

Factors Affecting the Online Food Delivery Services in the City of Mati: A Factor Analysis

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Abstract

The general objective of this study was to identify the factors that affects the online food delivery services in the City of Mati. The research aims to identify the demographic profile of online food delivery customers, determine the factors that strongly and least affect their decision to use such services, and explore if these factors vary based on demographics. The significance of this study lies in its potential to provide valuable insights for customers and online business firms. It serves as a reference for understanding and selecting the factors crucial in utilizing online food delivery services. The participants of this study were 400 customers using online food delivery services. Qualitative data were obtained through a survey questionnaire by the researcher. The study reveals that the majority of respondents were female students aged 18 to 25 years old, with an income of 10,000 and below. Three main factors, namely user experience, service convenience or operational efficiency, and service quality, were identified through clustering analysis. Among these factors, user experience was found to be the most influential, consisting of ten sub-factors such as intention to use, promotion, time-saving, convenience motive, practicality, efficiency, perceived trust, customized food, social influence, and performance expectation. Furthermore, efficiency emerged as the most important factor impacting online food delivery services, with a dominant mean of .792 compared to other factors. It directly affects customer satisfaction, convenience, and competitive advantage, leading to increased customer loyalty and business growth. Conversely, service quality was identified as the least influential factor, encompassing safety packaging, attitude of delivery person, service quality, and condition of food delivered.

Keywords: Online Food Delivery Services, Customers, User Experience, Service Quality, Business Firms

1. Introduction

Before pandemic, Online food delivery services in Mati City was not yet recognized by the customers as necessity. Although, there were only very few known delivery services such as e-commerce (Lazada, Shopee, Zalora, and the like) and hardware but not into food services. LBC, J&T, and JRS Express were couriers known before pandemic. However, during pandemic era, online food delivery services gained more attention to the people in the City of Mati. During lockdown people were relying on online food delivery services for their safety. Many people opened food business just at their home and have it delivered by a delivery rider. The pandemic highlighted the importance of delivery personnel who worked tirelessly to fulfill orders. However, there were concerns about their safety and well-being. Some platforms provided personal protective equipment (PPE), and policies to ensure their safety. The increased of

demand and operational challenges during pandemic were high. Some platforms experienced delays in delivery times due to high order volumes, limited staff, and restrictions movement. Thus, the purpose of this study was to identify the factors affecting the online food delivery services in the City of Mati.

2. Objective of the Study.

The general objective of this study was to identify the factors that affect the online food delivery services (OFDS) in the City of Mati. It specifically achieved the following:

- 2.1 Determine the demographic profile of online food delivery customers;
- 2.2 Determine the least factor that affect the online food delivery services;
- 2.3 Determine the potent factor that affect the online food delivery services;
- 2.4 Examine if there is a significant difference in the potent factor when grouped according to:

2.5 Age

2.6 Income

2.7 Gender; and

2.8 Occupation

2.2 Examine if there is a significant difference in the least factor when grouped according to:

2.3 Age

2.4 Income

2.5 Gender; and

2.6 Occupation

3. Hypotheses

H₀₁: There is no significant difference in the potent factor when respondents will be grouped according to their demographic profile.

H₀₂: There is no significant difference in the least factor when respondents will be grouped according to their demographic profile.

4. Literature Review

The factors in choosing online food delivery in Dhaka, Bangladesh. The 177 samples were comprised of 62% male and 38% female with age mostly ranges from 18 to 34%, and was represented majority by private services (50%) and students (42%). Further, the study disclosed that men were most likely to use online food delivery than women while in terms of age and occupation, 25 to 34 years old, and those in private services tended to use online food delivery services compared to others. Age and affordability, sex and user information security, civil status and resto/food selection, civil status and affordability were correlated having significant value of 0.030, -0.002, -0.010 and -0.030 respectively (Saad, 2020). Another study by Phillipneris (2021) focused on the strategies and challenges of small-scale online food business within the context of COVID-19 crisis in the case of the Philippines. It was revealed that the majority of the respondents were mostly 26 years old and above (96%), female (84%), and with an average total income of less than Php100, 000 or USD2, 000 (68%). This study also disclosed that 96% repeat orders were from direct-to-consumer (DTC) while the remaining 4% were from food delivery apps (FDA). Direct-to-consumer is where consumer directly contacts the food business for food delivery while the former used online application to deliver food. Li, Miroso, & Bremer (2020) asserted that food delivery services were classified as either restaurant-to-consumer delivery or platform-to-consumer delivery.

