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How to purchase an order from brick and mortar retailers during COVID-19 pandemic? A rise of crowdshipping

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A B S T R A C T

This paper aims to determine factors that affect consumers' intention to re-purchase by combining consumers' attitudes and satisfaction in mobile shopping via sharing economy platforms. The research sample consists of 367 valid participants in the metropolitan area of Ho Chi Minh City who experienced buying products from brick and mortar retailers by using crowdshipping service, using PLS-SEM. The results confirm that Personal Innovativeness significantly affected Perceived Ease of Use (PEOU) and trust. Consumers' attitudes toward buying products via crowdshipping services in sharing economy platforms are determined by PEOU and trust, and their satisfaction of an purchasement is impacted by Check out attributes and Delivery attributes, leading to re-purchase an order via this platform. Brick and mortar retailers need to create a corporation with crowdshipping service platforms to increase sales during COVID-19 pandemic. Besides, shipping quality should be ensured to satisfy consumers which leads to long-term usage.

1. Introduction

Intermediated by Internet and mobile technology, the sharing economy becomes a phenomenon of the 21st century which is changing the consumption behavior of billions of people worldwide (Albinsson & Perera, 2018; Basselier et al., 2018). Research, however, is struggling to keep up with this rapid development every year. In recent years, bloomed from the idea of sharing economy, crowdshipping offered a wide range of choice for customers to make an order more convenient with various shipping options to purchase a product from brick and mortar retailers via sharing economy platform (Le et al., 2019; Punel et al., 2018). Together with the development of e-commerce, the availability of mobile shopping via sharing economy platforms can create a new form of technology disruption in the supply chain of the retail market (Dayarian & Savelsbergh, 2020; Macrina et al., 2020; Mak, 2018; Ni et al., 2019). Emerged in 2008, as the consequence of the financial crisis, the sharing economy is becoming more and more popular in this decade (Schor & Fitzmaurice, 2015). Regarding sharing economy platforms, this sector covers a range of consumer goods and services in areas such as lodging, transportation, personal services, and consumer durables. Botsman and Rogers (2010) emphasized the phenomenon of "idle capacity" in the original term of this type of platform – collaborative consumption. As the sector grew, other terms also proliferated (on-demand economy, access economy, and gig economy) to differentiate diverse types of platforms.

Besides, stemming from the idea of sharing economy, crowdshipping is also referred to as crowdsourced delivery, crowd logistics, cargo hitching, or collaborative logistics. In the same operation of the sharing economy, crowdshipping uses free capacity available in various transportation means to deliver products (Rai et al., 2017). Most academic research in this field mainly focused on the adaptive business model of this phenomenon in transportation while neglecting to discover the behavior and perception of crowdshipping users (Rougès & Montreuil, 2014). Former findings of crowdshipping usually discussed

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factors of consumers' participation or satisfaction in a wide range of shipping purposes (Macrina et al., 2020; Punel & Stathopoulos, 2017; Yildiz & Savelsbergh, 2019). However, in this research, we tend to focus only on the crowdshipping performed in mobile shopping via sharing economy platforms, which will give a further understanding about the changing supply chain of the retail market. COVID-19 pandemic and the rise of crowdshipping as well as e-commerce have created consumers' opportunity to change their shopping behavior. Due to crowdshipping's prevalence, researchers have conducted studies in various areas, including pricing, distributing orders, shippers' motivation, and impact on different areas (Dayarian & Savelsbergh, 2020; Mak, 2018; Ni et al., 2019). However, it is a lack of empirical studies that holistically investigate users' perceptions and their subsequent behavior. It is crucial to clarify whether this phenomenon will be fundamental for consumer behavior changes in the long term. Besides, an investigation of which factors affect the intention to re-purchase products from brick and mortar supermarkets via sharing economy platform is necessary for managerial implications in supply chain management of the retail market. In order to fill the research gap, this study proposed a holistic theoretical model with specific purposes: (1) to access critical elements that affect consumers' attitudes toward mobile shopping via sharing economy platform; (2) to examine influential factors on consumers' satisfaction with shopping products from brick and mortar store through sharing economy platform; and (3) to determine the relationships between consumers' attitudes, satisfaction and their future intentions to use mobile shopping via sharing economy platform again.

