Stimulus Factors of Order Online Food Delivery

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***Abstract*— Food order from mobile application is popular nowadays, this way can help customers order food effectively and faster. It also can offer maximum benefit for suppliers and customers. So, the customer can get the value of online food order delivery. This research used quantitative approach with 187 respondents to see what stimulus factors that make people interest in online order for food delivery. Research questions that need to be answered: which stimulus factors that make people interest to do online order for food delivery? There are 6 (six) hypotheses for this research and the answers to these questions are privacy factor and informativeness factors as the stimulus to make the customer order online food delivery. The SOR model is used in this research. The SOR model instead of Stimulus Organism Response Model is a framework that used to find out how the human process receives a stimulus factor.**

Keywords—online food delivery, SOR model, behavior, privacy, Informativeness

I. INTRODUCTION

Indonesia has a variety kind of food. Therefore, not surprising that Indonesia has a variety of foods and different among cities in Indonesia. With the increasingly of flexible and evolving technology in Indonesia, even food can come directly to the customer without have to come to the restaurant. This phenomena is online food delivery that has been famous in Indonesia lately [1].

At the beginning of 2000, every restaurant in Indonesia had food delivery services, but this cause high cost both for the restaurant. So, the restaurant costs the customer for the food delivery service. And this method is famous from 2000 to 2010 and was quite effective in delivering food to customer [2].

Recently, technology began to emerge through smartphones. Through application, people can order variety foods displayed on the application, for example, the services of Go-Jek company enable people to just order food as easy as one click on the Gojek Application, not only food order but also motorcycle transportation order.

The information provided through the application is also detailed, customer can see the food information, food price, and also delivery price. The provider such as Gojek also give discount for customer, voucher, rewards, cashback, etc, This offers more value for customers when ordering food [3][4].

Not only in Indonesia, this kind of services also started growing in other countries because it will offer maximum benefit for suppliers and customers. This also offers an opportunity for culinary companies to improve services by sharing economy with online transport and to increase increased mutualism[5].

The survey also proved that online food delivery services offer more maximum revenue for restaurant if compared to the traditional way or self-delivery. Customers can more easily order food, not just in one place, but at the same time order food in different places and services through online applications on the customer's smartphone [6]. Smartphone is used more widely now. Not only for telephone use, mobile banking, but also for ordering food online [7][8]. In addition, online food delivery usually providers e-wallet technology that allows customers to pay easily and faster, so the customer don't have to wait too long for money to be transferred to the drivers or restaurants [9].

This research will analyze the stimulus factors of user online food delivery that can influence the behavior of their customer using the SOR Model. Question for this research is: what stimulus factors of online food delivery? There are 6 (six) hypotheses for this research:

- H1: Perceived Ease of Use (PEOU) significant to the Value of Customer (VC)
- H2: Perceived Usefulness (PU) significant to the Value of Customer (VC)
- H3: Privacy (PVC) significant to the Value of Customer (VC)
- H4: Facilitating Condition (FC) significant to the Value of Customer (VC)
- H5: Informativeness (INF) significant to the Value of Customer (VC)
- H6: Value of Customer (VC) significant to the Behavior to Use (BU)

This research used quantitative approach by distributing questionnaires to 215 respondents. There were 187 respondents who actively use online food delivery on the mobile application.

II. LITERATURE REVIEW

A. Online Food Delivery (OFD)

Online Food Delivery is similar to e-commerce, but it has more direct process and the items ordered are different than e-commerce that usually sell products. Besides that, the delivery time also faster than e-commerce, the food or product ordered will be deliver directly to customer [10][11]. In this case, mostly in Indonesia, online food is provided by many providers of sharing economies such as Go-Jek (Go-Food) and Grab (Grab-food), but suppliers or restaurants also have online food delivery facilities such as KFC, Pizza Hut, etc. This online Food delivery is located on the customer's smartphone, depending on the customer's needs [12][13].

