

# Analysis of the Factors Affecting the Performance of Online Food Delivery Services in Cabanatuan City

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Received: 28 Aug 2022; Received in revised form: 19 Sep 2022; Accepted: 25 Sep 2022; Available online: 29 Sep 2022

**Abstract**— Food delivery services have influenced consumers' eating patterns because of the rise in consumer internet activity (Flores, 2020). They now have the appropriate and effective means of making food purchases whenever and wherever they like. The birth of online food delivery services applications was prompted by the development of new technologies and the COVID-19 outbreak, which forced food service providers to produce creative procedures and platforms to reduce human interaction when ordering and consuming meals. The online food delivery services (OFDS) made its significant mark during the occurrence of the global pandemic, it was considered the foremost savior of the food industry. OFDS can be defined as any food delivery transaction with monetary value that is done through mobile devices (Ngai, 2007). In connection with the current situation, this study investigated the performance of OFDS to find the relevant factors affecting online food delivery service time and efficiency that have direct effect on the business opportunities. Based on the findings of the study, most online food delivery service users are aged from 23 to 31 years old. Females are more likely to use OFDS platforms when ordering food compared with males. In terms of the civil status, single persons are more likely to use OFDS applications than married ones. Three factors were found to have significant relationship with the consumer's level of satisfaction and affecting the performance of the OFDS in Cabanatuan City. These factors were ease of use, delivery, and affordability of the foods.

**Keywords**— *affordability, delivery, ease of use and online food delivery services*

## I. INTRODUCTION

The COVID-19 pandemic clearly posed threats to most businesses and the global economy in general. Every industry was affected by this health crisis all over the world. The food industry is no different from the other industries that were also affected. However, the effects in the food industry from other industries is much evident because the production and consumption of food are very essential for daily life. In addition, the food industry is a very important sector with regards to agriculture and economy (Aday, 2020). The fast-moving lifestyle of the

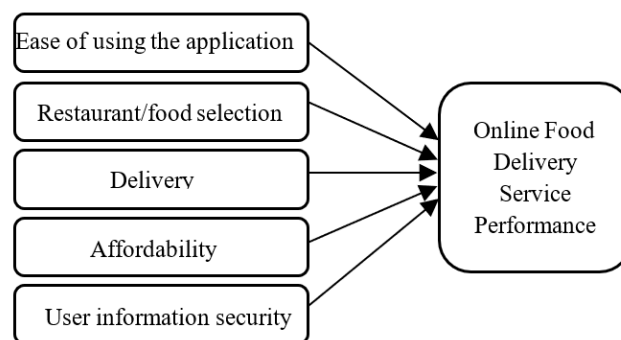
Filipinos intensely influence their purchasing power as a consumer. The Filipino households spend about 42.6% on their expenses on food consumption. (Philippine Statistics Authority, 2018). The emergence of new technologies and the situation during the COVID-19 outbreak required the service providers to offer innovative practices to limit human contacts for food ordering. (Karim et al. 2020). The quarantine also gave the online food delivery service industry the chance to the growth of demand during the pandemic (Kim et al. 2021). It was found that the availability of the anticipated food at the desired time and

the easy access to the internet are the primary reasons for using delivery services (Sethu, H. & Bhavya, S., 2016).

According to the survey by Euromonitor in 2020, there was an increase in the demand for e-commerce during the implementation of ECQ in the Philippines, 46% of the consumers have appreciated the ability to order at any time and from anywhere (Euromonitor, 2020). Certainly, COVID-19 pandemic shifted the conventional kind of food service to online processing and delivery of food to consumers. (Garceau, 2020). The online food delivery service made its significant mark during the beginning of the global pandemic, it is the foremost savior of the food industry (Gamilla, 2021) Existing research studies on food ordering and delivery have examined those consumers are more likely to use their mobile phones since online delivery has been offering more opportunities for collaborating and modified online marketing (Burke, 2002). OFDS has several useful features including maps showing nearby restaurants and comprehensive menus. With the relevant impact of the digital lifestyle on the customers, food delivery services are progressively and continuously being established to expand the selections available for the consumers (Vitali, 2019).