Restaurant-to-consumer delivery providers prepared and delivered food, as exemplified by KFC, McDonald's, and Domino's. The order can be placed directly through the restaurant's website or through a third-party platform. These third-party platforms differ by nation and include examples such as Uber Eats in the United States, Eleme in China, Just Eat in the United Kingdom, and Swiggy in India. Third-party platforms also offered online delivery services from partner restaurants that did not necessarily provide delivery services, a technique known as platform-to-consumer delivery. Online financial transactions necessitate extremely efficient and scalable real-time delivery capabilities. Restaurants, for example, can use existing workers for self-delivery. A study on consumer preferences and attitudes toward food goods purchased online, look at how people's food-buying habits have evolved as a result of the internet. The rise of internet food delivery services may be ascribed to urban consumers' evolving preferences. Although there were several reasons why these customers utilized food delivery services, the most frequent one was the desire for quick and practical meals during or after a busy workday. Regardless of whether the consumer is preparing the meal themselves, going to a restaurant and dining there, or going to a restaurant and purchasing food to bring back to the office or home, the various food delivery services that are easily accessible relieve consumers of the hassle of having to think about and plan meals (Dang, et al., 2018). Utilizing Online Food Delivery Services (OFDS) has become more commonplace as a result of how significantly food delivery services have altered customer behavior, particularly among metropolitan consumers (Moriarty, 2016). Wai Hong (2016) asserts that the development of technology has altered many industries' business models in order to expand. Systems that are effective can raise a restaurant's output and revenue. The use of an internet food delivery service is said to occasionally help establishments develop their clientele and facilitate significant online business. Chavan, et al. (2015) claimed that restaurants are better able to manage client orders when they employ a smart device-based interface for customers to view, order, and navigate. The potential for enhancing corporate administration and service delivery using wireless communication and smartphone technologies. According to the study, this system is practical, efficient, and simple to use, which consequently anticipated enhancing the total restaurant industry value in the future. According to Lan, Ya'nan, & Shuhua (2016), the market for online meal delivery is still in its infancy and has certain clear flaws as evidenced by customers' unfavorable reviews, hence, restaurants cannot solely rely on online food delivery self-discipline or on online food delivery platforms' supervision and management to tackle these issues. The only way to resolve is to establish a positive internet takeaway environment by using the law as the standard, with the combined efforts of restaurants and online food delivery services, the relevant government agencies, customers, and all other parties in the society. According to Bagoio, et al. (2022), the ease of using the application primarily was related to how practical and understandable the OFDS while restaurant or food selection pertained to how OFDS applications presented and offered food and menus from the nearby eateries that were available for order. In addition, the delivery described all fundamental elements of the OFDS such as timeliness of delivery, OFDS riders, attitude of the delivery person, condition of food being delivered and safety packaging. Meanwhile, affordability depicted to the price of the service and the food ordered. Lastly, user information security was referred to the secrecy of the users' basic information that is recorded throughout food delivery transactional activities. These factors were compared to how well the OFDS performed in terms of customer satisfaction in order to understand what variables directly affect how well the OFDS performed in the eyes of the customers. Researchers highlighted a number of factors that influence online food delivery. Using a sample of online buyers, Altarifi, et al. (2015) investigated how electronic shopping affects consumer purchase decisions and discovered that cultural and technological

variables, but not marketing determinants, have a substantial impact on consumer purchasing decisions. Zendehdel, et. al (2015) stated that characteristics like service relative advantage, compatibility, complexity, and perceived trust have a substantial impact on client online purchases. Time savings, convenience motive, as well as security and privacy, are three crucial elements that influence client behavioral intentions toward online food delivery systems, according to Chai & Yat (2019). Saving time was one of the most crucial factors that encouraged customers to shop online, along with security and privacy, as some customers avoid shopping online out of concern for their personal information, but the time and effort that the customer saves encourage them to use online food delivery. Pallikkara, Prakash, Hawaldar, and Pinto (2021) emphasized the significant of factors for OFDS which included the ability to customize food, offers discounts, delivery tracking, payment options, payment security and privacy, quicker delivery, restaurants with a variety of menus, time savings for other tasks, freedom when cooking, and a wide selection of food. Won, Sung, and Jeon (2019) stated that social influence, promotion, performance expectations, and information quality all affect customer intention or intention to use toward food delivery applications, even if habit accounts for the majority of the influence. Factor Analysis is a technique that is widely used for factor or variable reduction. It is a multivariate statistical technique to reduce the number of variables from large to small, establish primary magnitude relationships between measured variables and constructs, and provide construct validity indication (Bhatt & Jain, 2020). Also, it is an interdependent technique that aims to uncover the underlying structure of the variables in the investigation (Hair, Black, Babin, & Anderson, 2010). Exploratory factor analysis (EFA) is a statistical method for increasing the reliability of a scale by finding and removing incorrect elements. It also determines the dimensionality of constructs by investigating relationships between items and factors when dimensionality information is lacking (Netemeyer, Bearden, & Sharma 2023). The exploratory factor analysis approach began with a preliminary analysis run to determine the eigen values of each factor in the data. Following that, the Kaiser-Meyer-Olkin (KMO) Test of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity were used to evaluate construct validity and validate that the data gathered for an exploratory factor analysis were adequate. The KMO test was used to confirm. Bartlett's Test of Sphericity was performed to establish whether correlations between items were large enough for EFA. Bartlett's Test of Sphericity should yield statistically significant results. In order to conduct an EFA, a significance of less than .05 must be obtained. If the initial EFA findings reflect items that when loading on the incorrect factors or cross-loading on several factors (Yu & Richardson 2015). Principal component analysis (PCA) is a technique used to reduce the dimensionality of such datasets, boosting interpretability while minimizing information loss. It accomplishes this by generating new uncorrelated variables that gradually optimize variance (Jolliffe & Cadima (2016). Also, Principal component analysis (PCA) is a statistically rigorous method for re-expressing a given data set by generating a new collection of variables (PC), each of which is a linear combination of the original variable (Kurita, 2020). Varimax attempts to reduce the number of variables with high loadings on each component and to make minor loadings even smaller (Yong & Pearce, 2013). Eigenvalues were used to determine how much of the variance was explained by each of the components. (Alabduljabbar, et al., 2022). Also, Eigenvalues are also known as characteristic roots. Eigenvalues reflect the percentage of variance explained by a certain factor out of the overall variance. The variance explained by the variable on that particular factor is shown by factor loading (Solutions S. , 2023). Factor loading is the correlation coefficient between the variable and the factor. The total variance is the sum of all individual major component variances. The fraction of variance explained by a main component is the ratio of that principal component's variance to the total variance. Add the

