



# A Case Study of Decision-Making Towards Using Online Food Distribution Services After Covid-19 In Vietnam

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## Abstract

**Purpose:** Most emerging-market countries are concerned about the technology boom, which is accompanied by an increase in revenue from online sales and services. This finding has been demonstrated during the COVID-19 pandemic; however, is this tendency continuing in the new normal, and what factors are driving the increase in consumer decisions? The purpose of this research is to investigate how the decision to utilize online services will be affected in the new normal as well as propose a new research approach in this field. **Research Design, Methodology and Approach:** By following a deductive research method associated with positivist philosophy, a survey in South Vietnam with 426 respondents using a convenience sampling method was conducted. The reliability of the measurement scales was examined by using the SPSS program. The SmartPLS programme was utilised to assess the measurement and structural models as well as test hypotheses by using partial least squares structural equation modelling. **Results:** According to the research findings, decision-making has been impacted by social influences, perceived usefulness, perceived ease of use, perceived trust, perceived price, and perceived convenience. **Conclusions:** The research results also bring significant contributions not only in practice in providing management implications but also in theory. The research model has also demonstrated the feasibility of employing the stimuli-organism-response framework and combining the theory of perceived risk with the technology acceptance model via the explanation of decision-making.

**Keywords** Decision-making, Online service, Social influences, Distribution service, COVID-19.

**Jel Classification:** C38, M12, O15, P36

## 1. Introduction

Until now, the benefits of applying digital transformation and forming e-commerce platforms to promote direct and online business have been undeniable (Hai et al., 2021; Hussain et al., 2020). Yet, online shopping has only really exploded in emerging economies since the outbreak of the COVID-19 pandemic (Chang & Meyerhoefer, 2021; Guo et al., 2021), while it has been very

popular in developed economies for a long time. In line with this, numerous former scholars have conducted a great deal of research in this field to gain insight into customers' behaviour during the COVID-19 pandemic as well as recognize the awareness of customers in using and buying food via online applications (Chang & Meyerhoefer, 2021; Guo et al., 2021; Han et al., 2022; Inoue & Hashimoto, 2022; Warganegara & Babolian Hendijani, 2022). This serves as the foundation for studies into whether the explosive trend

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in online purchasing or using services will continue to expand or decline once the new normal in such emerging nations takes effect. On the other hand, most previous research identified the factors which impacted intentions to use food delivery systems/services (Annaraud & Berezina, 2020; Gunden et al., 2020; Troise et al., 2021); however, intentions to use food delivery systems/services are not necessarily the final decision of the individual to use, or even the final decision may be detrimental or helpful (Lerner et al., 2015). Based on the findings of previous studies on the state of the explosion in the field of online shopping due to forced circumstances, the first aim of this study is to examine how the decision to use online shopping services will take place in the new normal state (decisions based on benefits) to provide objective assessments and implications related to current customers' behaviours. This emphasizes the importance of this study in providing empirical evidence of the boom in online food distribution chains (in particular) and the online retail sector (in general).

In terms of decision-making towards using online food services, most studies approach decision-making from a behavioural viewpoint (Allah Pitchay et al., 2022; Gani et al., 2023; Sahu et al., 2020). In alignment with this, Sahu et al. (2020) indicated that decision-making was regarded as the outcome of the impact of contextual factors (behavioural beliefs, normal beliefs, and control beliefs), reasons (reasons for and against), and global motives (attitude, subjective norm, and perceived behavioural control) on intentions by using, developing or combining the behavioural theories. In this approach, there are four major shortcomings such as context (mostly limited to marketing and consumer behaviour domains), study design (a shortage of causality and common method biases), mediation and moderation effects in SEM, and external factors (Poon & Tung, 2022; Sahu et al., 2020). On the other hand, Poon and Tung (2022) indicated that respondents' perceptions of the entire risk may be skewed by their propensity towards the approaching prospect of a pandemic. Thus, examining the relationship between post-COVID-19 risk perception and decision-making is not only a theoretical gap but also a premise for explaining current trends related to the use of online food distribution services. In addition, Poon and Tung (2022) called for papers to better model decision-making related to utilizing online food delivery services after COVID-19 and compared them to the previous ones (under COVID-19). Hence, the second aim of this study is to respond to this call and build up a research model which better explains the decision-making towards using online food distribution services after COVID-19 in Vietnam.

On the other hand, Kimiagari and Malafe (2021) approached decision-making towards online impulse buying behaviour under the effect of internal and external stimuli on cognitive and affective reactions. This study recognized

the importance of cognitive factors in shaping the decision-making process. Similarly, Bruch and Feinberg (2017) indicated the significant role of cognitive processes in forming decision-making when receiving information. In addition, social influences were regarded as the information on whether options are congruent with intended or appropriate behaviour (Bruch & Feinberg, 2017; Goffman, 1974; Thomas & Znaniecki, 1919). In other words, people's behaviour is impacted significantly by information about what other individuals have provided, particularly the most contemporary, unspecified donor (Shang & Croson, 2009). However, there are quite few studies that look at how the behaviours of others influence an individual's decision-making processes (Bruch & Feinberg, 2017). This is a theoretical gap that needs to be explored in the relationship between social influences (people's effects on others or the influence of social context on individuals) and decision-making. As a result, the last aim of this research is to investigate the relationships between social influences, cognitive processes, and decision-making towards using online food distribution services.