Additionally, with the increasing number of smartphones substituting the PC as the main device of a customers' daily lives, customers are progressively shifting to ordering through their smartphones. It provides power to customers to buy whatever and whenever they want. (Vitali, 2019). Technology has played an important role in transforming the food delivery service, it has contributed to the variations in consumer preferences as their dependency to technology has driven them to do everything online, including getting their food delivered to their doorstep (Das, 2019). The technological improvement in different industries have caused business models to grow. Well-organized systems can help improve the efficiency and viability of a restaurant. The use of online food delivery system is thought to lead the restaurant businesses to grow through time and will help the restaurants to simplify online operations (Hong, 2016). The competencies of online communication and technology is fulfilling and improving business management and service delivery (Chavan, et al. 2015).

## CONCEPTUAL FRAMEWORK



The figure above illustrates this research study's conceptual framework that primarily intends to analyze the relevant factors affecting the performance of the OFDS that oversee the industry for the mutual benefits of the stakeholders such as the customers, food merchants, and OFDS firms. There were five (5) independent variables, or the factors identified which were ease of using the application, restaurant/food selection, timeliness of delivery, affordability and user information security, while the performance of the OFDS is considered as a dependent variable in this study.

The factor "ease of using the application" mainly pertains to how convenient and comprehensible the OFDS applications can be used, the factor "restaurant/food selection" pertains to how OFDS applications display and offer food and menus from the available restaurants around the area, while the factor "delivery" pertains to all underlying aspects involved in the delivery service of the OFDS like the timeliness of delivery and OFDS riders, the factor "affordability" pertains to the cost of service and food ordered and lastly the factor "user information security" relates to the confidentiality of the recorded users' basic information when doing food delivery transactions. These factors were correlated to the performance of the OFDS in terms of the customers' level of satisfaction in order to gain appreciation of what factors have direct effect on the performance of OFDS perceived by the customers.

Specifically, this study described the socio demographic characteristics of the respondents in terms of age, sex, and civil status and the factors affecting online food delivery as well as identifying significant relationships between the respondents' socio-demographic characteristics and the factors affecting the performance of online food delivery services.

## II. METHODOLOGY

This research utilized descriptive-correlational design (Subia, Salangsang & Medrano, 2018). Descriptive correlational design is used to determine relationships among variables and to permit the forecast of future events from present knowledge (Walinga, 2019). The researcher gathered data from 50 respondents through a purposive/convenience sampling method who are OFDS users in Cabanatuan City. The respondents who were chosen purposively (Subia, 2018) were composed of 19 males, 31 females aged from 18 to 40 years old and up with a total of 28 singles and 22 married respondents. The respondents answered a four-part survey form through the Google sheets. The first part of the questionnaire was composed of questions about their socio-demographic profiles, the second part was composed of the factors and their descriptions that were rated using a 4-point Likert scale which were rated as: 4 – Strongly agree, 3 – Agree, 2 – Disagree and 1 – Strongly disagree with the legend of 3.25 - 4.00 (SA), 2.50 - 3.24 (A), 1.75 - 2.49 (D) and 1.00 - 1.74 (SD) as the measurement used. Part 3 includes the rating of the Level of Customer Satisfaction using also a 4-point Likert scale which were rated as: 4 – Highly satisfied (HS), 3 – Satisfied (S), 2 – Dissatisfied (D) and 1 – Highly dissatisfied (HD). Lastly, part 4 composed selection regarding the frequent problems encountered by OFDS users. Pearson Correlation analysis was used to determine the relationship between the variables. The researcher used the PSPP Data Analytics application for the analysis of data gathered.

## III. RESULTS AND DISCUSSION

### 1. The respondents' socio-demographic characteristics

For the age, 11 of the respondents were 18-22 years old (22%); 13 of the respondents were 23-27 years old (26%); 13 of the respondents were 28-31 years old (26%); 7 of the respondents were 32-35 years old (14%); and finally, 6 of the respondents were 36 years old and up (12 %). The age range of the respondents was 18-40 years old, with an average of 27.66 and has a standard deviation of 5.47 that means ages ranging from 23-31 years old have the tendency to buy food through online food delivery services. For the sex, there were 31 female respondents (62%) and 29 male respondents (38%) which implies that most of the online food buyers in Cabanatuan City, Nueva Ecija are female. Gender is an important predictor of a consumer's intention to make purchases over the web. (Slyed et al. 2002) Lastly, the majority of the respondents (56%) were single while 44% were married. The data gathered showed that single persons tend to use online food delivery applications to buy food, since they still do not have a family to feed than the married respondents who are more conscious of their budget.

