

# ANALYSIS OF SOCIAL PRESENCE AND PRODUCT DIVERSITY ON IMPULSE BUYING THROUGH LIVE SHOPPING ON E-COMMERCE CONSUMERS IN MEDAN CITY

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## Abstract

The purpose of this study is to determine directly and indirectly the relationship between social presence, product diversity on impulse buying through live shopping. The population in this study are all consumers who shop on e-commerce platforms such as Shopee, Tokopedia, Lazada, Tiktokshop, the number of which could not be known with certainty. The sample withdrawal used is accidental sampling, the questionnaire was distributed using google form. The research sample was taken using the Zikmund formula so that a sample size of 100 respondents was obtained. Data analysis was carried out using structural equation modeling (SEM) techniques with Smart-PLS analysis tools to test the direct and indirect relationships between these variables. The results explain that social presence directly has a significant effect on live shopping, product diversity directly has a significant effect on live shopping, social presence directly has a significant effect on impulse buying, product diversity directly has a significant effect on impulse buying, live shopping directly has a significant effect on impulse buying, social presence indirectly has a significant effect on impulse buying through live shopping, and then roduct diversity indirectly has a significant effect on impulse buying through live shopping.

**Keywords:** *Social presence, product diversity, live shopping, impulse buying*

## 1. INTRODUCTION

E-commerce in Indonesia has grown rapidly in recent years along with increasing internet penetration and digital technology adoption. Various platforms such as Shopee, Tokopedia, Lazada, and Bukalapak are the main choices for people to shop online. Factors such as ease of access, attractive promos, and flexible payment methods further encourage people to switch to e-commerce. The growth of e-commerce is also supported by changes in consumption patterns, where people now prefer to shop online compared to shopping directly in physical stores. As one of the largest cities in Indonesia, Medan has a high e-commerce adoption rate. With a developed digital infrastructure and a high number of internet users, e-commerce is a fast-growing sector in the city. Consumers in Medan actively shop online for various needs ranging from fashion, food, to electronics. This development is also reinforced by the increasing logistics services that make it easier to deliver goods.

E-commerce consumers in Indonesia, including in Medan City, tend to look for products with competitive prices, guaranteed quality, and fast service. In addition, online shopping trends are also influenced by psychological factors such as emotional drive, discount appeal, and customer reviews. Live shopping is becoming an increasingly popular feature as it provides a more interactive and real-time shopping experience. With the development of live shopping features in e-commerce, there has been a significant

change in consumer consumption patterns. Live shopping allows direct interaction between sellers and buyers, creating a more personalized and convincing experience. However, this phenomenon also triggers impulse buying, where consumers buy products without careful planning.

Impulse buying is the behavior of buying something spontaneously without prior planning (Redine et al., 2023; Singh et al., 2023). Factors that influence impulse buying include emotions, time urgency, and attractive marketing strategies. In the context of e-commerce, impulse buying is often triggered by big discounts, limited promotions, and attractive product displays. In Medan City, many consumers are driven to impulse buying when shopping online, especially through live shopping. Factors such as FOMO (Fear of Missing Out), exclusive discounts, and influence from influencers or live shopping hosts make consumers tend to buy products without careful consideration. This can result in uncontrollable spending and potential regret after purchase.

Live shopping is a feature in e-commerce that allows sellers to broadcast live to promote their products in real-time (Bray, 2024; Kim, 2022). Consumers can ask questions, see product demonstrations, and directly make purchases during the broadcast. This feature creates a more interactive shopping experience compared to conventional methods. In Medan City, live shopping is gaining interest as it provides a more engaging and transparent shopping experience. However, live shopping can also trigger impulse buying, especially when consumers see many other people buying the product at the same time. This phenomenon is exacerbated by time constraints and stock quantities that make consumers feel compelled to buy immediately.

Social presence plays an important role in the online shopping experience as it provides a sense of connection and trust between consumers and sellers (Yeboah et al., 2024; Yasuoka et al., 2022). In e-commerce, social presence can emerge through direct interactions with sellers, customer reviews, and live shopping features that enable real-time communication. When consumers feel more socially connected, they are more likely to trust the products and services offered. In addition, the presence of others in the shopping session, whether in the form of comments or the number of visible shoppers, can increase confidence in a product. This factor can also reduce uncertainties that often arise in online shopping, such as concerns over the quality of goods or the reliability of the seller. With a strong social presence, the shopping experience becomes more personalized, interactive, and fun, which in turn can increase consumer satisfaction and loyalty to an e-commerce platform or brand.

