

How to Ensure Indicators in Online Shopping are Good: A Case Study on Online Shopping Platforms in Indonesia

William Surya¹, Ronald²

^{1,2}Faculty of Economic & Business, Pelita Harapan University

Surabaya, Indonesia



Abstract— The pandemic has made many changes in human life, including in the lifestyle that is carried out, one of which is the development of an online shopping system. A growing platform for online business is Shopee. This research discovers the indicator testing of Social Presence and Telepresence toward Impulsive Buying Behavior. This research is done Quantitatively by using Structural Equation Modelling with AMOS 22 Software. Samples were taken through Purposive Sampling Method towards 150 consumers from Skintific brand that lives in Surabaya. This study will help identify the elements of consumer trust, telepresence, and social presence that influence consumers' impulsive purchasing behavior. Overall, because of the new trend's virality and the use of live streaming in commercial settings, a wide range of stakeholders—including academics, marketers, brands, and online sellers—will profit from the study's findings. All indicators testing of the research's assumptions are supported, this explains that the indicators used are appropriate for measuring each variable.

Keywords-- Social Presence of Live Stream Platform, Social Presence of Viewer, Social Presence of Streamer, Telepresence, Impulsive Buying Behavior, Social Commerce, Shopee

I. INTRODUCTION

In 2023 we are already living in the era of digitalization where everything has been made easier by technology. Internet-based technology has shown its role where people really need it to support their daily activities. Every year the internet is increasingly entering human life, technology has changed world civilization rapidly. Digitalization is not only about technological development, but also about the development of information and communication that can be accessed quickly and easily, as well as sharing information, facts, and ideas so that communication is more effective and not limited to just exchanging information or news (<https://kominfo.go.id>).

In early 2020, all aspects of life were affected by the arrival of the covid-19 pandemic. Several efforts continue to be made by the government to deal with the spread of covid-19, including carrying out Large-Scale Social Restrictions (PSBB) in stages in areas that are indicated to accelerate the spread of covid-19. The implementation of PSBB at least has a significant impact on community activities. The development of e-commerce in Indonesia is increasingly advanced and promising. During a pandemic, this digital-based business is even predicted to grow 33.2% from 2020 to reach IDR 253 trillion to IDR 337 trillion this year (<https://kominfo.go.id>).

Data from We Are Social (2023) the number of Internet users in Indonesia itself is 215,628,156 people or 78.19% of the total population of Indonesia which amounted to 275,773,901, this figure itself has increased by 1.18% from the previous year. And from the exposure of APJII (2023), the contribution side based on the age segment of Internet users in Indonesia itself is divided into 5 to 12 years (8.08%), 13-18 years (9.62%), 19-34 (25.68%), 35-54 (27.68%), 55 years (5.97%) so that it becomes an attractive market and opportunity for business people to be able to reach people of productive age and have a steady income.

Table 1. Comparison Online Store Data in Indonesia in 2022

	Number of Visitors in a month (Billion)	Consumer Trust
Shopee	191.6	75%
Tokopedia	136.7	76%
Lazada	83.2	19%
Blibli	37.4	14%
Buka Lapak	19.7	18%

From table 1, consumers who use online shopping are very large, and Shopee has the largest average number of visitors every month. This explains that Shopee is a large ecommerce platform in Indonesia. Shopee is one of those companies where technological advancements have made access to services easier, a platform that provides customers with easy, safe, and fast online shopping, as well as reliable logistics and payment support. Shopee Indonesia was officially launched to the public in December 2015 under the name PT Shopee International Indonesia. Quoted from www.shopee.co.id Shopee Indonesia's vision is that we believe online shopping should be accessible, simple, and fun. At the same time, Shopee Indonesia was built because we believe that the transformative power of technology can make the world a better place through a platform that connects sellers and buyers in one community (www.shopee.co.id.)

