INTERVARIABLE INFLUENCE ANALYSIS OF HIERARCHY OF EFFECT (HOE) MODEL IN CROSS-BORDER E-COMMERCE (STUDY CASE: SHOPEE AND LAZADA)

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ABSTRACT

Manuscript type: Empirical research
Research aims: This study was conducted to analyze and develop the intervariable influence within the stages of HOE Model in CBEC context.
Design/methodology/approach: Based on the Hierarchy of Effect (HOE) model which consists of the stages of customer progression of learning and decision-making as a response of their shopping experiences. A total research data of 1,651 respondents were collected through a structured questionnaire. SEM method was used to test the proposed research model.
Research findings: HOE Model was found to vary based on the level of product cognition and platform involvement. Two case studies provide different results which occur due to the different shopping journey held by the customer from the stages of cognition and involvement to the decision of making a purchase.
Theoretical Contribution/Originality: The less attention that was given to the customer behavior in CBEC context has driven the authors to analyze customer journey from product cognition to actual behavior stage in CBEC context. The modification towards previous research model is conducted to extend the analysis with a purpose to provide a full picture of the customer experience and the factors that influence their buying decision.
Practitioner/Policy Implication: Provide insights to encourage parties involved for implementing strategic plans that could escalate market presence and competitiveness of Indonesia CBEC at the global trade.
Research limitation/Implications: The authors extend the research model to actual behavior stage which creates a wider unexplored variables on the formation of perceived trust and the overall affective stage.

Keywords: E-commerce, Cross-border e-commerce, Business to customer, Online shopping, Involvement, SEM, Hierarchy of effect model
INTRODUCTION

E-commerce and online trade transactions have grown and begun to enter the global market through the Cross-border E-commerce (CBEC) platform. Cross-border e-commerce (CBEC) refers to a new type of international transaction where the entities involved in these transactions come from different countries (Hu & Luo, 2018). There are several examples of CBEC that have been widely used by cross-border consumers, such as Amazon (Emily D., 2020) which has more than 197 million visitors from all over the world each month, Zalora with 2 million visits every month from all over the world (Annelle, TJ, 2020), Shopee and Lazada are also included in the CBEC example because of the meeting between sellers and buyers from different countries. These examples differ from traditional e-commerce such as BliBli.com, BukaLapak, and Tokopedia where the entities involved come from the same country.

Indonesia has two largest cross-border e-commerce sites, which are Shopee and Lazada. Based on Iprice’s research (2019), it appears that Shopee occupies the first position in Indonesia with the highest number of active users per month compared to Lazada. However, Lazada won first place in other Southeast Asian countries, such as Malaysia, the Philippines, Singapore and Thailand. This shows that Shopee and Lazada are the largest CBECs with their respective strengths and dominance in each different country where Lazada controls the Southeast Asian market and Shopee controls the Indonesian market (Iprice, 2019). This fact is what supports the researchers to choose Shopee and Lazada as the two case studies in this research so that the performance of the two CBECs can be seen and researched from the scope of Indonesia and Southeast Asia.

Based on the data and analysis previously described, this study aims to analyze the role of product cognition on purchase intention and consumer actual purchasing behavior on the CBEC platform. So far, there has been little academic research on CBEC, especially in analyzing the effect of product cognition on purchasing intention in CBEC (Zhu, Mou, & Benyoucef, 2019). Hierarchy of Effect (HOE) Model which refers to a series of sequential processes from cognition to conative stages or from product awareness to actual purchase (Lavidge & Steiner, 1961a; Zhu et al., 2019) will be adopted by researchers in the context of CBEC in Indonesia, which are Shopee and Lazada. Referring to Zhu et al. (2019), the HOE model can identify several main factors that play a role in systematically predicting purchase intention to actual purchases from consumers in CBEC (Zhu et al., 2019).

The potential contribution of this research is to provide insight into the parties involved, both sellers and managers of the CBEC platform in Indonesia so that they understand that efforts to improve consumer product cognition are very important to encourage their purchase intention. Ultimately, successfully driving consumers’ actual purchases will benefit sellers, platform managers, and the industry itself. In addition, this research can contribute to providing additional references to academics and practitioners related to the dynamics of situations faced by consumers and sellers during the consumer buying process in the HOE Model stages.

