Model of Consumer Switching Behavior Analysis Using PLS-SEM during Covid-19

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Abstract. The ongoing covid-19 pandemic forces every individual to shift in almost every aspect of life, including the shopping behavior. Changes in consumer shopping behavior will greatly affect all members in the supply chain of goods consumed by consumers. Based on the concept of supply chain management, consumers are the main part of the supply chain as a source of revenue. This study aims to determine the key factors that influence changes in consumer shopping behavior from offline to online during the covid-19 pandemic. The Partial Least Square Structural Equation Model (PLS-SEM) shows that information on pandemic conditions such as changes in social distancing and lockdown policies, as well as the convenience of technology and the social environment affect the desire to switch channels from offline to online. The results support actions that retailers can take to better prepare their online channels if conditions such as lockdowns and social distancing policies are tightened as these encourage consumers to prefer buying products online.

Keyword: Consumer behavior, Switching intention, PLS-SEM, Responsible consumption and production, Channel switching

INTRODUCTION

The world is currently facing a hard situation which are caused by the Covid-19 pandemic. In Indonesia, several policies have been implemented by the government to reduce the spread of the virus, one of which is limiting activities outside the home. These policies certainly have an impact on people's psychology and emotions, which will also have an impact on the economy, finance, politics, social life, and consumption behavior [1]. However, this condition also brings people into uncomfortable and uncertain situations, thus causing anxiety [2]. Excessive anxiety has many effects on society, such as changes in household behavior and consumption patterns [3]. The change in consumer behavior that occurred in the early phase of the COVID-19 pandemic was panic buying [4]. The lack of public interest in shopping directly at stores during the pandemic [5], has made the phenomenon of panic buying change from offline purchasing to online purchasing, also known as switching behavior [6]. Every customer has preferences that guide them in choosing a product. These preferences are different for each customer, depending on the individual capabilities such as money availability, time availability and the effect of economic well-being [7]. In

addition to the abilities possessed by individuals, family influence factors also have a role in the emergence of panic buying behavior. Consumers who are family oriented will be more likely to act impulsively or compulsive buying when compared to single consumers [8]. The level of tolerance in dealing with uncertain situations is also considered as a factor to assess personality traits [9]. These capabilities will ultimately make customers choose goods systematically and in the long term will produce certain patterns [10]. In addition, one's awareness of the current situation and the diffusion of information related to this pandemic are also factors to be considered in determining the impact of the influence of information [11].

Nomerous studies on panic buying during the COVID-19 pandemic have only focused on psychological factors [12]. However, the understanding of switching behavior in panic buying and the factors that influence it, is still lacking. To fill this gap, the research was conducted by developing a model based on personality traits and the influence of information as latent variables. The Structural Equation Modelling (SEM) method is considered to be complementary to solve complex problems with results that are more accurate and able to describe the conditions of the scope that are examined in real terms. The results of this study are expected to be used as a reference to help the government and stakeholders such as retailers to implement the appropriate policies.

LITERATURE REVIEW

A. Channel Switching Intention

Switching is a change of intention from one method to another method [13]. The reason underlies of switching intention is the fulfilment of needs that must be done by consumers [14]. This study will analyse the factors that influence the intention to switch channels using the theory of planned behaviour [15] and the Technology Acceptance Model. The Technology Acceptance Model is used by considering two main factors that influence individual information searching behaviour and perceived ease of use [16]. TAM has also been widely used in previous studies on channel-switching intention [17]. The theory of planned behavior is a framework that studies behavior based on intentions [18]. Another study revealed that the variables of attitude and subjective norm positively and significantly affect channel-switching intention from conventional stores to the internet and vice versa [14].

B. Perceived Ease of Use

In addition to the usefulness of the system, another variable that affects the use of the system is the perception of the ease with which the system is used [16]. A system considered more accessible in terms of use will be more likely to be accepted by users. The ease of use perceived by consumers will also affect behavioural intentions to use the system. The ease of using technology when shopping online also has a positive effect on usability, and both also have a positive impact on attitudes [19].