Live Streaming Commerce is a new marketing activity that incorporates the attributes of Social Commerce and social media (Cai and Wohn, 2019). In general, Live Stream Commerce is considered more capable of causing consumers to make impulsive purchases and provide added value to companies. In Indonesia, there are already several E-Commerce and Social Commerce platforms that implement Live Streaming features such as Shopee and Tiktok. According to the Databoks Survey (2021), the categories with the greatest interest from consumers are Credit and Vouchers (23.4%), Fashion and Accessories (17.3%), Health and Beauty (13.9%) and Household Appliances (10.5%). Based on this research, one of the brands that runs the Live Streaming feature on the Shopee platform to boost its sales is the Skintific brand. Skintific itself is a Canadian company that produces and formulates and sells various lines of quality cosmetic products.

Therefore, this research will be presented to assess the factors that influence impulsive Buying Behavior on two Live Stream Commerce, namely from Brand Skintific on the Shopee and Tiktok platforms. In accordance with research conducted by Ming et al (2021) in China, researchers want to assess whether there is a significant relationship in the Presence variable, which is divided into Social Presence of Streamer, Presence of Live Stream Platform, Presence of Viewer, and Telepresence to the Consumer Trust variable and the relationship between Presence and Telepresence. Consumer Trust variable and the relationship between Consumer Trust and impulsive purchase decisions on the Skintific brand impulsive purchase decisions for the Skintific brand on the Shopee and Tiktok platforms. Initial research will be conducted to ensure that the indicators used for each variable are able to measure the variables to be measured.

II. LITERATURE REVIEW

2.1. Impulsive Buying Behavior

In the world of live stream commerce, impulsive purchasing decisions are still very rare. to be explored, previous research only focuses on factors that influence impulsive purchases from live streaming commerce from the vendor and consumer sides (Xue et al., 2019). This research will focus on the factors that influence impulsive purchases from live streaming commerce from the vendor and consumer side (Xue et al., 2019). This research will focus on the interaction between impulsive buying behavior from the presence side. interaction between impulsive buying behavior from the presence side.

The indicators used regarding the Online Impulsive buying variable are adopted from Wu et al. (2020) research, namely: (1) When looking at live streaming, I find it difficult to refuse the offer given; (2) When looking at live streaming, I feel a little impetuous to make a purchase; (3) When looking at live streaming, I buy products spontaneously even though I don't

need them; (4) When I see live streaming, I can't resist the urge to buy a product.

2.2. Consumer Trust

Trust is built from the surrounding environment created in the world of Social Commerce. Online sellers can use a variety of tools and techniques to create attachments and relationships from visual, audio, and virtual media. From here it can grow the buyer's social presence and help consumers get to know the merchant again (Lu et al., 2014). Chervany and McKnight (2021) divide trust into two dimensions, namely trust beliefs (trust in online sellers and trust in online products) and trusting intention (in the form of individual desires to believe in the actions of online sellers).

The indicators used to measure Trust according to previous research from Sulin Ba (2022) are: (1) I trust the information about the product provided by the streamer during live streaming; (2) I believe that live streamers in live streaming are easier to trust; (3) I don't think that streamers will want to take advantage of me; (4) I believe that the product I receive will be the same as the appearance in live streaming live.

2.3. Social Presence of Live Stream Platforms

In traditional shopping habits, consumers can see images of products or product descriptions from sellers, whereas through Live Streaming Commerce this can cause consumers to be able to see live videos and can enhance the shopping experience with more social connections, sensitivity, and contact with others. Shen & Khalifa (2009) state that when consumers feel a social presence when interacting mediated by digital media, this will create a distance between the product and the consumer so that it can encourage interest in impulsive shopping.

The indicators used to measure the Social Presence of Live Stream Platform according to Sun et al. (2019) are: (1) I feel that there is good contact with other people on the Live Streaming Tiktok; (2) I feel a personalized feeling on Tiktok Live Streaming; (3) I feel a feeling of being able to interact socially on Tiktok Live Streaming; (4) I feel a sense of warmth in interpersonal interactions on Tiktok Live Streaming; (5) I feel the presence of human sensitivity in Tiktok Live Streaming.