Based on the above arguments, the approach of this study was recognized. Apart from the previous studies, this study approaches decision-making towards using online food distribution services from the behavioural and cognitive perspectives by applying the stimuli-organism-response (SOR) framework (Mehrabian & Russell, 1974), theory of perceived risk (TPR) (Bauer, 1967), and technology acceptance model (TAM) (Davis, 1989) to explain the decision-making process, including stimuli (social influences), organism (perceived usefulness, perceived ease of use, perceived risk, perceived trust, perceived price, and perceived convenience), and response (decision-making towards using online food distribution services). Through the results of this research, three significant contributions in both practical and theoretical aspects were confirmed. First, the research model provides an overall view for policymakers and managers to orient and strengthen policies and strategies to improve the efficiency and quality of online services in relevant fields by examining the relationships between social influences, decision-making determinants, and decision-making towards using online food distribution services. Second, by combining the SOR framework, TPR and TAM to explain the decision-making process, this study opens up a direction to approach decision-making towards using online food distribution services from behavioural and cognitive viewpoints. Finally, this study also provides evidence that although decision-making is a behaviour, the process of making that behaviour requires a significant cognitive effort. In other words, this research shows the sequence of a decision-making process and has an obvious connection between perceived usefulness and behavioural outcomes.

The remainder of this study will have the following sequences: Section 2 synthesizes literature reviews related to decision-making towards using online food distribution services (such as theories and models in this field) and then develops the research hypotheses; the research design, methodology, and approach will be shown in Section 3; the results and discussion of this study will be described in Section 4 and Section 5, respectively; and the last section will show the conclusions, limitations, and future research directions.

## 2. Literature Reviews and Hypotheses

### 2.1. Literature Reviews

Decision-making is the process by which an individual, group, or organization recognizes an option or judgement to be made, gathers and evaluates information regarding alternatives, and then selects from among the options (Carroll & Johnson, 1990). More specifically, that decision will bring beneficial values to the individual or group. To provide a robust justification related to the theories and models applied to explain decision-making towards using online services or repurchase decision-making, a systematic review has been conducted, and three research approaches are mainly mentioned as follows:

- Focus on the effect of volitional (attitudes and subjective norms) and non-volitional factors (perceived behavioural control) on intentions leading to behaviour such as the theory of reasoned action (TRA) (Isaid & Faisal, 2015; Miao et al., 2022) and theory of planned behaviour (TPB) (Hasan, 2021; Kim & Lee, 2019; Loh & Hassan, 2022; Sun et al., 2022).
- Combine emotional factors with the components of behavioural theories (TPB, TRA, ...) to explain the decision-making processes (Fucito et al., 2010; Leventhal et al., 2016; Tran et al., 2023).
- Develop and combine models (TAM, TAM1,...) and behavioural theories (TPB, TRA, etc.) to explain the decision-making processes (Chiu et al., 2009; Hakim & Sobari, 2021; Liu et al., 2016; Troise et al., 2021; Wang & Chou, 2014).

According to Han and Ryu (2012), researchers have regularly used volitional elements (Fishbein & Ajzen, 1977), non-volitional aspects (Ajzen, 1985, 1991), and motivational and emotional factors as variables (Perugini & Bagozzi, 2001) to accurately anticipate an extensive variety of client intentions and behaviours, including decision-making. In this approach, these theories are concerned with an individual's volitional efforts to make a particular decision/behaviour (Ajzen, 1980, 1991). Nevertheless, their criticism was acknowledged, such as the theories of

reasoned action (TRA) and planned behaviour (TPB). In many cases of TRA, the perceived existence or lack of resources and opportunities that are not directly controllable helps or hinders the performance of a specific behaviour (Han et al., 2010; Lee & Back, 2007). In terms of TPB, TPB also assumes a behavioural approach in one's environment that induces intentions and behaviours, ignoring individual processes and perceptions such as personality and outcome expectations (Bandura, 2003; Miles, 2012). Besides, Han and Ryu (2012) indicated that the theory of planned behaviour's main weakness is that it does not take into account the motivational process (desires), affective process (positive and negative anticipated (emotions), and past behaviour, all of which are important factors in explaining decision-making processes (Bagozzi & Dholakia, 2006; Perugini & Bagozzi, 2001; Poels & Dewitte, 2008; Taylor et al., 2009). In line with this, in reviews of the behavioural reasoning theory (BRT), Sahu et al. (2020) pointed out the major gaps related to building and testing research models, such as contextual, neglecting the study design, neglecting mediation and moderation, and, lastly, neglecting external variables.