Social presence refers to the level of social engagement that consumers feel when shopping online. In the context of live shopping, social presence can come from interactions with the host, comments from fellow shoppers, and direct responses from the seller. High social presence can increase trust and emotional connection between buyers and sellers. In Medan City, social presence in live shopping plays an important role in driving purchase decisions. When consumers feel more connected to the host or see many other people interacting in the live shopping session, they are more encouraged to purchase products. However, this social engagement can also lead to less rational purchasing decisions as it is influenced by emotional factors.

Product diversity is very important for consumers in online shopping because it provides more choices according to their needs, preferences, and budget (Hamano, 2025; Yi et al., 2022). With product diversity, consumers can compare different brands, features and prices before deciding on a purchase. It also increases the chances of finding products that are more to their liking. In addition, the variety of products in one platform makes the shopping experience more interesting and efficient, as consumers do not need to move to many stores to find the desired item. For those who like to shop spontaneously, product diversity can also be a driving factor for impulse buying. However, with so many choices, consumers also need to be more selective to avoid unnecessary purchases. Hence, product diversity is not just an advantage for consumers, but also a challenge in making wise decisions when shopping online.

Product diversity refers to the variety of products offered in an e-commerce platform. In live shopping, product diversity can increase the chance of impulse buying because consumers have many choices in one shopping session. Product diversity also makes it easier for consumers to be attracted to items that they did not originally plan to buy. In Medan City, the high product diversity in live shopping often makes it difficult for consumers to control themselves from buying products beyond their needs. The large variety of products offered in one live shopping session makes consumers even more encouraged to make impulse purchases, especially if the products have affordable prices and exclusive discounts.

Based on the background that has been described, it can be concluded that the phenomenon of

impulse buying in e-commerce, especially through live shopping, is a significant issue in Medan City. Factors such as social presence and product diversity have a major influence in encouraging impulse buying. Therefore, this research is important to analyze how these two variables affect consumer purchasing decisions in order to provide deeper insights for businesses and consumers in managing their shopping behavior more wisely.

## **2. LITERATURE REVIEW**

### **Impulse Buying**

Impulse buying is a purchase decision that is made suddenly without prior planning. Consumers who make impulse buying are often influenced by external stimuli such as promotions, attractive product displays, or a tempting shopping atmosphere (Iyer et al., 2020; Redine et al., 2023). The main characteristics of impulse buying are spontaneity, lack of rational consideration, and a strong emotional urge to immediately own the desired product. Impulse buying has a variety of impacts, depending on the individual's perspective (Rodrigues et al., 2021; Soelton et al., 2021). On the positive side, impulse buying can provide instant gratification and a pleasant shopping experience. However, on the other hand, if not controlled, impulse buying can lead to uncontrolled spending, post-purchase regret, and even potential financial problems in the long run. Therefore, it is important for consumers to understand when impulse buying can be a beneficial or detrimental decision (Singh et al., 2023; Miranda et al., 2024; Lamis et al., 2022).

### **Live Shopping**

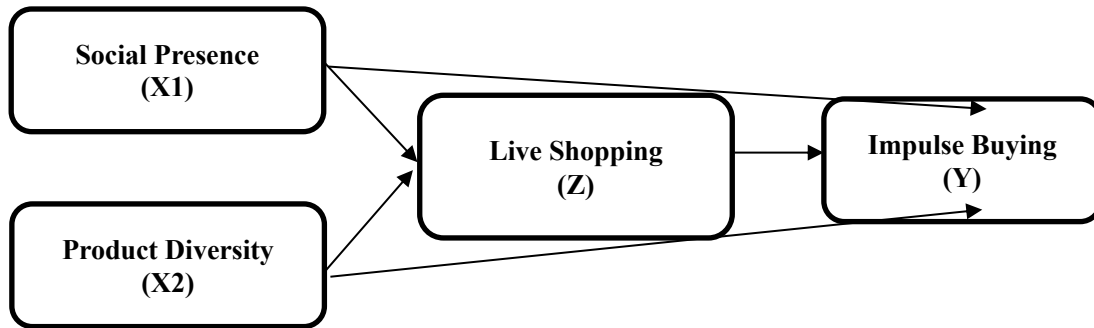
Live shopping is an online shopping method that combines the traditional shopping experience with digital technology. In this format, sellers go live to showcase products in real-time, allowing direct interaction between sellers and buyers (Kliestik et al., 2022; Liao et al., 2023; Sun et al., 2024). Consumers can see product demonstrations, ask questions, and get answers instantly, creating a more interactive experience than traditional online shopping. Live shopping is not just a buying and selling transaction, but also a part of digital entertainment (Budhaye & Oktavia, 2023; Sunuantari et al., 2023; Bray, 2024). Many live shopping sellers or hosts present engaging sessions with unique delivery styles, interactive quizzes and lighthearted discussions that keep the audience engaged. With this entertainment element, consumers feel more comfortable in shopping and are more likely to make spontaneous purchase decisions (Kim, 2022; Wang, 2023; Lin et al., 2022).