2.4. Social Presence of Viewer

The chat box feature in Live Streaming Commerce can increase social presence through interaction with other viewers, so the atmosphere when shopping will feel more alive (Sun et al., 2019). Customers can indirectly share information related to the product live and the influence of Word of mouth from other viewers can play an information enhancer so that other consumers can find out the experience of using the product and the advantages of the product.

The indicators used to measure the Social Presence of Live Viewers according to Sun et al. (2019) are: (1) I am aware of other viewers in the Live Stream who are interested in the product; (2) I am aware of other viewers who share information about the product; (3) I am aware of other viewers who have purchased the product.

2.5. Social Presence of Streamer

The Live Streaming space is a virtual world, where the interaction between the broadcaster and the audience is not limited by time and space. Live Broadcasters can show products in detail, interact with consumers, and can also serve each consumer in more detail and according to individual needs in a live virtual space (Wongkitrungrueng & Assarut, 2020).

The indicators used to measure the Social Presence of Live Streamers according to Sun et al. (2019) are: (1) I can understand the actions of the streamer by interacting with them through live streaming; (2) I feel the sensation of the presence of other people when communicating with the streamer through live streaming; (3) I can feel the warmth when communicating with the seller on live streaming.

2.6. Telepresence

Telepresence has an impact on how closely the quality and quantity of product-related sensory information and the ability to interact with a product product-related sensory information and the ability to interact with a product virtually have the same impact as offline stores (Song et al., 2017) In the context of the world context of the e-commerce world, a high level of telepresence is able to help customers visualize themselves in virtual shopping conditions as well as direct physical stimulus (Park, et al., 2010). Research from Klein (2003) shows that the telepresence of a digital platform can affect the behavior and

thinking of a consumer.

The indicators used to measure Social Presence of Live Stream Platform according to Sun et al. (2019) are: (1) When I see Live Streaming, I feel like shopping like in an Offline store; (2) When I see Live Streaming, I feel more in the Virtual world than the real world; (3) When I see Live Streaming, I can imagine myself according to the Live Streamer's narrative.

III. METHODOLOGY

3.1 Research Issues

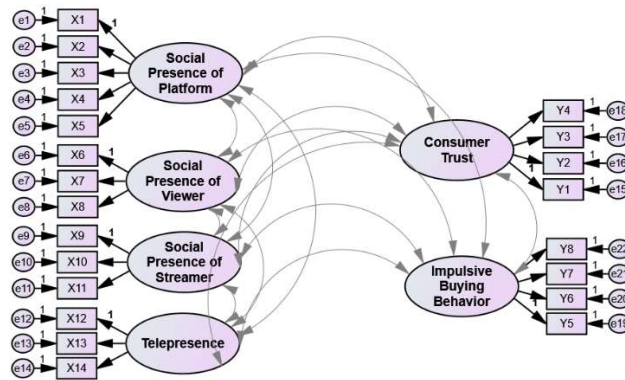


Figure 1. Research Model

The population used in this study are all consumers of Shopee in Indonesia. This research is quantitative research with the sampling technique used is non-probability sampling with the distribution of questionnaires carried out by snowball sampling. The primary data used in this study are questionnaires distributed to 120 respondents who meet the proposed respondent criteria. This research is assisted by surveyors in distributing can speed up the data collection process. The proposed research model can be seen in Figure 1, where there are 6 variables that will be used in this study.

3.2 Research Methodology

Hair et al. (2014) state that a sample size of 100 or more is necessary. The minimum sample size is five times greater than the total number of items in the question that need to be examined. The number of indicators used in this study is 22, so the sample range that can be used is 110 to 220, and in this study a sample of 150 respondents was used. For this investigation, the characteristics of the survey participants were as follows:

1. Men and women
2. The age range is 18–65.
3. Have used the Shopee Live Streaming Platform.
4. Have purchased Skintific products via Live Streaming

This study used structural equation modeling, or SEM, as its analysis technique. According to Hair et al. (2014), factor analysis and multiple regression are combined in structural equation modeling (SEM), a multivariate approach. This makes it possible for researchers to simultaneously investigate several dependent relationships between the latent constructs and the measured variables, as well as multiple other latent constructs. The ability to quantify theoretical relationship influence and validate the dimensions of a concept or component that is widely used in management is one of the advantages of SEM applications in management research (Ferdinand, 2006). To answer research questions, an analytical tool called AMOS 22.0 (Analysis of Moment Structure) will be used.

