Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

The Mediating Role of Brand Image in the Effects of Influencer Credibility, Viral Content, and User-Generated Content on Brand Loyalty

Ahmad Rojikun[1], Ahmad Darda[2]

[1]Fakultas Ekonomi dan Bisnis, Universitas MH Thamrin, Jakarta. Jl. Salemba Tengah No.5, RT.2/RW.3, Paseban, Kec. Senen, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10440, [2]Fakultas Ekonomi dan Bisnis, Universitas Teknologi Muhammadiyah Jakarta, Jl. Minangkabau Barat No. 60, RT. 1 / RW. 1, Kelurahan Pasar Manggis, Kecamatan Setiabudi, Kota Jakarta Selatan, Daerah Khusus Ibukota Jakarta 12970
Email: Rojikun65@gmail.com1, ahmad.darda@utmj.ac.id2

Article Info

Keywords:
Influencer Credibility; Viral Content Exposure; User-Generated Content; Brand Image; Brand Loyalty; TikTok.

ABSTRACT

This study examines the influence of influencer credibility, viral content exposure, and user-generated content on brand loyalty, with brand image serving as a mediating variable among university students using TikTok. The increasing importance of social media marketing has encouraged businesses to understand how digital interactions shape consumer perceptions and long-term brand relationships. This research employed a quantitative approach with an explanatory research design. Data were collected through online questionnaires distributed to university students selected using purposive sampling and analyzed using Partial Least Squares–Structural Equation Modeling with SmartPLS software. The findings reveal that influencer credibility, viral content exposure, and user-generated content positively and significantly influence brand image. However, only viral content exposure demonstrates a significant direct effect on brand loyalty, while influencer credibility and user-generated content show insignificant direct effects. Furthermore, brand image positively influences brand loyalty and significantly mediates the relationships between all three digital marketing factors and brand loyalty. These findings emphasize the crucial role of brand image in transforming digital marketing interactions into consumer commitment. The study contributes to digital marketing literature and provides practical insights for businesses seeking to strengthen brand loyalty through credible influencers, engaging viral content, and authentic user-generated content on TikTok.

This is an open access article under theCC BY-NClicense

Corresponding Author:
Ahmad Rojikun
Fakultas Ekonomi dan Bisnis, Universitas MH Thamrin, Jakarta. Jl. Salemba Tengah No.5, RT.2/RW.3, Paseban, Kec. Senen, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10440
Rojikun65@gmail.com

INTRODUCTION

The rapid development of digital technology and social media has transformed how businesses communicate with consumers, formulate marketing strategies, and establish long-term relationships with their target markets. Social media platforms have evolved from conventional communication and entertainment channels into interactive marketing

environments where consumers actively create, share, and evaluate brand-related information. This transformation has encouraged businesses to adopt digital marketing strategies that emphasize consumer engagement, brand perceptions, and relationship development. Dwivedi et al[1] highlighted the growing importance of social media marketing in facilitating interactions between businesses and consumers while shaping attitudes, perceptions, and purchasing decisions. However, generating consumer attention and engagement does not necessarily guarantee sustained brand loyalty. Understanding how digital marketing interactions are associated with favorable brand perceptions and long-term consumer commitment has therefore become an important issue in contemporary marketing research.

Among various social media platforms, TikTok has attracted considerable attention because of its short-form video format, personalized recommendation algorithm, and ability to facilitate rapid content dissemination. Unlike platforms that rely heavily on established follower networks, TikTok enables content to reach audiences through algorithm-driven recommendations, user interactions, and rapidly emerging trends. These characteristics provide opportunities for businesses to communicate marketing messages through influencer recommendations, viral videos, and user-generated content. Montag et al[2] explained that TikTok's technological features and engagement mechanisms contribute to its widespread popularity, particularly among younger generations. In Indonesia, the platform has become increasingly relevant to digital marketing activities, as reflected in the country's substantial TikTok audience[3]. Nevertheless, the visibility and circulation of promotional content do not necessarily indicate that consumers will develop favorable brand evaluations or maintain their loyalty. This distinction raises questions about how different forms of TikTok-based marketing communication relate to consumer perceptions and behavioral commitments.