### **Social Presence**

Social presence refers to the extent to which one feels the presence of others in digital interactions (Kreijns et al., 2022; Koponen & Rytty, 2020). In online communication, social presence creates the impression that there is a human presence behind the screen, which makes conversations more personal and natural (Lho et al., 2022; Gandhi & Kar, 2022). This is important in platforms such as social media, e-commerce, and online education, where real-feeling interactions can increase user engagement and trust. Social presence refers to the ability of a platform to create a more interactive and social shopping experience (Cummings & Wertz, 2023; Yasuoka et al., 2022). Features such as live chat with sellers, customer reviews, and live shopping sessions can increase shoppers' sense of engagement. With these elements in place, consumers feel more confident in making decisions as there is direct interaction that makes the shopping experience more authentic and convincing. Social presence is the extent to which learners feel the real presence of the instructor and fellow participants. This factor can increase learning effectiveness as students or course participants feel more connected to the instructor and their peers (Rashid et al., 2022; Yeboah et al., 2024).

### **Product Diversity**

Product diversity refers to the variety of products offered by a company to meet diverse consumer needs and preferences. In the marketing world, product diversity is an important strategy to attract more customers and increase competitiveness (Tjahjaningsih et al., 2020; Wang & Yang, 2024). The more choices available, the more likely consumers are to find a product that suits their needs, which in turn encourages customer loyalty and satisfaction (Atak, 2021; Julfadiati, 2021). product diversity provides more freedom in choosing products that suit individual preferences. This diversity includes variations in design, color, size, features, and price. Consumers who have more choices tend to feel more satisfied because they can find products that better suit their lifestyle and needs without having to switch to another brand (Yi et al., 2022; Mu et al., 2021). product diversity is a key factor in attracting customers and increasing conversion rates. E-commerce platforms that offer a wide range of products, from fashion to electronics, can reach a wider market segment. In addition, with a variety of product categories, consumers are more likely to make impulse purchases because they can find interesting items that they had not originally planned to buy (Anigomang, 2025; Hasibuan, 2024; Hamano, 2025).



**Figure 1. Conceptual Framework**

Source: By Researcher (2025)

### 3. MATERIALS AND METHODS

This type of research is causal associative research. Causal associative research aims to determine the relationship or association between two or more variables. This type of research is usually used to see if there is a relationship, correlation, or influence between the variables studied, and how strong the relationship is (Sugiyono, 2021). The types of data used are primary data and secondary data obtained from questionnaires. The population in this study are all consumers who shop on e-commerce platforms such as Shopee, Tokopedia, Lazada, Tiktokshop, the number of which could not be known with certainty. The sample withdrawal used is accidental sampling, the questionnaire was distributed using google form. The research sample was taken using the Zikmund formula so that a sample size of 100 respondents was obtained. Data analysis was carried out using structural equation modeling (SEM) techniques with Smart-PLS analysis tools to test the direct and indirect relationships between these variables.

### 4. RESULTS AND DISCUSSION

#### a. Outer Model

##### Convergent Validity

Convergent Validity is an indicator that is assessed based on the correlation between the item score / component score and the construct score, which can be seen from the standardized loading factor which describes the magnitude of the correlation between each measurement item (indicator) and its construct.

Individual reflexive measures are said to be high if they correlate  $> 0.7$  with the construct to be measured but the outer loading value between 0.5 - 0.6 is considered sufficient (Hair et al., 2017).