### 2. Factors affecting the performance of online food delivery services

The five (5) factors were assigned with different descriptions and statements compelling with the given factors. For every factor, there were also five (5) statements which were rated by the respondents whether or not they agree with statements according to their experiences.

Table 1. Over-all mean and verbal description of factors/independent variables

Factors	Mean	Verbal Description
Ease of Using the application	3.62	SA
Restaurant/Food Selection	3.24	A
Delivery	3.65	SA
Affordability	3.45	SA
User information security	3.23	A
Overall Weighted Mean	<b>3.44</b>	<b>SA</b>

Legend: 1.00 to 1.74-Strongly Disagree; 1.75 to 2.49-Disagree; 2.50 to 3.24-Agree; 3.25 to 4.00-Strongly Agree

Table 1 displays the result on the factors affecting the performance of OFDS as perceived by the respondents. The overall mean was 3.44 which was described as strongly agree that implied that the respondents have strongly agreed to the statements given under each category. The factor delivery got the highest pooled mean of 3.65 described as strongly agree while the factor user information security got the lowest pooled mean of 3.23 described as agree only. According to the data gathered,

three of the factors (ease of using the application, delivery and user information security) are found to be with highest pooled means that are considered significant in terms of utilizing the OFDS application.

### 3. Correlation analysis between the socio demographic profile of the respondents and the factors affecting the performance of OFDS

The socio demographic profiles of the respondents were correlated with the factors affecting the performance of

OFDS, in order to identify and analyze if the respondents' socio demographic profiles have significant effects on the factors identified.

Table 2. Correlation analysis between the socio demographic profile of the respondents and the factors affecting the performance of OFDS

		Ease of using the application	Resto/Food Selection	Delivery	Affordability	User information security
<b>Age</b>	Pearson Correlation	-.182	-.194	-.055	<b>-.308*</b>	-.128
	Sig. 2(-tailed)	-.205	-.177	.705	0.030	.375
	N	50	50	50	50	50
<b>Sex</b>	Pearson Correlation	-.109	-.220	-.209	-.198	<b>-.430**</b>
	Sig. 2(-tailed)	-.453	-.125	-.146	-.168	-.002
	N	50	50	50	50	50
<b>Civil Status</b>	Pearson Correlation	-.220	<b>-.362**</b>	-.160	<b>-.370**</b>	-.185
	Sig. 2(-tailed)	-.125	-.010	-.267	-.030	-.000
	N	50	50	50	50	50

\*\*. Significant correlation at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed)

Results show that age has negative significance related to the affordability factor and based on the coding on the PSPP Data Analytics application, this implies that younger respondents believe that products offered for online delivery are affordable. Similarly, sex was also found to be negatively but highly and significantly related to the factors affecting the performance of OFDS in terms of safety and security. This implies that females' respondents are confident enough to say that it is safe and secure to order in OFDS. In addition, civil status was also found to be negatively but highly and significantly related to the factors affecting the performance of OFDS in terms of food selection/options and affordability. The results imply

that single respondents strongly agree that there is a variety of foods to choose which are also affordable. Therefore, the hypothesis "there is no significant relationship between the socio-demographic characteristics and the factors affecting the performance of OFDS" is rejected.

### 4. Online food delivery services performance rating according to the respondents

For the third part of the survey, the respondents were asked to rate the performance of the online food delivery services that they have used in terms of the level of their satisfaction.

Table 3. Online food delivery services performance rating according to the respondents

Rating	Respondents n=50	Percentage
4 – Highly Satisfied (HS)	<b>29</b>	<b>58</b>
3 – Satisfied (S)	18	36
2 – Dissatisfied (D)	3	6
1 – Highly Dissatisfied (HD)	0	0

Table 3 summarizes the performance of OFDS in terms of the level of satisfaction of the respondents. A total of 29

respondents (58%) said that they are highly satisfied, 18 respondents (36%) said they are satisfied, and lastly, 3

respondents (6%) said they are dissatisfied. There was no respondent who rated highly dissatisfied with the performance of online food delivery service applications.