University students constitute a relevant consumer segment for examining these relationships because they are frequently exposed to digital information, online recommendations, and social interactions that inform their consumption preferences. Students may encounter the same brand through influencer endorsements, trending videos, and reviews created by other users, allowing multiple sources of information to shape their evaluations. Alalwan[4] emphasized the importance of social media interactions in influencing consumer responses to marketing activities. Meanwhile, Rather[5] associated consumer engagement and relationship-based experiences with the development of brand loyalty. These perspectives suggest that digital engagement and brand loyalty are related but conceptually distinct outcomes. Consumers may respond favorably to online content without necessarily developing a lasting preference for the promoted brand. Accordingly, examining the psychological and perceptual mechanisms connecting digital marketing interactions with brand loyalty is particularly relevant among university students who actively use TikTok.

Influencer credibility represents one of the factors that may shape consumer perceptions of brands promoted through social media. Influencers function as digital opinion leaders whose recommendations and promotional messages provide information that consumers may consider when evaluating products. Influencer credibility generally encompasses perceived trustworthiness, expertise, and attractiveness[6]. Lou and Yuan[7]

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

demonstrated the importance of influencer credibility in strengthening consumer trust in branded social media content. Similarly, Schouten et al[8] examined how influencer characteristics and perceived authenticity influence consumer responses to endorsements. These studies provide a foundation for understanding the persuasive role of influencers; however, credibility-related responses should not automatically be equated with long-term brand loyalty. Consumers may consider an influencer trustworthy while remaining uncertain about the reliability, reputation, or suitability of the endorsed brand. Consequently, brand image may represent an intervening perceptual mechanism through which influencer credibility becomes associated with consumer loyalty. The distinction between direct and brand-image-mediated relationships is therefore important for understanding the effectiveness of influencer marketing within TikTok.

Viral content exposure constitutes another relevant component of TikTok-based marketing communication. Viral content exposure refers to consumers' encounters with brand-related digital materials that circulate extensively through social media interactions, including views, likes, comments, shares, and algorithmic recommendations. TikTok's recommendation system enables engaging content to gain visibility beyond an account's established followers, increasing opportunities for repeated exposure to particular brands. Such exposure may enhance brand familiarity, reinforce brand associations, and influence perceptions of popularity. Sokolova and Kefi[9] examined the relevance of influencer-related characteristics to consumer behavioral intentions, while Dwivedi et al[1] emphasized the role of interactive digital marketing communication in shaping consumer engagement and brand-related responses. However, consumer exposure to viral content and the development of brand loyalty represent different processes. Viral content may be associated with loyalty through repeated visibility and consumer engagement, but it may also operate indirectly by strengthening favorable brand perceptions. Examining these relationships separately is necessary to understand whether brand image provides an additional explanatory pathway between viral content exposure and brand loyalty.

User-generated content (UGC) is another important dimension of digital marketing because consumers increasingly participate in producing and distributing information about products and brands. UGC includes reviews, testimonials, comments, recommendations, and videos reflecting consumers' personal experiences. Unlike promotional messages originating directly from businesses, user-generated information may be perceived as authentic because it is associated with actual consumer experiences. Kim and Johnson[10] demonstrated the relevance of consumer-generated electronic word-of-mouth communication to consumer responses and purchasing behavior. On TikTok, UGC provides opportunities for consumers to evaluate brands through the experiences of other users, potentially strengthening brand credibility and favorable associations. Nevertheless, positive responses to user-generated information do not necessarily indicate loyalty toward the brands being discussed. Consumers may consider reviews useful or credible without developing a sustained commitment to purchasing or recommending a particular brand. Brand image may therefore help explain how consumers' evaluations of UGC are associated with stronger brand loyalty.

This possibility requires empirical examination of both direct and indirect relationships rather than assuming that positive perceptions of UGC automatically translate into loyal behavior.