**Table 1. Test Results Loading Factor**

| Variable               | Statement Item | Outer Loading | Description |
|------------------------|----------------|---------------|-------------|
| Impulse Buying (Y)     | IB1            | 0.813         | Valid       |
|                        | IB2            | 0.825         | Valid       |
|                        | IB3            | 0.855         | Valid       |
|                        | IB4            | 0.877         | Valid       |
|                        | IB5            | 0.831         | Valid       |
| Live Shopping (Z)      | LS1            | 0.846         | Valid       |
|                        | LS2            | 0.827         | Valid       |
|                        | LS3            | 0.872         | Valid       |
|                        | LS4            | 0.881         | Valid       |
|                        | LS5            | 0.805         | Valid       |
| Social Presence (X1)   | SP1            | 0.875         | Valid       |
|                        | SP2            | 0.822         | Valid       |
|                        | SP3            | 0.877         | Valid       |
|                        | SP4            | 0.819         | Valid       |
|                        | SP5            | 0.873         | Valid       |
| Product Diversity (X2) | PD1            | 0.846         | Valid       |
|                        | PD2            | 0.857         | Valid       |
|                        | PD3            | 0.893         | Valid       |
|                        | PD4            | 0.832         | Valid       |
|                        | PD5            | 0.829         | Valid       |

Sources: Smart-PLS (2025)

Based on Table 1. above, it is known that there are several statement items that are eliminated because they do not meet the requirements, so that after re-processing the data, all of the statement items above have an outer loading value  $> 0.7$ .

**Discriminant Validity**

Discriminant Validity is a measurement model with reflexive indicators assessed based on crossloading measurements with constructs. If the correlation between the construct and the measurement item is greater than the size of the other constructs, it shows that their block size is better than the other blocks. Meanwhile, according to another method for assessing discriminant validity, namely by comparing the squareroot value of average variance extracted (AVE) (Hair et al., 2017).

**Table 2. Test Results Average Variance Extracted (AVE)**

| Variable          | Average Variance Extracted (AVE) |
|-------------------|----------------------------------|
| Impulse Buying    | 0.778                            |
| Live Shopping     | 0.792                            |
| Social Presence   | 0.738                            |
| Product Diversity | 0.764                            |

Sources: Smart-PLS (2025)

Based on Table 2. above, it is known that the AVE (Average Variant Extracted) value of each variable is greater than 0.7. So it can be concluded that the variables or constructs used are valid.

**Composite Reliability and Cronbach's Alpha**

Composite reliability is an indicator for measuring a construct which can be seen in the latent variable coefficients view. To evaluate composite reliability, there are two measuring tools, namely internal

consistency and Cronbach's alpha. In this measurement, if the value achieved is > 0.70, it can be said that the construct has high reliability. Cronbach's Alpha is a reliability test that is carried out to strengthen the results of composite reliability. A variable can be declared reliable if it has a Cronbach's alpha value > 0.70 (Hair et al., 2017).

**Table 3. Test Results Cronbach's Alpha & Composite Reliability**

| Variable          | Cronbach's Alpha | Composite Reliability |
|-------------------|------------------|-----------------------|
| Impulse Buying    | 0.780            | 0.867                 |
| Live Shopping     | 0.797            | 0.851                 |
| Social Presence   | 0.789            | 0.829                 |
| Product Diversity | 0.799            | 0.836                 |

Sources: Smart-PLS (2025)

Based on Table 3. above, it is known that each research variable has a Cronbach's alpha and composite reliability value > 0.70. Based on the results obtained, it can be stated that the variables used in the study are declared reliable.

**Fornell-Larcker Criterion**

**Table 4. Test Results Fornell-Larcker Criterion**

|                   | Satisfaction | Customer Experience | Customer Perceived | Service Quality |
|-------------------|--------------|---------------------|--------------------|-----------------|
| Impulse Buying    | <b>0.833</b> |                     |                    |                 |
| Live Shopping     | 0.792        | <b>0.833</b>        |                    |                 |
| Social Presence   | 0.778        | 0.762               | <b>0.823</b>       |                 |
| Product Diversity | 0.848        | 0.740               | 0.787              | <b>0.812</b>    |

Sources: Smart-PLS (2025)

Table 4. above shows that the correlation value of the association construct is higher than the other constructs so that it can be said that the model has good discriminant validity. In this case, the FL Criterion value which has the lowest value is product diversity 0.812 which is greater than other correlations.

