



DOI: <https://doi.org/10.38035/gmbr.v2i2>
<https://creativecommons.org/licenses/by/4.0/>

The Effect of Influencer Marketing and Product Quality on Purchase Decision of Skintific Among Generation Z in Jabodetabek with Brand Image as Mediating Variable

Edgina Calista Yunietta¹, Francy Iriani Ekawati²

¹Universitas Trilogi, Jakarta, Indonesia, edginacalista@gmail.com

²Universitas Trilogi, Jakarta, Indonesia, francy@trilogi.ac.id

Corresponding Author: francy@trilogi.ac.id²

Abstract: This study aims to analyze the effect of influencer marketing and product quality on the purchase decision of Skintific products among Generation Z in Greater Jakarta (Jabodetabek), with brand image as a mediating variable. The background of this research is driven by the intensifying competition among cosmetic brands amid the growth of the “fast beauty” trend, in which Skintific has actively used influencer marketing, represented by its collaboration with Tasya Farasya, as part of its digital marketing strategy. This research employed a quantitative causal approach using an online survey distributed to 200 respondents selected through purposive sampling. Data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS version 4. The results show that influencer marketing has no significant direct effect on purchase decisions, whereas product quality has a positive and significant direct effect on purchase decisions. Both influencer marketing and product quality have positive and significant effects on brand image, and brand image itself has a positive and significant effect on purchase decisions. Furthermore, brand image fully mediates the relationship between influencer marketing and purchase decisions, and partially mediates the relationship between product quality and purchase decisions. These findings indicate that strengthening brand image and improving product quality are essential strategies for increasing purchase decisions for Skintific products among Generation Z consumers.

Keyword: Influencer Marketing, Product Quality, Brand Image, Purchase Decision, Generation Z

INTRODUCTION

The Indonesian cosmetics industry has continued to grow rapidly, reflected in the increasing number of cosmetic products registered with the National Agency of Drug and Food Control (BPOM RI) over the 2025–2026 period (BPOM RI, 2026; Makmun, 2026). This growth mirrors intensifying competition among brands, pushing companies to innovate continuously and accelerate production and distribution in order to respond to shifting consumer trends and demands. This condition has given rise to the “fast beauty” strategy, in

which brands launch new products at high speed to keep pace with rapidly changing digital trends (Evan, 2022; Arifianto & Ratri, 2024).

Skintific is one of the brands that has implemented the fast beauty strategy, demonstrating competitive performance in responding to market trends through continuous product innovation and intensive digital marketing. This success is also reflected in its strong sales performance on e-commerce platforms, where Skintific has consistently ranked among the top-selling beauty brands (Daraja, 2025).

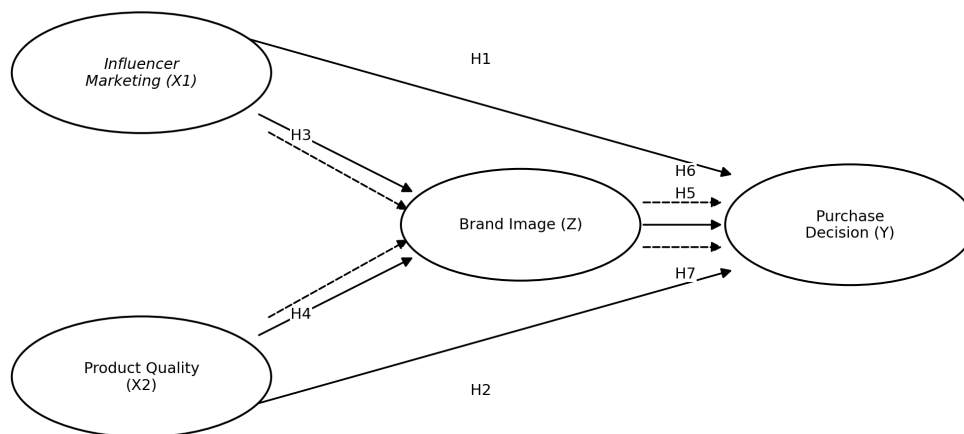
Generation Z, individuals born between 1997 and 2012, are widely recognized as digital natives who have grown up using the internet and smartphones since childhood (Dimock, 2019). This generation tends to be highly connected to digital media, has rapid access to information, and is more critical in evaluating products before making a purchase, which makes Generation Z consumers more likely to rely on credible sources of information, including recommendations from influencers (Bencsik et al., 2016).

