance Expectancy	Venkatesh et al (2003); Bhattacharjee (2001); Zhao and Bacao (2020)	4
IV 2	Effort Expectancy	Venkatesh et al (2003)	4
IV 3	Hedonic Motivation	Venkatesh et al (2003)	3
IV 4	Price Saving Orientation	Escobar-Rodriguez and Carvajal-Trujillo (2013)	3
IV 5	Habit	Venkatesh et al (2003); Amorosa and Lim (2017)	4
IV 6	Satisfaction	Bhattacharjee (2001); Zhao and Bacao (2020)	4
IV 7	Trust	Cho et al. (2019); Shao et al. (2019)	4

4 Data Analysis

This research uses SPSS version 22 for data analysis. 259 sets of questionnaires were collected meanwhile 228 sets of questionnaires were valid to be analysed. Pilot test was carried out prior to the actual survey to ensure reliability and validity of the research questionnaire.

As a result, the Cronbach's alpha value for all dependent variable and independent variables had changed when compared to the pilot test and actual test (Table 2). Nevertheless, all items of the questionnaire are deemed as acceptable and reliable as the reliability coefficient of all constructs are 0.7 and above.

4.1 Descriptive Analysis

There were 228 of respondents (138 females, 90 males) in this research. Majority of respondents (107) were 36 to 40 years old, which indicate this age group uses more OFD services compared to other age groups. Majority (116) were married while minority (112) were single. Majority (120) were residing in Perak, followed by Selangor (57), while the others (51) were residing in Penang, Negeri Sembilan, Johor, Melaka, and Sabah. Under the constraint of Covid-19 pandemic, the research survey could not be evenly distributed. As a result, most responses collected were from Perak, who are the friends, family, and peers of the author. Low responses received from other states as the author could only rely upon online survey being shared via various means. Majority (141) graduated with Bachelor's Degree, while minority (4) had Post-secondary/Pre-university. Furthermore, most of the respondents (80) earned monthly income of RM5,001 and above, while

Table 2. Reliability Test Result of Pilot Test and Actual Test

Variable	No. of Items	Cronbach's Alpha (Pilot Test)	Cronbach's Alpha (Actual Test)
Continuance Intention (CI)	4	0.896	0.886
Performance Expectancy (PE)	4	0.802	0.803
Effort Expectancy (EE)	4	0.925	0.905
Hedonic Motivation (HM)	3	0.918	0.904
Price Saving Orientation (PSO)	3	0.828	0.735
Habit (H)	4	0.849	0.907
Satisfaction (SA)	4	0.791	0.894
Trust (T)	4	0.796	0.876

the least number (31) earned RM2,500 and below monthly income. This could indicate many of the millennial respondents are older and higher educated, thus, they earn higher income. Majority of respondents (108) had 1 year–2 years' experience using OFD services while minority (20) had 5 years and more experience with OFD services. The majority respondents started using OFD services since the beginning of the pandemic when restrictions were imposed to diners. Lastly, the highest number of respondents (91) used OFD services at least once a week during the pandemic, while the least number (10) used OFD services to buy food at least once a day. However, the least number of respondents used OFD services at least once a day could indicate some factors (i.e., price, choice of food and restaurant) do not encourage daily OFD usage.

4.2 Inferential Analysis

This research applied Pearson Correlation Analysis and Multiple Regression Analysis.

4.2.1 Pearson Correlation Analysis

Pearson correlation analysis found that all variables the r values were positive (Table 3), thus, all seven independent variables were positively correlated with the dependent variable. The strength of relationship for the variables were considered strong between CI and PE, and H as the r value were above 0.6. Furthermore, moderate relationship found with EE, SA, and T as the r value were below 0.6. Lastly, relationship with HM, and PSO were weak as the r value is below 0.4.

