

THE RELATIONSHIP BETWEEN FOOD DELIVERY APPLICATION (FDAs) ATTRIBUTES AND CUSTOMERS' SATISFACTION DURING COVID-19

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Abstract: *Pandemic COVID-19 has erupted the majority system of business in the world. Many sectors have gone through downhill especially the tourism sector. However, the food and beverages industry somehow has shown a slightly different outcome. This is because the usage of mobile gadgets has led to a lot of innovation and the creation of mobile applications including Food Delivery Application (FDAs). This study aims to determine the positive relationship between FDAs attributes and customers' satisfaction. The hypothesis was tested by distributed the survey questionnaire through an online platform. The impact from this study will allow people to realize the technology for online food ordering is entrancing because it has become part of daily life and the fame for this application has increase exquisitely. From this study, all the food delivery companies can improve their business by identifying their strength and weakness. They also can focus to offer a better-quality service so the customer can get a better experience, services, and expectations.*

Keywords: FDAs attributes, Satisfaction, Covid-19

Introduction

In 2019, the pandemic of COVID-19 has been occurred and erupted all over the world. It is progressively expanded and causing people to take self-precaution. During this crisis, everyone needed to wear a face mask in public areas, practice the new norm which is social distancing and self-isolating recommended by WHO. Traditional catering has been affected dramatically because fewer people are going out and buy food from restaurants or eateries (Zhao & Bacao, 2020). Li, Miroso & Bremer (2020) stated the online food delivery trend has also gained an abrupt increase in popularity during the ongoing pandemic breakout. According to Nayan & Hassan (2020), online food deliveries have become a buying food of choice particularly when the government posed the MCO restriction. Many restaurant websites offer online orders where customers can order food items through their websites. After ordering the food, the restaurant delivery staff will deliver the food to the customers' home address. The food delivery systems have increased in demand, the competitive dynamic of the food delivery market has growth in worldwide (Azizul, Albattat, Shahrman, Irfan & Fitri, 2019). After the movement control order (MCO) came into force in March 2020, delivery orders have risen to 30 percent in Malaysia (Bernama, 2020). Foodpanda for example, has started its business in 2012 in Berlin Germany and it expanded its business to Malaysia in 2018 (Kamilah, Kee, Syafiq, Aina, Yap, Alqallaf & Quttainah, 2020). They offer services that connect customers to a variety of eateries and restaurants. The customers will order the food using the apps and the app's registered drivers will deliver the food right to them (Chai & Yat, 2019). There are also emerging independent food delivery services such as DahMakan, Shotgun2u, Grabfood, Uber Eats, Mamam, FoodTime, DeliverEats, etc (Chai & Yat, 2019).

However, as the demand increases, some problems also occurred within time. The service provider is struggling to focus on the quality of services as if the goal for food delivery services is to maximize customer satisfaction. Food quality and online service quality are very crucial for an online food delivery system (Nayan & Hassan, 2020). Zhao & Baco (2020) said that trustworthiness has the most significant positive impact on FDAs system and as the demand is getting higher, it is getting hard to meet all the expectations. All these problems can lead to decreasing customer satisfaction and lead to decreasing demand from customers to use their delivery services in the long run. Therefore, these online food delivery companies must identify and work on their strengths and weaknesses to provide high-quality services and to guarantee high customer satisfaction towards their services. This will help their business momentum to always be relevant and competitive for a very long time. Therefore, the study is prepared to determine the positive relationship between FDAs attributes and customers' satisfaction.

Literature review

Customers' Satisfaction

Customers' satisfaction is associated with customer gratification. According to Biesok & Wyród-Wróbel (2018), satisfaction is a judgment expressed by customers. This means that satisfaction reflects the gap between the customer's view of the expected product and the customer's view of the delivered product. Therefore, the state of satisfaction or dissatisfaction is a subjective feeling, the result of a specific experience of personal perception and emotion. This satisfaction or dissatisfaction reflects a feeling related to the fulfilled or unfulfilled expectations of a particular product or service. For example, the response to the service or product provided, the opinion on meeting the requirements, and the final feeling of obtaining the product (Biesok & Wyród-Wróbel, 2018).

Factors contributing to customers' satisfaction towards FDAs

According to Nayan & Hassan (2020), the food delivery service industry is growing up and has a potential rate in Malaysia and now internationally. With the new standard being socially distanced, customers demand the supply of takeout food in parallel with government standard procedure in the COVID-19 pandemic. FDAs play a significant role in customer satisfaction and experience by many factors, including economic factors. Such as income, prices, savings, loans, the influence of marketing tools, and non-economic factors such as demographic, social, or psychological factors (Biesok & Wyród-Wróbel, 2010). Whereas, according to Zhao & Bacao (2020), several factors are contributing to customers' satisfaction towards FDAs such as performance expectancy, effort expectancy, social influence, trust, and confirmation.

