

The Effect of Social Media Marketing and E-WoM on Purchase Decisions for Cetaphil Skincare Products in Medan Mediated by Brand Trust

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ABSTRACT

Over the past few years, skincare has evolved into a crucial part of the daily routines of a large number of individuals all over the world. The skincare market in Indonesia is expanding at a quick rate, and there is a wide variety of goods accessible, ranging from locally produced brands that are affordable to international brands. This study aims to analyze the effect of social media marketing and Electronic Word of Mouth (E-WoM) on purchase decisions for Cetaphil skincare products in Medan, with brand trust as a mediating variable. The research utilizes a quantitative approach. Data were collected through questionnaires distributed to 140 respondents who have interacted with Cetaphil's online content or made a purchase. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that both E-WoM have a significant positive effect on brand trust and purchase decision, while social media marketing shows no significant effect toward brand trust and purchase decision. Furthermore, brand trust plays a partial mediating role in the relationship between the independent variables of E-WoM toward purchase decisions.

Keywords - Brand Trust, E-WoM, Social Media Marketing, Purchase Decision

INTRODUCTION

Over the past few years, skincare has evolved into a crucial part of the daily routines of a large number of individuals all over the world. Progress in the economic, socio-cultural and technological fields has brought changes to a person's lifestyle, starting from fashion and skin care, so that various beauty care products have emerged which are basic needs, especially for women (Selvia and Tumbel, 2022). This tendency is especially prominent in Indonesia, where a rising number of women are placing a greater value on the health and look of their skin. The skincare market in Indonesia is expanding at a quick rate, and there is a wide variety of goods

accessible, ranging from locally produced brands that are affordable to international brands.

Cetaphil is a well-known and trusted dermatologist-recommended skincare brand in Indonesia, offering a variety of skincare products such as cleansers, moisturizers, serums, and sunscreens that have demonstrated significant benefits for many users, especially in Medan. There are many considerations when making purchase decisions on Cetaphil's products like purchase priorities. Customers in Indonesia show less purchase of Cetaphil skincare products when compared with other skincare brands.

Despite Cetaphil's strong national brand recognition, its market penetration among customers in Medan remains lower than that of local competitors who leverage both aggressive

influencer campaigns on social media with high customer engagement and targeted promotions within e-commerce ecosystems. Notably, negative reviews or complaints about Cetaphil products on SOCO by Sociolla App have been shown to reduce consumer trust, even if initial perceptions were positive due to engaging content seen online. This phenomenon highlights the pivotal role of trust as a mediating variable between digital marketing efforts (both social media marketing and E-WoM) and actual purchase decisions. Study by Hanaysha (2022) confirmed that brand trust mediates between the variable of social media marketing and purchase decision. A similar study from Andryana and Ardani (2021) shows that trust mediates the influence of E-WoM and purchase decisions.

Given these cases, this study aims to examine how social media marketing activities, including both posting frequency and customer engagement, and electronic word-of-mouth on both social networks and buying app platforms affect purchase decisions for Cetaphil products in Medan with particular attention to the mediating effect of consumer trust.

LITERATURE REVIEW

A. Consumer Behaviour

Consumer behavior theory is the grand theory for this study, explaining how consumers progress through key decision-making phases from recognizing a need to purchase a product and evaluating it post-purchase. Core to this theory are both internal factors which in this case is brand trust and external factors, such as social media marketing and E-WoM. A journal from Anaya-Sánchez et al. (2020) found that brand trust significantly enhances repurchase intention and E-WoM engagement within online brand communities, while understanding that trust has a role in brand loyalty and encouraging positive word-of-mouth.

B. Purchase Decision

Purchase decisions define the process of how people evaluate and considerate a product before deciding to buy it. A product or service is referred to as a "Purchase Decision" when consumers make an actual purchase (Angelyn and Kodrat, 2021). Kinanding and Nurrohim (2024) claim that marketing stimuli, personal preferences, and digital feedback shape the buying choice.

