Exploring Purchase Intention using Delivery Services Apps during Covid-19 Pandemic among Malaysian Households

Rozita Naina Mohamed¹, Anusara Sawangchai², Mohd Saifullah Rusli³, Rohani Mohd¹, Hiran Prasamkam², Nura Lina Md Elias¹, Ainun Nadzirah Mahmood¹

¹Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia
²Business Administration in Entrepreneurship Program, Faculty of Management Science, Phuket Rajabhat University, Phuket, Thailand
³Arshad Ayub Graduate Business School, Universiti Teknologi MARA, Shah Alam, Selangor

Corresponding author: nuralinaelias@uitm.edu.my

Abstract - Online services of product delivery apps are more critical than ever. The COVID-19 pandemic has irrevocably altered internet purchasing habits. Customers are getting comfortable using the apps for services to order and do the shopping via their smartphone using the apps. The pandemic has quickened the transition to a more digital world. However, the debate remains as to what elements influence customers’ purchase intentions toward using Delivery Services Apps (DSA). This research is therefore carried out to examine the key factors affecting the intention of customers to use delivery services apps among household customers in Malaysia during Covid-19 in 2020 to 2021. The research explored the most significant factors that influence the customer purchase intention on using DSA. There are 4 independent variables which we are focusing on: time factor (TF), price factor (PF), and convenience motivation factor (CMF) and product illustration factor (PIF). From the research, we have found out that convenience motivation factor is the most important exogenous variable that can influence purchase intention directly, sequentially through shopping motivations. The other factors that have a significant impact on a customer's purchase intentions are price factor and time factors. The least important factor that influences a customer’s purchase intention is the product illustrations. The study is carried out by gathering responses from over 167 participants in Malaysia. The objective of the study is to examine the use of online delivery services apps (DSA) to run the businesses efficiently and more effectively in order to attract household customer’s purchase intention. The novelty of this study is by giving the strategies and opportunities to the online business entrepreneurs to enhance and boost their sales by using social media as a platform of online delivery services apps to the community.

Keywords: Online delivery service apps systems, convenience, time factor, price factor, product illustration
I. Introduction

Daily activities are constantly changing rapidly due to the enhancement of using online technology. Everything around us is changing around, without us even noticing it (Lau et al., 2019). Talking about buying products or eating out, for example, by understanding or not, people often use online DSA more than ever before. The market size for 2017 stands at USD 66.3 million for Malaysia as a whole and has increased dramatically since then. As of 2020, the size of the market is expected to reach USD 192 million by the end of the year. This a sign that the demand for using DSA is enormous, and it keeps increasing day by day. However, what are the determining factors that make households choose to purchase products online? What makes the industry grow rapidly? Do Malaysians accept the additional costs incurred when they ordered a product online and by having it delivered to their doorsteps does really save their money on travelling, petrol, parking, etc. (Lisnawati et al, 2020) or is it the attractive products displayed in the websites and applications does have an impact on consumers’ purchase intention towards shopping online (Putit et al, 2020). In Malaysia most companies still depend on social media platforms as delivery apps for delivering their products. This is due to limitation of resources and expertise in the logistics company. Some due to logistics issues and the cost of starting up the system and the whole team of delivery business from back-ends, software, runners etc. is very expensive. As established companies, Hijabista, Mr DIY, senQ, McDonalds and Pizza Hut, also used the services provided by this third-party social media platform such as Zalora, Shopee or Lazada, due to the limited runners they have and the logistics issues. This study conducted to perform research towards factors influencing the purchase intention of using online product DSA among focusing on household customers during Covid-19 Movement Control Order (MCO) period in Malaysia. Convenience sampling techniques were employed to obtain primary data, and respondents were drawn from residential customers in Malaysia who had used delivery service apps during the MCO in 2020 and 2021.

II. Literature review and hypotheses development

One of the most dominant and most important factors in using ODS apps is time factor (TF). In today's fast-paced life, many can't afford to go out for dinner or wait for dinner to be served in a restaurant (Euromonitor, 2015). So, instead, they make the food come to them. This is about taking as little time as possible to get a job completed, and it is a time saving tool for them. Because their expectations of losses on product information quality over the website, internet transaction, and delivery are higher, online consumers may experience a certain level of risk with delivery time (Kamalul Ariffin, 2018). According to Gentry and Calantone (2002), the perceived utility captures the buyer's perception that a certain technology will help to improve the productivity of shopping. The time saved by online shopping is a value earned by consumers. It was shown that time risk and performance risk had a large and negative influence on online purchasing intentions; it was also discovered that privacy risk and security risk have a negative impact on online purchasing intentions (Kamalul Ariffin, 2018; Putit et al, 2021). According to Sreeram, A., (2017) grocery shopping (particularly for veggies) is virtually a daily occurrence in the average household. Online DSA not only reduces these efforts, but it also saves the time that a customer would normally spend at many store visits and payment counters. The researcher added, shopping for groceries online saves time and effort because the groceries are delivered to your home. Online shopping is seen by a customer as useful as it can save time, reduce energy, and deliver extended store hours and efficient checkouts (Chiu et al., 2014). Higher income consumers have also been found to value time due to the cost of opportunity.