LITERATURE REVIEW

Cross-Border E-commerce (CBEC)

CBEC is an international application of e-commerce where there are network transactions in foreign trade (Hu & Luo, 2018). On the CBEC platform, consumers can directly search for product information, place orders and have products sent to their address (Y. Wang et al., 2017). CBEC can be considered a breakthrough in international trade, whether in the context of B2B, B2C and C2C (Y. Wang et al., 2017).

Hierarchy of Effect (HOE) Model

HOE model is a consistent sequence consisting consumer response in three stages; cognition, affection, and conation. Cognition is seen as mental activity that is reflected in the thoughts, beliefs, or knowledge of consumers about some products on the CBEC platform (Barry and Howard, 1990), and researchers in the journal call this product stage cognition. In addition, affection is treated as a level of feelings and emotions that can be linked to the CBEC platform (Wijaya, 2015). In this study, the main reference journal referred to this stage as platform emotion. Finally, conation reflects the intention to carry out the behavior (e.g., purchase) or the behavior itself on the CBEC platform (Egan, 2007).

Product Description

Consumers are generally rational decision makers who use product information, prices, ben-
benefits, and promotions to determine whether a product is of good quality or not (Gentry et al., 2006). According to Toulmin (1958), convincing communication with trust must have a structure and well-ordered content.

H1: The higher the quality of the product description, the higher the perceived trust will be towards Cross-border E-commerce Shopee/ Lazada.

Product Awareness

Consumer awareness is an instrument that businesses use to build consumer attitudes towards a brand or company by creating associations and trust of the target audience in a particular organization or product. In order to identify the success of consumer attitudes towards a brand or company, it is important to create profitable brand associations and brand trust. Awareness can influence consumer perceptions and attitudes (Foroudi, 2019).

H2: The higher the product awareness, the higher the perceived trust in Cross-border E-commerce Shopee/ Lazada

Platform Involvement

According to the commitment-involvement theory, when a person has a strong commitment to an activity or behavior, he is unlikely to take the initiative to stop his activity or behavior (Helgeson et al., 2002). Platform involvement is divided into platform enduring involvement and platform situational involvement. Platform enduring involvement reflects the level of continued concern with the platform. This can happen consistently for a long time (Albaum et al., 1998). Meanwhile, platform situational involvement reflects transient feelings for the platform in terms of consumer desires, interests, and beliefs.

H3: The higher the platform enduring involvement, the higher the perceived trust in Cross-border E-commerce Shopee/ Lazada.

H4: The higher the platform situational involvement, the higher the perceived trust in Cross-border E-commerce Shopee/ Lazada.

H5: The higher the platform enduring involvement, the higher the purchase intention in Cross-border E-commerce Shopee/ Lazada.

H6: The higher the platform situational involvement, the higher the purchase intention for Cross-border E-commerce Shopee/ Lazada.

Perceived Trust

Bradach & Eccles (1989) view trust as a control mechanism that facilitates the exchange of relationships characterized by uncertainty, vulnerability, and dependence. Many researchers argue that trust is an important supporting factor in online transactions, where there is uncertainty, information asymmetry and fear of opportunism (Gefen et al., 2003; Triandis, 1980).

H7: The higher the perceived trust, the higher the purchase intention in Cross-border E-commerce Shopee/ Lazada.

Purchase Intention

Hsu (1987) suggests that purchase intention refers to certain exchange behaviors created after a consumer’s general evaluation of a product. Chang et al. (2016) show that buying intention in CBEC, is influenced by perceptions of security, privacy, and the perceived benefits of transacting in CBEC.

H8: The higher the purchase intention, the higher the actual purchase towards Cross-border E-commerce Shopee/ Lazada.

Actual Purchase Behavior

Researchers have considered buying intention as a proxy for actual buying behavior (Armstrong, Morwitz, & Kumar, 2000). Another aspect of actual purchases is to accurately estimate the willingness of consumers to pay the maximum price for a product (Lowe and Alpert, 2010; Voelckner, 2006; Wertenbroch and Skiera, 2002). This is especially important when successfully planning and evaluating pricing strategies, advertising, and promotional activities (Jedidi and Zhang, 2002) or when developing new products (Morwitz, 2001).