C. Brand Trust

Trust came from consumer conclusions based on their personal experience and collected information regarding the product features and benefits Permana et al. (2024). Consumers who trust a brand are more willing to stay loyal to that brand as they will tend to be more rely to purchase any categories under the brand and also share the same information regarding customer's favourites. Kartika and Pandjaitan (2023) claim that brand trust develops when consumers often experience transparency and satisfaction.

D. Social Media Marketing

Social media marketing is a form of internet marketing that utilizes social networking platforms as a marketing tool. According to Ariefiansyah and Jannah (2024), social media marketing involves strategic content sharing aimed at increasing visibility and interaction with consumers. Social media marketing refers to promoting a product through social media which may build a better community, make a transaction and also build relationships between customer and potential customers Sumarto and Anggarawati (2024).

E. E-WoM

The technique of expressing views and experiences regarding products via digital media is Electronic Word of Mouth (E-WoM). Pratama and Astarini (2023) define E-WoM as consumer transmission of product information using internet channels including Instagram and other social media platforms.

F. Hypotheses Research

The following are the hypotheses for this study research.

- H₁: Social media marketing has a significant positive effect toward brand trust.
- H₂: E-WoM has significant positive effect toward brand trust.
- H₃: Social media marketing has a significant effect toward purchase decisions.
- H₄: E-WoM has significant positive effects toward purchase decisions.
- H₅: Social media marketing has a significant positive effect toward purchase decisions mediated by brand trust.
- H₆: E-WOM has significant positive effect toward purchase decisions mediated by brand trust.
- H₇: Brand trust has a significant positive effect toward purchase decisions.

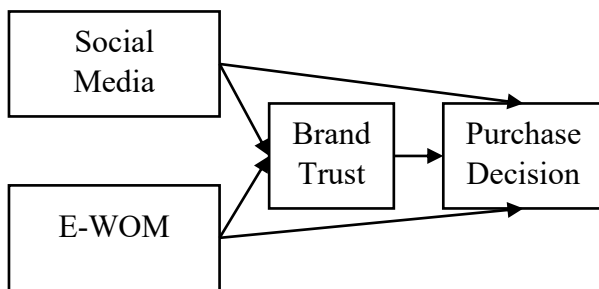


Figure 1. Research Model

METHODOLOGY

A. Population and Sample

A Google Forms questionnaire is used to gather data for this study, and it is disseminated via Instagram, WhatsApp, and other social media sites. The population in this study consists of people in Medan who have interacted with or purchased Cetaphil skincare products on social media or e-commerce platforms. This research uses purposive sampling as focus in collecting data and information. This includes individuals who have seen Cetaphil content on social media, read online reviews, or bought the products. The

sample size for this research is calculated using a 10-times rule to determine the sample size. According to Hair et al. (2021) the minimum size of a sample must be equal to 10 times the maximum number of structural paths pointing to any construct. The maximum number of items in this research is 14 indicators, therefore the following is the result of the calculation to determine the sample size:

$$14 \times 10 = 140$$

The following calculation shows a total of 140 respondents. Therefore, this research will be taken by a total of 140 respondents in order to calculate the testing result.

B. Method of Data Analysis

This study uses Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS software version 4.1.1.2 to analyze the relationships between variables. According to Hair et al. (2021), PLS-SEM is effective for analyzing models involving latent variables measured by multiple indicators and is appropriate when the data is non-normally distributed or the sample size is relatively small. There are two models in the calculation using PLS-SEM, which are Outer Model and Inner Model. Outer Model refers to describing the relationship between indicators and their latent variable and deciding how well the indicators can be used to represent the construct. Inner Model itself means to describe the relationship between one latent variable to another. Hypothesis testing will be conducted after confirming the reliability and validity of the constructs and will be discussed in the discussion part.

RESULTS

A. Outer Model

The following is the figure result for outer model analysis. According to the figure, it shows that there are a total of 18 out of 20 indicators that are reliable.