**b. Inner Model**

Inner model analysis is usually also called inner relation or structural model and substantive theory which describes the relationship between latent variables based on substantive theory. Changes in the value of R-square can be used to assess the effect of certain independent latent variables on the dependent latent variable whether it has a substantive effect (Hair et al., 2017).

**Table 5. Test Results R-Square (R<sup>2</sup>)**

| Variabel       | R Square (R <sup>2</sup> ) |
|----------------|----------------------------|
| Live Shopping  | 0.693                      |
| Impulse Buying | 0.577                      |

Sources: Smart-PLS (2025)

Based on Table 5. above, the R Square value for the live shopping variable is 0.693, this means that the percentage of the influence of social presence and product diversity on live shopping is 69.3%, while the remaining 30.7% is explained by other variables not examined in this study. Furthermore, the R Square value for the impulse buying variable is 0.577, this means that the percentage of the influence of social presence, product diversity and live shopping on impulse buying is 57.7%, while the remaining 42.3% can be explained by other variables not examined in this study.

**c. Hypotesis Test**

**Direct Effect**

**Table 6. Test Results Direct Effect**

|                                     | <i>Original Sample (O)</i> | <i>Sample Mean (M)</i> | <i>Deviation Standard (STDEV)</i> | <i>T Statistic ( O/STDEV)</i> | <i>P Values</i> |
|-------------------------------------|----------------------------|------------------------|-----------------------------------|-------------------------------|-----------------|
| Social Presence -> Live Shopping    | 0.257                      | 0.231                  | 0.157                             | 2.113                         | <b>0.002</b>    |
| Product Diversity -> Live Shopping  | 0.410                      | 0.353                  | 0.364                             | 3.247                         | <b>0.000</b>    |
| Social Presence -> Impulse Buying   | 0.347                      | 0.346                  | 0.238                             | 2.645                         | <b>0.001</b>    |
| Product Diversity -> Impulse Buying | 0.436                      | 0.419                  | 0.324                             | 3.778                         | <b>0.000</b>    |
| Live Shopping -> Impulse Buying     | 0.489                      | 0.515                  | 0.377                             | 3.824                         | <b>0.000</b>    |

Sources: Smart-PLS (2024)

Based on Table 6. above the test results can be used to answer the hypothesis in this study. Hypothesis testing in this study by looking at the coefficient path (original sample), t-statistic value or p-value. With a significance of 5%, the hypothesis can be accepted if the t-statistic > t-table 1.66 (n-k = 100-4 = 96 at 0.5/5%) or the p-value < 0.05. The direct effect can be explained as follows:

- a. X1 terhadap Z: nilai T-Statistic ( $|O/STDEV|$ ) = 2,113 dan P-Values = 0,002 < 0.05, artinya, social presence secara langsung berpengaruh signifikan terhadap live shopping.
- b. X2 terhadap Z: nilai T-Statistic ( $|O/STDEV|$ ) = 3,247 dan P-Values = 0.000 < 0.05, artinya, product diversity secara langsung tidak berpengaruh signifikan terhadap live shopping.
- c. X1 terhadap Y: nilai T-Statistic ( $|O/STDEV|$ ) = 2,645 dan P-Values = 0.001 < 0.05 artinya social presence secara langsung berpengaruh signifikan terhadap impulse buying.
- d. X2 terhadap Y: nilai T-Statistic ( $|O/STDEV|$ ) = 3,378 dan P-Values = 0.000 < 0.05, artinya, product diversity secara langsung berpengaruh signifikan terhadap impulse buying.
- e. Z terhadap Y: nilai T-Statistic ( $|O/STDEV|$ ) = 3,824 dan P-Values = 0.000 < 0.05 artinya, live shopping secara langsung berpengaruh signifikan terhadap impulse buying.