2. Literature review

2.1. Technology Acceptance Model (TAM)

According to Davis (1989) Technology Acceptance Model (TAM) currently is one of the most common theoretical models employed to assess users' adoption of modern technology or Internet-based platforms. Rooted in Theory of Reasoned Action (TRA) of Fishbein (1979), TAM investigates causalities between key constructs perceived ease of use (PEOU) and perceived usefulness (PU) and users' attitudes, intentions, and actual adoption behavior (Davis, 1989). TAM focuses on users' acceptance of an innovative information system based on the causal relationships between individuals' beliefs, attitudes, intention to use, and users' actual behavior. Based on these characteristics, when researching the acceptance of new technology, TAM is one of the most popular researchers to adopt. Consequently, TAM provides a theoretical background for various studies in a diverse context such as e-commerce (Chen & Tan, 2004; Yaru, 2020), e-learning (Baby & Kannammal, 2020; Kayali & Alaaraj, 2020), e-recruitment (Ekanayaka & Gamage, 2019), Internet adoption (Alalwan et al., 2018; Wong et al., 2020), and sharing economy (Yu et al., 2018). PEOU and PU concern TAM's main constructs (Davis, 1989; Davis et al., 1989). Perceived usefulness (PU) is defined as "the degree to which a user seems that using a technology enhances the job performance" (Pavlou, 2001). It is one of the most influential constructs of the TAM model, which measures users' intention to use new technology (Pavlou, 2002). PU has significant effects on intention to use information technology (Pedersen et al., 2002). A recent study revealed that PU influences the behavioral choice (BI) to use e-commerce (Plouffe et al., 2001). Besides, PEOU is the users' interaction with the technology, which is free from mental efforts. Furthermore, PEOU has mediating effects on the PU. Behavior can be positive or negative towards the intention of accepting the new device. There is a significant effect of PEOU on individual intention to use technology (Rogers, 2010). Researchers in the e-commerce field have confirmed the considerable impact of PEOU and PU on consumers' technology adoption behavior. On the other hand, there are some controversies regarding the magnitude and significance of PU and PEOU. In Casaló et al. (2010) study, PEOU was found to have more significant impacts on BI users' attitudes than PU. However, Yang (2005) investigated that consumers' attitude toward shopping online was affected by PU rather than PEOU. And in Amin et al. (2014) perspective, the study also stressed that PEOU and PU have similar effects on users' attitudes toward e-commerce. To demonstrate the roles of PEOU and PU sharing economy platform, some empirical evidence was found in the hospitality sector (Zhang & Srite, 2021), fashion retail market (PHAM et al., 2021) and bike sharing platform (Lyu & Zhang, 2021). However, the adoption of TAM to test the consumer behavior in crowdshipping contexts is still lack of. Therefore, the authors formulated the following hypotheses:

H_1: *Consumers' PEOU of mobile shopping via sharing economy platform positively influences their attitudes toward the platform.*

H_2: *Consumers' PU of the mobile shopping via ing economy platform positively influences their attitudes toward the platform.*

2.2 Trust in sharing economy

In the context of both sharing economy and online exchange platforms, trust has been defined as a crucial role impacting consumer behavior (Belk, 2010; Botsman & Rogers, 2010; Pavlou & Gefen, 2004). While trust refers to the belief that people react in predictable ways (Pavlou, 2003); Gefen (2000) defines e-trust as general beliefs in online service providers that result in behavioral intentions. Hawlitschek et al. (2016) introduced the establishment of trust as a major challenge for suppliers in the context of the sharing economy. Moreover, trust element have been mentioned in various fundamental research in business-to-consumer (B2C) e-commerce (Gefen, 2000; Gefen & Straub, 2004; McKnight & Chervany, 2002), consumer-to-consumer (C2C) e-commerce (Leonard, 2012; Lu et al., 2010). Regarding TAM, scholars have added trust to have better explain consumers' technology adoption behavior besides the original TAM. Moreover, in e-commerce studies, Chen and Tan (2004), Corbitt et al. (2003), Gefen et al. (2003) conducted empirical research to confirm the significant effect of trust on

consumers' behavioral intention in new technologies adoption. In the study of Reichheld and Schefter (2000), trust is explored to be more important in online shopping rather than brick-and-mortar stores. There is a positive effect of trust on consumers' participation in the sharing economy (Akhmedova et al., 2021; Hamari et al., 2016; Jiang & Lau, 2021). However, there is a lack of studies to integrate trust into TAM to identify consumers' behavioral intentions in a crowdshipping context. Moreover, the trust in the sharing economy usually was described in general without pointing out specific aspects such as trust in the platform, trust in the product, or trust in the suppliers. Hence, this study proposed that:

H_3: *Consumers' trust in mobile shopping via sharing economy platform positively influences their attitudes toward the platform.*