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B. SOR Model

SOR Model instead of Stimulus Organism Response Model. Basically, People will always give an answer based on the results of the stimulus that was previously recorded. With a stimulus that influence people, it will produce different responses. However, the response produced does not differ much from others [14]. People will make decisions about what is received as a stimulus and processed. In terms of the process, people do an element of feeling or affective and element of cognitive [15]. After receiving the stimulus, it can be discovered what the human reaction will be [16][17][18].

The SOR model is a framework that is used in this research to find out how the human process receives a stimulus and then processes it in an organism or individual and then gives a response [19][20]. In this study, the model can be used to see how human or customer behavior when receiving stimulus to order food online. Therefore, the response model of the stimulus organism was used in this study [14][21].

III. Research Methodology

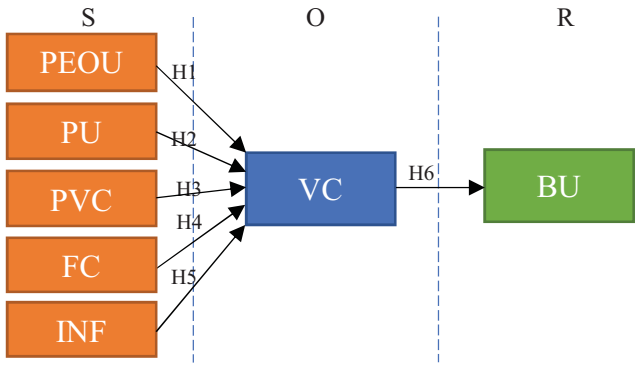

Fig. 1. SOR Model

The researcher tried to find out the determinants of the stimulus through which the customer wanted to order the existing food order application. The researcher ultimately determined the Stimulus Organism Response Model that fits the determinants of customers who make food orders via online applications. These factors are Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Privacy (PVC), Facilitating Condition (FC) and Informativeness (INF). The five factors are stimulus factors. In the Organism section, researchers put Customer value as a factor in the organism. While for the Response section, researchers put Behavior to use (BU). Research model can be seen in Figure 1. There are indicators of the model that support these factors.

A. Research Instrument

This research is a quantitative approach with 23 statements that require the selection of respondents on a Likert scale where number 1 strongly disagrees until number 6 strongly agrees with the statement. The questionnaire uses the Likert scale into 3 groups. the group of Stimulus (S) has 5 factors, namely Perceived Ease of Use (5 statements), Perceived Usefulness (5 statements), Privacy (4 statements), Facilitating Condition (3 statements), and Informativeness (2 statements). Group of Organism for 1 factor namely Customer Value (2 statements). And the group of Responses for 1 factor, namely Behavior to Use (2 statements).

In addition to 23 statements, there are 6 questions that are useful for knowing the identity of the respondent. These six questions are: have try using an application to order food, gender, ages, how many transactions in last 1 month, how much average of transaction in every purchased each order, and how about the payment method.

B. Data Collection Procedure

The questionnaires distributed through Google Forms for online and hardcopy for offline. The dispersed population was for all respondents who wanted to complete the questionnaire. For all ages, gender, professions and anyone who wants to complete the questionnaire. That is why this study uses snowball samples because the population is not specifically known. The questionnaire distributions begin from January to March 2019 (3 months).

After all the data collected according to the objective of this study, there are at least 200 respondents. The data processing that has been obtained is a characteristic of the respondents in this study.

C. Characteristics of Respondents

The characteristics for 215 data respondents can be seen in Table I.

IV. Result and Discussion

The final questionnaires results were 215 respondents who were willing to complete the questionnaire. There were 187 (87%) of 215 respondents who used the order feed application. The valid data used to be measured are 187 respondents. Although the rest cannot be measured in this study because they do not use the application.

From 187 respondents, it can be seen that no fewer than 110 respondents (59%) were women, while the rest were men. In this case, those who are willing to complete the questionnaire and who are valid in this study are mostly women. In terms of age, apparently many respondents are17 – 25 years old. So, it can be concluded, this study is dominated by young age female.