variances of each primary component and divide by the overall variance (Cheplyaka, 2017). The communality of a variable in factor analysis is a useful indicator for forecasting the variable's value. More specifically, it indicates what share of the proportion of the variable is due to either: The primary elements or each variable's and individual factors' correlations (Glen, 2023).

5. Theoretical Bases

5.1 Ansoff Matrix of H. Igor Ansoff is also known as the product/market growth grid. It is a marketing planning tool that assists businesses in developing product and marketing strategies (Igor, 1957). The matrix provided marketers and business leaders four business growth strategies: market penetration, market development, product development and diversification. It also provides a straightforward and prompt way to consider risks development, and examine the risks related to the others (Mind Tools Content Team, n.d.; Peterdy, 2022). This matrix further visualized the levers that can be pulled when contemplating growth potential, and compares the relative attractiveness of growth strategies that take advantage of current products and markets as well as those that do not Peterdy (2022). Market penetration's primary goal is to increase sales of current product with the current market. Product development focused on launching a new product into existing market. Market development introduced an existing product to a completely untapped market. It can be achieved through creating a new application, additional advantages or features of the product. Lastly, diversification. This held the riskiest strategies since launching a brand-new, untested product into a totally uncharted market may not completely comprehend (Mind Tools Content Team, n.d) Using this matrix, it disclosed the penetrated market's preference in this line of service, and paved the development of the service as well as emerging or possible diversification of service which can be most helpful for these providers. Also, the significant difference, if any, across demographics of consumers may become source of diversified product and/or market.

5.2 Consumer buying process model was the second theory of this paper. There are five fundamental steps in the decision-making process for consumers. This technique is use to weigh their options before making a purchase. Recognizing the need or problem for a service or product is the first stage in the decision-making process. Regardless of internal or external motivation, need recognition yields the same outcome: a want (Lucid Content Team, n.d.). When there is no need or want, it is purposeless to purchase(Korobkina & Bondarenko, n.d.). Consumers must first identify their needs or wants before they can be satisfied. These motivations including previous contacts with a product or brand, both favorable and unfavorable are considered while investigating their options. During the information stage, consumers explore various options using different media seeking information (Lucid Content Team, n.d.) seeking possible solutions to the problem to their decision-making process (Korobkina & Bondarenko, n.d.). Alternative evaluation in the purchasing process comes next as this information were collected. They now compare potential options to related alternatives, hence, established standards for what they need from a product. Evaluation of suitable needs based on objective such as functionality and specifications, and subjective characteristics like perception towards the product brand or its reputation (Lucid Content Team, n.d.). The purchase is the anticipated event for customers. They are able to choose the products or brand that is most appropriate to respond to their needs. Lastly, in the post-purchase evaluation consumers evaluate their satisfaction with their original needs or whether or not they made the right choice in purchasing the product or service (Korobkina & Bondarenko, n.d.). Thus, anchoring this model was beneficial to the stakeholders in addition to the first matrix as findings uncovered the least and potent factors for online delivery food business in the point of view of its market.

6. Research Methods

The study used a descriptive and inferential research designs. Aquino (2004) described descriptive research as fact-gathering combined with appropriate interpretation. The descriptive technique entails more than simply data collection. The genuine significance of the data obtained should be communicated in light of the project's objectives and underlying assumptions. After rigorous data categorization, data must be exposed to the reasoning process in order to be used. Descriptive research also describes and interprets what is. Also, it involved the elements of interpretation of the meaning of significance of what is described. Thus, description is often combined with comparison involving measurements, evaluation, and interpretation (Glass & Hopkins, 1984). Thus, using this design, the profile of respondents was disclosed including the understanding on their rating on such particular factors. On the other hand, inferential research design compares the variations between the treatment groups. It uses data from the set of samples to compare the treatment groups and draw conclusions about the subject population as a whole. While quantitative method is the process of gathering and interpreting numerical data. It is utilized to construct trends and compute for averages, formulate hypotheses, examine causality, and extrapolate findings to larger populations (Bhandari, 2020). The study was conducted in the City of Mati, Davao Oriental. For the said reasons, City of Mati was appropriate in conducting the study because of the presence of Online Food Delivery Services. It is a coastal component city in the province of Davao Oriental, and it serves as the provincial capital. The city has a land area of 588.63 square kilometers or 227.27 square miles which constitutes 10.36% of Davao Oriental's total area the city has a land area of 588.63 square kilometers or 227.27 square miles which constitutes 10.36% of Davao Oriental's total area. Its population as determined by the 2020 Census was 147,547. This represented 25.60% of the total population of Davao Oriental.