To improve the limitations of previous studies, this study applies the SOR framework (Mehrabian & Russell, 1974) and combines TPR (Bauer, 1967) and TAM models (Davis, 1989) to build up the research model. The SOR framework proposes that external stimuli (S), internal psychological and physiological processes (O), and the subsequent behavioural reaction (R) all influence human conduct. A person's behaviour and intentions can be influenced by external elements or signals known as "stimuli". These can include social effects, environmental cues, marketing messages, or situational circumstances (Bilro et al., 2018; Bohl, 2012; Peng & Kim, 2014). The term "organism" describes a person or the internal workings of an individual that mediate the connection between behavioural reactions and environmental stimuli (Tuan Mansor et al., 2022). According to Chen and Yao (2018), Jacoby (2002), and Tuan Mansor et al. (2022), the organism consists of cognitive, emotional, and physiological components that affect behavioural goals. The term "response" describes the behavioural or cognitive result of the interplay between an organism's internal processes and external inputs (Jacoby, 2002; Liu et al., 2023). The response is the behaviour or intention that people display in response to particular stimuli that may be observed or measured (Liu et al., 2023).

### 2.2. Hypothesis Development

#### 2.2.1. The effect of social influences on perceived ease of use, perceived usefulness and decision-making

Social influences are divided into two types from psychological and economic perspectives: social norms

(informational and normative influences) and critical mass (Hsu & Lu, 2004; Lascu & Zinkhan, 1999). Empirical research has discovered that social influence plays a significant role in the user acceptance of applications/technologies such as gaming platforms (Hsu & Lu, 2004), enterprise resource planning programmes (Nocera et al., 2007), messaging applications (Rice et al., 1990), and website application (Hsu & Lin, 2008). According to Davis (1989), external factors (such as social influences) have an impact on both perceived usefulness and perceived ease of use (Dai & Cheng, 2022). A number of studies highlighted the significant effect of social influences on decision-making towards using online services or repurchase decision-making (Dai & Cheng, 2022; Lin & Chen, 2009; Zhang & Gläscher, 2020). Based on these arguments, the following hypotheses were proposed:

- H1:** Social influences have a positive impact on perceived ease of use
- H11:** Social influences have a positive impact on perceived usefulness
- H12:** Social influences have a positive impact on decision-making

### **2.2.2. The effect of social influences on perceived risk and trust**

Former scholars have recognized the relationship between social influences and risk perception (Knoll et al., 2017; Knoll et al., 2015; Riad et al., 1999). Based on Fritz and Williams (1957), anytime a disaster or the prospect of a disaster occurs, the environment changes and the event takes on a life of its own, resulting in new behavioural standards. In line with this, Clark and Lohéac (2007) indicated that exposure to peer groups would influence their risk perception and behaviour (e.g., according to the Add Health survey, four separate forms of "risky behaviours" (smoking, drinking, intoxication, and marijuana use) are influenced to some extent by what other individuals in the peer group perform). According to Falk et al. (2014), social influence is prevalent throughout the lifetime, although sensitivity to influence is particularly strong during adolescence and is frequently related to greater risk-taking.

In terms of the relationship between social influences and perceived trust, the role of colleagues in developing trust has been highlighted in previous studies (Baer et al., 2018; Borgatti & Foster, 2003; Ferrin et al., 2006; Lau & Liden, 2008; Levin & Cross, 2004). The operation of a website's social aspects has a significant impact on how consumers engaged in online settings (Pillai et al., 2022). Similarly, Singh (2012) confirmed the existence of composite contextual and endogenous social interaction effects on trust choice, and while it is hard to distinguish between both of these impacts, the calculated models imply

the existence of internal influences in trust. Based on these findings, the hypotheses were proposed:

- H2:** Social influences have a positive impact on perceived risk
- H3:** Social influences have a positive impact on perceived trust

### **2.2.3. The effect of social influences on perceived price and convenience**

Perceived pricing is the relative appraisal of the price given by customers based on the monetary worth of the product/service and whether the monetary value is accessible, reasonable, or adequate in the eyes of the consumers (Chiang & Jang, 2007). Numerous previous studies have been conducted to examine the effect of social influences on perceived price (Becker, 1991; Dai & Cheng, 2022; Luring et al., 2016; Wakefield & Inman, 2003). Price trade-offs may arise depending on present circumstances (Gallarza & Saura, 2006). For example, to save time and effort in travelling, a tourist might decide to pay a high fee and stay near tourist attractions (Gallarza & Saura, 2006; See & Goh, 2019).

According to the self-determination theory, convenience is connected with users' perceived perception that a technology/system will help them complete their tasks (Chang et al., 2012). Apart from this view, Brown (1990) considered the convenience of a product or service to be determined by social influences such as time, place, acquisition, use, and execution. Hence, the following hypotheses were proposed:

- H4:** Social influences have a positive impact on perceived price
- H5:** Social influences have a positive impact on perceived convenience

### **2.2.4. The effect of perceived ease of use on perceived usefulness and decision-making**

The impact of perceived ease of use on perceived usefulness and decision-making has been demonstrated by many former scholars (Chang et al., 2012; Nath et al., 2013; Nguyen Thi et al., 2022; Yang et al., 2015). According to Wen et al. (2011), consumers will consider online shopping to be more useful if it is simple for them to engage with e-commerce websites, search for product information, and purchase online (Davis, 1989; Gefen & Straub, 2004; Mouakket, 2009). Similarly, Nguyen Thi et al. (2022) reconfirmed the positive impacts of perceived ease of use on perceived usefulness as well as on repurchase intentions. Hence, the hypotheses were proposed:

- H6:** Perceived ease of use has a positive impact on perceived usefulness

**H13:** Perceived ease of use has a positive impact on decision-making

### **2.2.5. The effect of perceived risk on perceived usefulness and decision-making**

The relationship between perceived risk and perceived usefulness as well as decision-making has been proven (D'Alessandro et al., 2012; Mehrolia et al., 2021; Torki Biucky et al., 2017). Researchers identify perceived risk in the context of online shopping as the customer's perception of the uncertainty of purchasing a product or service via e-commerce (Huang & Benyoucef, 2013; Liu & Wei, 2003; Noh et al., 2013). Buyers can exchange product details with other people and assess things with each other through social commerce, which may result in an invasion of confidentiality (Herrando et al., 2017). Based on Miyazaki and Fernandez (2001), perceived risk is linked with internet use, as well as worries about the privacy and security of online purchases, as well as the rate of online purchasing (Kim & Lennon, 2000). Mehrolia et al. (2021) revealed that the high perceived risk of online shopping led to negative purchasing intentions for online food services (Shukla et al., 2021). Similarly, Nguyen Thi et al. (2022) indicated that buyers might face a variety of risks (for example, monetary, merchandise, time, shipment, and privacy) when making an online purchase. As a result, the following hypotheses were proposed:

**H7:** Perceived risk has a negative impact on perceived usefulness.

**H14:** Perceived risk has a negative impact on decision-making

### **2.2.6. The effect of perceived trust on perceived usefulness and decision-making**

The impact of perceived trust on perceived usefulness and decision-making has been recognized in advance (D'Alessandro et al., 2012; Daud et al., 2018). Trust has been shown to have a beneficial effect on perceived usefulness since it helps customers to become vulnerable to e-vendors in order to receive the desired helpful interaction and service (Pavlou, 2003). Though buyers first trust their e-vendors and assume the use of online services will improve their job performance, they will eventually believe that the service they are using online is useful (Gefen et al., 2003). According to Su et al. (2022), perceived usefulness had a positive influence on customers' trust. Based on the findings, the following hypotheses were proposed:

**H8:** Perceived trust has a positive impact on perceived usefulness

**H15:** Perceived trust has a positive impact on decision-making

### **2.2.7. The effect of perceived price on perceived usefulness and decision-making**

As mentioned, perceived pricing is the relative appraisal of the price given by customers based on the monetary worth of the product/service and whether the monetary value is accessible, reasonable, or adequate in the eyes of the consumers (Chiang & Jang, 2007). The impact of perceived price on perceived usefulness and decision-making has been proven by many former scholars (Artamevia, 2021; Xu et al., 2017). According to Lyu and Zhang (2021), price variables may have a significant impact on regular consumers' choice of travel options. When the advantages of perceived usage of technology exceed the cost of money, the financial value is positive, and the price value influences intention or behaviour (Venkatesh et al., 2012). Similarly, Guo et al. (2022) indicated that the price factor had a significant impact on customers' willingness to buy products online. Therefore, the following hypotheses were proposed:

**H9:** Perceived price has a positive impact on perceived usefulness

**H16:** Perceived price has a positive impact on decision-making

### **2.2.8. The effect of perceived convenience on perceived usefulness and decision-making**

The significant effect of perceived convenience on perceived usefulness and decision-making has been confirmed by former researchers (Chang et al., 2012; Ozturk et al., 2016; Yoon & Kim, 2007). Convenience improves client retention because it saves time and eliminates hassle (Gupta & Kim, 2007; Hsu et al., 2014). Besides, convenience has been identified as one of the most essential characteristics in the context of m-commerce (Xu & Gutiérrez, 2006), as it is related to providing users with time and location benefits (Kim et al., 2010). Guo et al. (2021) demonstrated the positive influence of convenience on behaviour intention to repurchase food online. Besides, Moon et al. (2023) indicated that convenience had a positive impact on usefulness. Djan and Adawiyyah (2020) addressed the fact that convenience had a positive influence on purchase decisions. Based on these findings, the following hypotheses were proposed:

**H10:** Perceived convenience has a positive impact on perceived usefulness

**H17:** Perceived convenience has a positive impact on decision-making

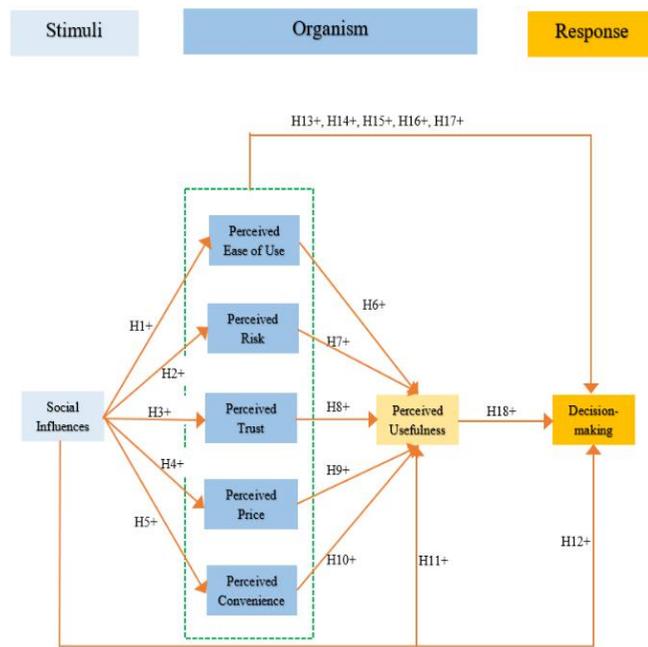
### **2.2.9. The effect of perceived usefulness and decision-making**

The positive effect of perceived usefulness on decision-making has been demonstrated in previous studies (Aldaco et al., 2020; Artamevia, 2021; Dai & Cheng, 2022; Gefen et

al., 2003; Hobbs, 2020; Yoon & Kim, 2007). Mehroli et al. (2021) indicated that customers with higher perceived usefulness related to using online food services had higher purchase participation. According to TAM, perceived usefulness is the important element influencing people's technology adoption or decision-making (Davis, 1989). Hence, the hypothesis was proposed:

**H18:** Perceived usefulness has a positive impact on decision-making.

Combining the research approach and hypotheses, the research conceptual model was built up as follows:



\*Note: SI: Social influences, PE: Perceived ease of use, PR: Perceived risk, PT: Perceived trust, PP: Perceived price, PC: Perceived convenience, PU: Perceived usefulness, DM: Decision-making

**Figure 1:** The research conceptual model of decision-making towards using online food distribution services

### 3. Methodology

The study used a deductive research approach linked with positivist philosophy, which allowed us to investigate the relationship between concepts and structures (Ragab & Arisha, 2018; Saunders et al., 2003). This section is divided into two parts: data collection, measurement instruments, and analytic procedures.

#### 3.1. Data Collection and Measurement Instruments

Data were collected in South Vietnam utilizing an online survey with a convenient sample method from June 2023 to September 2023 via Google Forms. Most respondents are aged from 15 to 30 (87,9%) and well represent the population, including students, office staff, workers. In terms of sample size, this study adheres to Kline (2023) recommendation of a sample size of 10 for one observed variable. Besides, more than 700 questionnaires were conveyed to respondents, of which 426 had valid answers. The details of the respondents' profiles are shown in Table 1.

**Table 1:** The Respondent's Profiles

Indicator	Value	N/426	Percentage
Income	< 3 million	153	36.0%
	3 -5 million	96	22.5%
	5-10 3 million	96	22.5%
	> 10 3 million	81	19.0%
Occupation	Student	264	62.0%
	Office staff	104	24.4%
	Worker	33	7.7%
	Others	25	5.9%
Gender	Male	162	38.0%
	Female	264	62.0%
Age	15 - 22 years	187	63.3%
	22 - 30 years	143	24.6%
	30 - 50 years	78	11.6%
	> 50 years	18	0.5%

Related to measurement instruments, interval scales with a five-point Likert scale were applied: 1 = Strongly disagree; 5 = strongly agree (See Table 2).

**Table 2:** The Measurement Scales of the Research Model

Code	Items	Cronbach's Alpha (α)	Source
<b>Perceived Usefulness</b>		0.883	
PU1	Using this application helps me save more time and effort		Venkatesh and Bala (2008); Qin et al. (2011); Davis (1989)
PU2	I can compare prices at many different points of sale		
PU3	I can receive information quickly		
PU4	There are many promo codes when I use the ShopeeFood app		
PU5	I have more choices in choosing dishes when using this application		

Code	Items	Cronbach's Alpha ( $\alpha$ )	Source
<b>Perceived Ease of Use</b>		0.850	
PE1	I can buy food through the ShopeeFood app without any help		Venkatesh and Bala (2008); Qin et al. (2011); Davis (1989)
PE2	The easy-to-see interface helps me find information quickly		
PE3	The payment system is easy to use		
PE4	It's easy for me to track promotional information and order information through the app		
<b>Social influences</b>		0.815	
SI1	Most of my friends and people around me are using ShopeeFood service		Qin et al. (2011); Thompson et al. (1991); Ajzen (1991); Davis et al. (1989)
SI2	Friends/family influenced my decision to use ShopeeFood services		
SI3	People around me encouraged me to use ShopeeFood service		
SI4	Advertisements and media information through famous figures will influence the decision to use ShopeeFood services.		
<b>Perceived risk</b>		0.851	
PR1	I think my purchase information will not be well-secured		Nguyen, T. D., & Huynh, P. A. (2018); Dai, Q., & Cheng, K. (2022)
PR2	Packaging specifications are not guaranteed		
PR3	Delivery time longer than expected		
PR4	The product delivered was not as expected.		
<b>Perceived Trust</b>		0.847	
PT1	I feel the product information is trustworthy		Nguyen and Huynh (2018); Gefen et al. (2003)
PT2	I think my personal information will be secure when using this application		
PT3	I feel confident when using the ShopeeFood application to order food online		
PT4	The delivery staff's information is trustworthy.		
<b>Perceived Price</b>		0.847	
PP1	Price is my main factor when deciding whether or not to use the Shopee Food service		Gupta and Kim (2007)
PP2	ShopeeFood has attractive discount programs		
PP3	The selling price is consistent with the product quality		
PP4	I think using the ShopeeFood app is not a luxury for me		
PP5	I am willing to use the ShopeeFood app even though the price is high		
<b>Perceived convenience</b>		0.862	
PC1	I can use ShopeeFood service anytime, anywhere		Chang et al. (2012)
PC2	The waiting time to use the application is not long		
PC3	Using the service is very easy		
PC4	The way to pay for the service is convenient		
<b>Decision-making</b>		0.862	
DM1	I have decided to continue using ShopeeFood service in the future		Carroll and Johnson (1990); Elwyn and Miron-Shatz (2010)
DM2	If I buy food online, I will continue to choose ShopeeFood		
DM3	I will order food online on ShopeeFood instead of buying food in person		
DM4	I will support and recommend my friends to buy through ShopeeFood		