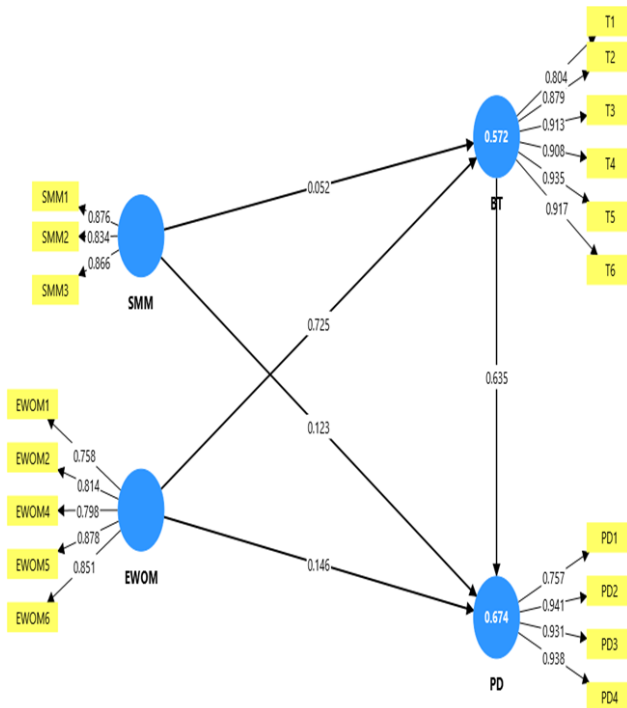


Figure 2. Outer Model Analysis Result

Although most scores of outer loading of the construct in this result are reliable, the construct of social media marketing with indicator of SMM4 and E-WoM with indicator EWOM3 will be terminated because the scores are lower than 0.708. The result of construct reliability showed the score between 0.75 – 0.95, although the construct Trust was slightly higher than 0.95, which while the calculation shows its reliability, the indicators might be similar to one and another. The score of all Average Variance Extracted (AVE) scores of each construct are higher than 0.50, and discriminant validity scores are given below 0.90, therefore, this analysis can be considered as valid.

B. Inner Model

The following is the figure result for inner model analysis. According to the figure, it shows that there are total of 18 out of 20 indicators that are reliable.

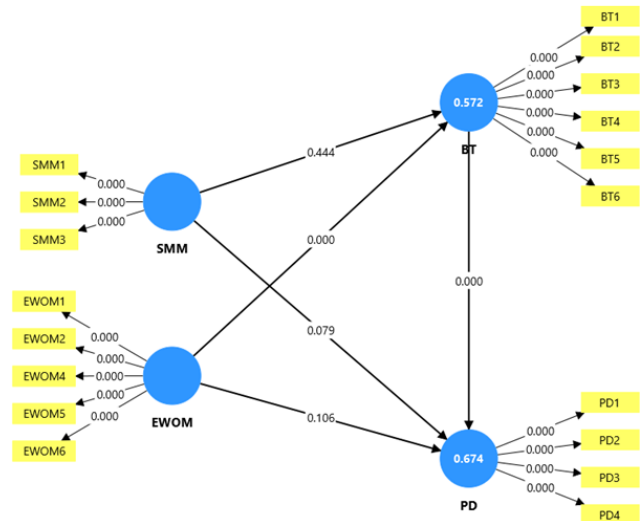


Figure 3. Inner Model Result

To calculate the collinearity between indicators will be assessed using Variance Inflation Factor (VIF). The VIF scores are below 3, which means there are no issues within the research variables. Next is calculation of Coefficient of determination which results that the R-square result for variable brand trust is 0.572, and purchase decision with 0.674 or 67.4%. This means in percentage, social media marketing and E-WoM mostly contribute to brand trust and purchase decision variance, while other percentages came from the contribution of other research variables. There is also a predictive relevance calculation, which shows the result of Q-square with scores of 0.548 and 0.473 which are above the average score of 0.35. This can be concluded that this research has a large predictive relevance toward the making of brand trust and purchase decision research model.