IV. RESULT

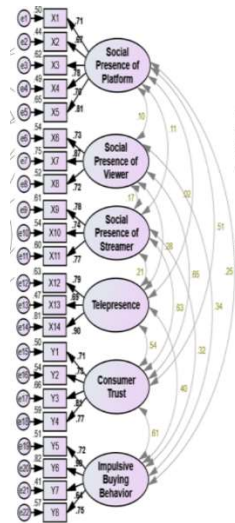


Figure 2. AMOS Result for Validity Test Result

Following distribution, the questionnaire was processed by AMOS, which presents the results of respondents' responses based on frequency calculations to the questionnaire's questions. Each question is rated on a Likert scale from 1 (lowest) to 5 (highest). Table 2 provides more details on the assessment level of each variable.

Respondent characteristic analysis was carried out when the questionnaires were received, completed, and signed. Figure 3 shows that most of the respondents who filled out the surveys were female because, in Indonesia, women typically drive cars for convenience. Customers of Skintific who lived in Indonesia and had utilized the service and purchased the goods due to live broadcasting comprised the survey participants. One hundred fifty respondents' responses were used in the data processing of all the surveys. The outcomes show that it is possible to see the reactions.

Table 2. Result Table for Mean and Validity

Item	Questionnaire for Social Presence of Platform	Result	
		Mean	Lambda Loading
X1	contact with others well in Live Streaming	4,09	0,707
X2	the personalized feeling of live streaming	4,14	0,666
X3	feel the feeling of hospitality in Live Streaming	3,85	0,785
X4	feel the warmth of inter-personal interactions in Live Streaming	3,67	0,702
X5	feeling sensitive to others in Live Streaming	3,59	0,807
	Mean Variabel	3,87	
Item	Questionnaire for Social Presence of Viewer	Result	
		Mean	Lambda Loading
X6	aware of other viewers on the Live Stream who are interested in Skintific products	4,13	0,735
X7	aware of other viewers sharing information on Skintific products	4,03	0,866
X8	aware of other viewers who have purchased Skintific products.	4,21	0,723
	Mean Variabel	4,12	
Item	Questionnaire for Social Presence of Streamer	Result	
		Mean	Lambda Loading

X9	can understand the actions of the streamer through live streaming Skintific products	4,10	0,781
X10	feel the sensation of the presence of other people through Live Streaming Skintific products	4,23	0,738
X11	feel the warmth when communicating on Skintific product live streams	3,99	0,774
	Mean Variabel	4,11	
Item	Questionnaire for Telepresence	Result	
		Mean	Lambda Loading
X12	seeing Live Streaming of Skintific products, feel like shopping in an Offline store	3,65	0,793
X13	seeing Live Streaming of Skintific products, feeling in the Virtual world rather than the real world	4,39	0,685
X14	seeing a live stream of Skintific products, imagining me according to the live streamer's narrative	3,79	0,901
	Mean Variabel	3,94	
Item	Questionnaire for Consumer Trust	Result	
		Mean	Lambda Loading
Y1	trust the product information provided during the Skintific product live stream	4,35	0,705
Y2	trust live streamers in live streaming is easier to trust	4,20	0,732
Y3	didn't think that streamers would want to take advantage of me	4,23	0,814
Y4	believe the product received is the same as the appearance in the Skintific live stream	4,25	0,769
	Mean Variabel	4,26	
Item	Questionnaire for Implusive Buying Behavior	Result	
		Mean	Lambda Loading
Y5	saw a live stream of Skintific products, found it hard to resist the offer to shop	4,04	0,715
Y6	saw the live stream of Skintific products, I was in a hurry to make a purchase	3,80	0,904
Y7	saw Skintific's product live stream, purchased the product spontaneously	4,21	0,639
Y8	see live streaming of Skintific products, can't resist the urge to buy	3,89	0,754
	Mean Variabel	3,99	

The results of the study can be seen in table 2 and figure 2, that overall, the indicators used for each variable can measure the variables measured properly. This can be seen from the lambda loading value for each indicator is more than 0.5. So that all existing indicators can be used for further research.