For questions about how often the transaction was made in the last month, respondents answered mostly 1-5 times as many as 104 respondents or 55%. This shows that half of the respondents ordered food online 1-2 times on average for 1 week, while the rest ordered more than 5 times in the last 1 month. In terms of how much they spend on average food purchased for each order, there were 105 respondents (57%) spend from Rp. 50,000 - Rp. 100,000. It can be concluded that because most respondents are young, order food for Rp. 50,000 to Rp. 100,000 is common in Indonesia. Moreover, the as many as 42 respondents (23%) spend under Rp. 50,000. The rest is spending more than Rp. 100,000 every time they order food online. And finally, 124 respondents (66%) e-wallet as their payment method rather than cash. This research is in line with the current trend that many customers started switching to using e-wallet compared to cash.

TABLE I. Characteristics of Respondents

Description	Total Answer	%
N Total	215	100%
Order with Online Food Delivery		
Yes	**187**	**87%**
No	28	13%
Valid Respondents (187 Respondents)		
Gender		
Male	77	41%
Female	**110**	**59%**
Ages of Respondent		

Description	Total Answer	%
Less than or equal 17 years old	4	2%
18 – 25 years old	**150**	**80%**
26 – 35 years old	23	12%
36 – 50 years old	9	5%
More than 50 years old	1	1%
How many times of transactions in last 1 month		
1 – 5 times	**104**	**55%**
6 – 10 times	38	21%
11 – 20 times	21	11%
More than 20 times	24	13%
How much average of every purchased for each order food		
Less than or equal Rp. 50.000	42	23%
Rp. 50.001-Rp. 100.000	**105**	**57%**
Rp. 100.001-Rp. 150.000	31	17%
Rp. 150.001-Rp. 200.000	5	2%
More than Rp. 200.001	3	1%
Payment method		
Cash	63	34%
E-Wallet from Apps	**124**	**66%**

In the next phase, the researcher conducted a core study by statistically calculating the existing research model namely the Stimulus Organism Response Model using SmartPLS application to measure structural equation models (PLS-SEM) partial least squares [22]. This application is used to find the load indicators, the composite reliability and the average variance extracted (AVE).

TABLE II. OUTER MODEL

Latent Variables	Indicators	Loading	Composite Reliability	AVE
Perceived Ease of Use (PEOU)	PEOU01	0.861	0.940	0.758
	PEOU02	0.887		
	PEOU03	0.822		
	PEOU04	0.909		
	PEOU05	0.871		
Perceived Usefulness (PU)	PU01	0.823	0.918	0.692
	PU02	0.813		
	PU03	0.766		
	PU04	0.890		
	PU05	0.864		
Privacy (PVC)	PVC01	0.919	0.954	0.838
	PVC02	0.930		
	PVC03	0.936		
	PVC04	0.876		
Facilitating Condition (FC)	FC01	0.897	0.853	0.662
	FC02	0.710		
	FC03	0.840		
Informativeness (INF)	INF01	0.882	0.894	0.809
	INF02	0.916		
Value of Customer (VC)	CV01	0.942	0.948	0.902
	CV02	0.957		
Behavior to Use (BU)	BU01	0.911	0.880	0.785
	BU02	0.860		

From the results in Table II, all the indicators in the indicator load are above 0.7, the composite reliability above 0.6 and AVE are all above 0.5. It can be concluded that all the indicators are valid and reliable.

The SmartPLS application, there is a process called bootstrapping to test internal and external models. This application increases the total number of 187 respondents to 5000 samples for this research. The level of proximity for normal information can be achieved with the use of bootstrapping.

The bootstrapping for testing the values for original samples, T statistics and P values. According to the T-Table, the valid or acceptable T-Statistics is above 1.96. While P Values should be below 0.05. The results can be seen in Table III and Figure 2.

TABLE III. RESULT

Hypothesis	Paths	Original Sample	T-Statistic	P Values	Result
H1	PEOU → VC	-0.010	0.113	0.910	Not Significant
H2	PU → VC	0.170	1.308	0.191	Not Significant
H3	PVC → VC	0.306	3.063	0.002	Significant
H4	FC → VC	0.109	0.897	0.370	Not Significant
H5	INF → VC	0.237	2.198	0.028	Significant
H6	VC → BU	0.840	23.067	0.000	Significant

The results of Table III indicate that there are 2 stimulus factors that significant to the value of customer (VC). They are Privacy (PVC) and Informativeness (INF) factors. Organism (value of customer (VC)) also gives very significant to the Response (behavior to Use (BU)).