Table 3. Pearson Correlation Results

Correlations		M_CI	M_PE	M_EE	M_HM	M_PSO	M_H	M_SA	M_T
Continuance intention	Pearson Correlation	1	.604**	.482**	.353**	.310**	.612**	.474**	.417**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	228	228	228	228	228	228	228	228
Performance expectancy	Pearson Correlation	.604**	1	.640**	.428**	.322**	.391**	.591**	.519**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	228	228	228	228	228	228	228	228
Effort expectancy	Pearson Correlation	.482**	.640**	1	.368**	.345**	.263**	.529**	.504**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	228	228	228	228	228	228	228	228
Hedonic motivation	Pearson Correlation	.353**	.428**	.368**	1	.475**	.579**	.511**	.563**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	228	228	228	228	228	228	228	228
Price saving orientation	Pearson Correlation	.310**	.322**	.345**	.475**	1	.439**	.435**	.537**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	228	228	228	228	228	228	228	228
Habit	Pearson Correlation	.612**	.391**	.263**	.579**	.439**	1	.463**	.506**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	228	228	228	228	228	228	228	228
Satisfaction	Pearson Correlation	.474**	.591**	.529**	.511**	.435**	.463**	1	.714**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000

(continued)

Table 3. (continued)

Correlations		M_CI	M_PE	M_EE	M_HM	M_PSO	M_H	M_SA	M_T
	N	228	228	228	228	228	228	228	228
Trust	Pearson Correlation	.417**	.519**	.504**	.563**	.537**	.506**	.714**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	228	228	228	228	228	228	228	228

** Correlation is significant at the 0.01 level (2-tailed).

4.2.2 Multiple Linear Regression Analysis

Model Summary

The result shows R-Square is 0.566, which means 56.6% of the variation in Continuance Intention explained by the variation in the independent variables. However, 43.4% of other variables could not be explained in this research as they were variables not taken into consideration but could have an influence on the dependant variable (Continuance Intention) (Table 4).

ANOVA

The ANOVA analysis (Table 5) shows the F-Test value is 41.025 with statistical significance of 0.000. The probability of these results happening by chance is less than 0.05 resulting in the overall regression model did explain the relationship between the Continuance Intention and the seven predictors.

Coefficients

Based on Coefficient (Table 6), the most influential predictor on Continuance Intention with the highest standardized coefficients beta value of 0.533 is Habit, followed by beta value of 0.353 for Performance Expectancy, and Effort Expectancy with 0.184. Furthermore, Hedonic Motivation with beta value -0.158 has an inverse relationship towards Continuance Intention. However, the independent variables with p-value ≥ 0.05 that does not positively influence Continuance Intention are Satisfaction, Trust, and Price Saving Orientation with beta value of 0.63, -0.078, and -0.012 respectively. The regression equation is:

$$\begin{aligned}
 \text{CI: } & a + b (\text{PE}) + c (\text{EE}) + d (\text{HM}) + e (\text{PSO}) + f (\text{H}) + g (\text{SA}) + h (\text{T}) \\
 \text{CI: } & 0.448 + 0.429 (\text{PE}) + 0.220 (\text{EE}) + -0.154 (\text{HM}) + -0.010 (\text{PSO}) \\
 & + 0.441 (\text{H}) + 0.072 (\text{SA}) + -0.090 (\text{T})
 \end{aligned}$$

Table 4. Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752 ^a	.566	.552	.53156

a. Predictors: (Constant), Trust, Effort Expectancy, Habit, Price Saving Orientation, Hedonic Motivation, Performance Expectancy, Satisfaction

Table 5. ANOVA

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	81.144	7	11.592	41.025	.000 ^b
	Residual	62.162	220	.283		
	Total	143.306	227			

a. Dependent Variable: Continuance Intention

b. Predictors: (Constant), Trust, Effort Expectancy, Habit, Price Saving Orientation, Hedonic Motivation, Performance Expectancy, Satisfaction

Table 6. Coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.448	.260		1.726	.086
	Performance expectancy	.429	.078	.353	5.516	.000
	Effort expectancy	.220	.073	.184	3.020	.003
	Hedonic motivation	-.154	.059	-.158	-2.597	.010
	Price saving orientation	-.010	.047	-.012	-.221	.825
	Habit	.441	.048	.533	9.186	.000
	Satisfaction	.072	.080	.063	.904	.367
	Trust	-.090	.082	-.078	-1.094	.275

^a Dependent Variable: Continuance Intention

5 Conclusion and Discussion

5.1 Performance Expectancy

This result supports the previous studies that claimed performance expectancy is the motivating factor that influenced consumers' continuance intention to adopt OFD services (Alalwan, 2020; Zhao & Bacao., 2020; Le, et al., 2021; Lee, 2019). It supports the findings that consumers' continuance intention to use OFD services is depending on the consistency and good performance provided by the OFD providers (Zhao and Bacao, 2020). This is aligned with studies that adapted UTAUT2 model, that consumers believe using technology improves one's activity or lifestyle, whereby the greater the efficiency and usefulness of OFD services leads to a greater intention to continuously using it to purchase food (Venkatesh et al., 2003, 2012; Alalwan et al., 2020) The OFD features provide more mobility and flexibility compared to the traditional ways of food ordering. Consumers perceived OFD services as novel and convenient way to acquire varieties of food and restaurant, efficient orders placement and payment with no physical interactions with the restaurants at any time (Alalwan, 2020).