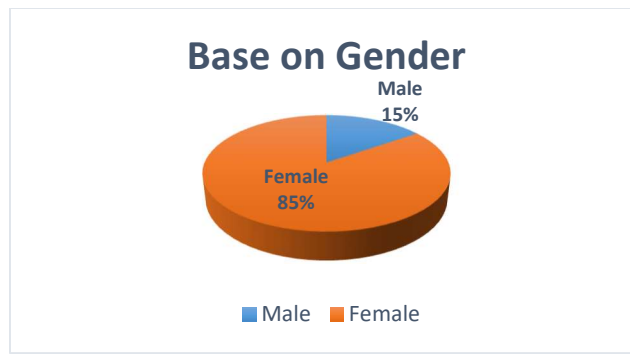


Figure 3. Respondent Characteristic by Gender

The findings in Figure 4 reveal that respondents are predominantly aged between 18 and 30 years, with 126 respondents falling within this age bracket, followed by 15 respondents in the 31-45 age group, and 9 respondents in the 46-65 age group. This suggests that the majority of responders belong to the age segments of Generation Y and Z.

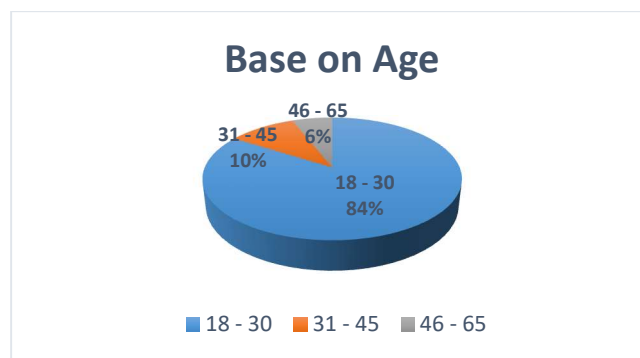


Figure 4. Respondent Characteristic by Age

V. DISCUSSION

The research conducted is the initial stage to ensure that each indicator can measure and explain the variables properly. There are 6 variables used in this study, namely: social presence of live stream platforms, social presence of viewers, social presence of streamers, telepresence, consumer trust and Impulsive Buying Behavior.

The social presence of platform variable has 5 indicators with the indicator that has the highest lambda loading value is X5 with a lambda loading value of 0.807. This explains that in measuring the social presence of the platform, it is important to pay attention to elements of attachment and good communication, so that sensitivity feeling to others can be raised during the live streaming process. The mean value for this indicator is the lowest compared to other indicators, so Skintific in doing live streaming needs to improve this by making more communication that can touch feelings and make consumers have better togetherness with other consumers. This is because most gender consumers are women who involve more feelings in the buying process. The next highest indicator is X3 with a lambda loading value of 0.785 and a mean value of 3.85. This explains that the next way that can be done to increase social presence if the platform is to make live streaming warm and friendly, by looking at the mean value which also needs to be increased, then things that can be done are made warm live streaming location ambience and also training for employees who do live streaming for how to communicate well and make consumers feel comfortable with the live streaming being carried out.

The next variable is the social presence of viewers which has 3 indicators, with the most important indicator that has the highest lambda loading value is X7 with a lambda loading value of 0.866 and a mean value of 4.03. This indicator explains the importance of being able to find out various kinds of information including information provided by other consumers, so that in

making evaluations they already have good information. The real conditions in the field are relatively good but can still be improved by making certain sessions accommodated with good documentation, so that various responses or information from other consumers can also be known or accessed by others. This explains that information from other consumers tends to be more trusted, especially if it is related to the characteristics of respondents based on age, most of whom are still the younger generation who like to look for detailed information about a product they want to buy. The indicator with the second highest lambda loading coefficient is X6 with a lambda loading coefficient value of 0.735 and a mean value of 4.13. This explains that reviews from other consumers who are specific to the products offered will be very important to pay attention to, because product reviews from other consumers are considered more honest and in accordance with the conditions of the Skintific products offered. So what can be done during the live streaming process is to try to motivate consumers or viewers to provide as many positive reviews as possible for the products offered.