**Indirect Effect**

**Table 7. Test Results Indirect Effect**

|  | <i>Original Sample (O)</i> | <i>Sample Mean (M)</i> | <i>Standard Deviation (STDEV)</i> | <i>T Statistics ( O/STDEV)</i> | <i>P Values</i> |
|--|----------------------------|------------------------|-----------------------------------|--------------------------------|-----------------|
| Social presence -> live shopping -> impulse buying   | 0.271                      | 0.223                  | 0.184                             | 2.292                          | <b>0.000</b>    |
| Product diversity -> live shopping -> impulse buying | 0.383                      | 0.377                  | 0.277                             | 3.570                          | <b>0.000</b>    |

Sources: Smart-PLS (2024)

Based on Table 7. above, it is known that social presence indirectly has a significant effect on impulse buying through live shopping with a p-value of 0.000 < 0.05. Furthermore, it is known that product diversity indirectly has no significant effect on impulse buying through live shopping with a p-value of 0.000 < 0.05.

**Total Effect**

**Table 8. Test Results Total Effect**

|  | <i>Original Sample (O)</i> | <i>Sample Mean (M)</i> | <i>Deviation Standard (STDEV)</i> | <i>T Statistic ( O/STDEV )</i> | <i>P Values</i> |
|--|----------------------------|------------------------|-----------------------------------|--------------------------------|-----------------|
| Social presence -> live shopping -> impulse buying   | 0.371                      | 0.227                  | 0.177                             | 2.274                          | <b>0.000</b>    |
| Product diversity -> live shopping -> impulse buying | 0.428                      | 0.315                  | 0.219                             | 4.371                          | <b>0.000</b>    |

Sources: Smart-PLS (2025)

Based on Table 8. above, it can be synthesized that the total effect value is as follows:

- a. The total effect of social presence relationships directly and indirectly has a significant effect on impulse buying through live shopping with a T-statistics value ( $|O/STDEV|$ ) of 2.274 with p-values of  $0.000 < 0.05$ .
- b. The total effect of product diversity relationships directly and indirectly has no significant effect on impulse buying through live shopping with a T-statistics value ( $|O/STDEV|$ ) of 4.371 with p-values of  $0.000 < 0.05$ .

**5. CONCLUSION AND SUGGESTION**

Based on the results of the research discussion above, it can be concluded that:

- a. Social presence directly has a significant effect on live shopping.
- b. Product diversity directly has a significant effect on live shopping.
- c. Social presence directly has a significant effect on impulse buying.
- d. Product diversity directly has a significant effect on impulse buying.
- e. Live shopping directly has a significant effect on impulse buying.
- f. Social presence indirectly has a significant effect on impulse buying through live shopping.
- g. Product diversity indirectly has a significant effect on impulse buying through live shopping.

Based on the above conclusions, the following suggestions can be made:

- a. To increase social presence in e-commerce, businesses must build authentic and responsive interactions with consumers. Use social media to create two-way communication, not just promotion. Present customer testimonials, unboxing videos, or real-time reviews to make potential buyers feel more confident. Live chat and a responsive chatbot can also give the impression that the brand is always available. Also, use personalization strategies, such as addressing customers by name or recommending products according to their preferences. Participation in community discussions and collaboration with influencers can also increase credibility and customer trust, creating a more enjoyable shopping experience.
- b. Product diversity in e-commerce is very important to meet the needs of diverse consumers. By providing a wide selection of products, both in terms of price, brand, and specifications, customers can more easily find items that match their preferences. In addition, product diversity also increases business opportunities in reaching a wider market segment. E-commerce can implement strategies such as adding product variations from various categories, offering local and international products, and adjusting recommendations based on customer behavior data. By doing so, the shopping experience becomes more personalized and enjoyable, which in turn increases customer loyalty and satisfaction.
- c. Live shopping in e-commerce can be a more interactive and enjoyable shopping experience for consumers. To maximize it, make sure you have a stable internet connection so you don't miss important information. Utilize the comment feature to ask the seller directly about the product, ingredients, or how to use it. Also pay attention to exclusive promos that are often offered during

- live sessions, such as discounts or free shipping. Before buying, compare prices and read reviews to be more confident. If interested, don't hesitate to checkout immediately as stock is often limited. With the right strategy, live shopping can be a more cost-effective and efficient way to shop.
- d. Impulse buying in e-commerce often occurs due to attractive promotions, limited discounts, or tempting product displays. To reduce impulse decisions, consumers can implement several strategies. First, make a shopping list before opening the app to stay focused on the needs. Second, utilize the wishlist feature to give time to think before buying. Third, activate promo notifications only for categories that are really needed. Also, comparing prices across multiple platforms can help ensure the best value. With a higher awareness of marketing tricks, consumers can be wiser in their shopping and avoid regretting unnecessary impulse purchases.