During the Covid-19 pandemic, the functional characteristics of the OFD services help consumers to practice safety precaution to buy food in a zero human contact manner, thus, the performance expectancy of OFD services significantly influence their continuance intention to adopt OFD services. This research results coherent with the findings during Covid-19 pandemic in Thailand, that performance expectancy drive consumers' continuance usage due to the satisfaction with the OFD service functions (Muangmee et al., 2021). Hence, this study confirms that performance expectancy has positively influence consumers' continuance intention to use OFD services.

5.2 Effort Expectancy

The finding affirms the findings that effort expectancy has positively associated in shaping consumers' continuous intention to use OFD services (Troise et al, 2020; Muangmee et al, 2021; Zhao and Bacao, 2020; Ray et al, 2019). Furthermore, under the unusual condition of Covid-19 pandemic, the study agrees with previous findings that effort expectancy was an important factor influencing consumers' continuance intention to use OFD service in this context (Le and Thuan, 2021; Chanthasaksathian & Nuang-jamnong, 2021). Further, effort expectancy has strong attributes (ease of completing the process of food ordering, choosing food and restaurants from the wide range of selections, placing orders, tracking orders, making payments) driving consumers' intention to use OFD services repetitively (Ray et al., 2019). As a result, companies are developing systems that are easy to understand and use, so that more people are motivated to use a new system (Jahangir & Begum, 2008). However, the result contradicted other findings that effort expectancy no longer determines consumers' continuance intention to use OFD services as they have become increasingly familiar with the technology (Lau & Ng, 2019; Alalwan, 2020; Lee et al., 2019).

5.3 Hedonic Motivation

The result of this research found that hedonic motivation is the least influential factor, but it is still significant towards continuance intention to adopt OFD services. Therefore, users who experienced a sense of enjoyment and pleasure from the OFD services have higher intention of continuing using it in future (Le & Thuan, 2021). Meanwhile, this finding supported by the previous findings of Prabowo and Nugroho (2018), Le and Thuan (2021).

OFD services are perceived as modern, novelty and innovative, could generate hedonic values that influence consumers' continuance intention to accept or reject new technology (Yeo et al., 2017, Alalwan, 2020). OFD services still seen as new and innovative in Malaysia, thus, consumers' feeling of enjoyment and pleasure could be accelerated by using OFD service to purchase food. As a result, these findings were similar with Alalwan (2020) and Le and Thuan (2021).

5.4 Price Saving Orientation

The result for this research found that there is no significant influence of Price Saving Orientation towards continuance intention to adopt OFD services. The findings showed a contrast result compared to previous studies that consumers receive forms of monetary saving through loyalty programs, discounts, or cashback, which influence consumers' intention of continuous usage (Tomacruz & Flor, 2018; Market Watch, 2019, Kapoor & Viji., 2018).

Under influence of Covid-19 pandemic, 20% of the Malaysian's households shifted from median income (M40) group to lower income group (B40) (DOSM, 2021). Thus, in this study, data collected from 65% of individuals who earned less than RM5,000 monthly incomes who are categorised as lower income group (DOSM, 2021). Therefore, price saving orientation was insignificant comparing to the previous research findings as the individuals participated in this study were likely to be price sensitive, they do not perceive OFD service as benefiting in term of price saving. Furthermore, the delivery fee and/or packaging fee is generally incurred once using OFD service, thus the price will be set higher compared to buying at the stalls. Sometimes, to enjoy free delivery service from OFD services, consumers were required to place extra order, thus additional spending (Hooi et al, 2021). As a result, OFD service does not deem as a price saving method to influence continuance intention to adopt the service.