C. Information Searching Behaviour

Information searching behavior is an attempt by someone to find information about a matter for decision making [20]. And the internet is one of the sources that is widely used to facilitate searching for information [21]. During the COVID-19 pandemic, a lot of information is circulating in various media. Moreover, many online shopping channels carry out multiple information presentations and promotions to attract consumers. Based on this, we hypothesize that the information-seeking behavior of consumers will affect channel switching intention.

D. Subjective Belief dan Normative Belief

Subjective belief can measure the influence exerted by the social environment or normative belief on a person's behavior. Subjective belief also affects consumers' buying intention [22]. Normative belief is an action taken by someone based on the influence of others [23]. Normative belief can be a factor that influences someone to buy a product. Normative belief is a factor that significantly influences students to buy products online, which is controlled by people who have purchased these products before [24]. The parties who become normative references are spouses, family members other than spouses, closest acquaintances, and colleagues at work. Friends, family, and coworkers (Normative belief) significantly affect subjective norms in channel-switching intention so that positive promotions and testimonials from friends, family, and co-worker references will affect subjective norms [15].

CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

This study evaluates the factors that influence consumers to switch from offline markets to online markets to buy basic necessities, especially during the current pandemic. In this study, we develop a model by analyzing several factors that are adapted to current conditions.

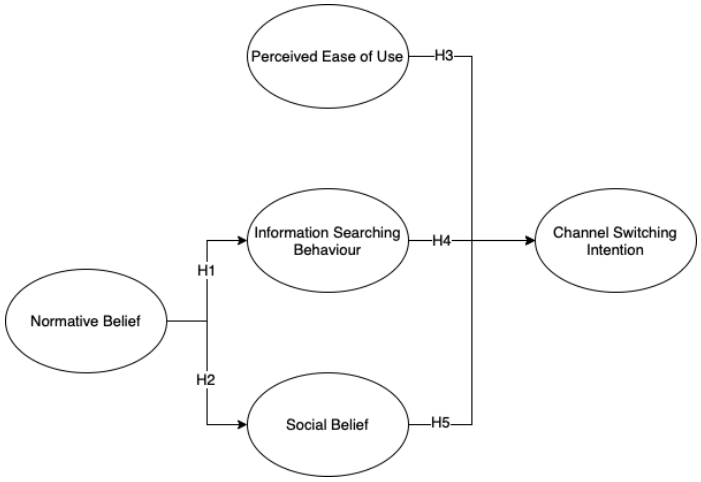

Fig 1 Structural model

TABLE 1. Framework Variable

Variables	Definition
Channel Switching Intention	Intention of consumers switching is a negative consequence for the origin shopping channel [16]
Information searching behaviour	Information searching behavior is an attempt by someone to find information about a matter for decision making [20]
Subjective belief	Subjective belief can measure the influence given by the social environment or normative belief on a person's behavior [22]
Normative belief	Normative belief is an action taken by someone based on the influence of others [23]
Perceived Ease of Use	Perception of ease of use of a system [16]

Normative belief is a very influential factor when someone purchases a product online, it is caused by the influence of people who have purchased the product before. The parties who become normative references are spouses, family members other than spouses, closest acquaintances, and colleagues at work. Indirectly these parties will encourage someone to dig up more information on something before making a decision [23].

H1: Normative belief has a positive effect on Information searching behavior

H2: Normative belief has a positive effect on Subjective belief

H5: Subjective belief has a positive effect on Channel Switching Intention

The level of ease when using a particular system or technology will greatly affect a person's desire in choosing that system or technology.

H3: Perceived Ease of Use has a positive effect on Channel Switching Intention

Information searching behavior is an effort made by someone in seeking information about a matter for decision making [20]. The internet is one of the sources that is widely used to facilitate the process of searching for information [21]. During the COVID-19 pandemic, a lot of information is circulating in various media. In addition, many online

shopping conveys information and promotions to attract consumers. Based on this, we hypothesize that the information-seeking behavior of consumers will affect channel switching intention.

H4: Information searching behavior has a positive effect on Channel Switching Intention

RESULT AND ANALYSIS

A. Data Collection

We conducted an online survey from April till May 2021 along with the implementation of the Pembatasan Sosial Berskala Besar (PSBB) policy in Indonesia. This study managed to collect as many as 209 respondents who were used as data analysis. We excluded 3 respondents who did not complete the survey. Respondents are all people who live in areas that implement the PSBB policy. Demographic data sample is shown in Table 2 below.