The high level of digital media usage among Generation Z has encouraged companies to adjust their marketing strategies through various digital platforms, one of which is influencer marketing. This is reinforced by a survey from Aspire.io reported by Kompas.id, which found that consumers tend to trust product recommendations from influencers more than conventional advertising (Hendarto, 2025). Influencer marketing refers to the role of individuals who have the capacity to influence others in the purchase decision-making process (Fadilah & Jaya, 2024), where influencers help convey promotional messages designed to affect the audience (Rivandy et al., 2025). One application of influencer marketing in the cosmetics industry is carried out by Skintific through its collaboration with Tasya Farasya in promoting its beauty products on social media.

The information that consumers obtain from influencers, together with their assessment of product quality, plays an important role in shaping purchase decisions (Istighfarin, 2021; Anggraini & Untarini, 2024). At the same time, influencer marketing and product quality can jointly shape brand image in the minds of consumers, which is formed through consistent information, experience, and marketing communication (Lola & Nainggolan, 2023). A positive brand image can, in turn, strengthen the influence of influencer marketing and product quality on consumer purchase decisions.

Several prior studies indicate that influencer marketing and product quality have a positive effect on purchase decisions (Lestiyani & Purwanto, 2023; Anggraini & Untarini, 2024; Wibawa & Cahyono, 2025; Ishomi et al., 2025; Solatika et al., 2026). However, findings regarding the effect of brand image on purchase decisions remain inconsistent. Maharani and Saputro (2024) found that brand image has a positive but not significant effect on purchase decisions, whereas Solatika et al. (2026) found a positive and significant effect. Given this research gap, the present study aims to analyze the effect of influencer marketing and product quality on the purchase decision of Skintific, with brand image as a mediating variable, among Generation Z consumers in Jabodetabek.

The research questions addressed in this study are: (1) does influencer marketing affect purchase decisions; (2) does product quality affect purchase decisions; (3) does influencer marketing affect brand image; (4) does product quality affect brand image; (5) does brand image affect purchase decisions; (6) does influencer marketing indirectly affect purchase decisions through brand image; and (7) does product quality indirectly affect purchase decisions through brand image, for Skintific products among Generation Z consumers in Jabodetabek. These questions are examined and answered through the hypothesis testing presented in the results and discussion, and the conclusion section.



Source: Developed by the researchers based on Shimp & Andrews (2018), Tjiptono (2015), and Kotler & Keller (2016)

Figure 1. Conceptual Framework and Hypotheses

H1: Influencer marketing affects the purchase decision of Skintific among Generation Z in Jabodetabek.

H2: Product quality affects the purchase decision of Skintific among Generation Z in Jabodetabek.

H3: Influencer marketing affects the brand image of Skintific among Generation Z in Jabodetabek.

H4: Product quality affects the brand image of Skintific among Generation Z in Jabodetabek.

H5: Brand image affects the purchase decision of Skintific among Generation Z in Jabodetabek.

H6: Influencer marketing indirectly affects the purchase decision of Skintific through brand image among Generation Z in Jabodetabek.

H7: Product quality indirectly affects the purchase decision of Skintific through brand image among Generation Z in Jabodetabek.

METHOD

This research applies a quantitative approach with a causal research design, aiming to explain the cause-and-effect relationships among variables through hypothesis testing (Creswell, 2014; Sugiyono, 2023). Data were collected through an online questionnaire distributed to respondents who met the predetermined criteria, and subsequently analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS version 4 software.

The study was conducted in the Jabodetabek area (Jakarta, Bogor, Depok, Tangerang, and Bekasi), with the research object being Generation Z consumers who had purchased or used Skintific products. Data collection was carried out online through Google Form, allowing respondents to complete the questionnaire without physical location restrictions, provided they resided within the research area. Data collection took place from May to June 2026.

The research involves four variables: Influencer Marketing (X1), measured through the indicators of trustworthiness, expertise, physical attractiveness, and similarity (Shimp & Andrews, 2018); Product Quality (X2), measured through performance, reliability, conformance to specifications, and aesthetics (Kotler & Keller, 2016); Brand Image (Z), measured through the strength, favorability, and uniqueness of brand associations (Kotler &

Keller, 2016); and Purchase Decision (Y), measured through product choice, brand choice, purchase channel choice, and purchase timing (Kotler & Keller, 2016).