2.3 Innovation Diffusion Theory (IDT)

Discussing acceptance of new technology, besides TAM, researchers usually apply Innovation Diffusion Theory (IDT) to clarify the factors affecting intention to use of consumers. According to Rogers (2010), IDT defined diffusion as "in which an innovation is communicated through certain channels over time among members of a social system." IDT combines five important innovation characteristics, including relative advantage, compatibility, complexity, trialability, and observables used to explain the user adoption and decision-making (Rogers, 1995). Researchers showed that TAM and IDT are highly relevant in some elements and supplement one another. And if integrated, these two models could provide an even more robust model than either standing alone (Chen & Tan, 2004). To be more specific, Fichman (1992); Moore and Benbasat (1991), conceptualized that the relative advantage and complexity of IDT is related to Perceived Usefulness and Perceived Ease of Use of TAM. Furthermore, Rogers (1995) found that participants with a higher level of Personal Innovativeness are more likely to have favorable attitudes toward disruptive technology. While most authors found Personal Innovativeness plays a direct effect on Perceived Ease of Use and Perceived Usefulness (Jackson et al., 2013; Lewis et al., 2003), moderation role of Personal Innovativeness in new technology and perception of it was found by Agarwal and Prasad (1998). In the context of online shopping, Personal Innovativeness was adopted as a vital role to determine an individual's technology acceptance (Ciftci et al., 2021; Im et al., 2003; Malik, 2021; O'cass & Fenech, 2003). However, not many studies have empirically combined Personal Innovativeness with TAM in a crowdshipping context. Therefore, to discover the impact of Personal Innovativeness in consumers' perception of mobile shopping via sharing economy platform, we proposed that:

H_4: *Consumers' personal innovativeness positively affects their Perceived Ease of Use of mobile shopping via sharing economy platform.*

H_5: *Consumers'personal innovativeness positively affects their Usefulness of mobile shopping via sharing economy platform.*

H_6: *Consumers' personal innovativeness positively affects their Trust of mobile shopping via sharing economy platform.*

2.4 Online store attributes when purchasing product on sharing economy platform

There are many attributes to choose from online retailing, such as search engine, ordering system, personalization, virtual reality display; each performs a specific function in the website or application. Since internet disruption in the retail market is still in the growing period, researchers attempted to identify attributes that affect consumers' evaluation and satisfaction (Agarwal & Prasad, 1998; Eroglu et al., 2003; Kim et al., 2006; Szymanski & Hise, 2000; Zeithaml, 2002; Zeithaml et al., 2002). Although research about offline store attributes was identified impacting customer satisfaction, interpreting from offline to online store attributes was conducted to have more understanding about consumers' behavior in online shopping (Ballantine, 2005; Bansal et al., 2004; Srinivasan et al., 2002). Based on the findings of Dholakia and Zhao (2010), order fulfillment elements, especially on-time delivery, have a substantial effect on overall customer evaluations and satisfaction. Moreover, price/cost-related factors played a vital role in the shopping experiences of customers. Or shipping-related aspects like shipping options and charges were some problems that consumers consider when making a payment. Furthermore, according to Baker et al. (2002); Koo (2006); Koo and Ju (2010); Song et al. (2012), the appearance of online products and the design of the shopping platform had a substantial impact on the attention of consumers in the search stage. These elements were divided into Checkout Attributes and Delivery Attributes associated with consumers' satisfaction after making a payment for online shopping. In this research, online store attributes, which consist of Checkout Attributes and Delivery Attributes, were recognized as the main factors driving consumers' satisfaction when choosing mobile shopping via sharing economy platforms. Therefore, we posited that:

H_7: *Consumers' perceptions of the Checkout Attributes in mobile shopping via sharing economy platform positively impact their satisfaction with making an order from this platform.*

H_8: *Consumers' perceptions of the Delivery Attributes in mobile shopping via sharing economy platform positively impact their satisfaction with making an order from this platform.*

2.5 Behavioral intentions

2.5.1 Attitudes and intentions

Consumers' attitudes refer to the way a customer behaved towards acceptance of new technology. The relationship between attitudes and intentions was confirmed in various research in customer behavior (Cook et al., 2002; Eroglu et al., 2003; Huang & Liaw, 2005; Kim & Hunter, 1993; Tarkiainen & Sundqvist, 2005). Attitude has been recognized as a person's inclination to exhibit a particular response towards a concept or object (Doob, 1947). Fishbein (1979) suggested that attitude can be divided into cognitive and affective components. While the cognitive component is modeled as salient belief in Theory of Reasoned Action, the affective component is deemed to comprise attitude. According to Ajzen (1991), the person with a more favorable attitude toward a behavior is more likely to behave. Such findings have been confirmed by a wide range of online business research (Bruner II & Kumar, 2005; Ha & Stoel, 2009; Park & Kim, 2014). Besides intention, both theoretical and empirical researches supported the existence of a strong relationship between intention to engage in a behavior and the actual behavior. Therefore, to determine consumers' actual behavior after making an order from mobile shopping, it is necessary to consider consumers' intentions. In the sharing economy context, examining the customers' intention was adopted widely. In terms of the relationship between two factors, consumers' attitude was found that played an essential role in the intention to participate in sharing economy platforms such as a website or mobile application (Amaro et al., 2019; Liang et al., 2019; Santoso & Nelloh, 2017; Yu et al., 2018). However, the current study would like to assess consumers' intention to re-purchase an order again instead of the likelihood to use the platform. Hence, the hypothesis was formed as below:

H9: *Consumers' attitudes toward the mobile shopping via sharing economy platform positively correlate with their intentions to re-purchase an order from this platform.*