TABLE 2. Demographics of respondents (n=206)

Item	Demographics	Sample	Percentage
Gender	Male	120	58,3 %
	Female	86	41,7 %
Age	< 25	113	54 %
	26 – 39	85	40,7 %
	40 – 55	10	4,8 %
	> 55	1	0,5 %

B. Measurement Model Evaluation

The evaluation of the measurement model aims to examine the effect of indicators on latent variables, which have the expected level of validity and reliability. The type of measurement model in this study uses a reflective model in its manufacture so that to test the validity and reliability of the measurement model will use Cronbach's alpha and Composite Reliability parameters with the expected value in the range of 0.7-0.9 and the Average Value of Variance Extracted (AVE) above 0.5 [25]. Table 3 shows Cronbach's alpha, Composite Reliability and Average Variance Extracted values for all variable values. The results showed that included each variable in the expected limits to be valid and reliable.

TABLE 3. Construct reliability and validity

Construct	Cronbach's Alpha	CR	AVE
CSI	0,892	0,926	0,759
ISB	0,709	0,831	0,622
NB	0,937	0,950	0,760
PEU	0,792	0,878	0,706
SB	0,831	0,889	0,668

Notes: CR: composite reliability, AVE: average variance extracted, CSI: consumer switching intention, ISB: information searching behaviour, NB: normative belief, PEU: perceived ease of use, SB: Social belief

The next measurements ensure discriminant validity. Discriminant validity ensures that the reflective construct has a strong relationship with its indicators compared to other construct variable [25]. The measurement of discriminant validity on the model uses the Heterotrait-Monotrait Ratio (HTMT) criteria. This criterion is highly recommended by [26]). Furthermore, if the value on this variable shows a number below 0.9, then the discriminant validity between the two reflective constructs has been formed. Table 4 shows the value of the HTMT criteria. Based on the values shown, it can conclude that all reflective constructs have discriminant validity with each other.

TABLE 4. Heterotrait-monotrait ratio

	CSI	ISB	NB	PEU	SB
CSI					
ISB	0,468				
NB	0,745	0,432			
PEU	0,519	0,148	0,429		
SB	0,794	0,418	0,755	0,452	

Notes: CSI: consumer switching intention, ISB: information searching behaviour, NB: normative belief, PEU: perceived ease of use, SB: Social belief

C. Structural Model Evaluation

The structural model measurement uses path coefficient criteria which explains the effect of exogenous variables on endogenous variables in the inner model. This test is also helpful for testing hypotheses that have been developed at an early stage. The conclusion relates to the hypothesis testing of the developed structural model. Table 5 shows the results based on the bootstrap calculation results in the Smart-PLS application using a 95% confidence interval value.

TABLE 5. Path coefficient

Predicted variables	Predictor variables	Hypothesis	β	STDEV	T Statistics	P Values	
ISB	NB	H1	0,384	0,061	6,341	**0,000**	Supported
SB	NB	H2	0,675	0,038	17,901	**0,000**	Supported
CSI	PEU	H3	0,223	0,054	4,164	**0,000**	Supported
CSI	ISB	H4	0,181	0,058	3,136	**0,002**	Supported
CSI	SB	H5	0,549	0,061	8,986	**0,000**	Supported

Notes: CSI: consumer switching intention, ISB: information searching behaviour, NB: normative belief, PEU: perceived ease of use, SB: Social belief

Based on the results obtained through the designed structural model, information searching behaviour, subject norms, and perceived ease of use significantly influence customer decisions in switching channels from offline to online. Furthermore, the normative belief variable has a significant effect on the information searching behaviour variable and social trust. News during the pandemic contains information about the dangers of the Covid-19 virus and recommendations regarding health protocols, which will change information searching habits consumer. The desire to avoid virus infections risk and the implementation health protocols make consumers prefer shopping through online channels than direct channels because it feels safer.

Furthermore, the ease of technology has a significant influence on consumers' decisions to switch channels. We certainly hope that if we use new technology, the technology must be easy to use. The social environment also has an influence, because if one of our closest associates has implemented a method, technology, or used a new product, we tend to want to try it. Normative belief in the consumer environment can also drive the decision to switch from offline to online channels.