The population of this study consists of Generation Z consumers who have purchased or used Skintific products. The sampling technique applied is non-probability sampling with a purposive sampling method, based on the following criteria: (1) aged 14–29 years (Generation Z); (2) had purchased or used a Skintific product at least once within the past year; and (3) had seen Skintific's promotional content by Tasya Farasya on social media. The minimum sample size, calculated using the Lemeshow formula with a 95% confidence level ($Z = 1.96$), a maximum estimated proportion of 0.5, and a margin of error of 0.1, was 96 respondents. To ensure reliability, this study used 200 respondents, exceeding the minimum requirement.

Data were collected through an online questionnaire using a four-point Likert scale (1 = strongly disagree to 4 = strongly agree), in which the neutral option was removed to obtain more definitive responses from respondents (Sugiyono, 2023).

Data analysis was carried out using PLS-SEM, covering the evaluation of the measurement model (outer model) and the structural model (inner model) (Hair et al., 2022). The outer model evaluation includes validity testing through convergent validity (outer loading and Average Variance Extracted/AVE ≥ 0.5) and discriminant validity (cross loading), as well as reliability testing through Composite Reliability and Cronbach's Alpha (≥ 0.70). The inner model evaluation includes the coefficient of determination (R-Square), path coefficients, hypothesis testing through bootstrapping (significant if t-statistics > 1.96 or p-value < 0.05), and specific indirect effect testing to examine the mediating role of brand image, distinguishing between full mediation, partial mediation, and no mediation.

RESULT AND DISCUSSION

This study collected data from 200 Generation Z respondents domiciled in the Jabodetabek area who met the established research criteria, selected through purposive sampling. The questionnaire measured the variables of influencer marketing, product quality, brand image, and purchase decision using a four-point Likert scale. The collected data were then processed using PLS-SEM with the assistance of SmartPLS software.

Based on the respondent characteristics, the majority of respondents are female (170 respondents, 85%), consistent with Skintific's position as a skincare and cosmetics brand that is predominantly used by female consumers. By age group, most respondents fall within the 22–25 year range (84 respondents, 42%), followed by 18–21 years (69 respondents, 34.5%), 26–29 years (31 respondents, 15.5%), and 14–17 years (16 respondents, 8%), indicating that most respondents are in a productive age range with independent purchasing capacity. By domicile, respondents are distributed across the five Jabodetabek areas, with the largest proportion from Jakarta (56 respondents, 28%), followed by Bekasi (47, 23.5%), Depok (34, 17%), Tangerang (32, 16%), and Bogor (31, 15.5%).

Table 1. Respondent Characteristics (n = 200)

Characteristic	Category	Frequency	Percentage
Gender	Female	170	85.0%
	Male	30	15.0%
Age	14–17 years	16	8.0%
	18–21 years	69	34.5%
	22–25 years	84	42.0%
	26–29 years	31	15.5%

Characteristic	Category	Frequency	Percentage
Domicile	Jakarta	56	28.0%
	Bogor	31	15.5%
	Depok	34	17.0%
	Tangerang	32	16.0%
	Bekasi	47	23.5%

Source: Primary data, 2026

The measurement model (outer model) evaluation shows that all indicators have outer loading values above 0.70 and all constructs have Average Variance Extracted (AVE) values above 0.50, confirming that convergent validity is met (Hair et al., 2022). The AVE value for Influencer Marketing is 0.717, Product Quality 0.714, Purchase Decision 0.701, and Brand Image 0.716. Discriminant validity, assessed through cross loading, shows that each indicator loads more strongly on its intended construct than on other constructs, confirming that discriminant validity is achieved.

Table 2. Convergent Validity and Reliability Results

Variable	AVE	Cronbach's Alpha	Composite Reliability
Influencer Marketing	0.717	0.960	0.965
Product Quality	0.714	0.960	0.965
Purchase Decision	0.701	0.957	0.963
Brand Image	0.716	0.950	0.958

Source: Primary data, 2026

The reliability testing shows that all constructs have Cronbach's Alpha and Composite Reliability values above 0.70, indicating that all constructs used in this study are reliable (Hair et al., 2022).

The structural model (inner model) evaluation shows that the R-Square value for Brand Image is 0.493, meaning that Influencer Marketing and Product Quality jointly explain 49.3% of the variance in Brand Image, while the remaining 50.7% is explained by other variables outside this research model. The R-Square value for Purchase Decision is 0.441, meaning that Influencer Marketing, Product Quality, and Brand Image jointly explain 44.1% of the variance in Purchase Decision, while the remaining 55.9% is explained by other variables not examined in this study.