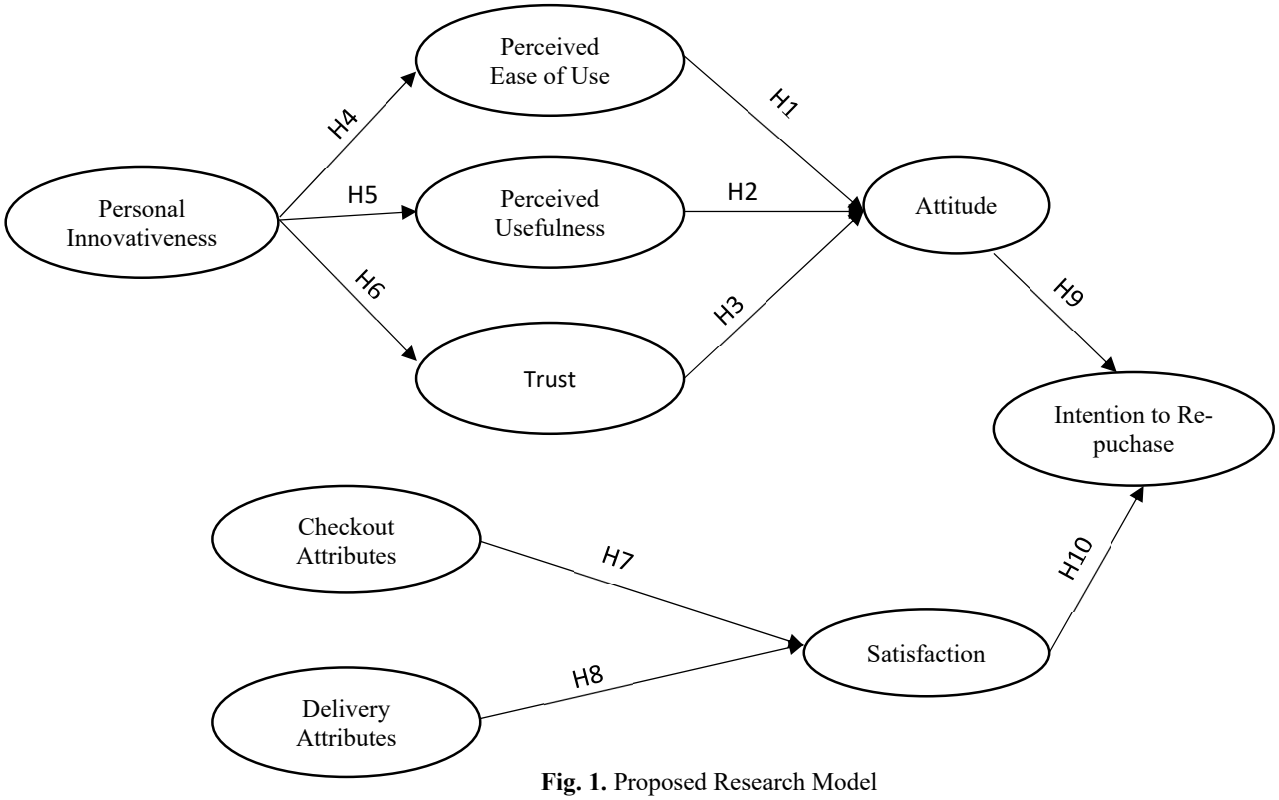

Fig. 1. Proposed Research Model

2.5.2 Satisfaction and intentions

According to Oliver (1999), satisfaction is defined as the psychological state when the emotion surrounding expectations is associated with consumers' previous feelings about the experience. Customers' satisfaction and return intentions are the fundamental factors of business success and competitive advantages in the online retail sector (Jiang & Rosenbloom, 2005). Studies on consumer behavior in the sharing economy context have also confirmed the positive effect of consumers' satisfaction on their future intentions to choose such services again (Huarng & Yu, 2019; Möhlmann, 2015; Niyomwungeri & Chankov, 2021). Concerning the linkage between satisfaction and user intentions, Park and Kim (2014) found that users' satisfaction with mobile cloud services is a critical factor of their intention to use. Besides, Alalwan (2020) also defined that customers' satisfaction with the online ordering system positively affects their intention to order a meal from a restaurant via

the online system. Positive effects of satisfaction on intentions to use and re-use were confirmed in previous researches (Alalwan, 2020; Finn et al., 2009; Tussyadiah, 2016; Tyler et al., 2007; Udo et al., 2010). However, in this research, we tend to discover the relationship between satisfaction after making a payment and receiving an order from mobile shopping and consumers' intention to shop again via the sharing economy platform. Therefore, the hypothesis was stated as below:

H_{10}: *Consumers' satisfaction when shopping online via sharing economy platform positively affects the intention to re-purchase an order on this platform.*

