

**ANALYSIS OF THE INFLUENCE OF ONLINE MENUS ON  
CONSUMER PURCHASE INTENTION WITH CONTAMINATION  
CONCERN DURING THE COVID-19 PANDEMIC****Pipit Agustiyanti Mulyadi<sup>1</sup>, Ignatius Heruwasto<sup>2</sup>**<sup>1</sup>University of Indonesia, pipit.agustiyanti01@ui.ac.id<sup>2</sup>University of Indonesia, heruwasto@yahoo.com

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**ABSTRACT**

*The Covid-19 pandemic is causing global concern, not only in Indonesia but also throughout the world. This is due to the coronavirus, which spreads quickly, especially at the end of 2019, and causes relatively high contamination. The perceived impact also highlights the phenomenon of changes in consumer behavior. To overcome the impact of Covid-19 itself, the marketer is trying to make breakthroughs with online menus that offer their business products but adhere to the health protocol by minimizing the risk of Covid-19, the effects of contamination, and hygiene on the touch of the products offered to attract consumer buying interest. The purpose of this study is to analyze the effect of the online menu used in businesses circumstances in restaurants by analyzing the influence of the stimulus Covid-19 Risk, Hygiene through Perceived Contamination, Ease of App Use through Perceived Convenience, and Menu Visual Appeal and Informativeness that effect Desire for Food to the consumer's Purchase Intention. This research was conducted in Indonesia's food and beverage industry using the Stimulus Organism Response model through quantitative research methods with confirmatory research. Data collection techniques by electronic survey with convenience sampling technique as many as 357 respondents shop for food using the online menu at restaurants, especially during the pandemic. Based on the results of the study, it can be concluded that Perception of Covid-19 Risk, Hygiene, Perceived Contamination, Perceived Convenience, and Desire for Food are considered by consumers in their buying interest in food (purchase intention).*

**Keywords:** *Online Menus, Purchase Intention, Perceived Contamination, Perceived of Covid-19 Risk, Stimulus Organism Response.*

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**1. Introduction**

The Covid-19 pandemic is causing global concern, not only in Indonesia but also throughout the world. This is due to the coronavirus, which spreads fastly, especially at the end of 2019, and causes relatively high contamination. The perceived impact also highlights the phenomenon of changes in consumer behavior. To overcome the impact of Covid-19 itself, the marketer is trying to make breakthroughs with online menus that offer their business products but adhere to health protocols by minimizing the risk of Covid-19, the effects of contamination, and hygiene on the touch of the products offered to attract consumers to buy.

The impact of Covid-19 with the implementation of social distancing (or what is often called keeping a distance) with efforts to prevent Covid-19 contamination and hygiene as an effort to health protocols has triggered marketers to carry out digital transformations, including the culinary product business. One of the concepts of business digitization is the presentation of online menus either through an android application or barcode scanning that integrates orders starting from order receipt, kitchen, finance, and delivery. All these activities seek to accelerate and simplify the order process and reduce errors in ordering. The need for an integrated information technology infrastructure so that the use of technology using smartphones can impact

various aspects, including restaurants to attract customers. Humans generally want everything to be done quickly and not take a long time, and there is no waiting time for the waiter. Therefore, technology made by humans must be able to support activities carried out both for individuals and companies to be more effective and efficient. According to the, We Are Social report, in January 2022, internet users in Indonesia continued to grow, reaching 204.7 million users or about 73.3 percent of the total population. Within a year, the number of users increased by 15.5 percent, or around 27 million (Bisnis.com, 2021). In addition, there were 345.3 million mobile phones, or the equivalent of 126.6 percent of the population, an increase of about 4 million mobile phones compared to January 2020.

One of the impacts of the spread of the Covid-19 pandemic in various sectors is the economic sector, which is felt by all business actors (Lipi, 2020). The need for mitigation and recovery efforts to revitalize the economic situation. One of the short-term mitigation measures is to provide demand-side incentives, facilitate collaboration between digital (online) platforms and the use of innovation and technology, and improve product quality and the competitiveness of the marketing system. Responding to the post-pandemic transition period from Covid-19, the government encourages the food and beverage industry to be prepared to welcome general consumption, which is expected to increase after vaccination. Considering this strategic sector has the potential to grow positively throughout the year according to community needs (Ministry of Industry, 2021).