Table 3. Coefficient of Determination (R-Square)

Endogenous Variable	R-Square	R-Square Adjusted
Brand Image	0.493	0.488
Purchase Decision	0.441	0.432

Source: Primary data, 2026

Table 4. Path Coefficients (Direct Effects)

Hypothesized Path	Original Sample (O)	T-Statistics	P-Values
Brand Image → Purchase Decision	0.503	7.278	0.000
Influencer Marketing → Brand Image	0.453	9.491	0.000
Influencer Marketing → Purchase Decision	0.071	0.966	0.334

Hypothesized Path	Original Sample (O)	T-Statistics	P-Values
Product Quality → Brand Image	0.422	8.005	0.000
Product Quality → Purchase Decision	0.182	2.843	0.004

Source: Primary data, 2026

Table 5. Specific Indirect Effects

Indirect Path	Original Sample (O)	T-Statistics	P-Values
Influencer Marketing → Brand Image → Purchase Decision	0.228	5.721	0.000
Product Quality → Brand Image → Purchase Decision	0.212	5.200	0.000

Source: Primary data, 2026

Hypothesis testing was conducted based on the bootstrapping results in Tables 4 and 5, with a hypothesis accepted if the t-statistics value exceeds the t-table value of 1.96 and the p-value is below 0.05 at the 5% significance level.

H1 – Influencer Marketing on Purchase Decision

The result shows a t-statistics value of 0.966 (< 1.96) and a p-value of 0.334 (> 0.05); thus, H1 is rejected. Influencer marketing has no significant direct effect on the purchase decision of Skintific among Generation Z in Jabodetabek. This finding differs from Lestiyani and Purwanto (2023), Wibawa and Cahyono (2025), and Ishomi et al. (2025), who found a significant direct effect. This difference can be explained by the role of brand image in this research model: since influencer marketing significantly affects brand image (H3) and significantly affects purchase decision indirectly through brand image (H6), Tasya Farasya's promotional content appears to play a greater role in shaping a positive image of Skintific, which subsequently drives purchase decisions, rather than directly influencing the purchase decision itself.

H2 – Product Quality on Purchase Decision

The result shows a t-statistics value of 2.843 (> 1.96) and a p-value of 0.004 (< 0.05); thus, H2 is accepted. Product quality has a positive and significant effect on the purchase decision of Skintific. This finding supports Anggraini and Untarini (2024), Solatika et al. (2026), and Maharani and Saputro (2024). This is also supported by respondents' generally positive perceptions of Skintific's product quality, particularly regarding performance and reliability, which encourage consumers who perceive the product as functionally consistent to be more inclined to purchase it.

H3 – Influencer Marketing on Brand Image

The result shows a t-statistics value of 9.491 (> 1.96) and a p-value of 0.000 (< 0.05); thus, H3 is accepted. Influencer marketing has a positive and significant effect on Skintific's brand image, consistent with Kristina and Nainggolan (2023) and Khalid (2024). The relatively large path coefficient of 0.453 indicates that Tasya Farasya, through the perceived trustworthiness, expertise, attractiveness, and similarity, plays an important role in building consumers' positive perceptions of the Skintific brand.

H4 – Product Quality on Brand Image

The result shows a t-statistics value of 8.005 (> 1.96) and a p-value of 0.000 (< 0.05); thus, H4 is accepted. Product quality has a positive and significant effect on brand image, consistent with Arifin and Wijaya (2022) and Solatika et al. (2026). This indicates that the better consumers perceive Skintific's performance, reliability, conformance to specifications, and aesthetics, the stronger the positive perception formed toward the Skintific brand.

H5 – Brand Image on Purchase Decision

The result shows a t-statistics value of 7.278 (> 1.96) and a p-value of 0.000 (< 0.05); thus, H5 is accepted. Brand image has a positive and significant effect on purchase decision, consistent with Solatika et al. (2026), Khalid (2024), and Kristina and Nainggolan (2023). With a path coefficient of 0.503, brand image is the variable with the strongest direct effect on purchase decision in this research model, indicating that a strong, unique, and favorable brand image is the primary consideration for Generation Z consumers before deciding to purchase.