Brand image is particularly relevant to these relationships because it represents consumers' perceptions, beliefs, and associations concerning a brand. Such perceptions develop through accumulated information, previous experiences, and interactions with different communication sources. A favorable brand image may strengthen consumer confidence, emotional attachment, and preference for a particular brand. Ebrahim[11] emphasized the importance of brand-related experiences and perceptions in understanding consumer responses and brand loyalty. Rather[5] further highlighted the significance of consumer engagement and relationship-based experiences in the development of sustained loyalty. These perspectives provide a conceptual basis for examining brand image as a mediating variable. Influencer credibility, viral content exposure, and user-generated content represent different sources of marketing information, whereas brand image reflects consumers' evaluations of the brand itself. Consequently, the three marketing factors may be associated with brand loyalty through different combinations of direct and indirect relationships. Identifying these differences is essential for understanding the role of brand image rather than merely establishing that digital marketing activities correlate with consumer loyalty[12].

Although previous studies have provided important insights into influencer marketing, social media communication, electronic word of mouth, and consumer behavior, several issues remain relevant for further empirical investigation. First, Lou and Yuan[7] focused on influencer credibility and consumer trust in branded content, while Schouten et al[8] examined consumer responses to influencer endorsements. These perspectives explain important aspects of influencer effectiveness but do not, by themselves, establish how influencer credibility is associated with brand loyalty through brand image in TikTok's distinctive communication environment. Second, Sokolova and Kefi[9] examined influencer-related characteristics and behavioral intentions, whereas Kim and Johnson[10] investigated consumer-generated electronic word of mouth and consumer responses. Although these studies contribute to understanding digital persuasion and consumer behavior, their respective analytical emphases do not directly resolve whether brand image mediates the relationships between viral content exposure, user-generated content, and brand loyalty. Third, broader discussions of digital marketing and consumer engagement, including Dwivedi et al[4] and Rather[5], provide theoretical foundations for examining consumer–brand relationships but leave room for a more specific comparison of direct and indirect associations involving different TikTok marketing interactions. Therefore, the research gap addressed in this study concerns the need to distinguish the pathways through which these forms of digital communication are associated with brand loyalty, rather than simply determining whether they influence consumer responses.

This gap is particularly relevant in the TikTok environment, where influencer endorsements, viral exposure, and consumer-created content coexist within an algorithm-driven communication system. Although these marketing factors may appear simultaneously in consumers' social media experiences, they convey different types of information. Influencer

credibility primarily concerns the perceived qualities of the message source, viral content exposure reflects the visibility and circulation of marketing messages, and user-generated content provides evaluations originating from other consumers. These distinctions suggest that the factors may not be associated with brand loyalty in identical ways. Some relationships may be expressed mainly through brand image, while others may involve both direct associations with loyalty and indirect associations through brand image. Examining these possibilities is theoretically relevant because it distinguishes consumer evaluations of marketing information from their evaluations of the brand. It is also contextually relevant because university students using TikTok may encounter multiple forms of marketing communication before developing brand preferences.

The novelty of this study therefore extends beyond incorporating three independent variables into a single structural model. Its principal contribution is the comparative examination of brand image as a mediating mechanism across three conceptually distinct forms of TikTok-based marketing interaction. By estimating direct and specific indirect relationships within the same analytical framework, the study evaluates whether influencer credibility, viral content exposure, and user-generated content exhibit similar or different patterns of association with brand loyalty. This approach offers a more differentiated understanding of digital marketing effectiveness by distinguishing the persuasiveness of information sources, the visibility of marketing content, and the informational value of consumer-created messages. Furthermore, positioning brand image as an intervening construct provides an opportunity to examine whether favorable brand evaluations help explain the relationship between exposure to digital marketing communications and consumer loyalty. The study thus contributes to the literature by emphasizing the pathways linking digital marketing interactions, brand perceptions, and loyalty in the context of university students using TikTok.

Based on these considerations, this study aims to examine the relationships between influencer credibility, viral content exposure, user-generated content, brand image, and brand loyalty among university students who use TikTok. Specifically, the study investigates the direct effects of influencer credibility, viral content exposure, and user-generated content on brand image (H1–H3); examines the direct effects of these three factors on brand loyalty (H4–H6); and evaluates the relationship between brand image and brand loyalty (H7). Furthermore, the study tests the mediating role of brand image in the relationships between influencer credibility and brand loyalty (H8), viral content exposure and brand loyalty (H9), and user-generated content and brand loyalty (H10). By addressing these ten hypotheses, the research seeks to clarify how different digital marketing interactions are associated with brand loyalty, both directly and through brand image. The findings are expected to enrich digital marketing and consumer behavior literature while providing practical insights for businesses seeking to develop credible influencer partnerships, engaging viral content, authentic consumer participation, and favorable brand perceptions through TikTok marketing strategies.