Kotler (2018) states that consumer behavior is formed due to several factors that influence it, namely cultural factors that have a strong enough influence on consumer behavior consisting of culture, social factors, and personal factors such as motivation, perception, learning, beliefs, and attitudes. According to Li et al. (2020), the perception of risk for Covid-19 is a key factor influencing how an individual evaluates risk to make decisions and behave. Various research themes further study the impact of this perceived risk of Covid-19 on consumer buying behavior.

The food industry not only requires changes in people's consumption patterns but also continues to apply health protocols and further develop product innovations and their derivatives to encourage public consumption while maintaining the cleanliness of the food ordered. Nguyen (2021) reveals that the perception of the safety risk of a product is formed from a complex process. One is about food contamination and how to overcome these risk perceptions by conducting marketing innovations. One of the processes carried out is an ordering system using an online menu which is expected to be a solution so that people can continue to consume food and drinks while still complying with health protocols. Digital online menus trigger consumer interaction on the desire to choose food (Desire for Food), convenience (Perceived Convenience), and significantly increase sales (Martell, 2013; Mayton, 2015; Yim, 2020). The use of the concept of the Stimulus-Organism-Response model (S-O-R) model, which was first proposed by Mehrabian and Russell (1974) in Brewer (2021) in terms of implementing online menus that formulate consumer buying interest in the context of food ordered online. Stimuli (S) consist of marketing aspects, namely restaurant menus that are viewed online, for example, the Visual Appeal Menu, the information provided (Menu Informativeness), product hygiene and supporting tools (Hygiene), and ease of use of online menus (Ease of App Use).

In addition, there are social stimuli, namely the situation and perception of the COVID-19 pandemic, which look at how to meet consumer desires to order online. Brewer's research (2021) concludes that there is a need for further research on the variety of consumer reactions that depend on the existing stress situation and how consumers' interest in eating restaurant food and perceived convenience, and critical reactions to the desire for food and comfort mediates the relationship between stimuli. And responses. In-depth, a further study of the SOR model in Brewer's (2021) study identified a causal relationship between Perception of COVID-19 Risk, stimuli for the visual appearance of product menus (Menu Visual Appeal), and restaurant menu information (Menu Informativeness), consumer perceptions of the convenience of ordering food online (Perceived Convenience), and their desire for food (Desire for Food) (organism) and their desire to buy the product (Purchase Intention) (response).

Technological advances have increased consumers' desire to buy, especially for commercial activities. Interest in buying through online media is believed to be an individual desire to buy a product offered by producers to consumers (Adidarma, 2016) in Japariato (2020). To survive during the pandemic, restaurants need to be proactive in reaching consumers, one of which is by using technology (Ghupta, 2021). The online menu ordering system can make it easier for consumers to order according to their wishes, and consumers can easily track their orders and product availability. Consumers have more freedom to choose the product ordered. This online menu makes it easy for consumers to order menus as a digital menu solution for dining in and reducing interaction with other people. The implications for companies of strategic menu planning can help business owners deal with online communication with consumers, improve customer service standards, increasing customer satisfaction and revenue. From a study of the theory of consumer behavior and its relation to the theory of contamination and hygiene during the Covid-19 pandemic, the title of this research is Analysis

of the Effect of Online Menus on Consumer Buying Interest and Its Relation to Contamination in a Pandemic Period.

## 2. Literature Review

### 2.1 Perceived Contamination

Contamination theory (Frazer, 1890 in Simon, 2019) suggests that when the touch that is felt directly or indirectly from the source to the target either explicitly or implicitly undergoes the transfer of part or all of the properties to the target. The Covid-19 pandemic has caused a catastrophe that pollutes the environment on a large scale. The emergence of the risk of contamination of this can influence consumer decisions. However, it is not uncommon for consumers to prefer to eat out while still prioritizing health protocols. Several studies have stated that the tendency of contamination of a product can reduce the desire to buy the product (Grande et al., 1999; Frank et al., 2016). Furthermore, Frank (2016) revealed that the basis for changing consumer buying behavior was in the event of a national disaster such as the Covid-19 pandemic, especially in terms of food based on self-defense but by reducing the potential for contamination of the product to be consumed.

### 2.2 Menu Hygiene

Previous research suggests that Hygiene is associated with food hygiene, sanitation, and contamination (e.g., chemical, physical and microbiological (Srey et al., 2013) in Shim, 2021). Poor Hygiene can cause various diseases even though it comes from attributes in food places such as menu presentation. This condition arises from an important element of the risk of developing an infection when consumers are in a situation of eating, ordering food, or talking. Then the lack of knowledge of marketers regarding healthy and safe food and beverage management can trigger the risk of contamination of marketed food and beverages (Ningsih, 2014) so that it can be said that the quality and safety of the food provided are always maintained to reduce the potential for contamination of food consumed by the community.