H1: Time factor (TF) has a positive relationship with purchase intention of Online Delivery Services Apps among Malaysian households.
Price is a significant aspect that determines consumer purchasing behaviour (Teng et al., 2012), and if the price of a food product is excessive, the consumer should not be willing to spend money on it (Ansar, 2013). Many manufacturers and retailers in the beauty and personal care industry prefer to generate greater volume sales through price discounts and promotional activities (Mohamad Yunus et al., 2018). Zakriyah et al (2020) revealed that price, quality, branding, and tangibility were all identified as major factors influencing customer preferences through factorial analysis. Evidence from a study that notes discounts can add the perceived value to a product's offer is also reinforced by the success of a price cut, as it suggests that the price is an even better deal (Thaler, 2008). The lower price is a good strategy for the corporation. These are regarded as competitive benefits for the company, however if the price is high, the corporation must prioritise promotion so that the consumer is willing to spend (Troudi, H., 2020). Lower rates stimulate an organisation’s profits, and higher discounts boost the market value of the individual commodity (Madan and Suri, 2001). In addition to recognizing the consideration of monetary savings, the price saving approach can also be viewed from the viewpoint of not incurring any extra costs for buying a product or using a service (Escobar-Rodríguez and Carvajal-Trujillo, 2014). Online users have the opportunity to compare prices by visiting multiple pages or OFD services applications, so it would be viewed as the most valuable website by the business that can deliver a lower price. The Internet promotes price comparison, making it convenient for consumers to purchase goods at a lower cost (Chiu et al., 2014; Eriksson and Nilsson, 2007; Gentry and Calantone, 2002). Comparing conventional retail and online shopping, the relative benefit of online shopping is that it can offer both lower prices and save time, making online shopping much more convenient, as has been empirically proved (Akroush and Al-Debei, 2015).

H2: Price Factor (PF) has a positive relationship with purchase intention of Delivery services apps among Malaysian households.

Convenience is a trait or circumstance that makes something simple or beneficial for someone by minimising the amount of work or time required to complete a task. This study adopts part of the Technology Acceptance Model (TAM) Davis (1989), Dinev, and Hu (2007) to examine the acceptance of a new technology. TAM indicates that when a consumer discovers a new technology, there will be many factors influencing how they embrace and use the technology. According to TAM, an individual's willingness to adopt new technology is governed by two beliefs: "perceived usefulness" and "perceived ease of use" (Davis, 1986). PEOU is defined as "the degree to which a person believes that using a specific system would be easy" (Davis 1989, p. 320). This has been used to describe factors influencing the adoption of other technologies or systems in both the customer and organizational sense (Rezaei et al., 2016c; Putit et al, 2021). Examples of these contexts include business graphics systems, online fashion shopping (Kim and Forsythe, 2008), mobile Internet (Venkatesh et al., 2012), smartphone use (Chun et al., 2012), social networking (Pinho and Soares, 2011), mobile police (Lindsay et al., 2011), teleworking (Pérez et al., 2004), and social media, specifically instant messaging services (Zhao et al., 2016). When purchasing online, consumers seek either convenience, usefulness, and ease of use, or they seek fun, pleasure, enjoyment, and excitement (Rahman, 2018). Online shopping provides convenience, variety, price comparison, fewer purchasing costs, no crowds and more attention (Akroush and Aldebei, 2015). These studies have shown that the factors perceived to be useful and perceived to be user-friendly have been able to explain how easy or difficult it is for users to accept the use of the different technologies.

H3: Convenience Motivation Factor (CMF) has a positive relationship with purchase intention of Delivery services apps among Malaysian households.

Customers in traditional brick and mortar establishments can examine the merchandise with their own eyes. However, in this technological age, purchasing has changed dramatically due to the uncertainty, insecurity, and lack of control in digital marketing. Salleh Mohd Radzi, et al. (2015) refers to food presentation as an appealing appearance and decoration of the product as measurable indicators for the interpretation of quality by the customers. Aforesaid, presentations are important for indicating the customer's first perceptions of the product. The presentation, from a food viewpoint, is the addition of sauces and garnishes to menu items; soup, exits, main courses and desserts. In addition, the ideal combination of food presentation and the ideal surrounding ambience helps the diners to completely appreciate the dining experiences. Consequently, the visual quality of the presence of food eventually affects the expectations of the diners regarding the qualities of taste and smell and also their hedonic value (Zellner et al., 2011). Some researchers believe that diversified online product illustration can present customers with more product signals, allowing them to better understand online products and, to a certain extent, minimise information asymmetry (Yue, L., 2017). Others, however, argue that online presentations can intentionally cause consumers to acquire incorrect opinions about things in order to trick them (Xiao and Benbasat,
These contradictory findings indicate that the relationship between online product presentations and consumer trust is fragile and may be modified by the underlying mechanisms that influence this relationship. Spence (2010) also accepted that it was discovered that the interpretation of consumers is typically influenced by what they see through their eyes in terms of providing a better dining experience.