3. Methodology

3.1. Measurement

The survey was combined into three parts. In the first part, demographic characteristics were formed to discover differences in the respondents' socio-demographic backgrounds. The second part measured (1) consumers' perceptions of mobile shopping via sharing economy platforms; (2) consumers' experience with the order and their satisfaction. The last part assessed consumers' intentions to choose mobile shopping through the sharing economy platform again. The measurement is created by prior instruments, and the unit sample is at the consumer level. Besides, ten extensive discussions with eight consumers used to order products from brick and mortar retailers via sharing economy platforms and two gig workers who work for the platform are carried out to adjust the measurement in the retail industry. Before distributing the final questionnaires, we conducted a pretest with 49 participants to ensure the understandability and reliability of all items. According to Harkness and Schoua-Glusberg (1998), the survey language is used to assure the semantics, substance and normative equivalence of the questionnaire in the translation process. Table 1 represents the specific questions, and reliability criteria of measurement scales in the research model.Personal Innovativeness (three-items) is adapted from the instrument developed by Yi et al. (2006). Factors related to TAM model including Perceived Ease of Use (four-items) and Perceived Usefulness (four-items) measurement that is adopted from Davis et al. (1992); Fröhlke and Pettersson (2015). Regarding Trust in the platform (two-items), the prior measurement from Anderson and Srinivasan (2003) is used for this research. Besides, Online store attributes including Check out attributes (four-items) and Delivery attributes (four-items) is adapted from Dholakia and Zhao (2010). Measurements related to Attitude (three-items), Satisfaction (three-items) and Intention to re-purchase (three-items) are adopted from Fishbein and Ajzen (1975), Fornell et al. (1996), and Fenech (1998) respectively. These measurements are rated by a five-point Likert scale, ranging from 1 = strongly disagree and 5 = strongly agree.

3.2. Data collection

To test the research model, we collected data within two phases: preliminary research and official research. The survey was conducted in February 2021 in the metropolitan area of Ho Chi Minh City, Vietnam. According to the result of preliminary research, all variables and measurements were accepted. In the next phase, we chose the metropolitan area of Ho Chi Minh City as the place to distribute the paper-based questionnaire with the sample size is n = 367. Fig. 2 provide the summary of the socio-demographic information of the sample.

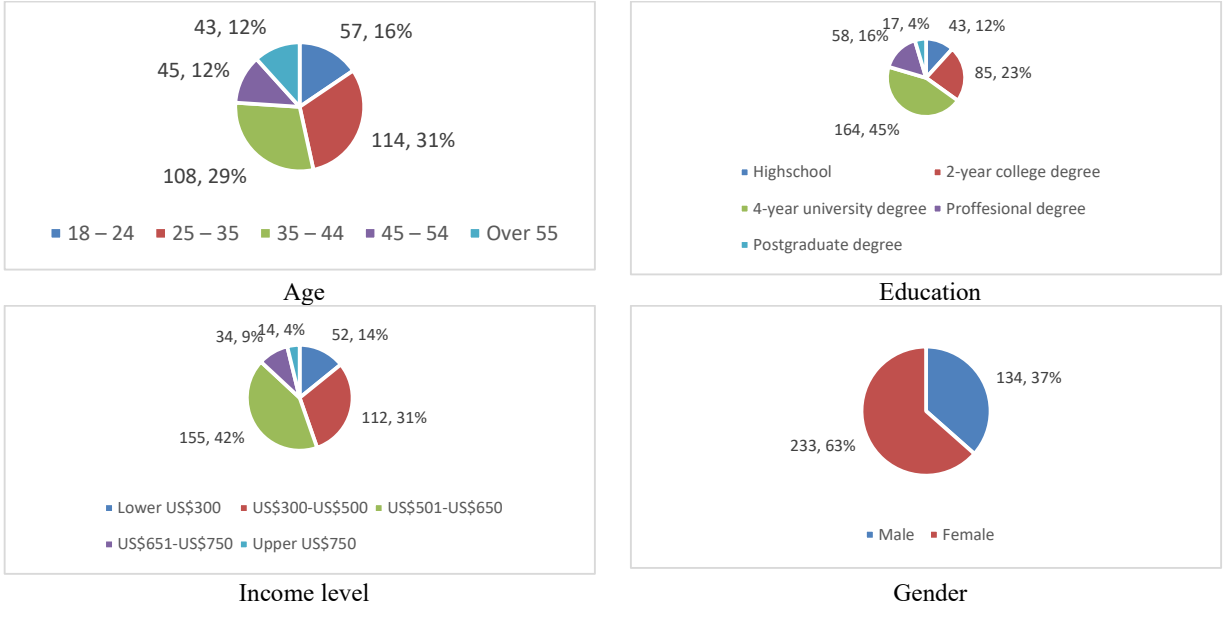

Fig. 2. Demographic characteristics of the respondens (n = 367)