### 2.3 Ease of App Use

Ease of using technology, especially when accessing products or services, can refer to the extent to which consumers feel the handling of technology that leads to the purchase process without any difficulties (Shim, 2021). Various applications in every place to eat that offer ease of use so that it can lead to comfort and ease of accessibility. Several works of literature demonstrate user-friendliness, accountability, and consumer intentions.

### 2.4 Purchase Intention

Purchase Intention is related to the extent to which consumers are willing to buy a certain product or service (Liu in Shim, 2021). Based on several works of literature, Purchase Intention has been widely used as the dependent variable and is an attribute that is quite important to study. So that the researcher decides that the dependent variable used is Purchase Intention. The consumer's desire to buy can be interpreted as part of the process before the consumer's purchase action occurs. According to Engel et al. (1995) in Sreen (2018), buying interest is a driving force of intrinsic motives. It can encourage someone to pay attention spontaneously, naturally, easily, without coercion, and selectively to a product or service and then decide to buy. So, it can be concluded that buying interest is a consumer's tendency to act before the purchase decision is actually implemented.

Kotler and Keller (2016) define interest as a condition where consumers have not taken action and can be used as a basis for predicting that behavior or action. Interest appears as a response to an object that shows the consumer's desire to buy it. Interest is defined as a desire that arises from consumers toward a product because of consumer observation and consumer learning of a product (Kurnia., 2010 in Japariato, 2020). The established hypothesis is formulated:

*Hypothesis (1):* Menu Hygiene has a positive impact on the perceived Contamination.

Perceived Convenience can be said to be a consumer's effort to spend less time and energy when making online purchases (Chen, 2021). So Perceived Convenience in the ease of online menu application (Ease of App Use) can be said to be a form of saving time and effort made by consumers when making purchases. So, the second hypothesis in this study is:

*Hypothesis (2):* Ease of App Use has a positive impact on the perceived Convenience.

Furthermore, there is a need for an evaluation of the perceived risk of Covid-19 is considered quite important and looks at the extent to which Contamination with Covid-19 can affect consumer behavior, especially during a pandemic. So, the third hypothesis in this study is:

*Hypothesis (3):* Perceived Covid-19 Risk has a positive impact on the perceived Contamination.

Meanwhile, the appearance and structure of the menu are said to be able to encourage and/or discourage consumer buying interest (Chen & Dhillon, 2003). Then the next research hypothesis is:

*Hypothesis (4):* Menu Visual Appeal has a positive impact on the Desire for Food.

*Hypothesis (5):* Menu Informativeness has a positive impact on the Desire for Food.

Perceived Contamination emphasizes the perceived risk of Contamination obtained by individuals when ordering a product at a restaurant. This perception arises when individuals believe others have touched an object and transferred residues or germs (Hazee, 2019). In relation to buying interest, whether there is a possibility that high Contamination can reduce consumer buying interest in a product needs further discussion.

*Hypothesis (6):* Perceived Contamination has a positive impact on Purchase Intention.

Perceived Convenience is defined as the extent to which consumers perceive the activity of browsing food information using certain media menus to be pleasant or enjoyable by itself, regardless of the expected consequences (Davis, Bagozzi, & Warshaw, 1992). Therefore, the next hypothesis is:

*Hypothesis (7):* Perceived Convenience has a positive impact on Purchase Intention.

As we know Desire for food is a desire to try and or have a product offered (Hoffman et al., 2012). Furthermore, the explanation is that the Desire for food is defined as a state of conscious or unconscious motivation for certain stimuli or experiences that are anticipated to be useful (Papies & Barsalou, 2014). Usually, this Desire supports to direct the purchase intention. Therefore, we form the hypothesis as follows:

*Hypothesis (8):* Desire for Food has a positive impact on Purchase Intention.