5.5 Habit

This research shows habit is significant and the most influential factor towards continuance intention to adopt OFD services. This may be the outcome of new habits arising from the pandemic (Zhao & Bacao, 2020). In this research, the majority number of respondents (47.4%) were new OFD users during the pandemic are likely to form habitual behaviour of continuously using the new technology if they are pleased with the outcome. Furthermore, previous studies conducted among the millennials FDAs users found that the development of habitual behavior toward using FDAs related mobile apps due to the increasing attached to their smartphones and e-commerce (Le and Thuan,

2021). This finding is coherent with the current scenario in Malaysia as 97% of millennials use their mobile phones to purchase food online. The result confirms the past findings that habit influences consumers' continuance intention to use OFD services (Lee et al., 2019; Le and Thuan, 2021; Chotigo and Kadono, 2021). In general consumers are highly motivated to form habitual behaviour to continuously using the same mobile food ordering apps if they are satisfied with their prior experience (Alalwan, 2020).

5.6 Satisfaction

This research found there is no significant influence of satisfaction towards continuance intention to adopt OFD services. The finding was not supported by any past studies presented in the literature review that were conducted in countries - Jordan, Bangladesh, China, Vietnam, and Thailand during Covid-19 pandemic. The possible reason that satisfaction construct is not a significant factor may be due to the dissatisfaction feeling to the overall experience of OFD services among the respondents. Afterall, satisfaction is "overall emotion-based evaluation of an IS" (Yuan et al, 2016). Hence, the overall feeling of satisfaction with the OFD service is affected when the OFD users perceived price saving orientation and trust were insignificant influencing factors toward continuance intention to adopt OFD services. Secondly, the other factors which could strongly affect satisfaction towards continuance intention were not evaluated in the setting adopted in this study during Covid-19 pandemic, such as the service quality of delivery personnel, OFD platform quality and content consistency.

5.7 Trust

This research found there is no significant influence of trust towards continuance intention to adopt OFD services. The result disagrees that trust could influence continuance usage when consumers believe in the OFD services (Cho et al, 2019; Chotigo et al., 2021; Zhao & Bacao, 2020).

This study disagreed with the previous findings that consumers trust that OFD services can provide reliable, effective, and efficient performance which led to greater intention to use OFD continuously (Zhao & Bacao, 2020). Unexpectedly, trust was insignificant influencing factor although they agreed that the performance and effort expectancy of the technology influence their intention to continue using OFD services. The possible explanation is there were other factors such as the food quality, packaging, hygiene, the efficiency of logistic staffs and so on, were not evaluated in the setting adopted in this research but could affect trust factor. Hence, the result coherent with Troise et al., (2020) findings, that trust in the FDAs affected consumers' attitude but no direct effect on consumers' intention to purchase food using OFD services.

6 Conclusion

A comprehensive model blending UTAUT2 and ECM was applied to examine and identify factors influencing continuance intention to adopt OFD services during Covid-19 pandemic from the perspective of millennial in Malaysia. The study's concluded four

independent variables have significant influence on continuance intention to use OFD services. The most influential factor is habit, followed by performance expectancy, effort expectancy, and hedonic motivation. However, it was found that Malaysian OFD users generally do not agree that OFD services are price saving oriented, offer satisfaction and trustworthy services that make an impact on their intention to adopt OFD services continuously. With this result, the researchers believe the findings can be insightful and applicable to the marketer and advertiser of OFD services, OFD platforms' provider and developer, Food and Beverage (F&B) partners, to develop and enhance strategic plan ensuring consumers' intention to continue adopting OFD services to purchase food in the long run.