Table 1: Table of pervious study

No	Author	Year	Attribute/Variable	Method used	Findings
1.	Zhao Bacao	&2020	<ul style="list-style-type: none"> ● Close-ended questions (Demographic information; gender, age, education, occupation & frequency of using FDAs during the COVID-19 pandemic) ● Performance expectancy, effort expectancy, social influence, trust, confirmation & satisfaction ● Five-point Likert scale 	<ul style="list-style-type: none"> ● Online survey ● Chinese social media platform (WeChat) 	<ul style="list-style-type: none"> ● Customers' intention to continue using FDAs during the COVID-19 pandemic is not determined by satisfaction but by perceived task technical adaptability, trust, expected performance and social influence.
2.	Nayan Hassan	&2020	<ul style="list-style-type: none"> ● Snowball sampling (non-probability sampling) ● Close-ended questions (gender, age, location, experiences using any FDAs & experiences using specific FDAs) ● Five-point Likert scale 	<ul style="list-style-type: none"> ● Quantitative (distributed to the public via online) 	<ul style="list-style-type: none"> ● It discovered that users are aware and well-known FDAs (Food Panda & Grab Food) are regularly used by them for ordering & delivering foods

3. Chai & Yat 2019	<ul style="list-style-type: none"> ● Dependent variables (perceived ease of use, time saving orientation, convenience motivation, privacy & security) 	<ul style="list-style-type: none"> ● Quantitative ● Cross-sectional survey ● Self-administered questionnaire survey (Google Docs) ● Direct distribution ● Importance Performance Matrix Analysis (IPMA) 	<ul style="list-style-type: none"> ● The study could not include all possible factors that might affect the online food delivery (OFD) services behavioral intention
4. Van der Vaart, Ateama, & Evers 2016	<ul style="list-style-type: none"> ● Dependent variables (performance expectancy, effort expectancy, social influence, behavioral intention, individualized consideration) ● Seven-point Likert scale ● Demographic variables (age, gender, occupation) ● Open-ended question (date of birth) ● Regression analysis ● Moderation analysis 	<ul style="list-style-type: none"> ● Online survey 	<ul style="list-style-type: none"> ● It indicates a relatively low use of non-fluoroscopy-guided positioning in Belgian radiology departments ● Effort expectancy is found to be the strongest predictor of the behavioral intention, closely followed by performance expectancy ● Social influence also significantly affects the intention to use non-fluoroscopy-guided
5. Bynum, Nancy Gard & Hammett 2017	<ul style="list-style-type: none"> ● Quantitative ● 5-points or 7-points Likert Scale ● Cross-hair placement in Importance-Performance Analysis (IPA) 	<ul style="list-style-type: none"> ● Using a census-guided systematic random sampling method (e.g self-administered, 	<ul style="list-style-type: none"> ● The economic promises of tourism are secondary to ensuring tourism does not destroy what residents have come to value most about their communities

		<ul style="list-style-type: none"> ● Country segmentation based on emphasis on sustainable tourism 	door-to-door and pen & paper question)	<ul style="list-style-type: none"> ● The strong level of importance placed on STIs with significantly lower levels of performance evaluations
6.	Musa, 2010 Pallister, Robson & Mohd Daud	<ul style="list-style-type: none"> ● Online survey ● 5-points Likert scale (satisfaction-disatisfaction scale) 	<ul style="list-style-type: none"> ● Qualitative ● Quota sampling technique 	<ul style="list-style-type: none"> ● Provide clear guidelines for direct sellers or companies in allocating and aligning internal resources and effort in order to maximize customers' satisfaction and perhaps subsequently their retention ● The findings were perplexing but relatively consistent across the methods employed to access attributes importance

Theoretical Basis

The study is based on the study of Zhao & Bacao (2020), where they applied an empirical study to study the factors that influence users' intention to continue using the FDAs during the COVID-19 pandemic. Besides, Zhao & Bacao (2020) believes that the four main practical meanings that have been proven indicate that the benefits of the FDAs contactless delivery function determine the perception and behavior of users. However, as the FDAs have become more and more popular and have gradually become a useful platform for the survival of the foodservice industry, especially during the COVID-19 pandemic, this research may be valuable for start-ups.