H6 – Influencer Marketing on Purchase Decision through Brand Image

The specific indirect effect result shows a t-statistics value of 5.721 (> 1.96) and a p-value of 0.000 (< 0.05); thus, H6 is accepted. Since the direct effect of influencer marketing on purchase decision (H1) is not significant while the indirect effect through brand image is significant, brand image acts as a full mediator in the relationship between influencer marketing and purchase decision. This supports Kristina and Nainggolan (2023) and Khalid (2024). In other words, Tasya Farasya's promotional content only influences consumers' purchase decisions after first shaping a positive image of the Skintific brand.

H7 – Product Quality on Purchase Decision through Brand Image

The specific indirect effect result shows a t-statistics value of 5.200 (> 1.96) and a p-value of 0.000 (< 0.05); thus, H7 is accepted. Since the direct effect of product quality on purchase decision (H2) is also significant, brand image acts as a partial mediator in the relationship between product quality and purchase decision. This supports Arifin and Wijaya (2022) and Anggraini and Untarini (2024). Thus, Skintific's product quality drives purchase decisions both directly through consumers' functional evaluation and indirectly through the formation of a positive brand image.

Overall, the hypothesis testing results in Tables 4 and 5 show that the purchase decision for Skintific products among Generation Z in Jabodetabek is most strongly explained by brand image, which has the most dominant direct effect (0.503) while also mediating the effects of influencer marketing and product quality. Product quality drives purchase decisions both directly and indirectly through brand image, while influencer marketing only significantly affects purchase decisions after first building a positive brand image. These findings confirm that Skintific's marketing strategy through influencer Tasya Farasya would be more effective when directed at building long-term trust and brand image rather than solely serving as an instant purchase trigger.

CONCLUSION

Based on the results of this study on the effect of influencer marketing and product quality on the purchase decision of Skintific among Generation Z in Jabodetabek, with brand image as a mediating variable, several conclusions can be drawn. Influencer marketing has no significant direct effect on purchase decisions ($p = 0.334 > 0.05$), so H1 is rejected. Product quality has a positive and significant effect on purchase decisions ($p = 0.004 < 0.05$), so H2 is accepted. Influencer marketing has a positive and significant effect on brand image ($p = 0.000$

< 0.05), so H3 is accepted, and product quality also has a positive and significant effect on brand image ($p = 0.000 < 0.05$), so H4 is accepted. Brand image has a positive and significant effect on purchase decisions with the largest path coefficient in the model (0.503, $p = 0.000 < 0.05$), so H5 is accepted. Influencer marketing has a significant indirect effect on purchase decisions through brand image, with brand image acting as a full mediator, so H6 is accepted, while product quality has a significant indirect effect on purchase decisions through brand image, with brand image acting as a partial mediator, so H7 is accepted.

Overall, brand image is found to be the most dominant variable in driving Skintific's purchase decisions, both directly and as a mediator for influencer marketing and product quality. The research model explains 49.3% of the variance in brand image and 44.1% of the variance in purchase decision, while the remainder is explained by other variables outside this study. These findings suggest that Skintific should continue strengthening product performance and reinforcing the distinctiveness of its brand image, while directing its influencer marketing strategy toward building long-term brand trust rather than relying on it purely as an instant purchase trigger. Future research is recommended to incorporate additional variables such as brand trust, electronic word of mouth (e-WOM), perceived value, and customer experience, as well as to extend the geographical and demographic scope of respondents to enrich the understanding of consumer behavior in the fast beauty industry.