References

- Alalwan, A. A. (2020). Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse. *International Journal of Information Management*, 50, 28–44.
- Amin, M.A.; Arefin, M.S.; Alam, R.; Ahammad, T. & Hoque, M.R. (2021). Using Mobile Food Delivery Applications during COVID-19 Pandemic: An Extended Model of Planned Behavior, *Journal of Food Products Marketing*.
- Amorosa, D., & Lim, R. (2017) The mediating effects of habit on continuance intention. *International Journal of Information Management*, 37(6), 693-702.
- Bernamea (2020) Malaysia's covid-19 crisis sees 30% jump in delivery orders. Retrieved from: <https://www.freemalaysiatoday.com/category/leisure/2020/03/18/malaysias-covid-19-crisis-sees-30-jump-in-delivery-orders/effect-dec22-31-involving-19-items>
- Bhattacharjee, A. (2001), Understanding information system continuance: an expectation confirmation model, *MIS Quarterly*, 25, 351-370.
- Brown, S. A., & Venkatesh, V. (2005). Model of Adoption of Technology in the Household: A Baseline Model Test and Extension Incorporating Household Life Cycle, *MIS Quarterly*, 29 (4), 399-426.
- Chae, H.; Kim, S.; Lee, J. & Park, K. (2020) Impact of product characteristics of limited-edition shoes on perceived value, brand trust, and purchase intention; focused on the scarcity message frequency. *Journal of Business Research*, 120, 398-406.
- Chiu, C. M., Wang, E. T. G., Fang, Y.H. & Huang, H.Y. (2014). Understanding customers' repeat purchase intentions in B2B e-commerce: the roles of utilitarian value, hedonic value and perceived risk. *Information System Journal*, 24 (1), 85-114.
- Cho, M., Bonn, M.A. & Li, J.J. (2019), Differences in perceptions about food delivery apps between single-person and multi-person households, *International Journal of Hospitality Management*, 77, 108-116.
- Cho, Y. C., & Sagynov, E. (2015). Exploring factors that affect usefulness, ease of use, trust, and purchase intention in the online environment, *International Journal of Management & Information Systems (IJMIS)*, 19(1), 21-35.
- Chotigo, J. & Kadono, Y. (2021) Comparative Analysis of Key Factors Encouraging Food Delivery App Adoption Before and During the COVID-19 Pandemic in Thailand. *Sustainability*, 13, 40-88
- Chopdar, P.K. & Sivakumar, V.J. (2019) Understanding continuance usage of mobile shopping applications in India: the role of espoused cultural values and perceived risk, *Behaviour & Information Technology*, 38 (1), 42-64.
- Department of Statistics Malaysia (2021), Household Income Estimates and Incidence of Poverty Report, Malaysia, 2020. *Department of Statistics Malaysia*.

- Escobar-Rodríguez, T. & Carvajal-Trujillo, E. (2013). Online drivers of consumer purchase of website airline tickets. *Journal of Air Transport Management*, 32, 58-64
- Global Data. (2021). Malaysian foodservice profit market to grow by a CAGR of 10.9% driven by economic rebound, says GlobalData. Foodservice. Accessed on Oct 16, 2021. Available on: <https://www.globaldata.com/malaysian-foodservice-profit-market-grow-cagr-10-9-driven-economic-rebound-says-globaldata/>
- Grab SG (2021). Online food delivery spend to more than triple in Southeast Asia by 2025. *Grab SG Press Centre*.
- Hooi, R., Leong, T., & Yee, L. (2021). Intention to Use Online Food Delivery Service in Malaysia among University Students. *CoMBInES - Conference On Management, Business, Innovation, Education And Social Sciences*, 1(1), 60-73.
- Khan, M.A. (2020). Technological disruptions in restaurant services: impact of innovations and delivery services. *Journal of Hospitality and Tourism Research*, 44(5), 715-732.
- Kapoor, A.P. & Vij, M. (2018). Technology at the dinner table: ordering food online through mobile apps. *Journal of Retailing and Consumer Services*, 43, 342-351.
- Ken Research Report. (2018). Rise in Income and Internet Facilities to Drive Online Food Delivery Market in India. *Ken Research*.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*. 30, 607-610.
- Lau, T.C. and Ng. C. Y. (2019). Online Food Delivery Services: Making Food Delivery the New Normal. *Journal of Marketing Advances and Practices*, 1(1), 62-77.
- Le, G. N., & Thuan An, N. T. (2021). Factors Affecting the Continuance Intention to Use Food Delivery Apps of The Millennials in Ho Chi Minh City. *Technium Social Sciences Journal*, 18(1), 404-417.
- Lee, E., Lee, S., & Jeon, Y. (2017). Factors influencing the behavioral intention to use food delivery apps. *Social Behavior and Personality, An international journal*, 45, 1461-1474
- Lee, Y., and Kim, H.-Y. (2019). Consumer need for mobile app atmospherics and its relationships to shopper responses. *J. Retail. Consumer. Serv.* Vol. 51, pp. 437-442. Retrieved from: doi: <https://doi.org/10.1016/j.jretconser.2017.10.016>
- Li, C.; Miroso, M. & Bremer, P. (2020). Review of Online Food Delivery Platforms and their Impacts on Sustainability. *Sustainability*, 12(14), 5528.
- Liu, C.-F., & Lin, C.-H. (2020). Online food shopping: a conceptual analysis for research propositions. *Front. Psychology*, 11, 2443.
- Limayem, M.; Hirt, S.G.; Cheung, C.M.K. (2007). How habit limits the predictive power of intentions: The case of information systems continuance. *MIS Quarterly*. 31, 705-737.
- MarketWatch (2019), India Online Food Delivery Market – Global Trends, Market Share, Growth, Opportunity, and 2023. Retrieved from: www.marketwatch.com/press-release/indiaonline-food-delivery-market-global-trends-market-share-growth-opportunity-and-2023-2019-09-18.
- Muangmee, C.; Kot, S.; Meekaewkunchorn, N.; Kassakorn, N. & Khalid, B. (2021). Factors Determining the Behavioral Intention of Using Food Delivery Apps during COVID-19 Pandemics. *J. Theor. Appl. Electron. Commer. Res.*, 16, 1297-1310.
- Okumus, B., Ali, F., Bilgihan, A. & Ozturk, A.B. (2018), Psychological factors influencing customers' acceptance of smartphone diet apps when ordering food at restaurants, *International Journal of Hospitality Management*, 72, 67-77
- Prabowo, G. T. & Nugroho, A. (2018). Factors that Influence the Attitude and Behavioural Intention of Indonesian Users toward Online Food Delivery Service by the Go-Food Application. *Advances in Economics, Business and Management Research*, 72, 204-210.
- Ramli, N., Ghani, F. A., Nawawi, W. N. W., & Majid, H. A. M. A. (2021). Intention to Use Online Food Ordering Services Among Universities Students During COVID-19 Pandemic. *International Journal of Academic Research in Business and Social Sciences*, 11(13), 394-405.