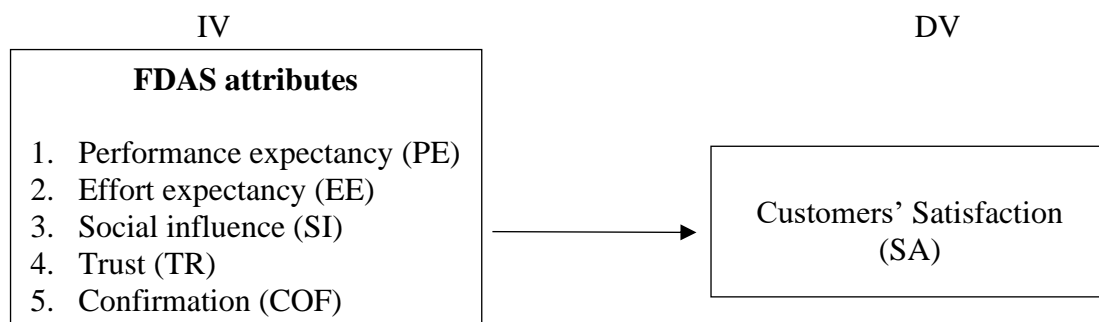


Figure 1: Framework of the study

- i. H1 Performance expectancy (PE) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic
- ii. H2 Effort expectancy (EE) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic
- iii. H3 Social influence (SI) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic
- iv. H4 Trust (TR) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic
- v. H5 Confirmation (COF) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

Methodology

This research aims to evaluate the impacts of FDAs attributes towards customers' satisfaction using the IPA and to determine the positive relationship between FDAs attributes and customers' satisfaction. The sample population is being taken from Malaysian who are using the FDAs during the COVID-19 pandemic. Each respondent is being approached using a Google Form. If the customers did not understand how to answer the questionnaire, clarification will be given. The questionnaire was distributed by using social media such as WhatsApp, Instagram, and Facebook. The question had been divided into 7 sections which included the demographic, 5 attributes of FDAs, and including satisfaction of customers.

Findings

Table 2: Cronbach's Alpha Analysis

<i>Variables</i>	<i>Cronbach's Alpha</i>	<i>N of items</i>
Performance Expectancy	0.881	4
Effort Expectancy	0.909	4
Social Influence	0.852	4
Trust	0.885	4
Confirmation	0.937	4
Satisfaction	0.898	4

Alkhwaja, Sobihah, & Awang (2020) suggested that the rule of thumb for Cronbach's Alpha is 0.7 and higher are considered as good reliability for the test. Based on the table above, there are 4 different items for each variable and each variable were tested differently to ensure the validity of the data. For the performance expectancy, the result is 0.881 which is higher than 0.7. Effort expectancy also reliable because the result is 0.909. For the social influence and trust, the results are 0.852 and 0.885, respectively. Confirmation has the highest result among all the variable which is 0.938 and last variable is satisfaction which also shows the validity by showing 0.898 as the result. As the conclusion, all the variables have strong reliability.

Table 3: Demographic Analysis Table

	Demographic Profile	Frequency	Percentage (%)
Gender	Male	128	30.8
	Female	288	69.2
Age	20 years old and below	44	10.6
	21-30 years old	253	60.8
	31-40 years old	53	12.7
	41-50 years old	37	8.9
	50 years old and above	29	7
Occupation	Student	153	36.8
	Employee	162	36.9
	Retiree	11	2.6
	Unemployed	48	11.5
	Part-time	29	7
Frequency of using food delivery applications (FDAs)	Other	13	3.1
	At least 1 time every 3 days	72	17.3
	At least 1 time per 1 week	69	16.6
	At least 1 time every 2 weeks	75	18
	At least 1 time per 1 month	200	48.1
Total		461	100

Based on Table 3, the total number of respondents is 416 has participated in the survey questionnaire. The result of the gender analysis consists of 128 males and 288 females and the percentage shows 30.8% for males and 69.2% for females has been answered this survey. There are 5 groups of age which consist of 20 years old and below, 21-30 years old, 31-40 years old, 41-50 years old, and 50 years old and above. The age group of 21-30 years old is the highest which consists of 253 respondents out of 461 respondents or 60.8% from all the age group. The lowest age group is 50 years old and above with 29 respondents or 7% only. Meanwhile, for the age group 20 years old and below, the number of respondents is 44 (10.6%), 31-40 years old has 57 respondents only with 12.7% and respondents for age group 41-50 years are 37 respondents with only 8.9%. Table 1 shows the occupations of respondents who answered the questionnaire. The majority of the respondents are in the employee group. The frequency of this group is 162 respondents or 36.9% which is the highest number of all items for the occupation's group. The second highest is students. The frequency of respondents is 153 or 36.8%. It is slightly different from the employees' group. The third highest frequency is unemployed respondents with 11.5% or 48 respondents. Next, the part-time and retiree group has 29 and 11 respondents. Meaning, only 7% for part-time respondents and 2.9% for a retiree. As for the others' group, the number of respondents is 13 or 3.1% of respondents. This group might have a different occupation that the researcher might not know. Hence, that is the reason why group for other is listed. The frequency of using FDAs has 4 different usages of the FDAs. Majority of the respondents using FDAs at 'least 1 time per 1 month'. The number of respondents is 200 or 48.1% of the respondents. The minority group for frequency of using FDAs is 'at least 1 time every 2 weeks. The number of respondents for this group is 78 or 18%.