## **6. REFERENCES**

- Anigomang, F. R. (2025). The Influence of Product Diversity, Location and Service Quality on Purchasing Decisions at the Viktory Kalabahi Store, Alor District. *Jurnal Ilmiah Wahana Pendidikan*, 11(2. C), 51-68.
- Atak, A. (2021). Design Diversity and Brand Loyalty. *Saudi Journal of Business and Management Studies*, 6(3).
- Bray, G. A. (2024). TikTok Live Shopping and E-Commerce Integration: Seamless Shopping Experiences. *Law and Economy*, 3(2), 1-5.
- Budhaye, L. M., & Oktavia, T. (2023). Exploring Factors Influencing Customer Purchase Behavior in Live Shopping Platforms. *Journal of System and Management Sciences*, 13(5), 180-195.
- Cummings, J. J., & Wertz, E. E. (2023). Capturing social presence: concept explication through an empirical analysis of social presence measures. *Journal of Computer-Mediated Communication*, 28(1), zmac027.
- Gandhi, M., & Kar, A. K. (2022). How do Fortune firms build a social presence on social media platforms? Insights from multi-modal analytics. *Technological Forecasting and Social Change*, 182, 121829.
- Hamano, M. (2025). Product Variety and Quality in Trade Dynamics.
- Hasibuan, M. (2024). The Effect of Digital Marketing and Product Diversity on Interests and Impact on Student Decisions in Choosing Private Universities in Padangsidimpun City. *International Journal of Artificial Intelligence Research*, 6(1.1).
- Iyer, G. R., Blut, M., Xiao, S. H., & Grewal, D. (2020). Impulse buying: a meta-analytic review. *Journal of the academy of marketing science*, 48, 384-404.
- Julfadiati, S. (2021). Influence of Location and Product Diversity on Consumer Satisfaction. *Almana: Jurnal Manajemen dan Bisnis*, 5(3), 399-406.
- Kim, H. C. (2022). Exploring social experience as mediator of shopping behavior in live streaming commerce. *International journal of advanced smart convergence*, 11(1), 76-86.
- Kliestik, T., Novak, A., & Lăzăroiu, G. (2022). Live shopping in the metaverse: Visual and spatial analytics, cognitive artificial intelligence techniques and algorithms, and immersive digital simulations. *Linguistic and Philosophical Investigations*, 21, 187-202.
- Koponen, J. P., & Rytsy, S. (2020). Social presence and e-commerce B2B chat functions. *European Journal of Marketing*, 54(6), 1205-1224.
- Kreijns, K., Xu, K., & Weidlich, J. (2022). Social presence: Conceptualization and measurement. *Educational psychology review*, 34(1), 139-170.
- Lamis, S. F., Handayani, P. W., & Fitriani, W. R. (2022). Impulse buying during flash sales in the online marketplace. *Cogent Business & Management*, 9(1), 2068402.
- Lho, L. H., Quan, W., Yu, J., & Han, H. (2022). The sharing economy in the hospitality sector: The role of social interaction, social presence, and reciprocity in eliciting satisfaction and continuance behavior. *Humanities and Social Sciences Communications*, 9(1), 1-12.
- Liao, J., Chen, K., Qi, J., Li, J., & Yu, I. Y. (2023). Creating immersive and parasocial live shopping experience for viewers: the role of streamers' interactional communication style. *Journal of research in interactive marketing*, 17(1), 140-155.