DISCUSSION

1. The Effect of Social Media Marketing on Brand Trust

The outcome of this hypothesis shows that social media marketing has no major effect on brand trust on Cetaphil skincare goods. Since most of the customers already trusted the brand itself, this shows that the social media marketing

on Cetaphil has no problems affecting brand trust. Respondents from the questionnaire also commented that they are really engaged with Cepathil skincare products on social media platforms, which therefore trusted the brand.

This result are contradicted with the statement of Sirojuddin et al. (2024) which stated social media marketing, recognized as an effective mechanism for cultivating customer relationships, is instrumental in increase interactions that help build trust toward the brand and alleviation of uncertainties that may differ between consumer engagement and online transactions.

This research result does not support the previous research from Indrajaya et al. (2024), which shows that social media marketing has a significant positive effect on brand trust.

2. The Effect of E-WOM on Brand Trust

The outcome of this hypothesis shows that E-WOM has a positive notable influence on brand trust on Cetaphil skincare products. This showed that E-WoM may affect consumers' trust toward the products as they consider it with others experiences. According to respondents, E-WOM in social media and e-commerce could influence them as they more believe others' experience which could influence their trust toward the brand.

This result is aligned with the statement from Putri and Fauzi (2023) which stated that E-WoM has an important role in helping customers on referencing certain products which the more reliable the information given, the more they trust the products.

3. The Effect of Social Media Marketing on Purchase Decision

The outcome of this hypothesis shows that social media marketing has no major influence on purchase decisions on Cetaphil skincare goods. The result shows that social media on Cetaphil does not really affect consumers on buying their products. According to respondents,

they are less likely to look for Cetaphil social media, which affected them on not making purchases as they were less aware about the products.

This result is not aligned with the statement from Sumarto and Anggarawati (2024) which stated that there is an increase in searching other brands by consumers through social media, which increase their decision toward a product.

4. The Effect of E-WOM on Purchase Decision

The outcome of this hypothesis shows that E-WoM has no major influence on purchase decisions on Cetaphil skincare goods. This is shown that E-WoM on Cetaphil products may give positive and negative thoughts, which therefore does not influence directly toward purchase decisions. According to respondents, the E-WoM they received are mostly positive reviews while some also received negative reviews regarding the product.

This result is not aligned with the statement by Dewi et al. (2021) which explained that when consumers are satisfied, they will tell other consumers about the product, thereby attracting the interest of other consumers who have never bought the product to try buying it and increasing purchasing decisions for the products offered

This research result does not support the previous research from Purba and Paramita (2023), which explained that E-WoM has a significant positive effect toward purchase decisions.

5. The Effect of Social Media Marketing on Purchase Decision Mediated by Brand Trust

The result from this hypothesis shows that social media marketing has no significant effect toward purchase decision on Cetaphil skincare products with mediation of brand trust. This is shown that social media marketing may be hindered by other skincare brands' marketing, which ultimately influence brand trust and therefore affect purchase decisions. Multiple respondents suggested that they are less

interacted with Cetaphil skincare brand on social media which causes lower brand trust and buying decisions.

This result is not aligned with the statement by Sumarto and Anggarawati (2024) business owners or companies use social media to increase brand trust from consumers and improve purchase decisions.

This research result does not support previous research from Indrajaya et al. (2024) which explained that social media marketing has significant positive effects toward purchase decisions.

6. The Effect of E-WoM on Purchase Decision Mediated by Brand Trust

The outcome of this hypothesis shows that E-WoM, with brand trust acting as a mediator, significantly influences the purchase decision on Cetaphil skincare goods. E-WoM helps customers to evaluate whether or not to buy the product, so E-WoM is said to indirectly affect purchasing decisions via brand trust. According to respondents, they are more likely to read more reviews from other experiences as they can see the real result of the products thus they decide whether or not to buy the product.

This result is aligned with the statement Andryana and Ardani (2021), which explained that E-WoM not only influences buyer decision, but also brand trust.

This result is also supported by previous research from Permata and Kusumawati (2025) which explained that social media marketing has a significant positive effect on purchase decisions.