Since the respondents were customers of any food businesses who used OFDS in the City of Mati, then the population was considered unknown. The City's population was known as reported by the PSA 2020 Census, however, the total number or list customers of OFDS was unknown or there were secondary data to which this study can refer to. Hence, Cochran formula was the basis for the sample size but instead of 385 respondents, it opted to gather 400 respondents.

In addition, respondents were identified through purposive sampling, thus will observe the criteria: 1. he/she is of legal age; 2. he/she is using online food delivery services for more than a month. The first criterion was for data collection efficiency. There was no need of guardian or legal documents for underage participation or permit on the study. The second criterion focused on the post purchased evaluation of the customer-user. Given this enough time, it enabled customers to assess thoroughly his or her experience on the service. The researcher created the survey questionnaire (Appendix A), and was submitted to three experts for validation. Corrections were made based on their comments. The questions were encoded in a software application, and let the research assistants (RAs) try three respondents before the actual collection of data. Five RAs were trained on the survey questionnaire, and the data collection application, KoboCollect Data Toolbox. KOBO designs forms quickly and easily reuse existing questions and blocks of questions and manage them in question library. It creates complicated forms using validation and skip logic (KoboToolbox, n.d.). The beneficial features of the application to the study were the importing and exporting the file to XLS Form through URL or PC upload, and its software application was available online and offline.

Orientation meeting was held before the collection of data to ensure that RAs understood, and knew what and how to collect the data needed for the study.

In the actual survey, before the data was collected, the researcher and her RAs obtained permission from the respondents before starting the data collection. They administered the questionnaire, and ensured confidentiality on the information given. The questionnaire's goal was to find out which of the factors has most and least affect in the Online Food Delivery Services. The survey questions were brief and understandable so that respondents may complete it not more than 20 minutes. Further, this shorter time promoted participation. After all data were stored and uploaded to the main account of the survey questionnaire in the KoboCollect. Data were automatically available right after online submission, and this created summary reports with graphs and tables as well as the downloadable file for statistical translation and analyses. However, these data were cleansed before exporting to the statistical software for data analyses. The statistical tools were employed with the help of a statistician. In this study, the data collection was the primary source of data with the use of questionnaire. Part 1 focused on the demographic profile of OFDS users while Part 2 measured all the factors perceived to affect as identified in the literatures cited in the previous chapter using the Likert Scale. Likert Scale Method was used to code the data that was gathered and analyze the quantitative data. The code was presented as follows: 1 as strongly disagree; 2 as disagree; 3 as agree; and 4 as strongly agree. The results of the analyses of the data were being presented in tables which accord to the responses of respondents.

The information supplied in the results responded chronologically according to the research objectives at hand. The determination of the demographic profile of online food delivery services customers in the City of Mati were presented with a table showing frequency count and percentages. The most potent and least factors that affect the online food delivery services were also presented in table showing their respective communalities and factor loadings. Lastly, the significant difference in the potent factor when group according to age, gender, occupation and income, if there is or are any, and the significant difference in the least factor when group according to age, gender, occupation and income, if there are or is any, were exhibited using tables. This study used appropriate tools in interpreting the gathered data, thus, the statistical tools were used to analyze them: frequency count, exploratory factor analysis, and the analysis of variance.

6.1 Frequency Count. To achieve objective one, the researcher collected information about the demographic profile of the respondents using the most frequent answer. Hence, for the reader's convenience, the summation of each category was provided in the form of a table. The number of times an item, value, or category appears in a given dataset or sample was referred to as its frequency count. Moreover, the counts are often used to find patterns, trends, and relationships in data which in turn answered the first objective: demographic profile of OFDS customers.

6.2 Exploratory Factor Analysis (EFA). Addressing objective two and three or determining the potent and least factors were achieved using factor analysis specifically, the Exploratory Factor Analysis. When working with variables that have relatively high correlation coefficients among themselves and one wants to create new variables that capture the combined behavior of the original variables, exploratory factor analysis approaches are highly helpful (Favero & Belfiore, 2019). Exploratory factor analysis is a statistical approach used to reduce data to a smaller collection of summary variables, and to investigate the phenomena's underlying theoretical structure. It is used to determine the structure of the variable-respondent connection (Statistics Solutions, n.d.). In addition, it is a multivariate statistical method aims to find the fewest number of hypothetical constructs also known as factors, dimensions, latent variables, synthetic variables, or internal attributes that can explain the covariation observed among a set of measured variables also called observed variables, manifest variables, effect indicators, reflective indicators, or

surface attributes (Watkins, 2018). Also, it is assumed that any indicator or variable can be linked to any factor, and it is not based on any prior hypothesis (Statistics Solutions, n.d.)

Kaiser-Meyer-Olkin Measure of Adequacy and Barlett’s Test of Sphericity depicted the appropriateness and suitability of factor analysis as statistical treatment of the data at hand. In addition, in reducing the factors, communalities and factor loading needed to reach 0.50 or otherwise eliminated in the next run. With these, reduction and clustering of clusters according to potent to least were achieved using Principal Component Analysis (PCA) with varimax rotation.