RESEARCH METHOD

Data Collection Methods

There are two methods that researchers use, which are primary data and secondary data.
Primary data is data that is collected directly by researchers for a specific purpose in answering research problems (Malhotra, 2010). The scale used by researchers in this study is the Likert scale 1-7, the scale was chosen to avoid the distribution of respondents’ answers that are too inclined in one direction. Secondary data is data collected from various sources as supporting data (Malhotra, 2010).

Sampling Method

The criteria for respondents needed in this study are Generation X (birth years 1965-1979 or ages 41-55 years), Generation Y (birth years 1980-1996 or ages 24-40), and Generation Z (birth years 1997-present or age smaller equal to 23 years) (Schiffman & Wisenblit, 2015) who used the CBEC Shopee and Lazada platforms to shop within the last 6 months. The researcher uses non-probability sampling (judgmental sampling), which is a sampling technique that relies on the personal or researcher’s judgment in which each element in the population does not have the same opportunity or opportunity to be sampled (Malhotra, 2010).

Sample Size

In accordance with the references Hair, Black, Babin, & Anderson (2014), the minimum sample required in the study is the number of question items multiplied by the number five. Therefore, with the number of question items, which are 41 questions, the minimum number of respondents needed in this study was 205 respondents for each case study. In this study, 1,651 respondents who had passed the filter stage would choose the CBEC application or website they used, thus it was found that 1,281 respondents were CBEC Shopee customers and 370 respondents were CBEC Lazada customers.

Research Model

Research model of this study is adopted and modified by referred to Agmeka, Wathoni, & Santoso (2019), A. Singh & Verma (2017), Lavidge & Steiner (1961), Sadeghi, Khani, & Hosseini (2013), Singh & Srivastava (2019), Smith, Chen, & Yang (2008), Sukma Wijaya (2012), and Zhu et al. (2019). Below is the research model for this study:

The three-stage model used in Zhu et al. (2019) adapted from the Hierarchy of Effects (HOE) Model, which explains that the consumer response process is divided into three stages, namely cognitive, affective and conative. In conative, Zhu et al. (2019) only explore the stage until purchase intention variable. For this study, researchers develop the model by making modifications through the addition of the actual purchase variable. Based on the journal Agmeka, Wathoni, & Santoso (2019), it is stated that there is a significant positive effect between purchase intention and actual behavior where the research involves Lazada e-commerce consumers to be researched. Next, A. Singh & Verma (2017) show a positive influence between purchase intention on actual behavior by using Theory of Reasoned Actions (TRA), in the context of organic food purchases. Sadeghi, Khani, & Hosseini (2013) in their journals explain the influence between variables in Lavidge & Steiner (1961) HOE Model, it shows that there is a positive influence between purchase intention on actual behavior. This is also explained further by Smith, Chen, & Yang (2008), Sukma Wijaya (2012), and Singh & Srivastava Journal (2019) who state that high purchase interest can positively influence consumer’s actual buying behavior.

RESULT AND DISCUSSION

Respondents Demographics

Analysis of the respondent’s profile shows that CBEC Shopee and Lazada users are dominated by women, where there are 84.86% female users at CBEC Shopee and 67.84% female users at CBEC Lazada. The two CBECs were dominated by respondents aged less than or equal to 23 years, which are 83.22% for the Shopee CBEC case study and 70.81% for the Lazada CBEC case study. Then, it appears that the two CBECs are dominated by respondents whose last education completed is senior high school/ equivalent, where there are 64.32% for Shopee CBEC and 62.70%
for CBEC Lazada. Furthermore, both CBECs were dominated by respondents with occupation as students, which are 74.79% for Shopee CBEC and 63.51% for CBEC Lazada. In addition, respondents were also dominated by those from Jabodetabek, which are 52.46% for CBEC Shopee and 50.81% for CBEC Lazada. Regarding the respondents’ average expenditure per month, the majority of respondents in both CBECs spent <IDR 1,000,000.00, which are 41.14% for Shopee CBEC and 35.95% for CBEC Lazada.