- Lin, S. C., Tseng, H. T., Shirazi, F., Hajli, N., & Tsai, P. T. (2022). Exploring factors influencing impulse buying in live streaming shopping: a stimulus-organism-response (SOR) perspective. *Asia Pacific Journal of Marketing and Logistics*, 35(6), 1383-1403.
- Miranda, S., Borges-Tiago, M. T., Tiago, F., & Tu, X. (2024). To buy or not to buy? The impulse buying dilemma in livestream shopping. *Psychology & Marketing*, 41(5), 989-1005.
- Mu, R., Zheng, Y., Zhang, K., & Zhang, Y. (2021). Research on customer satisfaction based on multidimensional analysis. *International Journal of Computational Intelligence Systems*, 14(1), 605-616.
- Prabowo, A. (2023). Determinan Peningkatan Kepuasan Pelanggan Pada PT. Mondelez Internasional Medan. *Jurnal Ekonomi Bisnis Manajemen Prima*, 4(2), 83-97.
- Prabowo, A., & Risal, T. (2023). Peran Enterpreneurial Orientation Dan Social Media Marketing Terhadap Peningkatan Strategi Bersaing (UMKM) Coffe Shop Pada Era Modern Customer di Kota Medan. *Jurnal Menara Ekonomi: Penelitian dan Kajian Ilmiah Bidang Ekonomi*, 9(1).
- Prabowo, A., Aspan, H., Wahyuni, E. S., & Lestari, I. (2024). Antecedent shopping emotion konsumen dalam berbelanja brand fashion Uniqlo. *Management Studies and Business Journal (PRODUCTIVITY)*, 1(5), 826-834.
- Prabowo, A., Lubis, A. N., & Sembiring, B. K. F. (2021). The Effect of Promotion and Servicescape on Impulsive Buying Behavior with Shopping Emotion as Intervening Variables for Consumers Store of Fashion H&M in Sun Plaza Medan, North Sumatera, Indonesia. *International Journal of Research and Review*, 8 (2), 235-252.
- Prabowo, A., Wahyuni, E. S., Bakti, S., Sari, P. B., & Rossanty, Y. (2022). Does Raising Environmental Awareness and Creating Pro-Environmental Attitudes Drive the Intention to Revisit Among Visitors?. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(3).
- Rashid, R. M., Pitafi, A. H., Qureshi, M. A., & Sharma, A. (2022). Role of social commerce constructs and social presence as moderator on consumers' buying intentions during COVID-19. *Frontiers in Psychology*, 13, 772028.
- Redine, A., Deshpande, S., Jebarajakirthy, C., & Surachartkumtonkun, J. (2023). Impulse buying: A systematic literature review and future research directions. *International Journal of Consumer Studies*, 47(1), 3-41.
- Rodrigues, R. I., Lopes, P., & Varela, M. (2021). Factors affecting impulse buying behavior of consumers. *Frontiers in Psychology*, 12, 697080.
- Singh, P., Sharma, B. K., Arora, L., & Bhatt, V. (2023). Measuring social media impact on Impulse Buying Behavior. *Cogent Business & Management*, 10(3), 2262371.
- Soelton, M., Ramli, Y., Wahyono, T., Saratian, E. T. P., Oktaviar, C., & Mujadid, M. (2021). The impact of impulse buying on retail markets in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(3), 575-584.
- Sugiyono. (2021). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung. Alfabeta.
- Sun, Y., Zhong, Y., Zhang, Z., Wang, Y., & Zhu, M. (2024). How technical features of virtual live shopping platforms affect purchase intention: Based on the theory of interactive media effects. *Decision Support Systems*, 180, 114189.
- Sunuantari, M., Mandjusri, A., Gunawan, I., & Farhan, R. M. (2023). The Attractiveness of TikTok Live Shopping to User Emotional Satisfaction. *Mediator: Jurnal Komunikasi*, 16(1), 170-181.
- Tjahjaningsih, E., Ningsih, D. H. U., & Utomo, A. P. (2020). The effect of service quality and product diversity on customer loyalty: The role of customer satisfaction and word of mouth. *The Journal of Asian Finance, Economics and Business*, 7(12), 481-490.
- Wang, V. (2023). The Shining Promise and Dashed Dreams of China's Live Shopping Craze. *International New York Times*, NA-NA.
- Wang, Y. A., & Yang, H. L. (2024). Innovation diversity, product diversity and innovation performance. *International Review of Economics & Finance*, 96, 103619.
- Yasuoka, M., Zivko, M., Ishiguro, H., Yoshikawa, Y., & Sakai, K. (2022, October). Effects of digital avatar on perceived social presence and co-presence in business meetings between the managers and their co-workers. In *International Conference on Collaboration Technologies and Social*

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Computing (pp. 83-97). Cham: Springer International Publishing.

Yeboah, A., & Afrifa-Yamoah, E. (2024). The influence of social presence on customer loyalty in emerging market retail industry: The mediating role of trust. *Journal of African Business*, 25(2), 287-308.

Yi, S., Kim, D., & Ju, J. (2022). Recommendation technologies and consumption diversity: An experimental study on product recommendations, consumer search, and sales diversity. *Technological Forecasting and Social Change*, 178, 121486.