REFERENCES

- Anggraini, G. A., & Untarini, N. (2024). Pengaruh ulasan konsumen online dan kualitas produk terhadap keputusan pembelian dengan kepercayaan merek sebagai variabel mediasi pada produk pembersih wajah MS Glow. *Jurnal Ilmu Manajemen (JIM)*, 13, 796–811. <https://doi.org/10.26740/jim.v13n3.p796-811>
- Arifianto, B. S., & Ratri, Z. (2024). Tidak hanya “fast fashion”, “fast beauty” juga jadi ancaman bagi lingkungan. *Kompas.id*.
- Arifin, W., & Wijaya, R. (2022). The effect of product quality on purchase decision mediated by brand image in Zara women's bag consumers. *Journal of Applied Management and Business (JAMANIKA)*, 2(4). <https://doi.org/10.22219/jamanika.v2i04.23808>
- Bencsik, A., Horvath-Csikos, G., & Juhasz, T. (2016). Y and Z generations at workplace. *Journal of Competitiveness*, 8(3), 90–106.
- BPOM RI. (2026). Cek produk Badan Pengawas Obat dan Makanan RI. BPOM RI.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.
- Daraja, F. (2025). Bedah strategi bisnis Skintific: Rahasia brand skincare ini kuasai pasar Indonesia. *Menjadi Pengaruh*.
- Dimock, M. (2019). *Defining generations: Where millennials end and Generation Z begins*. Pew Research Center.
- Evan, V. (2022). Fast beauty, fenomena yang tidak kalah mengkhawatirkan saat ini. *Female Daily*.
- Fadilah, A. N., & Jaya, R. C. (2024). Pengaruh influencer marketing, perceived quality, dan bundling product terhadap keputusan pembelian produk Daviena Skincare di TikTok Shop. *Ekonomis: Journal of Economics and Business*, 7(2). <https://doi.org/10.32877/eb.v7i2.1820>
- Ghozali, I., & Kusumadewi, K. A. (2023). Partial least squares: Konsep, teknik dan aplikasi menggunakan program SmartPLS 4.0. Yoga Pratama.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Hendarto, Y. M. (2025). Prospek influencer lokal kian cerah di pemasaran digital. *Kompas.id*.

- Ishomi, A. R., et al. (2025). The impact of neuromarketing and influencer marketing on the decision process of generation Z consumers on the purchase of halal cosmetics. *Journal of Ecohumanism*, 9(1), 1019–1033. <https://doi.org/10.55214/25768484.v9i1.4306>
- Istighfarin, K. (2021). Pengaruh kualitas produk dan harga terhadap keputusan pembelian dimediasi promosi pada sunscreen Facetology [Undergraduate thesis].
- Khalid, B. (2024). Revolutionizing marketing strategies: Analyzing guerrilla marketing, brand image, and brand awareness impact on Gen Y purchasing decisions. *Management & Marketing*, 19(2), 209–225. <https://doi.org/10.2478/mmcks-2024-0017>
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- Kristina, K., & Nainggolan, R. (2023). Pengaruh influencer marketing terhadap keputusan pembelian Somethinc di Surabaya dimediasi oleh brand image. *Jurnal Ilmu Manajemen*, 8(6).
- Lestiyani, D. N., & Purwanto, S. (2023). Analisis pengaruh influencer marketing dan brand love terhadap keputusan pembelian produk skincare Skintific. *Jurnal Budgeting*, 5(1), 96–107. <https://doi.org/10.31539/budgeting.v5i1.7479>
- Lola, K., & Nainggolan, R. (2023). Pengaruh influencer marketing terhadap keputusan pembelian Somethinc di Surabaya dimediasi oleh brand image. *Jurnal Ilmu Manajemen*, 8(6).
- Maharani, V. A., & Saputro, E. P. (2024). Pengaruh influencer, brand image, dan product quality terhadap keputusan pembelian pada produk skincare Skintific. *El-Mal: Jurnal Kajian Ekonomi & Bisnis Islam*, 5(3), 1899–1914. <https://doi.org/10.47467/elmal.v5i3.6190>
- Makmun, M. (2026). BPOM prediksi industri kosmetik tembus Rp158 triliun pada 2026. *Investor.id*.
- Rivandy, R. A., Roza, S., & Hasbullah, H. (2025). The influence of influencer marketing and brand awareness on purchase decisions of Kahf skincare products. *Jurnal Ekonomi dan Bisnis*, 9(1), 36–39.
- Shimp, T. A., & Andrews, J. C. (2018). *Advertising, promotion, and other aspects of integrated marketing communications* (10th ed.). Cengage Learning.
- Solatika, P. I., Fauziridwan, M., Hidayah, A., & Haryanto, T. (2026). The influence of product quality, brand image, and word-of-mouth recommendations on purchasing decisions. *Journal of Business and Economics (JBE)*, 7(1), 130–138. <https://doi.org/10.47065/jbe.v7i1.9127>
- Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Tjiptono, F. (2015). *Strategi pemasaran* (4th ed.). Andi.
- Wibawa, S., & Cahyono, T. D. (2025). Pengaruh social media marketing, brand love dan influencer marketing terhadap keputusan pembelian produk Skintific pada konsumen Generasi Z di Kabupaten Sumbawa. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(2). <https://doi.org/10.23969/jp.v10i02.30070>