### 3.2. Analytic Procedures

At the beginning, to avoid common method bias, the reliability and validity of all items were assessed by Cronbach's alpha and using the SPSS programme (Table 2). Then, the collinearity test was also carried out, and all VIF values were under 3.3 (Kock & Lynn, 2012). Hence, the common method bias was not considered.

After checking the common method bias, the assessment of the measurement model will be conducted (convergent validity, composite reliability, and discriminant validity) following the conditions of Hair Jr et al. (2021) by SmartPLS software. The authors then suggest utilizing Partial Least Squares Structural Equation Modelling (PLS-

SEM) to evaluate the structural model and test hypotheses since it pertains to investigating the intricate interactions between the multiple indirect and direct repercussions (Hair Jr et al., 2021).

## 4. Results

### 4.1. Evaluating the Measurement Model

Related to evaluating the convergent validity and composite reliability, according to Götz et al. (2009), the threshold of outer loading should be  $\geq 0,7$ , and based on Hair

et al. (2019), the threshold of AVE should be  $\geq 0,5$ , and CR  $\geq 6$  (Hair Jr et al., 2021). After evaluating the measurement model, the initial scales with 34 items have been eliminated 1 item (PR2) due to the outer loading  $< 0.7$ . Hence, a total of 33 items will be checked for discriminant validity (Table 3).

**Table 3:** Outer loadings, reliability and convergent validity

Variables	Items	Loading	$\alpha$	CR	AVE
Perceived Usefulness	PU1	0.837	0.883	0.914	0.681
	PU2	0.825			
	PU3	0.857			
	PU4	0.777			
	PU5	0.829			
Perceived Ease of Use	PE1	0.833	0.850	0.899	0.690
	PE2	0.837			
	PE3	0.835			
	PE4	0.817			
Social influences	SI1	0.798	0.815	0.878	0.643
	SI2	0.801			
	SI3	0.824			
	SI4	0.785			
Perceived risk	PR1	0.733	0.811	0.884	0.719
	PR3	0.857			
	PR4	0.941			
Perceived Trust	PT1	0.837	0.847	0.897	0.685
	PT2	0.818			
	PT3	0.835			
	PT4	0.820			
Perceived Price	PP1	0.719	0.847	0.892	0.624
	PP2	0.833			
	PP3	0.869			
	PP4	0.804			
	PP5	0.712			
Perceived convenience	PC1	0.811	0.862	0.906	0.708
	PC2	0.844			
	PC3	0.870			
	PC4	0.840			
Decision-making	DM1	0.849	0.862	0.906	0.708
	DM2	0.859			
	DM3	0.805			
	DM4	0.852			

Regarding the discriminant validity, the Fornell-Larcker criterion, as well as the Heterotrait-Monotrait ratio (HTMT), were used. Garson (2016) states that the HTMT number should be less than 1. Therefore, this study's discriminant validity was assured, and all values were less than one (Table 4).

**Table 5:** Hypothesized structural directions

	Path directions	Estimate	SD	T -value	P -value	Result
H1	Social influences $\rightarrow$ Perceived ease of use	0.458	0.054	8.429*	0.000	Accepted
H2	Social influences $\rightarrow$ Perceived risk	0.047	0.082	0.576	0.565	Rejected
H3	Social influences $\rightarrow$ Perceived trust	0.514	0.052	9.932*	0.000	Accepted
H4	Social influences $\rightarrow$ Perceived price	0.525	0.049	10.760*	0.000	Accepted
H5	Social influences $\rightarrow$ Perceived convenience	0.502	0.051	9.743*	0.000	Accepted
H6	Perceived ease of use $\rightarrow$ Perceived usefulness	0.270	0.056	4.867*	0.000	Accepted