6.3 Analysis of Variance (ANOVA). This was used to test the significant difference in terms of the potent and least factors according to age, gender, occupation and income of factors affecting the online food delivery services. Such that, ANOVA is used to compare the means of more than two groups, and that whether the means of the treatment levels differ from the overall mean of the dependent variable. Further, ANOVA determines if the groups produced by the levels of the independent variable were statistically different (Bevans, 2020).

7. Results and Discussion

Table 1 indicates that out of 400 respondents 53.20% were female, 38.80% were male, and 8% were members of the LGBTQ+ Community. The age of the respondents was comprised of 41.75% aged 18-25 years old, 21.75% aged 26-30 years old, 19.75% aged 31 to 40 years old, 11.75% aged 41-50 years old, and 5% aged 51 years old and above. The table also includes the occupation of the customers of OFDS. There were 24.25% government employees, 18.25% private employees, 17.25% self-employed, and 40.25% were students. The table also revealed that the most respondents had monthly income less than PhP10,000 and below (47.50%), followed by PhP10,001 to PhP20,000 (23.25%), over PhP30,001- 40,000 (20%), PhP40,000 to PhP50,000 (7.75%), and PhP50,000 above to (1.50%). As to gender results, it was different from the gender distribution conducted in Dhaka, Bangladesh by Saad (2020) as men were most likely to use online food delivery than women. However, the findings confirm the same result in the Philippines conducted by Phillipneris (2021) as 84% of female were using online food delivery services.

Table 1. Demographic Profile of OFDS Customers in the City of Mati

		Freq (n-368)	Percentage
Gender	Female	213	53.20
	Male	155	38.80
	LGBTQ	31	8.00
Age	18-25 years old	167	41.75
	26-30 years old	87	21.75
	31-40 years old	79	19.75
	41-50 years old	47	11.75
	51 above	20	5.00
Occupation	Government Employee	97	24.25
	Private Employee	73	18.25
	Self-Employed	69	17.25
	Students	161	40.25
Income	Php10, 000 and below	190	47.50

	Php10, 001to Php20,000	93	23.25
	Php30,001 to Php40, 000	80	20.00
	Php40, 00 to Php50, 000	31	7.75
	More than Php50,000	6	1.50

As to age, Saad (2020) and Phillipneris (2021) have similar results as most OFDS users age range between 25 to 34 years old, and 26 years old and above (96%), respectively. But this study found out that Mati OFDS users were younger with age 18-25 years old.

The distribution of income in this study was the same from previous research done here in the Philippines as 68% of the monthly income was less than PhP10, 000, and in this study, respondents mostly earning 10,000 below (47.50%) in a month. Saad (2020), asserted that most students (42%) were using online food delivery services which was also of the same result in this study having students at 40.25% using OFDS. Using 0.5 thresholds, factor analysis was run three times in order to reduce the 28 initial factors. In addition, in every run, appropriateness and adequacy in using the factor analysis was obtained.

According to (Yu & Richardson, 2015) the KMO test was used to evaluate construct validity and validate that the data gathered for an exploratory factor analysis were adequate. Bartlett's Test of Sphericity was performed to establish whether correlations between items were large enough for EFA. Bartlett's Test of Sphericity should yield statistically significant results. In order to conduct an EFA, a significance of less than .05 must be obtained. Thus, in this study the KMO value ranges between 0 and 1, with values closer to 1 indicating better suitability for factor analysis. In this case, the KMO measure is reported as 0.948, which suggests that the data was highly suitable for factor analysis. On the other hand, Bartlett's test of Sphericity obtained the approximate chi-square value of 5423.925, with 253 degrees of freedom, and with significance level (Sig.) of .000. This means the test result was highly significant supporting the suitability of the data for factor analysis. Thus, both KMO and Bartlett's test suggested that the data was appropriate and suitable for factor analysis.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.948
Bartlett's Test of Sphericity	Approx. Chi-Square	5423.925
	Df	253
	Sig.	0.000

Table 3 presents the Rotated Component Matrix that displays the factor loadings of each factor identified that affects OFDS. Three clustered factors or components were generated after three FA runs.

Table 3. Rotated Component Matrix – Final Run

	Component		
	User Experience	Service Convenience	Service Quality
Ease of using the application		.750	
Restaurant Selection		.788	
Food Selection		.735	
Delivery		.562	
Affordability		.721	
Price		.691	

Safety Packaging			.714
Attitude of delivery person			.699
Service quality			.597
Condition of food delivered			.558
Intention to use	.655		
Promotion	.656		
Time saving	.573		
Convenience motive	.727		
Practicality	.782		
Efficiency	.792		
Perceived trust	.776		
Customized food	.781		
Offers discounts		.677	
Payment options		.689	
Social influence	.662		
Performance expectations	.617		
Mean	.70211	.70156	.64215

This result was from a Principal Component Analysis (PCA) with a Varimax rotation. Thus, factors that did not reach 0.50 communalities and factor loading were eliminated for the next run. Three validators and a statistician named these components into user experience, service convenience or operational efficiency, and service quality.