### 3. Research Method

Figure 1 shows the research model. The dependent variable is purchase intention as a Response. In addition, this research use five elements as stimulus: Perceived Covid-19 Risk, Hygiene, Ease of App Use, Menu Visual Appeal and Informativeness, and Organism: Perceived Contamination, Perceived Convenience, and Desire for Food. The research method uses quantitative methods and uses google form with five (5) Likert Scales from Strongly Disagree to Strongly Agree. The screening question respondent who has 18 years old and had been experiencing an online menu when visiting a restaurant around one month before the research location in Jakarta, Indonesia. Malhotra (2020) states that quantitative research is a research methodology that seeks to measure data and applies both statistical analysis and cause-and-effect relationships for each variable. While, causal research is a type of conclusive research where the results and the main goal are to obtain evidence based on a causal relationship.

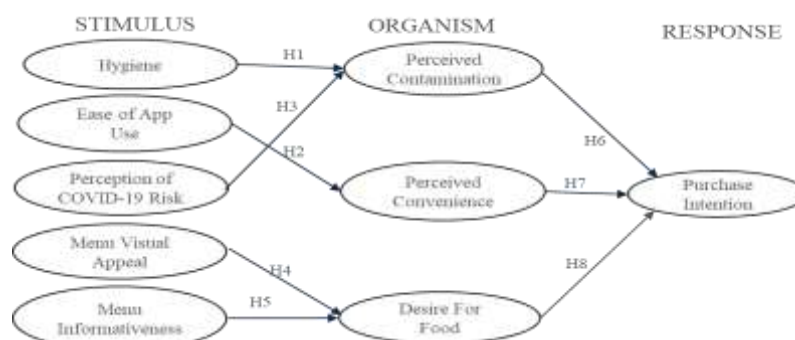


Figure 1. Research framework

Before questionnaire distribution, a pre-test was conducted, and contributors were asked to complete the research instruments. Then the pre-test itself established content validity and reliability, and all data were drawn to gather responses from consumers in Indonesia. The final survey of this research used the purposive sampling method and gathered 357 respondents. The data used SmartPLS 3.0 to do Structural Equation Modelling for each variable. Independent variables in this research are Menu Hygiene, Ease of App Use, Perceived Covid-19 Risk, Menu Visual Appeal, Menu Informativeness for Stimuli area, continue with Perceived Contamination, Perceived Convenience, and Desire for Food for Organism Area, and also dependent variable is Purchase Intention for the Response area.

Additionally, data review involved (PLS-SEM) to test the measurement and structural model framework. This approach is used because of the apportionment and quality of this study. Using (PLS-SEM) – the measurement model is evaluated on reliability and validity. In this process, four basic benchmarks must be established. The assessment of the internal consistency was performed using composite reliability of  $>0,7$ . The assessment of indicator reliability obtained the outer loading of reflective constructs of  $>0,40$ . The assessment of convergent validity using the average variance extracted (AVE) is required to be  $>50\%$ . The discriminant validity is the last assessment criterion; it is assessed through the square root of the (AVE) of all constructs within the model. The analyses of the structural model were assessed following the fulfillment of the measurement model (Hair et al., 2019). The path-coefficient significance is assessed using 5000 bootstrapping functions with 357 cases during data collection. Then, the assessment of the coefficient determination (R<sup>2</sup>) was assessed, measuring the effect of exogenous constructs on the endogenous constructs.

## 4. Results and Discussion

### 4.1 Respondent demographics

This chapter contains the results of data analysis in answering the problem of research or troubleshooting results expected by the author for the article which is not a result of this research. Socio-demographic of the respondent is female (51%), male (49%), for age, 18 – 22 years old is 30%, 23 – 38 years old is 61%, 39 – 54 years old is 8%, and more than 54 years old is 6%. For income per month is less than Rp. 5.000.000 is 38%, Rp. 5.000.001 - Rp. 10.000.000 is 48%, Rp. 10.000.001 - Rp. 15.000.000 is 8%, and more than Rp. 15.000.001 is 6% (table 1).

Table 1. Respondent Socio-Demographic

No	Variables	Category	Frequency	Percentage (%)
1	Gender	Male	174	49%
		Female	183	51%
2	Age	18 - 22 years old	108	30%
		23 - 38 years old	216	61%
		39 - 54 years old	30	8%
		> 54 years old	3	1%
		< Rp5.000.000	134	38%
3	Income per month	Rp5.000.001 - Rp10.000.000	173	48%
		Rp10.000.001 - Rp15.000.000	29	8%
		> 15.000.001	21	6%

Source: Statistical Software used by researcher

### 4.2 Measurement model assessment

According to SEM, Validity and reliability is using SmartPLS 3.0 and Cronbach Alpha. The criteria for correlation in need to meet the significant value and Cronbach Alpha is above (Table 2). Table 2 shows that all the Cronbach's' Alpha values were more than the threshold value of 0,70. This fulfills internal consistency measurement items (Nunnally and Bernstein, 1994). AVE was over  $>0,50$ , and Composite Reliability (CR) threshold was more than the average variance extracted (Fornell and Larcker,1981).