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

METHODS

Research Design

This study employed a quantitative approach with an explanatory research design to examine the relationships between influencer credibility, viral content exposure, user-generated content, and brand loyalty, with brand image serving as a mediating variable among university students who use TikTok. The quantitative approach was adopted to analyze measurable relationships among latent constructs and empirically evaluate the proposed hypotheses. According to Sugiyono[13], quantitative research provides a systematic framework for examining relationships between variables using numerical data and statistical procedures.

The study applied Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0. This analytical approach was selected because the research model incorporates multiple latent constructs, simultaneous structural relationships, and mediation effects. Hair et al[14] explained that PLS-SEM is appropriate for estimating complex structural models and evaluating relationships among latent variables. The research employed a cross-sectional survey design, with data collected from respondents through structured questionnaires. Consequently, the estimated relationships were interpreted as statistical associations consistent with the proposed theoretical model rather than definitive evidence of causality.

Population and Sampling

The target population comprised active university students aged 18–25 years who used TikTok and had encountered brand-related content on the platform. The research covered five higher education institutions in East Jakarta: Universitas Mohammad Husni Thamrin, Universitas Kristen Indonesia, Sekolah Tinggi Ilmu Ekonomi Kusuma Negara, Universitas Krisnadwipayana, and Universitas Dirgantara Marsekal Suryadarma.

A non-probability sampling technique using purposive sampling was employed to recruit respondents who met the research criteria. Participants were required to be active students at one of the five universities, aged 18–25 years, active TikTok users, followers of influencer accounts, and individuals who had encountered viral brand-related videos or user-generated product content.

Table 1. Distribution of Respondents Across Universities

University	Frequency	Percentage
Universitas Mohammad Husni Thamrin	40	20.00%
Universitas Kristen Indonesia	40	20.00%
STIE Kusuma Negara	40	20.00%
Universitas Krisnadwipayana	40	20.00%
Universitas Dirgantara Marsekal Suryadarma	40	20.00%
Total	200	100.00%

The study involved 200 respondents across the five participating universities. The questionnaire was administered online, allowing eligible students to provide their responses

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

electronically. The distribution channels, recruitment period, and university-specific response frequencies should be documented according to the original survey records.

Sample adequacy was considered in relation to the complexity of the structural model, particularly the four predictors of brand loyalty. Following Hair et al. (2022), sample-size assessment should account for the anticipated effect size, statistical power, and significance level rather than relying exclusively on the number of observations. A formal statistical power analysis should be reported using the relevant model parameters before concluding that the sample of 200 respondents provides sufficient power to detect the hypothesized effects.

Data Collection and Research Instruments

Primary data were collected using a structured online questionnaire designed to measure five latent constructs: influencer credibility, viral content exposure, user-generated content, brand image, and brand loyalty. Each questionnaire statement was evaluated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument was designed to capture respondents' perceptions of digital marketing interactions and their evaluations of brand-related attributes and loyalty.

The measurement domains were defined based on the conceptual characteristics of each construct. Influencer credibility concerned perceived trustworthiness, expertise, and attractiveness. Viral content exposure reflected consumers' exposure to rapidly circulating brand-related information. User-generated content represented consumers' evaluations of reviews, testimonials, comments, and other content produced by social media users. Brand image concerned perceptions and associations related to a particular brand, whereas brand loyalty represented preference, commitment, and intentions to continue choosing or recommending the brand.

Table 2 summarizes the conceptual measurement domains and relevant literature. These domains describe the constructs but should not be interpreted as a verified list of the questionnaire items administered to respondents. The original questionnaire and item-level references are required to establish the precise operational indicators and their sources.