The Measurement Model (Confirmatory Factor Analysis)

Based on the validity and reliability test results of the Shopee CBEC case study main test, it was found that all indicators have valid value, which were marked by the SLF value ≥ 0.5 and t-value ≥ 1.96. Except SI5 of the platform situational involvement variable which has an SLF value below the minimum limit, which is 0.44. Although it does not cross the SLF 0.5 limit, based on Igbaria et al. (1997), this value can still be declared valid because it is still above 0.30 so that the SI5 indicator can be further processed. Then, in terms of reliability, all variables also show reliable results because they have the construct reliability (CR) number ≥ 0.70 and the variance extracted (VE) value 0.50. Furthermore, the results showed that all indicators had valid values in the Lazada CBEC case study. In addition, all variables also show reliable results. Therefore, it can be concluded that all indicators and variables in the study of CBEC Shopee and CBEC Lazada respondents have valid and reliable values so that they can be used further in structural tests.
Based on the results of the overall suitability of the measurement models, it can be seen that almost all GOFIs have a good level of compatibility. In the CBEC Shopee case study, there is 1 poor fit model, 3 marginal fit, and 12 GOFI fit into the good model fit level category. Therefore, the researcher can conclude that the overall fit of the measurement model is good. In addition, for the CBEC Lazada case study, it appears that almost all GOFIs have a good match. There are 3 poor fit, 2 marginal fit, and 11 GOFI fit into the good model fit level category. Therefore, the researcher can conclude that the overall fit of the measurement model is good.

### The Structural Model

Based on the results of the overall suitability of the structural models that have been previously described, it can be seen that almost all GOFIs have a good level of compatibility for the two case studies. In the CBEC Shopee case study, there are 2 poor fit levels, 4 marginal fit, and 10 GOFIs that fall into the good model fit level category. Therefore, the researcher can conclude that the overall fit of the structural model is good. In addition, in the Lazada CBEC case study, there are 3 poor fit levels, 2 marginal fit, and 11 GOFIs are categorized as good model fit. Therefore, the researcher can conclude that the overall fit of the measurement model is good.

### Results of Hypotheses

**Discussion**

Hypothesis testing consisted of two case studies, namely CBEC Shopee respondents and CBEC Lazada respondents. The results of H1a and H1b tests in this study indicate a significant positive effect. These results are in line with research conducted by Ha (2004) which states that effective and high-quality product information will affect the level of consumer trust. High-quality product descriptions have significant positive results and have an impact on consumer perceptions of trust (Lee, Kim, & Chan-Olmsted, 2011), in this case consumers on the CBEC platform (Zhu et al., 2019). In addition, online consumers are very interested in the messages conveyed in products (Krishnamurthy, 2001). Zhu et al. (2019) stated that high-quality product descriptions can reduce the uncertainty of cross-border customers about products and reduce their perceived risk to some extent.

Second, the H2a and H2b test results show no significant effect. Researchers suspect that differences in the results of this study may occur because consumer confidence in the use of CBEC in Indonesia is relatively new, so the process of building consumer trust is a complex one. Consumer confidence in CBEC Shopee and Lazada is not only determined by their awareness of the existing CBEC products, but also influenced by other factors or variables besides product awareness. This is in line with research conducted by Norlan & Norlan Institute-KPMG (1999), Sabo (1997), and Storrorsten (1998) which revealed that the lack of consumer trust in e-commerce transactions on the internet can be the reason for the slow adoption of e-commerce.

![Figure 4. Results of Hypotheses Testing for CBEC Shopee and CBEC Lazada](image-url)
Third, to test the H3a and H3b hypotheses, it shows that in Shopee’s respondent data, there is a significant influence between the platform enduring involvement variable and the variable perceived trust. However, in Lazada respondent data, there is no significant influence between platform enduring involvement and perceived trust variables. First, for the Shopee CBEC case study, the results obtained are in line with the research conducted by Zhu et al. (2019) where the high involvement of consumers can encourage consumers to spend their time and effort shopping on the platform. Second, for the Lazada CBEC case study, this result can occur because perceived trust in the context of CBEC in Indonesia can be formed by various complex variables.

Fourth, to test the H4a and H4b hypotheses, it shows that in both case studies, there is a significant influence between the platform situational involvement variable and the perceived trust variable, where the higher the degree of platform situational involvement, the higher the consumer’s perceived trust in CBEC Shopee or Lazada. These results are in line with research conducted by Zhu et al. (2019) which states that consumers who have a high level of engagement on the CBEC platform will spend more time and effort in activities on the platform.