MANAGERIAL IMPLICATION

In this paper, we discuss consumer's behavior in switching channels from offline to online during the Covid-19 pandemic. The analysis obtained through this paper shows important results. Information searching behavior, subject norm, and perceived ease of use variables influence consumer decisions to switch channels during the current pandemic significantly.

The government policies about lockdown and the spread of news about the dangers of the covid-19 virus encourage consumers to tend reducing outside activities by buying products through online channels. For the existing online channel players, the owners or managers, can use this opportunity to promote their online retail channel while for the new comers of online channel players this situation also beneficial as the pandemic is expected to occur in long term.

Online channels facility should be user friendly and provide convenience for consumers because the perceived ease of use variable influences customer decisions to use online channels. Finally, the managers can also promote their products widely so that many people will be affected and influence each other. Social and normative belief variables play a role in consumer decisions to use online channels during the current pandemic. The more consumers who believe in the benefits of shopping online, the greater the number of consumers who make purchases online during this pandemic.

CONCLUSION

The covid-19 pandemic forces the society to adapt quickly including the retailers and its concumers. This study investigates consumer switching intention from offline channel to online channel during the covid-19 pandemic using the theory of planned behavior and the technology acceptance framework. This study shows that information searching behaviour, subject norms, and perceived ease of use significantly influence customer decisions in switching channels from offline to online. The relationship between all factors is directly proportional to the switching intentions. It means if the factor is positive, the switching intentions will be stronger. The switching intentions are motivated by the conditions and situations that happened during this pandemic and the society. A consumer may not switch to online channel if the perceived ease of use, information searching behaviour and social belief are less favourable and consumers are highly habitual. Therefore, providing more benefits and easiness can be an interesting strategy to attract consumers to use online channel. Finally, understanding consumer switching behavior during covid-19 pandemic is important for managers to mantain the relationship with the customers and to develop their marketing strategy so that they can survive or even grow bigger.

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Proceedings of the International Conference on Advanced Technology and Multidiscipline (ICATAM) 2021

"Advanced Technology and Multidisciplinary Prospective Towards Bright Future" Faculty of Advanced Technology and Multidiscipline

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Editors • Prihartini Widiyanti, Prastika Krisma Jiwanti, Gunawan Setia Prihandana, Ratih Ardiati Ningrum, Rizki Putra Prastio, Herlambang Setiadi and Intan Nurul Rizki

ICATAM
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Volume 2536: International Conference of Advance Technology and Multidiscipline (ICATAM) 2021

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By Prihartini Widiyanti, Prastika Krisma Jiwanti, Gunawan Setia Prihandana, Ratih Ardiati Ningrum, Rizki Putra Prastio, Herlambang Setiadi, and Intan Nurul Rizki

Number of Volumes: 1
Publication date: May 2023
ISBN: 9780735444423

Volume 2536 is the proceedings of *ICATAM 2021* (13–14 October 2021, Surabaya, Indonesia)

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Ferdi Ridho Prayogo; Awan Uji Krismanto; Irrine Budi Sulistiawati; Ardyono Priyadi

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Endanus Harijanto; Anita Yuliati; Prihartini Widiyanti

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Application simulation of biocomposite Poly(1,8-octanediol-co-citrate)/hydroxyapatite bone screw with finite element method

Edric Hernando; Dhea Saphira Salsabila; Salwa Almas Shalihah; Prihartini Widiyanti

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precious metals from aqueous solutions

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Electrospun nanofiber scaffold of hydroxyapatite polycaprolactone collagen for bone tissue engineering

Luthfia Anindya Yuwono; Siswanto; Yusril Yusuf; Aminatun

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Haya Majidatul Khasna; Brahmantya Aji Pramudita; Porman Pangaribuan; Prisma Megantoro

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X-ray image based on Gray Level Cooccurrence Matrices (GLCM) k-nearest neighbor (KNN) to detect tuberculosis

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Evaluation of the use of sequence T1, T2, and Susceptibility Weighted Imaging (SWI) in cases of chronic brain hemorrhage

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