Table 2. Research Constructs, Measurement Domains, and Relevant Literature

Construct	Conceptual Measurement Domains	Relevant Literature
Influencer Credibility (IC)	Trustworthiness, expertise, attractiveness	Lou and Yuan (2019); Schouten et al. (2020)
Viral Content Exposure (VCE)	Exposure frequency, repeated encounters, visibility of viral brand-related content	Montag et al. (2021); Dwivedi et al. (2021)
User-Generated Content (UGC)	Consumer reviews, testimonials, perceived authenticity, informational usefulness	Kim and Johnson (2016)
Brand Image (BI)	Brand perceptions, associations, overall reputation	Ebrahim (2020)
Brand Loyalty (BL)	Brand preference, continued purchase intention, recommendation intention	Rather (2021); Ebrahim (2020)

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

The cited studies provide a conceptual foundation for the research constructs. However, conceptual relevance does not necessarily establish that specific questionnaire statements were adapted from those publications. Accurate reporting of measurement adaptation requires identifying the original item wording, the number of indicators for each construct, and any modifications made to accommodate the TikTok context.

Data Screening and Cleaning

Data screening and cleaning were incorporated into the methodological framework to address respondent eligibility and data quality. The screening criteria were derived from the purposive sampling requirements, including student status, age, TikTok usage, exposure to influencer accounts, and experience encountering brand-related digital content.

Data-quality assessment should distinguish between screening for respondent eligibility and examining the completeness and consistency of questionnaire responses. Relevant checks include missing values, duplicate submissions, responses outside the specified eligibility criteria, and potentially inattentive response patterns. Any observations excluded from the analysis should be documented together with the reasons for exclusion.

The analytical sample reported in this study consisted of 200 respondents. However, the number of initial submissions, the number of excluded questionnaires, and the specific data-cleaning procedures cannot be established from the available methodological records. Therefore, no unsupported claim is made that particular cleaning procedures were completed or that a specific number of responses was excluded. The final methodological report should include these details once verified against the original dataset.

Research Variables and Conceptual Model

The conceptual framework consisted of three independent constructs, namely influencer credibility (IC), viral content exposure (VCE), and user-generated content (UGC). Brand image (BI) was positioned as the mediating construct, while brand loyalty (BL) served as the dependent construct.

The structural model examined seven direct relationships and three indirect relationships. The direct relationships included the effects of IC, VCE, and UGC on BI (H1–H3), the effects of IC, VCE, and UGC on BL (H4–H6), and the effect of BI on BL (H7). The three mediation hypotheses evaluated the indirect relationships between IC and BL through BI (H8), VCE and BL through BI (H9), and UGC and BL through BI (H10).

The structural relationships can be expressed as follows:

$$BI = \beta_1 IC + \beta_2 VCE + \beta_3 UGC + \varepsilon_1$$
$$BL = \beta_4 IC + \beta_5 VCE + \beta_6 UGC + \beta_7 BI + \varepsilon_2$$

where β represents the estimated path coefficients and ε denotes the respective disturbance terms. The mediating effects were represented by the products of the relevant predictor-to-mediator and mediator-to-outcome path coefficients.

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

This specification allowed the study to compare the direct relationships between the three digital marketing factors and brand loyalty with their corresponding indirect relationships through brand image.

Data Analysis

Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. According to Hair et al[15], PLS-SEM is suitable for examining relationships among latent constructs and estimating complex structural models incorporating mediating variables. The analysis comprised two main stages: measurement model evaluation and structural model evaluation.

The measurement model was evaluated using indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed through outer loadings, while internal consistency reliability was evaluated using Cronbach's alpha, rho_A, and composite reliability (rho_c). Values of 0.70 or higher were considered indicative of acceptable internal consistency. Convergent validity was evaluated using Average Variance Extracted (AVE), with values greater than 0.50 indicating that a construct explained more than half of the variance in its indicators[15].

Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT). HTMT values below 0.90 were interpreted as supporting the empirical distinctiveness of the constructs. The structural model was subsequently assessed using path coefficients and the coefficient of determination (R^2), which indicated the proportion of variance in the endogenous constructs explained by their predictors. These procedures enabled the study to evaluate measurement quality and the explanatory capacity of the proposed relationships.