The social presence of streamer variable also has 3 indicators, with the indicator that has the highest lambda loading is X9 with a lambda loading value of 0.781 and a mean value of 4.10. This indicator assesses how consumers understand the live streaming content being carried out, and Skintific is quite successful in creating content that is understood by consumers by looking at the relatively high mean value. So, the thing that can be done is to create a live streaming script and calendar, so that all live streaming processes are more planned and can be discussed in the team to make the content easier to understand. The next important indicator is X11 with a lambda loading value of 0.774 and a mean value of 3.99. This indicator discusses the importance of communication skills when live streaming to create a warm atmosphere and make consumers feel like they are seeing and communicating with friends or familiar surroundings. This is what still needs to be improved and improved from Skintific, because based on the mean value, it is the lowest mean value so that it requires effort from Skintific to conduct training to be able to make live stream performers have interesting communication skills and be able to create a warm and comfortable atmosphere for consumers.

The telepresence variable also has indicators with the most important indicator that has the highest lambda loading coefficient is X14 with a lambda loading value of 0.901 and a mean value of 3.79. This indicator measures the effectiveness of the live stream carried out which can make consumers feel like communicating directly and imagine being in the same location. In this indicator, Skintific needs to improve how strategies must be carried out to make space and time differences do not hinder the communication process and make consumers feel they are in the same location, a way that can be done by making the live stream setting real and explaining more about the existing room conditions in detail so that consumers feel they are in that atmosphere. The next highest indicator is X12 with a lambda loading value of 0.793 and a mean value of 3.65. This indicator discusses the feelings that consumers have when viewing live streams as if they are shopping directly in an offline store. The current conditions for this indicator have the lowest mean value in this variable, so improvements need to be made to present a live stream atmosphere that makes consumers feel in the store directly, the way is to take advantage of technological advances by making live streams using several angles including zoom in and zoom out conditions to make conditions as real as possible.

The consumer trust variable has 4 indicators, with the most important indicator being Y3 with a lambda loading value of 0.814 and a mean value of 4.23. This indicator discusses the level of consumer confidence in the live streaming carried out that the activities carried out are honest and transparent without anything being covered to benefit the seller. In real conditions, it explains that consumers already believe that the live streaming being carried out will not lie. So Skintific always must maintain the trust that consumers have. The next highest indicator of this variable is Y4 with a lambda loading value of 0.769 and a mean value of 4.25. This indicator discusses the level of consumer confidence in the suitability of the product offered and what will be received is the same. Based on the mean value, the existing mean value is high with a strongly agreed level of agreement, so Skintific needs to maintain consumer confidence in the suitability of the products offered and the products received.

The last variable in this study is Impulsive Buying Behaviour which has 4 indicators with the most important indicator being Y6 with a lambda loading value of 0.904 and a mean value of 3.80. This indicator discusses that after seeing the live stream from Skintific, consumers are immediately interested in buying it, while the mean value is the lowest mean value of this variable so that efforts need to be made to increase the impulsive side of consumers to buy products during the live streaming process. While the second most important indicator is Y8 with a lambda loading value of 0.754 and a mean value of 3.89. This indicator discusses the desire of consumers who cannot be deterred after seeing live streaming. So, the thing that needs to be done is that Skintific needs to make consumers interested in the live streaming so that consumers can immediately make

purchases.

VI. CONCLUSION

Based on the results of the research that has been carried out, the following recommendations can be given for each variable. The first variable social presence of the platform recommends live streaming content to have high empathy and be able to create a good relationship with consumers when live streaming is carried out. The variable social presence of viewers, the main recommendation that can be done is the need to create facilities that can collect and distribute information conveyed in live streaming properly, including providing facilities that can make the information conveyed easily accessible to consumers at any time.