7. The Effect of Brand Trust on Purchase Decision

The result from this hypothesis shows that brand trust has a positive effect toward purchase decision on Cetaphil skincare products but not significantly. This showed consumers that trusted the brand may influence them on buying the products. Multiple respondents said that they

got recommendations from friends or their dermatologist regarding Cetaphil skincare products which make them decide to buy it.

This result is aligned with the statement by Ardiyanti et al. (2022) which stated that consumers who already believe in a product and want to fulfill their needs in the future, will immediately decide to purchase without looking at anything else first.

This result is also supported by previous research from Fauziah et al. (2024) which explained that brand trust has a significant positive effect toward purchase decisions.

CONCLUSION

The objective of this study is to analyze the effect of social media marketing and E-WoM on purchase decisions for Cetaphil skincare products in Medan with brand trust as a mediating variable. According to the processed data from analysis result using SmartPLS with total of 140 respondents, the conclusion can be explained as follows:

1. Brand trust has a positive influence toward purchase decisions on Cetaphil skincare products in Medan.
2. Social media marketing has no positive influence toward purchase decisions on Cetaphil skincare products in Medan.
3. Electronic Word-of-Mouth (E-WoM) has no positive influence toward purchase decisions on Cetaphil skincare products in Medan.
4. Social media marketing has no positive influence toward brand trust on Cetaphil skincare products in Medan.
5. Electronic Word-of-Mouth (E-WoM) positive influence toward purchase decision on Cetaphil skincare products in Medan.
6. Social media marketing has no positive influence toward purchase decisions on Cetaphil skincare products in Medan mediated by Brand Trust.
7. Electronic Word-of-Mouth (E-WoM) has positive influence toward purchase decisions on Cetaphil skincare products in Medan

mediated by brand trust.

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REFERENCES

- Amin, H., & Pratomo, R. (2020). The Role of Electronic Word of Mouth on Consumer Behavior. *Jurnal Ekonomi & Bisnis*, 5(3), 201–210.
- Anaya-Sánchez, R., Aguilar-Illescas, R., Molinillo, S., & Martínez-López, F. J. (2020). Trust and Loyalty in Online Brand Communities. *Spanish Journal of Marketing - ESIC*, 24(2), 177–191. <https://doi.org/10.1108/SJME-01-2020-0004>
- Andryana, I. M. J. W., & Ardani, I. G. K. S. (2021). The Role of Trust Mediates Effect of E-WOM on Consumer Purchase Decisions. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 5(1), 408-415.
- Angelyn, & Kodrat, D. S. (2021). The Effect of Social Media Marketing on Purchase Decision with Brand Awareness as Mediation on Haroo Table. *International Journal of Review Management Business and Entrepreneurship (RMBE)*, 1(1), 16–24. <https://journal.uc.ac.id/index.php/RMBE/article/view/1946>
- Ardianti, P., Cahyani, P. D., & Hutami, L. T. H. (2024). Analisis Hubungan Antara Social Media Marketing dan Online Customer Review Terhadap Purchase Decision Melalui Trust Pada Aplikasi Tiktok Sebagai Media Pemasaran. *Jurnal EMT KITA*, 8(1), 273-284. <https://doi.org/10.35870/emt.v8i1.1936>
- Ardiyanti, Y., Apriliani, R., & Efendi, B. (2022). Pengaruh Brand Image, Brand Trust dan Product Quality Terhadap Keputusan Pembelian. *Jurnal Akuntansi, Manajemen dan Perbankan Syariah (JAMASY)*, 2(2), 100–108. <https://doi.org/10.32699/jamasy.v2i2.2700>
- Ariefiansyah, F., & Jannah, M. (2024). Social Media Marketing: A Systematic Literature Review. *Sketsa Bisnis Journal (JSB)*, 11(2), 319–335. <https://doi.org/10.35891/jsb.v11i02.5534>
- Daud, A., Simanjuntak, M., & Sahar, A. (2024). The Effect of e-WOM and Brand Trust on Purchase Decisions. *Jurnal Manajemen Indonesia*, 44(1), 15–26.
- Dewi, N. M. P., Imbayani, I. G. A., & Ribek, P. K. (2021). Pengaruh Social Media Marketing Terhadap Keputusan Pembelian yang Dimediasi E-Word of Mouth Pada Givanda Store Denpasar. *Jurnal EMAS*, 2(2), 28-42.
- Fauziah, S., Rauf, A., & Utomo, E. N. (2024). The Influence of Green Product, Brand Trust And Halal Label on Purchase Decision of Avoskin Skincare Product. *International of Management Business and Research*, 1(1), 205-217. <https://journal.iebrs.org/index.php/IMBR/article/view/15>
- Hajli, N., Sims, J., Featherman, M., & Love, P. E. D. (2021). Consumer Behavior in Social Commerce: Results From a Meta-Analysis. *Technological Forecasting and Social Change*, 167, 120734. <https://doi.org/10.1016/j.techfore.2021.120734>

- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) using R: A workbook*. Springer. <https://doi.org/10.1007/978-3-030-80519-7>
- Hanaysha, J. R. (2022). Impact of Social Media Marketing Features on Consumer's Purchase Decision in the Fast-Food Industry: Brand Trust as a Mediator. *International Journal of Information Management Data Insights*, 2(2). <https://doi.org/10.1016/j.ijime.2022.100102>
- Hayuningtyas, W. H., & Widiyanto, I. (2015). Antecedent kepercayaan dan keputusan pembelian. *Diponegoro Journal of Management*, 4(4), 1-11. <https://ejournal3.undip.ac.id/index.php/djom/article/view/13399>
- Indrajaya, A. I., Putri, R. R. A., & Nita, S. D. (2024). The Impact of Social Media Marketing Features on Consumer Purchasing Decisions in the Skin Care Industry: Brand Trust as a Mediator. *Journal of Exploratory Dynamic Problems*, 1(3), 153-165. <https://doi.org/10.31004/edp.v1i3.87>
- Kartika, R., & Pandjaitan, N. (2023). The impact of brand characteristics on consumer trust and loyalty. *Jurnal Riset Ekonomi dan Bisnis*, 8(1), 44-52.
- Kotler, P., & Keller, K. L. (2016). *Marketing Management* (12th ed., Vols. 1-2). Erlangga.
- Kinanding, J., & Nurrohim, H. (2024). Brand Awareness, Electronic Word-of-Mouth, and Viral Marketing's Effects on Purchase Decisions. *JURISMA: Jurnal Riset Bisnis & Manajemen*, 14(1), 13-22. <https://doi.org/10.34010/jurisma.v14i1.12095>
- Permana, A. R., Herlambang, T., Sanosra, A., & Nursaid, N. (2024). The Influence of Social Media Marketing, Online Customer Review, and E-SERVQUAL to Purchase Decision Through Trust (Bekam Therapy Center Jember). *International Journal of Management Science and Information Technology*, 4(2), 257-267. <https://doi.org/10.35870/ijmsit.v4i2.2922>
- Permata, A. A., & Kusumawati, F. (2025). The Influence of Electronic Word-of-Mouth (E-Wom) and Brand Image on Purchase Decisions Through Brand Trust at Saff & Co among the Jakarta Gen Z. *Journal of Management and Energy Business*, 4(2).
- Pratama, C. A., & Astarini, R. R. D. (2023). Electronic Word of Mouth as a Predictor of Purchase Intention: Evidence From Instagram and Tiktok in Indonesia. *International Journal of Digital Entrepreneurship and Business (IDEB)*, 4(2), 84-94. <https://doi.org/10.52238/ideb.v4i2.119>
- Putri, C. N., & Fauzi, T. H. (2023). The Effect of E-WOM and Brand Image on Purchasing Decisions of Automotive Products: Mediating Role of Brand Trust. *Jurnal Aplikasi Bisnis dan Manajemen (JABM)*, 9(3), 843-854.
- Purba, F. R., & Paramita, E. L. (2023). The Influence of E-WOM and Customer Satisfaction on Purchasing Decisions. *International Journal of Social Science and Business*, 5(4).
- Schiffman, L. G., & Kanuk, L. L. (2013). *Consumer Behavior* (8th ed.). Prentice Hall.
- Sari, R. P., & Prabowo, T. J. (2021). Social Media Marketing Effectiveness in Influencing Consumer Purchase Decisions. *Jurnal Ilmu dan Riset Manajemen*, 10(5), 1-12.