H4: Product illustration Factor (PIF) has a positive relationship with purchase intention of Delivery services apps among Malaysian households.

III. Research methodology and data analysis

There are two data forms secondary and primary in existence. Convenience sampling techniques were employed to obtain primary data, and respondents were drawn from residential customers in Malaysia who had used delivery service apps during the MCO in 2020 and 2021. The aim of data collection is to identify primary data by gathering the data necessary for this analysis. The secondary data is collected via an online journal database. All data obtained will help address the goals and hypotheses of research. This would also provide legitimacy and validation to a report to be carried out. The data obtained would of course provide researchers with a clearer picture. In primary data collection or secondary data collection the respondents will be tracked by questionnaire. Sometimes in study, primary data will be chosen to collect data required for this information gathering phase. It will help to get input from respondents on the target of this study and quality response hypothesis testing. In addition, this study will benefit from the quality of the data information. The object of this descriptive study is to know the purchase intention of using Delivery services apps among Malaysian households. (N) Number unit of population of this research on frequency. According to Krejie Morgan, the population will be divided by the number of females and male structurally by sampling techniques in non-probability techniques with simple random techniques among users and customers in Malaysia. The questionnaire is given in English. Short, simple questions are better than old ones. The questionnaire consists for namely Section A demographic profile of respondents’ question 1 to 7, section B respondents experience using online delivery services apps question 8 to 12, Section C Purchase Intention for delivery services question 13 to 17, Section D Time Factor question 18 to 22, Section E Price Factor question 23 to 26, Section F Convenience Motivation Factor question 27 to 30, Section G Food Illustration Factor question 31 to 34.

**Independent Variable**

**Delivery Services Apps**

- Time Factor (TF)
- Price Factor (PF)
- Convenience Motivation Factor (CMF)
- Product Illustration Factor (FIF)

**Dependent Variable**

- Household’s Purchase Intention

Figure 1: Theoretical framework of customer’s purchase intention.
### Table 1: Summary of Pearson Correlation of Purchase Intention of Using Delivery Services Apps.

<table>
<thead>
<tr>
<th>Purchase Intention</th>
<th>Time Factor</th>
<th>Price Factor</th>
<th>Convenience Motivation Factor</th>
<th>Food Illustration Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Intention</td>
<td>1</td>
<td>.692**</td>
<td>.558</td>
<td>.700</td>
</tr>
<tr>
<td>Time Factor</td>
<td>.692**</td>
<td>1</td>
<td>.533</td>
<td>.754</td>
</tr>
<tr>
<td>Price Factor</td>
<td>.558**</td>
<td>.533</td>
<td>1</td>
<td>.493</td>
</tr>
<tr>
<td>Convenience Motivation Factor</td>
<td>.700**</td>
<td>.754</td>
<td>.493</td>
<td>1</td>
</tr>
<tr>
<td>Product Illustration Factor</td>
<td>.350**</td>
<td>.324</td>
<td>.383</td>
<td>.389</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).

### Table 2: Summary of Linear Regression of Purchase Intention of Using Delivery Services

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>R-Square (R-SQ)</th>
<th>Adj.R-Square</th>
<th>*Sig F- change: P&lt;0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Factor</td>
<td>Purchase intention of using online DSA</td>
<td>0.479</td>
<td>0.476</td>
<td>0.000</td>
</tr>
<tr>
<td>Price Factor</td>
<td>Purchase intention of using online DSA</td>
<td>0.312</td>
<td>0.308</td>
<td>0.000</td>
</tr>
<tr>
<td>Convenience Motivation Factor</td>
<td>Purchase intention of using online DSA</td>
<td>0.490</td>
<td>0.486</td>
<td>0.000</td>
</tr>
<tr>
<td>Product Illustration Factor</td>
<td>Purchase intention of using online DSA</td>
<td>0.122</td>
<td>0.117</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Table 3: Coefficient Table