#### 5. Correlation analysis between the factors affecting the performance of OFDS and the satisfaction level of respondents

Table 4. Correlation analysis between the factors affecting the performance of OFDS and the satisfaction level of respondents

Factors		Performance of OFDS
<b>Ease of using the application</b>	Pearson Correlation	<b>.666**</b>
	Sig. 2(-tailed)	.000
	N	50
<b>Restaurant/food selection</b>	Pearson Correlation	.528
	Sig. 2(-tailed)	.000
	N	50
<b>Delivery</b>	Pearson Correlation	<b>.556**</b>
	Sig. 2(-tailed)	.000
	N	50
<b>Affordability</b>	Pearson Correlation	<b>.728**</b>
	Sig. 2(-tailed)	.000
	N	50
<b>Users' information security</b>	Pearson Correlation	.537
	Sig. 2(-tailed)	.000
	N	50

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

\* . Correlation is significant at the 0.05 level (2-tailed)

Table 4 shows that the factor “ease of using the application” was highly and significantly related to the performance of the OFDS that suggests that respondents are highly satisfied with OFDS applications that are convenient and easy to use. Similarly, the factor “delivery” was also found to be highly and significantly related to the satisfaction level of the respondents which implies that respondents are highly satisfied with prompt and accurate delivery of the products that they have ordered. Lastly, the factor “affordability” was also found to be highly and significantly related to the performance of the OFDS which suggests that the respondents are highly satisfied affordable products and services. Thus, the hypothesis “there is no significant relationship between the factors affecting the performance of OFDS and the level of satisfaction of the respondents” is rejected.

The results from parts two and three of the survey form were then tested to identify their significant correlations using PSPP Data Analytics application

#### 6. Problems encountered by online food delivery service users

In this part of the results discussion, there were seven (7) problems stated in the survey questionnaire and the respondents were asked to select the most frequent problem they encountered when using online food delivery services.

Table 5 shows that “additional charges/high delivery fee” attained a highest frequency of 18 respondents or a total of 36% of the total number of respondents that ranked as top problem encountered by online food buyers. The statement “lack of security” got the lowest frequency of 0, and ranked as the least problem encountered by online food buyers.

#### IV. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were made based on the results and discussions:

1. For the socio-demographic characteristics of the respondents, the majority of online food delivery service users are aged from 23 to 31 years old. Females are more likely to use OFDS platforms when ordering food compared with males. In terms of the civil status, single persons are more likely to use OFDS applications than married ones.
2. There were three (3) factors that significantly affect the performance of online food delivery services such as “ease of using the application”, “delivery” and “affordability”. Ease of using the application which is directly relatable with the convenience in ordering food anytime and anywhere. Delivery as supposed to be one of the significant factors due to its help in aiding the issues of social distancing during pandemic, based on the survey, fast delivery is a considerable factor that consumers expect. Lastly, affordability also conveys significance in the performance of the OFDS platforms because consumers anticipate the value of their money for every purchase they do.
3. The factors “ease of using the application”, “delivery” and “affordability” were found to be highly and significantly related to the performance of OFDS. The results suggest that the respondents are highly satisfied with OFDS that are fast, convenient, with affordable products and services and offer easy transactions.
4. According to the results, the additional fees in every food delivery transaction were perceived as the most frequent challenges encountered (Abelardo, et al, 2019) by the respondents.

#### RECOMMENDATIONS

Based on the results obtained, the following recommendations are drawn to help Online Food Delivery Services firms and future researchers:

1. Online food delivery service platforms must be user-friendly, convenient to use and accessible to any type of consumers particularly in the devices they are using.
2. Delivery of food must be timely and accurate; the food must also be handled with utmost care.
3. Local government units must coordinate with food delivery services and food merchants in cascading laws and regulations that will protect all stakeholders.
4. Online food delivery services must have service hotlines and websites where customers can share their

experiences, feedback and recommendations to improve the quality of delivery services.

5. Food riders can be offered with compensating schemes that will also protect and promote their well-being especially if there are online scammers and fraudsters.
6. Future researchers can expand this study by adding other variables and to improve this study.

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