**Table 4:** Heterotrait-monotrait ratio results

	1	2	3	4	5	6	7	8
1. Perceived convenience								
2. Decision-making	0.743							
3. Perceived ease of use	0.698	0.699						
4. Perceived price	0.668	0.729	0.668					
5. Perceived risk	0.043	0.098	0.084	0.119				
6. Perceived trust	0.589	0.726	0.561	0.714	0.129			
7. Perceived usefulness	0.647	0.664	0.679	0.659	0.056	0.522		
8. Social influences	0.593	0.733	0.543	0.629	0.086	0.616	0.553	

### 4.2. Evaluating the Structural Model

Regarding the hypothesis testing and structural directions, the findings are shown in Table 5. In terms of hypotheses testing outcomes, all path coefficients have been determined to have significant levels of 1% and 5%, except for the relationship between social influences  $\rightarrow$  perceived risk, perceived risk  $\rightarrow$  perceived usefulness, and perceived trust  $\rightarrow$  perceived usefulness. Therefore, all hypotheses will be accepted apart from H2, H7, and H8 ( $p > 0.1$ ). Specifically, H1, H3, H4, H5, H6, H9, H10, H12, H13, H15, and H17 with a significant level of 1%; hence, the positive impacts of social influences on perceived ease of use ( $\beta = 0.458$ ), social influences on perceived trust ( $\beta = 0.514$ ), social influences on perceived price ( $\beta = 0.525$ ), social influences on perceived convenience ( $\beta = 0.502$ ), perceived ease of use on perceived usefulness ( $\beta = 0.270$ ), perceived price on perceived usefulness ( $\beta = 0.237$ ), perceived convenience on perceived usefulness ( $\beta = 0.208$ ), social influences on decision-making ( $\beta = 0.234$ ), perceived ease of use on decision-making ( $\beta = 0.136$ ), perceived trust on decision-making ( $\beta = 0.208$ ), and perceived convenience on decision-making ( $\beta = 0.209$ ) were confirmed. Similarly, H11, H14, H16, and H18 were accepted with correlation coefficients significant at the 0.05 level. Hence, the positive impacts of social influences on perceived usefulness ( $\beta = 0.111$ ), perceived price on decision-making ( $\beta = 0.112$ ), perceived usefulness on decision-making ( $\beta = 0.111$ ), as well as the negative impact of perceived risk on decision-making ( $\beta = -0.069$ ), were confirmed.

	Path directions	Estimate	SD	T -value	P -value	Result
H7	Perceived risk → Perceived usefulness	-0.007	0.038	0.189	0.850	Rejected
H8	Perceived trust → Perceived usefulness	0.018	0.053	0.349	0.727	Rejected
H9	Perceived price → Perceived usefulness	0.237	0.057	4.156*	0.000	Accepted
H10	Perceived convenience → Perceived usefulness	0.208	0.055	3.802*	0.000	Accepted
H11	Social influences → Perceived usefulness	0.111	0.052	2.155**	0.031	Accepted
H12	Social influences → Decision-making	0.234	0.043	5.435*	0.000	Accepted
H13	Perceived ease of use → Decision-making	0.136	0.041	3.323*	0.001	Accepted
H14	Perceived risk → Decision-making	-0.069	0.030	2.343**	0.019	Accepted
H15	Perceived trust → Decision-making	0.208	0.038	5.457*	0.000	Accepted
H16	Perceived price → Decision-making	0.112	0.044	2.554**	0.011	Accepted
H17	Perceived convenience → Decision-making	0.209	0.049	4.279*	0.000	Accepted
H18	Perceived usefulness → Decision-making	0.111	0.048	2.315**	0.021	Accepted

Note: SD = standard deviation; \*significant at p<0.01; \*\*significant at p<0.05; ns = not significant.  
 $R^2_{\text{Perceived convenience}} = 0.252$ ,  $R^2_{\text{Perceived ease of use}} = 0.209$ ,  $R^2_{\text{Perceived price}} = 0.276$ ,  $R^2_{\text{Decision-making}} = 0.631$ ,  $R^2_{\text{Perceived trust}} = 0.265$ ,  $R^2_{\text{Perceived usefulness}} = 0.447$

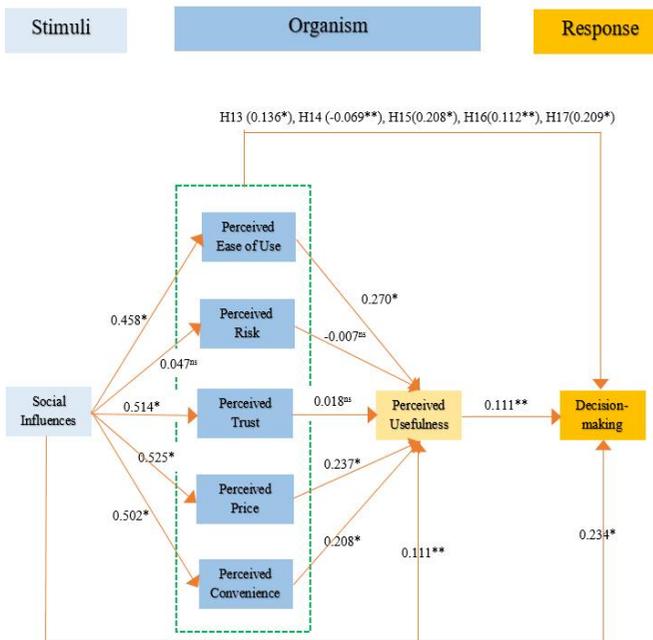


Figure 2: Structural path model

### 5. Discussion

According to the results, this study provides a holistic research model to explain the decision-making towards using online food distribution services in the context of a new normal in Vietnam and identify the determinants shaping decision-making. By applying the SOR framework, theory of perceived risk, and developing the TAM model, this study opened up a new research approach in this field. This study has also improved the limitations of previous theories and models (such as TRA, TPB, etc.) by considering social influences as stimulus factors, individual

processes and perceptions as organisms, and decision-making as a response.