- Selvia, M., & Tumbel, A. L. (2022). The Effect of Price and Product Quality on the Purchase Decision of Scarlett Whitening Products on Students of the Faculty of Economics and Business Sam Ratulangi Manado University. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 10(4), 1993–2002.
- Sernovitz, A. (2009). *Word of Mouth Marketing*. Gramedia Pustaka Utama.
- Sigar, D., Soepeno, D., & Tampenawas, J. (2021). Pengaruh Brand Ambassador, Viral Marketing dan Brand Trust Terhadap Keputusan Pembelian Sepatu Nike pada Mahasiswa Fakultas Ekonomi dan Bisnis Unsrat. *Jurnal EMBA*, 9(4), 841-850.
- Sirojuddin, N. M., Sudarmiatin, & Dhewi, T. S. (2024). Influence of Social Media Marketing and Electronic Word-of-Mouth to Purchase Intention on Products Erigo Official Shop on Shopee Mediated by Brand Trust to Students Active in Malang City. *Asian Journal of Management Analytics*, 3(2), 389–404.
- Sugiyono. (2016). *Metode penelitian kuantitatif, kualitatif dan R&D*. PT Alfabet.
- Sultoni, A. (2023). Building Brand Trust Through Corporate Integrity and Reputation. *Jurnal Ilmu Manajemen*, 11(1), 70–78.
- Sumarto, C., & Anggarawati, S. (2024). Pengaruh Social Media Marketing Terhadap Purchase Decision Melalui Brand Trust: Studi Kasus Pada Produk SKECHERS di Indonesia. Al-Kharaj: *Jurnal Ekonomi, Keuangan & Bisnis Syariah*, 6(4), 5270–5287.
- Syofian. (2013). *Metode Penelitian Kuantitatif*. PT Fajar Interpratama Mandiri.
- Wang, R. Y., & Strong, D. M. (2015). Beyond Accuracy: What Data Quality Means to Data Consumers. *Journal of Management Information System*, 12(4), 5-34.
- Wijaya, T., & Paramita, E. L. (2014). Pengaruh Electronic Word of Mouth Terhadap Keputusan Pembelian Kamera DSLR. *Jurnal Pemasaran*, 2(1), 22-35.
- Wong, J. (2010). *Internet Marketing For Beginners*. PT Elex Media Komputindo.
- Wulandari, N. M. R., & Nurcahya, I. K. (2015). Pengaruh Celebrity Endorser, Brand Image, Brand Trust Terhadap Keputusan Pembelian Clear Shampoo di Kota Denpasar. *E-Jurnal Manajemen Unud*, 4(11), 3909-3935.
- Yuliana, I., & Hidayat, W. (2022). Pengaruh Media Sosial Terhadap Keputusan Pembelian Konsumen Milenial. *Jurnal Ilmu Ekonomi dan Bisnis Islam*, 5(2), 134–142.
- Yunita, A. (2011). Pengaruh Word of Mouth, Iklan dan Atribut Produk Terhadap Keputusan Pembelian dan Loyalitas Konsumen. *Jurnal Manajemen Teknologi*, 11(1), 1-11.
- Zainudin, W. N. R. A. W., Othman, M. S., & Azmi, M. N. L. (2020). The Effect of Electronic Word-of-Mouth (eWOM) on Brand Image and Purchase Intention: Trust as a Mediator. *International Journal of Innovation, Creativity and Change*, 13(3), 993–1012.