<table>
<thead>
<tr>
<th>Model 1</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Factor</td>
<td>.335</td>
<td>.090</td>
<td>.301</td>
<td>3.743</td>
<td>.000</td>
</tr>
<tr>
<td>Price Factor</td>
<td>.178</td>
<td>.053</td>
<td>.210</td>
<td>3.365</td>
<td>.001</td>
</tr>
<tr>
<td>Convenience Motivation Factor</td>
<td>.337</td>
<td>.075</td>
<td>.357</td>
<td>4.481</td>
<td>.000</td>
</tr>
<tr>
<td>Product Illustration Factor</td>
<td>.025</td>
<td>.044</td>
<td>.033</td>
<td>.580</td>
<td>.563</td>
</tr>
</tbody>
</table>

### IV. Results and discussion

The result of the Reliability Test has revealed that the entire variable (time factor, price factor, convenience motivation factor, and purchase intention to use delivery services apps) is confident. However, the product illustration factor is not significant towards the purchase intention of using online delivery services apps. The Cronbach's Alpha result states that the built objects are a good match for presenting the variables, and further research can be performed with confidence. This means that all the variables provided by a number of items were a good order and placement as the result of the data analysis shows that these items are closely related and within the same variable, but it is sufficiently secure to be classified as redundant secure. In this research, the convenience motivation factor plays the most important role for most household customers when they are choosing the best delivery services for them. When shopping online, people are looking for either convenience, utility, and ease of use, or they are looking for fun, pleasure, enjoyment, and excitement (Rahman, S. U., 2018). They love apps and services that are easy to use and navigate. The ordering process should be simple and straightforward. A friendly app will be their main preference. They also love apps that can understand their preferences so every time when
they open the app to buy the food, the app system would know what best to offer to the particular customer. This would help customers to make purchase decisions instantly and seamlessly. Existing customers are essentially important to any establishment as they have experience in buying and using the services provided by the company. Thus, the process should be simple and less hustling. The objective of the study is to find out the most influential factor that would drive customer purchase intention towards online delivery services and from the findings we know that the apps must be easy to use, to navigate, and simple to understand. The primary concern of online consumers is the acquisition of products in an effective and timely manner in order to meet their goals in terms of price savings and convenience with the least amount of work (Sreeram, A., 2017). The perceived convenience of shopping by customers is a factor that influences online purchasing behavior (Arora, N., 2018).

V. Conclusions

From the study we could gain a lot of information that could help the delivery services apps to improve their system and customers experiences. Apart from the new norm post Covid-19 pandemic, customers love to choose convenience more than ever over hustles. Dependable on smartphone usage has increased significantly over the years. Everyday duties and routines are mainly made using smartphones. Thus, it is important for the players of the industries to know precisely what customers do love. From the study it also indicates that most customers choose to buy products using online delivery services over in store physical purchase. It clearly shows that the current trend in online delivery is fast foods, groceries, health and beauty products, etc. and the brands or establishments in the industry make up the major market shares among other competitors who are not adopting online purchase. It is probably the marketing efforts made by them or maybe by other reasons thus those particular industries could enhance their goods and services to take advantage of the situation. However, for other brands or establishments, they might need to do more aggressive marketing or promotion so they could capture the customers to encourage them to choose to buy their products over other competitors.

In this research, the convenience motivation factor plays the most important role for most customers when they are choosing the best online delivery services apps for them. They love apps and services that are easy to use and navigate. The ordering process should be simple and straightforward. A friendly app will be their main preference. They also love apps that can understand their preferences so every time when they open the app to buy any products, the app system would know what best to offer to the particular customer. This would help customers to make purchase decisions instantly and seamlessly. Existing customers are essentially important to any establishment as they have experience in buying and using the services provided by the company. Thus, the process should be simple and less hustling.

Apart from that, customers love service providers that can send the product as quickly as possible. They don’t like to wait for too long for the product to be delivered. Preferably the product ordered should reach their doorsteps in less than 3 working days. These would be much better if customers get to choose their own time frame product should arrive at the location by placing the order in advance. This would improve the customers’ experience significantly as the customers could plan ahead their time and schedule more effectively and just focus on their other tasks. Price factor plays a quite significant impact on customers purchase intention towards using delivery services apps. The current economic conditions post covid-19 have affected most of us. Customers would think twice when they want to spend every ringgit of their hard-earned money. They will ensure the money spent gives value to them. Value often is the main criteria over other factors. Thus, the app service provider and the company itself should be more creative in determining the product’s price and the delivery charges by still managing to obtain their target revenues. Although there is a saying that attractive product illustration is more attractive to the eyes of customers. But on this particular online delivery service, it might not be the main factor that customers are looking for or at least for now. Customers tend to weigh other factors over food illustration shown on the app’s menu.

The results showed the factors influencing and the significant effect of using delivery services apps to run the businesses efficiently and more effectively in order to attract customer’s purchase intention. The novelty of this study is by giving the strategies and opportunities to the online business entrepreneurs to enhance and boost their sales by using social media as a platform of online food delivery services apps to the community. This will also help to boost the economy of Malaysia as a whole.

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