Table 1
Measurement Model Results

Constructs	Loadings	Cronbach's Alpha	Composite reliability	Average Variance Extracted (AVE)
Personal Innovativeness (PI)				
I enjoy the challenge of figuring out high-tech gadgets.	0.878	0.856	0.912	0.776
I can usually figure out new high-tech products and services without help from others.	0.888			
I keep up with the latest technological developments in my areas of interest.	0.876			
Percieved Ease of Use (PEOU)				
It is easy to purchase grocery through mobile shopping.	0.866	0.889	0.923	0.751
It is easy to learn how to purchase through mobile shopping.	0.896			
I find the mobile shopping platform easy to use to get product information.	0.812			
Interacting with the mobile shopping does not require a lot of my mental effort.	0.889			
Percieved Usefulness (PU)				
I believe that the use of a mobile device would make my grocery shopping process more effective.	0.820	0.872	0.907	0.710
I believe that the use of a mobile device would make my grocery shopping process more convenient.	0.916			
I think that I would save time by using a mobile device while shopping for groceries.	0.758			
I believe that, in general, using a mobile device in my grocery shopping process would have been useful.	0.870			
Trust (T)				
The sharing economy platform is reliable for my mobile shopping	0.944	0.863	0.936	0.879
Shopping products from brick and mortar retailers via sharing economy platform is trustworthy overall.	0.931			
Check out attributes (CA)				
I can find a variety of product selections when shopping on sharing economy platform (like GrabMart, GoMart or Now Fresh).	0.847	0.909	0.936	0.786
The shipping charge is clear before order submission. (CA 2)	0.898			
The platform offers me a variety of shipping options.	0.894			
Charges stated clearly before order submission	0.906			
Delivery attributes (DA)				
I can find product that I wanted available in mobile shopping.	0.882	0.908	0.935	0.783
I can track my order in real-time exactly.	0.895			
The products are usually on-time delivery.	0.878			
Products overall met my expectations.	0.884			
Attitudes (AT)				
Shopping products from brick and mortar retailers on sharing economy platform is a better option for daily needs, compared to shopping directly as usual.	0.814	0.863	0.890	0.730
I like using mobile shopping.	0.887			
Using mobile shopping is a good idea.	0.861			
Satisfaction (SA)				
Overall, I am satisfied with shopping products from brick and mortar retailers on sharing economy platform.	0.837	0.802	0.883	0.716
Using shopping products from brick and mortar retailers on sharing economy platform always fulfills my expectations.	0.871			
Sharing economy platform is the best option for shopping products from brick and mortar retailers.	0.830			
Intention to re-purchase (INT)				
I prefer to use sharing economy platform to shopping over brick and mortar retailers.	0.871	0.799	0.881	0.713
I would recommend shopping products from brick and mortar retailers on sharing economy platform to others.	0.859			
I will choose shopping products from brick and mortar retailers on sharing economy platform again for my next orders.	0.801			

3.3. Data analysis procedure

In the first phase, to ensure the validity and reliability of all items in the questionnaire, the scale is preliminarily assessed via Cronbach's Alpha reliability test with IBM SPSS Statistics 22 software (Bonett & Wright, 2015). In the second phase, this phase's primary purpose is to examine the relationships between the proposed research model factors. To achieve this goal, we applied the structural equation modeling method based on the Partial Least Squares (PLS) technique with Smart PLS 3.0. PLS-SEM was utilized in this research because our objective is to maximize the dependent variable's prediction level instead of testing the theoretical model (Hair et al., 2019; Hair Jr et al., 2017). Moreover, its advantages are testing all proposed hypotheses simultaneously for a complex model and no need for a large sample size or normal distribution. PLS evaluated the measurement model by conducting Confirmatory Factor Analysis (CFA) and the structural model the Path Analysis (PA)

(Hair Jr et al., 2020). Data analysis utilized a two-step approach recommended by Anderson and Gerbing (1988). The first step involves the study of the measurement model. And in the second step, structural relationships among latent constructs were a complete model.

4. Result

4.1 The measurement model

The measurement model's assessment included composite reliability to evaluate internal consistency, individual indicator reliability, and average variance extracted (AVE) to evaluate convergent validity. According to Hair et al. (2017); Hair et al. (2019), a threshold value of equal or greater than 0.70 for each item's loading is considered reliable. Moreover, Cronbach's Alpha and composite reliability values should be similar or greater than 0.7, and the AVE values are more significant than 0.50. In this study, the Cronbach's Alpha value from 0.799 to 0.909, and the composite reliability values over 0.80, exceeding the cut-off of 0.70. Besides, the average variance extracted (AVE) score were calculated (0.710 to 0.879), exceeding the minimum of 0.50; the factor loading of each item was expected to be higher than 0.70 to ensure convergent validity (Fornell & Larcker, 1981), which was solid in this research.