Table 2. Average Variance Extracted

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
DSF	0.772	0.778	0.855	0.597
EAU	0.758	0.786	0.837	0.511
HYG	0.700	0.766	0.812	0.525
MIF	0.781	0.795	0.851	0.536
MVP	0.761	0.812	0.838	0.516
PCI	0.736	0.742	0.834	0.558
PCN	0.759	0.771	0.838	0.510
PCO	0.717	0.718	0.842	0.639
PCV	0.776	0.792	0.847	0.527

Source: Statistical Software used by researcher

### 4.3 Structural model assessment

Table 3. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV)	P Values	Decision
DSF -> PCI	0.275	0.273	0.055	5,000	0.000	Supported
EAU_ -> PCN	0.689	0.688	0.057	12,020	0.000	Supported
HYG_ -> PCO	0.477	0.472	0.061	7,771	0.000	Supported
MIF -> DSF	0.556	0.554	0.063	8,813	0.000	Supported
MVP_ -> DSF	0.300	0.302	0.070	4,266	0.000	Supported
PCN -> PCI	0.287	0.289	0.054	5,285	0.000	Supported
PCO -> PCI	0.373	0.372	0.047	8,013	0.000	Supported
PCV -> PCO	0.365	0.371	0.062	5,852	0.000	Supported

Source: Statistical Software used by researcher

### 4.4 Hypothesis testing

The guideline presented by SEM verified the connection of hypothesis on results that are accepted or not accepted (Hair et al., 2019). The hypothesis is established if the path is significant at  $t > 1,96$  and  $P < 0,05$  (Kline, 1998). Table 3 depicts the level of acceptance for all connections in the study.

Hypothesis 1 states that if customers see online menus are hygiene, they will adopt that perceived contamination was supported at a significant level ( $H1 t=7,771$ ,  $p < 0,00$ ). This shows support from previous studies (Xx, 2020). Hypothesis 3 which states if consumer perceived Ease of App Use at significant level ( $t = 12,020$ ,  $p < 0,00$ ). According to cross-cultural studies, Ease of App Use is a leading factor in influencing Perceived Convenience.

Hypothesis 3 states if consumers perceive the risk of covid-19, they will adopt perceived contamination and support at a significant level ( $t = 5,852$ ,  $p < 0,000$ ). Hypothesis 4 and 5 posited that if the customer has seen online menus with visual appeal and informativeness, they will desire the food itself and consistent with a previous study (Brewer, 2021).

Hypothesis 6 posited if a customer has perceived contamination, they will embrace purchase intention. Also, hypotheses 7 and 8 which are posited if a customer perceive convenience and desire for food, will make some purchase intentions with significant levels for both hypotheses ( $t6 = 8,013$ ,  $t7 = 5,285$ ,  $t8 = 5,000$  and  $p < 0,000$ ). This implies that customers are concerned with perceived contamination during covid-19, but they are still looking for perceived convenience by attractive online menu to make desire for food, and they will embrace purchase intention.

## 5. Conclusion and Implications

The present study examined attributes from online menus to express purchase intention in Indonesia. It is also extended, which concern with perceived contamination during pandemic covid-19. The findings provide evidence on factors influencing customers' purchase intention while using online menus and provide beneficial information to managers in the food industry, such that concerning how to manage perceived contamination

during covid-19 on demand for dine-in could be encouraged. The study shows that customers have exerted more effort to express green behaviors and perceived contamination.

The perceived contamination effect is a crucial determinant in the market. Prior research is not conclusive on how online menus can be enhanced and contain an integral way to embrace purchase intention. The result shows that visual menu appeal, menu informativeness, and ease of app use are important predictors that influence purchase intention.

The application of Structural Equation Modelling – the SEM analytical model, deserves consideration by future research projects as a means of attempting to best evaluate the relationship surrounding the stimuli variables (hygiene, ease of app use, perceived covid-19 risk, visual menu appeal, menu informativeness) to organism variables (perceived contamination, perceived convenience, and desire for food) to purchase intention as the response variable. Additionally, further research might explore how marketers can increase customers' adoption of the online menu when in a pandemic situation.

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