Component 1 included intention to use, promotion, time saving, convenience motive, practicality, efficiency, perceived trust, customized food, social influence, and performance expectations. These attributes show relatively high factor loadings on Component 1, suggesting their connection with User Experience.

Component 2 included ease of using the application, restaurant selection, food selection, delivery, affordability, price, offers discounts, and payment options. These attributes to Service Convenience or Operational Efficiency.

Component 3 primarily consisted of safety packaging, condition of food delivered, privacy and security, and delivery tracking. These characterized Service Quality.

Table 4 presents the variance explained per factors. This shows the Initial Eigenvalues, extraction sums of squared loadings, and rotation sums of squared loadings. The variance of factor 1 was 27%, factor 2 was 20% and lastly factor 3 was 14%.

Factors	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1									
2									
3									

1	10.439	45.389	45.389	10.439	45.389	45.389	6.134	26.671	26.671
2	2.516	10.941	56.330	2.516	10.941	56.330	4.685	20.369	47.040
3	1.260	5.477	61.807	1.260	5.477	61.807	3.396	14.767	61.807
Extraction Method: Principal Component Analysis.									

This result shows that factor 1 has explained variance of 27%, factor 2 has a total variance of 20%, and factor 3 has a total of 14%. According to Hair et,al (2010) said that 50-70% of total variance is acceptable. This implies that the three factors can explain a cumulative percentage of 61.81% as factors affecting the online food delivery services in the City of Mati.

Potent Factors Affecting Online Food Delivery Services

User Experience was determined to be the potent factors that affect OFDS. As presented above, there were ten (10) factors: intention to use (.655), promotion (.656), time saving (.573), convenience motive (.727), practicality (.782), efficiency (.792), perceived trust (.776), customized food (.781), social influence (.662), and performance expectation (.617). The total loadings for these ten (10) potent factors had a mean of .70211.

Most of the factors identified by Won, Sung, & Jeon (2019) were included potent factors in this study: social influence, promotion, performance expectations. Further, among the three crucial elements disclosed by Chai &Yat (2019), two were of these results as for this study. These were time saving and convenience motive. Also, the findings of (Pallikkara, et. al, 2021) presented that saving time and the ability to customized food were significant advantages for this line of business. It is indeed true to this study that perceived trust have a substantial impact on client online purchases (Zendehdel, et. al, 2015). Looking closely to the factor loading result, efficiency, practicality and customized food were the top three highest loadings. Hence, it can be said that customers in the City of Mati were driven to use OFDS due to these factors. But is it also noticing that even these three factors lead to time efficiency, time saving has the least factor load among the ten potent factors. Thus, it may be argued that it was not on the number of minutes from the time orders were placed up to the delivery of food but customers also considered the time spent by the restaurant or food establishment to prepare the food they ordered then compute for the delivery time. The shorter the time spent in these activities given the number of orders, the better; rather than the promptness of the delivery.

The customization of food exposed that Matinians preferred to dine is just like at home (lutongbahay) while avoiding food preparation for meals and washing dishes thereafter define practicality.

This further implied that online food delivery services in the City of Mati need to focus and work more on the potent factors especially to the efficiency of their service so that their customers will be more satisfied, draw more customers, and imprint loyalty.

Least Factors Affecting Online Food Delivery Services

Service quality was determined to be the least factors affecting OFDS. As presented above, there were four (4) factors: safety packaging (.714), attitude of delivery person (.699), service quality (.597), and condition of food delivered (.558) these factors had a total mean of .64215 based on the factor loadings.

All of the factors identified by Baguio, et al. (2022), were included in the least factors of this study: attitude of the delivery person, condition of food delivered, safety packaging and service quality. The delivery described all fundamental elements of the OFDS such as timeliness of delivery, OFDS riders, attitude of

the delivery person, condition of food being delivered and safety packaging.

In the timeliness of delivery person, it is all about the promptness of the rider on to deliver the ordered food. When it comes to the attitude of the delivery person or the rider, it pertained to the attitude of the rider towards his/her customers. Condition of food delivered referred to the state or quality of the food when it is received by the customer. It encompassed various aspects including freshness, temperature, cleanliness, and overall presentation. Safety packaging included how the food should be packaged to prevent contamination, and maintain its condition during transportation. Lastly, service quality pertained to the level of excellence and satisfaction provided by an OFDS in terms of its customer service. All the least factors were significant and substantially connected with the overall performance of online food delivery services.

These numerical results expressed that services quality may not be potent factor but enhances motivation from customers they were serving. Even though these were least factors they were still significant factors that influenced in using online food delivery services. Mati OFDS customers wanted their food to have safety packaging so that when it reached them, it was not spilled or spoiled, and that they can enjoy their meal or snacks. In addition, the attitude of the delivery person matters for them. Customers also evaluated how the rider approached, talked, and explained things to them such as the reason of the delay of the delivery service, or when they were being courteous and polite.

Thus, these factors simply meant that Mati customers wanted their food to be safely packed while riders were respectful and polite.

Significant difference of the Potent Factors according to Demographic

Table 5 shows the result of ANOVA which examines the relationship between three or more categorical variables. The result also expresses the significant difference on user experience, if there were any, when responses of OFDS customer were categorized in terms of their demographic profile (gender, age, occupation, and income).