Moreover, the Fornell-Larcker criterion and cross loadings were used to assess discriminant validity. First, the model was tested at the convergence value through factors including outer loading, composite reliability (CR), and average variance extracted. With regard to the cross loadings, the loading of each indicator should be higher than the loadings of its corresponding variables' indicators. Based on Table 2, we can observe that the square roots of AVE (on-diagonal values) and correlations between to random variables are lower than 0.85 (Fornell & Larcker, 1981; Kline, 2005). Therefore, convergent validity and discriminant validity were approved for the measurement model.

Table 2
Fornell-Larcker Criterion Results

	AT	CA	DA	INT	PEOU	PI	PU	SA	T
AT	**0.855**								
CA	0.399	**0.886**							
DA	0.167	0.195	**0.885**						
INT	0.239	0.281	0.300	**0.844**					
PEOU	0.497	0.358	0.200	0.275	**0.867**				
PI	0.433	0.300	0.219	0.259	0.534	**0.881**			
PU	0.189	0.109	0.143	0.051	0.147	0.080	**0.843**		
SA	0.281	0.372	0.335	0.350	0.297	0.295	0.039	**0.846**	
T	0.213	0.181	0.068	0.141	0.185	0.192	-0.063	0.460	**0.938**

4.2 The structural model

In terms of path analysis, Fig. 3 and Table 3 demonstrate the path coefficients and p-values for each hypothesis. It can be noticed that eight out of ten hypotheses were statistically supported. To be more specific, consumers' attitude toward mobile shopping via sharing economy platform were significantly affected by PEOU ($b = 0.435$, $p < 0.05$) and T ($b = 0.137$, $p< 0.05$), not by PEOU ($b = 0.132$, $p > 0.05$). Therefore, hypothesis 2 was not supported. Perceived Ease of Use (PEOU) and Trust (T) explained 27,9% of the variations in attitudes. Meanwhile, Personal Innovativeness (PI) was found to significantly affect Perceived Ease of Use (PEOU) and Trust (T). The path coefficients from PI to these two factors were 0.534 ($p < 0.05$), 0.192 ($p < 0.05$) respectively. However, H5 (Personal Innovativeness impacts Perceived Usefulness) was not supported by the statistics with $b = 0.080$, $p > 0.05$. Check out Attributes (CA) ($b = 0.319$, $p < 0.05$) and Delivery Attributes (DA) ($b = 0.273$, $p < 0.05$) exerted positively impacts on consumers' satisfaction (SA) with mobile shopping via sharing economy platform, supporting hypotheses 7 and 8. Additionally, consumers' attitude (AT) ($b = 0.153$, $p < 0.05$) and satisfaction (SA) ($b = 0.307$, $p < 0.05$) on their future intention to re-purchase products on online platforms again were found favorable. Therefore, consumers' attitudes and satisfaction positively affect intention to re-purchase, supporting hypotheses 9 and 10.

Table 3
Results of the structural model and hypotheses tests

Hypothesis	Path	Path Coefficient	P-Value	Supported
H1	PEOU → AT	0.453	0.000	Yes
H2	PU → AT	0.132	0.087	No
H3	T → AT	0.137	0.002	Yes
H4	PI → PEOU	0.534	0.000	Yes
H5	PI → PU	0.080	0.241	No
H6	PI → T	0.192	0.000	Yes
H7	CA →SA	0.319	0.000	Yes
H8	DA → SA	0.273	0.000	Yes
H9	AT → INT	0.153	0.002	Yes
H10	SA → INT	0.307	0.000	Yes