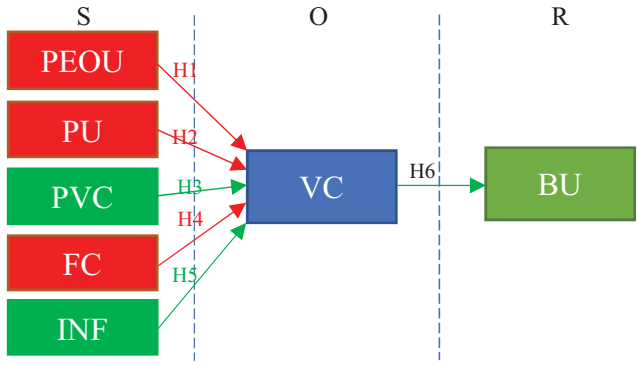

Fig. 2. Result of Hypotheses

V. CONCLUSIONS

From this study, it can be concluded that a significant effect on customer value in terms of ordering food via an online application is the privacy of the customer and the information. This is due to the presence of privacy that is felt like a strong incentive when ordering food, make the customer feels more comfortable ordering and without any interference or other things that disrupt the order. This is also due to the fact that in this study most respondents were women so women need privacy to make online food order through application. In addition to women, most respondents are still young, so the style for young people has a greater sense of privacy when ordering food online. Another thing is also highlighted is using e-wallet payments are more enjoyable for young age and also provide privacy for them.

In addition to privacy, information was also an important issue in this study. The complete information obtained when buying food is also the most important stimulus factor. With the complete and correct information, the customer has the value that the information is suitable for the customer. Customers also become more self-confident and secure when ordering these foods because the correct information is provided through this application. Information is indeed one

of the important things when ordering food, as the customer becomes clearer about what can be ordered and they also can see comments and reviews before ordering food. Customers between the ages of 17 and 25 are more anxious to know new things. It is true that the information factor is a significant factor stimulus in this study.

Regarding the stimulus factor that is less significant, they are perceived ease of use, perceived usefulness and facilitating state. In the case of Perceived Ease of Use, it is less important in this study because the decisive stimulus factors that customers expect to order food through online applications are not due to the ease of the application. The application of researchers was indeed simple, but convenience is not the determining factor for ordering food. Ease of use can be a factor when researching how customers can experience when ordering food, but the stimulus is not seen as ease of use. In addition to the perceived ease of use, the perceived utility is also not a stimulus factor when ordering food via online applications. In the case of this study, this can be happened because customers are aged between 17-25, they familiar with technology, easy to learn the new application although it is important but it is not the important or crucial factor when ordering food via online application. That's why information is more important for them rather than the easiness of the application. The last stimulus factor that is less significant is facilitating disorder. In this case, facilitating the conditions for online use of ordering food does not provide a decisive factor when ordering food online. Facilitating the condition is only a factor that gives an added value for customer when ordering food, but that does not become a stimulus determining factor.

VI. Implication

The research provider of food online delivery must provide more detailed information about the food to make it more interesting for customer. The customer expects a lot from this information. In food, for example, it must provide more detailed information about comments, reviews from food reviewers and other customers, prices should be updated, so that customers feel more satisfied and not disappointed if the price is different and charged different from what is in the application, the food picture also the real picture for each menu. In addition to providing information, providers of online food services must offer more convenience according to the identity of the customer. The application must already know the identity of the customer, for example for men or women, age and others. Then provide a suitable suggestion in accordance with the privacy data provided by the customer so every information will appear appropriate as the customer needs and gives convenience for customers.

VII. Future Research

The suggestion of future research is to find other stimulus factors. In addition, it can also use other research models to find out the truth in this research. Research can be done with more respondents to provide more valid data and to know what the circumstances are in Indonesia and in other countries.

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