Meanwhile, for the social presence of streamer variable is to make the live stream activities carried out easy to understand what is being done so that it can increase consumer interest for longer and more detailed in following the live stream being carried out. For the telepresence variable, what can be done is to be more detailed in creating scripts and live streaming plans so that the content created makes consumers more able to imagine more realistically what is happening and what you want to convey. Meanwhile, the consumer trust variable and impulsive buying behavior are affective variables that cannot be controlled directly from the Company's side so that to improve it can focus on social presence and telepresence variables.

Further research will be carried out by testing the causal relationship for each variable so that it can be explored variables that have a significant and greatest influence in creating impulsive buying behavior. Including can be developed for other ecommerce that is interesting to compare with the results of this study.

VII. ACKNOWLEDGEMENTS

The research for this study was funded and supported by Pelita Harapan University, Surabaya Campus.

REFERENCES

- [1]. Cai, J., & Wohn, D. Y. (2019). Live Streaming Commerce: Uses and Gratifications Approach to Understanding Consumers' Motivations. Proceedings of the 52nd Hawaii International Conference on System Sciences, 2548–2557. <https://doi.org/978-0-9981331-2-6>
- [2]. Chervany, N.L., McKnight, D.H., (2001), What trust means in e-commerce customer relationships: an interdisciplinary conceptual typology. *Int. J. Electron. Commer.* 6 (2), 35–59.
- [3]. <https://kominform.go.id>
- [4]. Klein, W. P. (2003). Effects of Objective Feedback and “Single Other” or “Average Other” Social Comparison Feedback on Performance Judgments and Helping Behavior. *Personality and Social Psychology Bulletin*, 29, 418-429. <http://dx.doi.org/10.1177/0146167203251195>
- [5]. Lu, L.C., Chang, W.P. and Chang, H.H. (2014) Consumer Attitudes toward Blogger’s Sponsored Recommendations and Purchase Intention: The Effect of Sponsorship Type, Product Type, and Brand Awareness. *Computers in Human Behavior*, 34, 258-266. <https://doi.org/10.1016/j.chb.2014.02.007>
- [6]. Ming, J., Jianqiu, Z., Bilal, M., Akram, U., & Fan, M. (2021). How social presence influences impulse buying behavior in live streaming commerce? The role of SOR theory. *International Journal of Web Information Systems*, 17(4), 300-320.
- [7]. Park, B., Ahn, S., & Kim, H. (2010). Blogging: mediating impacts of flow on motivational behavior. *Journal of Research in Interactive Marketing*, 4(1), 6-29.
- [8]. Shen, K. and Khalifa, M. (2009). Design for social presence in online communities: a multidimensional approach. *AIS Transactions on Human-Computer Interaction*, 1(2), 33-54.
- [9]. Song, S. Y., Cho, E., & Kim, Y. K. (2017). Personality factors and flow affecting opinion leadership in social media. *Personality and Individual Differences*, 114, 16-23.
- [10]. Sulin Ba, P.A.P., (2002). Evidence of the effect of trust building technology in electronic markets: price premiums and buyer behavior. In: Paper Presented at the Mis Quarterly.

- [11]. Sun, Y., et al. (2019), "How live streaming influences purchase intentions in social commerce: an IT affordance perspective", *Electronic Commerce Research and Applications*, Vol. 37, p. 100886, doi: 10.1016/j.elerap.2019.100886
- [12]. Wongkitrungrueng, A., and Assarut, N. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of business research*, 117, 543-556.
- [13]. Wu, L., Chiu, M.-L., & Chen, K.-W. (2020). Defining the determinants of online impulse buying through a shopping process of integrating perceived risk, expectation-confirmation 22 K. M. SELEM ET AL. model, and flow theory issues. *International Journal of Information Management*, 52, 102099. <https://doi.org/10.1016/j.ijinfomgt.2020.102099>
- [14]. www.shopee.co.id.
- [15]. Xue, X., et al. (2019), "What drives consumer shopping behavior in live streaming commerce?", *Journal of Electronic Commerce Research*, Vol. 21 No. 3, pp. 144-167.