- Ray, A., Dhir, A., Bala, P. K., & Kaur, P. (2019). Why do people use food delivery apps (FDA)? A uses and gratification theory perspective. *Journal of Retailing and Consumer Services*, 51, 221-230.
- Roh, M. & Park, K. (2019), Adoption of O2O food delivery services in South Korea: the moderating role of moral obligation in meal preparation, *International Journal of Information Management*, 47, 262-273.
- Shao, Z., Zhang, L & Li, X. (2019). Antecedents of trust and continuance intention in mobile payment platforms: The moderating effect of gender. *Electronic Commerce Research and Applications*. 33, 100823.
- Shaw, N. & Sergueeva, K. (2019), The non-monetary benefits of mobile commerce: Extending UTAUT2 with perceived value, *International Journal of Information Management*, 45, 44-45.
- Sjahroeddin, F. (2018). The Role of E-S-Qual and Food Quality on Customer Satisfaction in Online Food Delivery Service, *9th International Research Workshop and National Seminar Tomacruz, M.D.G. & Flor, N.T. (2018), Family perception and their buying behavior for home-delivered food, International Journal of Tourism Sciences*, 18 (4), 1-10
- Troise, C., O'Driscoll, A., Tani, M. and Prisco, A. (2020), Online food delivery services and behavioural intention – a test of an integrated TAM and TPB framework, *British Food Journal*, 123 (2), 664-683.
- Venkatesh, V.L.; Thong, J.Y.; Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1).
- Venkatesh, V.; Morris, M.G.; Davis, G.B.; Davis, F.D. (2003), User acceptance of information technology, toward a unified view. *MIS Quarterly*, 27(3), pp. 425-478.
- Wang, J., Shen, X., Huang, X. & Liu, Y. (2021) Influencing Factors of the Continuous Usage Intention of Consumers of Online Food Delivery Platform Based on an Information System Success Model. *Front. Psychology* 12, 716-796.
- Yeo, V., Goh, S. K., & Rezaei, S. (2017). Consumer Experiences, Attitude, and Behavioral Intention toward Online Food Delivery Services. *Journal of Retailing and Consumer Services*, 150-16.
- Yuan, S., Liu, Y., Yao, R. & Liu, J. (2016). An investigation of users' continuance intention towards mobile banking in China. *Information Development*. 32 (1), 20-34.
- Zhao, Y.Y and Bacao, F. (2020). What factors determining customer continuingly using food delivery apps during 2019 novel coronavirus pandemic period? *International Journal of Hospitality Management*.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