The frequency associated with each chi-square statistic indicates the probability of observing a result as more extreme than the observed result. Looking at the gender column, the p-values were greater than 0.05, indicating that there was no significant difference in the distribution of potent factors between male, female, and LGBTQ+. However, the age column showed that for potent factors time saving, convenience motive, practicality, efficiency, and customized food, the p-values were less than 0.05 indicating significant association. Also, the occupation column showed that for potent factors time saving, convenience motive, practicality, and efficiency have p-values less than 0.05 Indicating a significant association. Finally, looking in the income column, some of the potent factors also indicate significant association these factors are time saving, convenience motive, practicality, efficiency, and customized food which has p-values less than 0.05.

Table 5. ANOVA of Potent Factors as to Demographic Profile

Potent Factors	Gender		Age		Occupation		Income	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Intention to use	1.303	.273	3.621	.007	2.800	.040	2.843	.024
Promotion	1.687	.186	3.658	.006	2.945	.033	2.164	.072
Time saving	.265	.767	6.063	.000	7.207	.000	6.465	.000

Convenience motive	.504	.605	4.080	.003	5.428	.001	5.336	.000
Practicality	1.692	.186	6.087	.000	7.988	.000	5.043	.001
Efficiency	1.621	.199	4.994	.001	5.347	.001	4.117	.003
Perceived trust	.285	.752	2.904	.022	2.451	.063	1.897	.110
Customized food	.059	.943	5.911	.000	3.816	.010	4.321	.002
Social influence	1.686	.187	3.365	.010	1.631	.182	1.170	.323
Performance expectations	1.156	.316	3.378	.010	1.272	.284	.887	.472

This implied that when it comes to respondent’s age in the City of Mati they had different preferences or expectations when it comes to some potent factors that affect the online food delivery services. Younger generations might be more techy-savvy and are used in using digital platforms leading to higher adoption of online food delivery services. While older generations may have different preferences, such as preferring traditional dining options. When it comes to occupation, respondents with different occupations prioritize these factors to choose when using OFDS. Certain factors were more important to specific occupational groups while other factors had less influence. Lastly, when it comes to income, some respondents with higher incomes may prioritize

convenience and time saving factors, as they may have busy schedules and value the ability of quickly and easily delivered meals. They may also have the money to prioritized customized food options, such as dietary restrictions or personal preferences. On the other hand, respondents with lower income may prioritize practicality and efficiency as they may be more budget-conscious.

Overall, these results suggest that there was significant difference on the potent factors affecting OFDS customers in the City of Mati when grouped according to demographic profile.

The result of the comparisons of each potent factor and the demographics shows that there is a significant difference when it comes to age, occupation, and income. The post-hoc results of each factor can be seen in Appendix B.

Significant difference of the Least Factors according to Demographic

Table 6 shows the result of ANOVA on the least factors affecting OFDS: safety packaging, attitude of delivery person, service quality, condition of food delivered when grouped according to demographic profile (gender, age, occupation, and income).

Table 6. ANOVA of Least factors as to Demographic Profile

Least Factors	Gender		Age		Occupation		Income	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Safety Packaging	7.440	.001	2.693	.031	.706	.549	.977	.420
Attitude of delivery person	1.816	.164	2.935	.021	2.296	.077	1.683	.153
Service quality	.152	.859	7.419	.000	4.501	.004	3.587	.007
Condition of food delivered	4.399	.013	3.182	.014	2.716	.044	3.260	.012

Looking at the gender column, there were two least factors with greater than 0.05 p-values which indicate that on these factors, there were no significant difference on their service quality: attitude of delivery

person and service quality. Meanwhile, there were also two least factors with significant association when it comes to gender. These factors were safety packaging ($p=.001$) and condition of food delivered ($p=0.13$). It further implied that there was a significant difference on the OFDS least factors when customers were grouped according to gender. Hence, for safety packaging and condition of food delivered, H_0 was rejected.

However, the age column shows that for the least factors safety packaging, attitude of delivery person, and condition of food delivered indicates no significant association showing greater than 0.05 p-values when it comes to age. Only service quality indicates significant association when it comes to age with ($p=.000$). Also, the occupation column shows that for least factors only service quality shows less than 0.05 p-values indicating significant association. Finally, looking in the income table, all of the least factors show greater than 0.05 p-values which mean no significant association.

This implied that when it comes to respondent's gender in the City of Mati they had significant difference in the least factors safety packaging and condition of food delivered when using OFDS. This suggests that respondents of different gender prioritized some factors in using online food delivery services. Some factors were more important to the respondents of a particular gender, while the two least factors had less influence. When it comes to age, service quality had a significant difference this suggests that respondents of different age groups in Mati City prioritized service quality in using OFDS. Older respondents place a higher emphasis on service quality they may value aspects such as courteous delivery personnel, accurate order fulfillment and satisfaction. While younger respondents may be less concerned about service quality and may prioritized other factors. Lastly, when it comes to occupation there is a significant difference in the least factor service quality, this suggests that some occupational groups prioritized service quality in using OFDS while it had less influence on others. Respondents in occupations that require quick and easy delivery may place a higher emphasis on service quality they value the aspect timely delivery responsiveness. On the other hand, in some occupational group especially students service quality may be less of a priority they may consider other factors such as convenience and affordability.