Another highlight in theoretical aspects is that this study has examined the effect of social influences on the determinants of decision-making such as perceived usefulness, perceived ease of use, perceived trust, perceived price, and perceived convenience, while almost all studies in this area focused mainly on attitudes and intentions towards behaviours (Kim & Srivastava, 2007; Nath et al., 2013; Nguyen Thi et al., 2022; Wu & Chen, 2005). Specifically, social influences have significantly positive impacts on most of the determinants of decision-making, except perceived risk ( $p > 0.1$ ). These findings are the main keys to practical implications for policymakers and managers; however, they will be presented after the theoretical implications.

The second highlight in terms of theoretical aspects is the examination of the impacts of perceived ease of use, perceived risk, perceived trust, perceived price, and perceived convenience on perceived usefulness and decision-making. The findings of this study clarify the impression of usefulness while also illustrating that decision-making has to first provide advantages. According to the research results, perceived ease of use, perceived price, and perceived convenience have a positive impact on perceived usefulness; however, perceived risk and perceived trust have no impact on perceived usefulness. These results of the positive impacts of perceived ease of use on perceived usefulness correspond with the findings of Nguyen Thi et al. (2022), and perceived convenience on perceived usefulness correspond with the findings of Yoon and Kim (2007). Similarly, the positive impact of perceived price on perceived usefulness matches the research findings of Artamevia (2021) and Lyu and Zhang (2021). Besides, the positive impact of perceived ease of use on decision-making is consistent with the results of Ahmad Tarmizi et al. (2020). The positive impact of perceived trust on decision-making

is consistent with the results of Sobhanifard (2018). Similarly, the positive impacts of perceived price, and perceived convenience on decision-making are consistent with the results of Artamevia (2021) and Djan and Adawiyyah (2020), respectively. The negative impact of perceived risk on decision-making have been demonstrated in advance and consistent with the results of this study (Mehroliya et al., 2021).

The third highlight related to theoretical aspects is the explanation of the research model. The explanation of perceived usefulness is significant ( $R^2 = 0.447$ ), and the total explanation of decision-making towards using online food distribution services is pretty high ( $R^2 = 0.631$ ). These results are evidence of the model's relevance in explaining usage or purchase decisions. This research model will be a significant contribution to existing theory related to decision-making about using online services and a basis for providing further research directions. On the other hand, this research also points out the role of perceived trust in shaping decision-making directly when receiving the effect of social influences.

In addition to theoretical implications, the findings of this study imply important practical implications. Based on the significant positive effects of social influences on perceived ease of use ( $\beta = 0.458$ ), perceived trust ( $\beta = 0.514$ ), perceived price ( $\beta = 0.525$ ), perceived convenience ( $\beta = 0.502$ ), perceived usefulness ( $\beta = 0.111$ ), and decision-making ( $\beta = 0.234$ ), as well as the considerable impacts of determinants of decision-making on decision-making, the implications for both policymakers and managers were proposed:

- ✓ Facilitate the use of social and media platforms to inform users about the features and usage of the service or product to increase their perceived ease of use.
- ✓ Provide and demonstrate to users the reliability of the service system or distribution via reviews or assessments after customers purchase to raise perceived trust in the product or service.
- ✓ Take notice of the value of the service provided and compare it with other websites or other online services to enhance the perceived price.
- ✓ Continue to maintain and improve the convenience of online service platforms by optimizing customer services.
- ✓ Communicate the usefulness of a service or product to customers by orienting the information exposure to them to raise their perceived usefulness and save time, effort, and money when buying or using the products or services.
- ✓ All solutions need to be coordinated and deployed in a comprehensive and synchronous manner to achieve the goals set by policymakers or managers.

## 6. Conclusions, Limitations, and Future Research Directions

Based on the research results, the purpose of this study has been completed by investigating how the decision to use online purchasing services would occur in the future normal state in order to provide objective assessments and consequences connected to present consumer behaviour. In addition, the study responded to calls by previous researchers to build a comprehensive model and explain well the factors that influence the decision-making process. Nevertheless, several limitations of this study have been recognized. First, Since the convenience sampling strategy would introduce biases, future studies could be conducted longitudinally. Second, the study has not yet considered other factors related to cognition or emotion when receiving stimulating influences, so future studies can develop in this direction. Finally, although the research approach is new and different from previous studies, the research still only develops on existing models and theories. The authors wonder if we need to research and come up with new theories or models that are more superior.

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