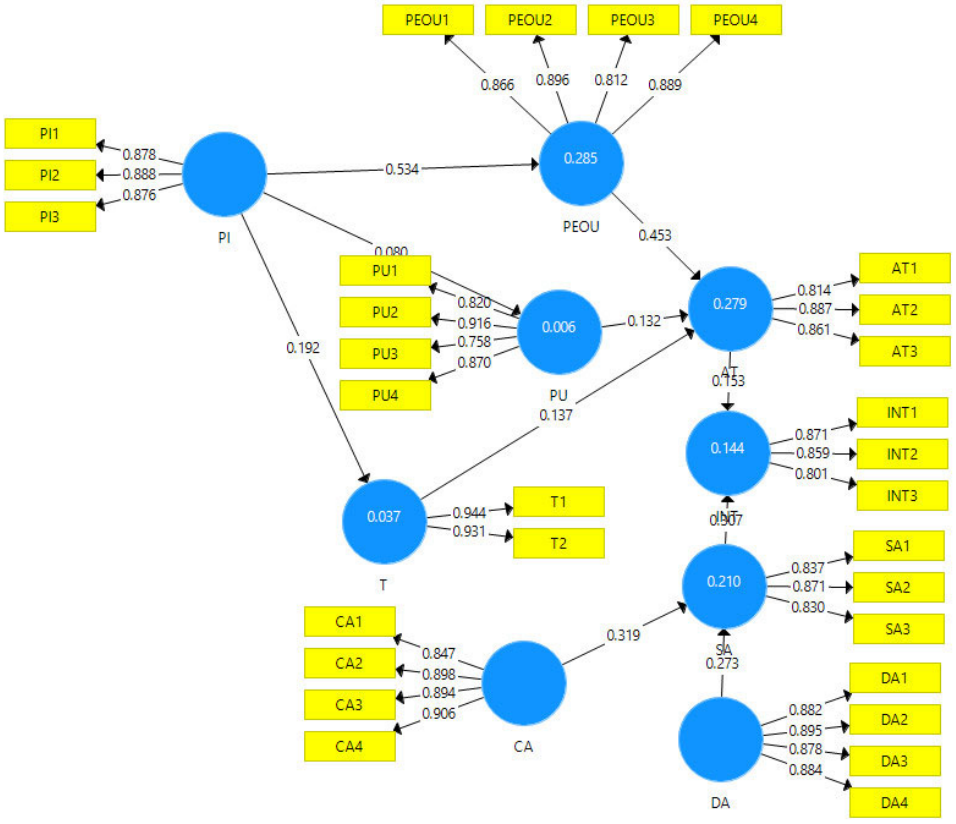

Fig. 2. The path diagram

Thus, it can be concluded that attitude (affected by Perceived Ease of Use and Trust) and satisfaction (affected by Checkout attributes) and Delivery attributes enhance the behavioral intention to re-purchase an order from mobile shopping via sharing economy platform. Besides, the decision maker who wants to develop the retail chain by applying technology can take these results into consideration for the future planning.

5. Discussion and conclusion

5.1. Discussion

This study determines that Personal Innovativeness plays as a motive of Perceived Ease of Use and Trust. It means the more innovative people are, the more likely they perceive mobile shopping via sharing economy platforms to be easy to use and trustworthy. However, in this research, we cannot find the relationship between Personal Innovativeness and Perceived Usefulness. Besides, Check out Attributes and Delivery Attributes were two significant factors affecting consumers' satisfaction with their mobile shopping. Moreover, attitudes and satisfaction are essential predictors for consumers' intention to re-purchase products from mobile shopping via sharing economy platforms. According to the COVID-19 pandemic, many customers have to switch their behavior from shopping directly from bricks and mortar retailers to mobile shopping via sharing economy platforms to adapt to social distancing. Therefore, this research reveals that usefulness is not the cause of the intention to mobile shopping. Contrary to Yu et al. (2018), who stated that Perceived Ease of Use is not a statistically significant factor of customer behavior, especially with the young generation, this research found that Perceived Ease of Use plays a vital role in using mobile shopping in the pandemic period. Understandably, respondents who came from various ages had different levels of technical savvy when using mobile shopping. Then, the more straightforward the sharing economy platform is, the more acceptance in using this application. Moreover, Personal Innovativeness was confirmed to affect Perceived Ease of Use and Trust, which can link to the intention to re-purchase. Therefore, different strategies should be considered to retain innovators and attract non-innovators. Because consumers can come from different generations due to social distancing in the COVID-19 pandemic, the sharing economy platform should be simple with a reasonable and clarified price with various shipping options and precise searching tools to enhance the mobile shopping experience consumers when re-purchased.According to Dholakia and Zhao (2010), this study put a further step to confirm the effect of Check out Attributes and Delivery Attributes on consumer satisfaction in using crowdshipping. Therefore, to increase mobile shopping via sharing

economy platforms, managers should focus on improving check-out attributes and delivery attributes. On-time delivery, clarified shipping price and cart price, tracking on-time delivery are elements that customers pay attention to.

5.2. Conclusion

This study clarifies a further understanding of current consumer behavior in the retail market in the pandemic period with the rise of crowdshipping. According to this research, the retail market can gain insights into the emerging trend of mobile shopping with crowdshipping practices. Brick and mortar retailers can also have a consideration about the advantages of the sharing economy platform and modify their supply chain strategies to keep up with the trend. Managers of brick and mortar retailers who want to push their sales during the COVID-19 pandemic should cooperate with the crowdshipping service sharing economy. Through this strategy, managers can both maintain their profits and create another channel to approach customers. One of the critical aspects is that the retailers should ensure online products' availability and prepare on-time before the shippers come. They have to adopt a flexible price strategy to compete with other rivals due to the ease of price comparison in mobile shopping. Lastly, from the sharing economy platform perspective, co-workers who work in this platform are necessary to ensure the shipping quality. Real-time tracking and on-time delivery only can meet the customers' expectations when co-workers commit to their tasks. Besides, based on Schor and Attwood-Charles (2017), workers in the platform with a significantly growing number were found to be not satisfied with the working conditions in terms of low wage and risky situations. Therefore, rewards schemes and labor condition enhancement are necessary to encourage co-workers to perform better in a crowdshipping environment. Moreover, an upgrade continuously of platform operation is critical to improving customers' expersience in mobile shopping.

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