Overall, these results show that some of the least factors had a significant association when it comes to the demographics.

The result of the comparisons of each least factors and the demographics shows that there is a significant difference when it comes to gender, age, and income. The post-hoc results of each factor can be seen in Appendix B.

8. Conclusion

This study identified 28 factors that affect online food delivery services. These factors were grouped into three clusters: user experience, service convenience or operational efficiency, and service quality. User experience was found to be the most significant factor, while service quality had the least impact. These factors play a crucial role in promoting customer loyalty and satisfaction. Service convenience or operational efficiency, including aspects like application usability, restaurant and food selection, delivery, affordability, pricing, discounts, and payment options, are also important for providing a hassle-free experience and saving customers' time. By prioritizing convenience, online food delivery services can foster customer loyalty and positive recommendations. Service quality factors, such as safety packaging, food condition, privacy and security, and delivery tracking, may have a lesser impact but are still vital for maintaining the service's reputation. Overall, online food delivery services have revolutionized the way

people access and enjoy food, offering convenience, variety, and accessibility, and businesses need to focus on these factors to maintain and improve their services.

9. Recommendations

Based on the findings and conclusion of the study, the following recommendations are proposed to the business firms in the City of Mati on how they will maintain their services when it comes to OFDS. The potent factor user experience which consists of intention to use, promotion, time saving, convenience motive, practicality, efficiency, perceived trust, customized food, social influence, and performance expectations should be maintain in order to gain customers loyalty. Also, for the online food business firms they should consider the least factors in OFDS and work on this aspect and give more importance on it. It will also help them develop their entrepreneurial skills as they operate their business and give ideas for organizing, investing, and critically assessing their food delivery services.

The study further recommends the consumers to enhance their experience with online food delivery services. With the potent factors this will guide the consumers on selecting OFDS platforms with high-quality services and this also paves business owners of online food delivery services improve according to these factors. On the other hand, the least factors will educate the business owners to enhance on the advantages of exercising caution while deciding on their delivery methods in order to provide consumers needs when using online food delivery services. Consumers should also choose an online food delivery service that aligns with their preferences. This study also recommends the researchers and academicians to dig deeper on the study about online food delivery services and give further studies and effectiveness of OFDS. Extension programs should also be recommended such as trainings, orientation and business and entrepreneurship extension programs.

Lastly, this study recommends further studies on the effectiveness in determining the factors in using online food delivery services. This will give knowledge and will serve as a guide to the consumers and this will help the business firm related to online food delivery services enhance their services. The study on factors affecting online food delivery services can have several effects and implications, including the dissemination of information to the consumers in increasing awareness about the factors that affects in using online food delivery services.

**Appendix A
First Run**

	Component			
	1	2	3	4
Ease of using the application	.115	.738	.112	.215
Restaurant Selection	.170	.779	.095	.175
Food Selection	.227	.720	.011	.164
Delivery	.209	.556	.335	.278
Affordability	.130	.719	.204	.190
User information security	.359	.329	.385	.497
Information quality	.399	.195	.327	.573

Restaurant Credibility	.435	.362	.034	.493
Price	.107	.695	.220	.164
Safety Packaging	.290	.100	.657	.220
Attitude of delivery person	.463	.156	.529	.317
Service quality	.521	.221	.399	.333
Condition of food delivered	.459	.216	.516	.164
Intention to use	.683	.130	.337	.074
Privacy and security	.415	.193	.490	.149
Promotion	.682	.196	.282	.198
Time saving	.594	.449	.110	.050
Convenience motive	.750	.270	.079	.194
Practicality	.789	.214	.171	.099
Efficiency	.801	.224	.117	.095
Perceived trust	.788	.169	.208	.031
Customized food	.799	.094	.155	.092
Offers discounts	.393	.666	.047	-.277
Delivery tracking	.190	.139	.727	-.043
Payment options	.354	.694	.084	-.313
Payment security & privacy	.026	.594	.510	-.280
Social influence	.667	.116	.321	.088
Performance expectations	.627	.156	.351	.228

Second Run			
	Component		
	1	2	3
Ease of using the application	.126	.737	.172
Restaurant Selection	.179	.777	.149
Food Selection	.240	.714	.066
Delivery	.206	.552	.423
Affordability	.135	.718	.249
Information quality	.408	.177	.553
Price	.091	.691	.290
Safety Packaging	.262	.118	.723

Attitude of delivery person	.449	.162	.648
Service quality	.516	.227	.517
Condition of food delivered	.446	.236	.532
Intention to use	.676	.146	.332
Promotion	.677	.203	.358
Time saving	.592	.454	.128
Convenience motive	.753	.266	.161
Practicality	.786	.217	.211
Efficiency	.797	.225	.157
Perceived trust	.780	.175	.204
Customized food	.798	.099	.190
Offers discounts	.378	.680	-.082
Delivery tracking	.162	.176	.628
Payment options	.332	.706	-.062
Payment security & privacy	-.001	.632	.307
Social influence	.657	.129	.340
Performance expectations	.620	.160	.427

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