Fifth, to test the H5a and H5b hypotheses, it shows that in both case studies, there is no significant effect between the platform enduring involvement and purchase intention variables. On the CBEC platform, in theory, consumers with a higher platform involvement can make purchasing decisions when faced with products and product providers (Richard, 2005). However, the research of Zhu et al. (2019) show that consumers have no significant purchase intention under platform enduring involvement, which suggests that consumer psychological activity and their behavioral motivation in platform enduring involvement is more complicated than activity on platform situational involvement.

Sixth, to test the hypothesis H6a and H6b, it shows that in both case studies, there is a significant influence between the platform situational involvement variable and the purchase intention variable where the higher the degree of platform situational involvement, the higher the consumer’s purchase intention towards CBEC Shopee or Lazada. This result is in line with the research conducted by Zhu et al. (2019) and (Richard, 2005) which state that consumers who have a high level of situational involvement on the CBEC platform are likely to make purchasing decisions when dealing with products or product providers.

Seventh, to test the H7a and H7b hypotheses, it shows that in the two case studies, there is a significant influence between the perceived trust variable and the purchase intention variable where the higher the degree of perceived trust, the higher the consumer’s purchase intention towards CBEC Shopee or Lazada. This finding also applies to traditional e-commerce (B. Lu, Fan, & Zhou, 2016; Y. Lu, Zhao, & Wang, 2010). This suggests that perceived trust will influence consumer purchase interest in CBEC (Zhu et al., 2019).

Eighth, to test the H8a and H8b hypotheses, it shows that in both case studies, there is a significant influence between the purchase intention variable and the actual purchase variable, where the higher the degree of purchase intention, the higher the actual purchase of consumers towards CBEC Shopee or Lazada. This result is in line with the model proposed by Lavidge & Steiner (1961), in which he built the HOE (Hierarchy of Effect) Model which consists of the stages of awareness, knowledge, likes, preferences, beliefs, and purchases.

CONCLUSION

This research was carried out with the aim of knowing the influence between the variables of product cognition, platform emotion, behavior intention, and actual behavior stage on Cross-border E-commerce (CBEC). In conducting this research, the researchers adapted a research model from the reference journal Zhu et al. (2019) and by adding an actual purchase variable that also has an effect in HOE Model. Based on the explanation of the results of the analysis and hypothesis testing that has been carried out, there are several conclusions that can be drawn to answer the research questions that have been determined by the researcher.

The results of the analysis of the first research question shows that there is a significant positive effect between the product description variables on perceived trust. This means that the higher the quality of the product description, the higher the perceived trust in Cross-border E-commerce Shopee and Lazada will be.

Furthermore, the second research question shows that there is no significant effect between the product awareness variables on perceived
trust in the CBEC Shopee and CBEC Lazada case studies. This also means that the independent variable has no effect on the dependent variable.

Next, the analysis results of the third research question show different results in both CBEC Shopee and CBEC Lazada. In the CBEC Shopee case study, it is proven that there is a significant positive effect between platform enduring involvement and perceived trust. This means that the higher the enduring involvement platform, the higher the perceived trust for Cross-border E-commerce Shopee. Meanwhile, in the CBEC Lazada case study, it is proven that there is no significant effect between platform enduring involvement on perceived trust.

Then, the results of the fourth research question show a significant positive effect which means that the higher the platform situational involvement, the higher the perceived trust in Cross-border E-commerce Shopee and Lazada will be.

Furthermore, the fifth research question shows that the platform enduring involvement variable does not have a significant effect on purchase intention.

Moreover, the analysis results for the sixth research question show that there is a significant positive influence between the platform situational involvement variable on purchase intention. This means that the higher the situational involvement platform, the higher the purchase intention for Cross-border E-commerce Shopee Lazada.

Then, the results of the analysis for the seventh research question show a significant positive effect, which means that the higher the perceived trust, the higher the purchase intention for Cross-border E-commerce Shopee and Lazada.

Finally, the results of the analysis for the eighth research question show that there is a significant positive effect between the purchase intention variable on the actual purchase. This means that the higher the purchase intention, the higher the actual purchase of consumers for Cross-border E-commerce Shopee and Lazada.

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