The other two groups are at least 1 time every 3 days' and 'at least 1 time per 1 week' which consists of 72 and 69 respondents or 17.3% and 16.6%.

Table 4: Table of Pearson's Correlation

	Variables	CS	PE	EE	SI	TR	COF
Pearson's Correlation	Customers' Satisfaction (CS)	1.000	.670	.668	.708	.772	.834
	Performance Expectancy (PE)	.670					
	Effort Expectancy (EE)	.668					
	Social Influence (SI)	.708					
	Trust (TR)	.772					
	Confirmation (COF)	.834					

Note: CS-Customer satisfaction, PE-Performance Expectancy, EE-Effort Expectancy, SI-Social Influence, TR-Trust & COF-Confirmation; All these are variables for this research.

H1: Performance expectancy (PE) is positively affecting customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

There is a relationship between performance expectancy and customers' satisfaction, and it is a positive relationship with Pearson's Correlation value is 0.670. The correlation analysis supports that performance expectancy has a significant positive relationship with customers' satisfaction. Therefore, H1 is supported.

H2: Effort expectancy (EE) is positively affecting customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

There is a relationship between effort expectancy and customers' satisfaction, and it is a positive relationship with Pearson's Correlation value is 0.668. The correlation analysis supports that effort expectancy has a significant positive relationship with customers' satisfaction. Therefore, H2 is supported.

H3: Social influence (SI) is positively affecting customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

There is a relationship between social influence and customers' satisfaction, and it is a positive relationship with Pearson's Correlation value is 0.708. The correlation analysis supports that

social influence has a significant positive relationship with customers' satisfaction. Therefore, H3 is supported.

H4: Trust (TR) is positively affecting customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

There is a strong relationship between trust and customers' satisfaction and it is a positive relationship with Pearson's Correlation value is 0.772. The correlation analysis supports that trust has a significant positive relationship with customers' satisfaction. Therefore, H4 is supported.

H5: Confirmation (COF) positively affects customers' satisfaction (SA) towards continuously using FDAs during the COVID-19 pandemic

There is a strong relationship between confirmation and customers' satisfaction, and it is a positive relationship with Pearson's Correlation value is 0.834 which represents the highest value. The correlation analysis supports that confirmation has a significant positive relationship with customers' satisfaction. Therefore, H5 is supported.

Discussion

Delivering service to improve customer satisfaction and loyalty is essential for every service sector to achieve a competitive advantage (Yusra & Agus, 2020). It is obvious that FDAs attributes have strong relationships with customers' satisfaction but in terms of importance level, it varies. There is a positive relationship between FDAs attributes and customers' satisfaction and has a moderate contribution to the customers' satisfaction (hypothesis 1, 2 & 3). This research aims to address this problem and to overcome the literature discrepancy by analysing the consumer satisfaction and customer engagement impact of perceived efficiency of the online food delivery service (Yusra & Agus, 2020). The Pearson's Correlation table shows that the customers' satisfaction is 1.000 which is a strong relationship (Chen, Cohen, & Chen, 2010). Most experts believe the level of service has a positive impact on customer satisfaction and customer loyalty and can thus be a robust tool to improve customer performance which leads ultimately to higher sales (Yusra & Agus, 2020).

Conclusion

It is hoped that this research study has given a clearer view to the FDAs on the customers' satisfaction. The services provided by the FDAs company are already popular before the COVID-19 pandemic because a hectic day in the office, makes people order food online. It is an easier way to rest at home while waiting for food, rather than dine-in at a restaurant. During the COVID-19 pandemic, people who are staying at home or had been lockdown during MCO not only buying items or shopping online. They are also bought or order online food, but not all FDAs cover all areas. With this research and knowledge of customers' satisfaction towards FDAs, it can help the FDAs company to improve their services to gain more revenue in the future.

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