Hypothesis testing was conducted using the bootstrapping procedure available in SmartPLS 4.0. Statistical significance was assessed at the 5% level ($p < 0.05$), using estimated path coefficients, t-statistics, and p-values. The seven direct-effect hypotheses were evaluated through their corresponding structural path estimates. Mediation analysis was performed by examining the three specific indirect effects of influencer credibility, viral content exposure, and user-generated content on brand loyalty through brand image.

For complete methodological transparency, the bootstrapping report should specify the number of bootstrap subsamples, the type of significance test, and the confidence interval estimation method. The number of bootstrap subsamples and confidence interval settings used in the original SmartPLS analysis have not been established from the available documentation and therefore require verification. A 95% bootstrap confidence interval provides an additional basis for interpreting the significance of an indirect effect, with intervals excluding zero indicating statistical significance at the corresponding confidence level.

The mediation results were interpreted by comparing the significance and direction of the direct and specific indirect effects. A significant indirect effect accompanied by a statistically insignificant direct effect was interpreted as an indirect-only mediation pattern. Conversely, statistically significant direct and indirect effects with the same direction were interpreted as complementary mediation. These classifications provide a framework for

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

distinguishing the different pathways through which TikTok-related marketing variables are associated with brand loyalty.

Together, the measurement model evaluation, structural model assessment, and mediation analysis provided an integrated approach for examining the relationships among influencer credibility, viral content exposure, user-generated content, brand image, and brand loyalty.

RESULTS AND DISCUSSION

Measurement Model Evaluation

The measurement model was evaluated to determine the reliability and validity of the research constructs. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability, while convergent validity was evaluated using Average Variance Extracted (AVE).

Table 1. Construct Reliability and Convergent Validity

Construct	Cronbach's α	rho_A	CR (rho_c)	AVE
Influencer Credibility (IC)	0.837	0.842	0.902	0.753
Viral Content Exposure (VCE)	0.898	0.899	0.924	0.709
User-Generated Content (UGC)	0.877	0.885	0.911	0.671
Brand Image (BI)	0.820	0.820	0.893	0.735
Brand Loyalty (BL)	0.855	0.857	0.902	0.697

Source: SmartPLS 4.0 output (2026),

As presented in Table 1, all five constructs demonstrated satisfactory internal consistency reliability. Cronbach's alpha values ranged from 0.820 to 0.898, while composite reliability (rho_c) values ranged from 0.893 to 0.924, exceeding the recommended threshold of 0.70. Furthermore, AVE values ranged from 0.671 to 0.753, surpassing the minimum criterion of 0.50. These findings indicate that all constructs satisfied the requirements for internal consistency reliability and convergent validity.

Discriminant Validity Assessment

Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT), which evaluates the empirical distinctiveness of the latent constructs. HTMT values below 0.90 indicate acceptable discriminant validity.

Table 2. Discriminant Validity Using the HTMT Criterion

Construct	BI	BL	IC	UGC	VCE
Brand Image (BI)	—				
Brand Loyalty (BL)	0.804	—			
Influencer Credibility (IC)	0.552	0.360	—		
User-Generated Content (UGC)	0.566	0.315	0.083	—	
Viral Content Exposure (VCE)	0.328	0.578	0.092	0.042	—

Source: SmartPLS 4.0 output (2026), HTMT matrix of the original study.

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

Table 2 shows that all HTMT values were below the recommended threshold of 0.90. The highest value was observed between Brand Image and Brand Loyalty (0.804), while the lowest was recorded between User-Generated Content and Viral Content Exposure (0.042). These findings demonstrate that the constructs fulfilled the discriminant validity criterion and could be distinguished empirically within the measurement model.

Structural Model Evaluation

The structural model was evaluated using the coefficient of determination (R^2) and adjusted R^2 to assess the explanatory power of the predictor variables.

Table 3. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Adjusted R^2	Variance Explained
Brand Image	0.513	0.506	51.3%
Brand Loyalty	0.572	0.563	57.2%

Source: SmartPLS 4.0 output (2026)

As shown in Table 3, Brand Image obtained an R^2 value of 0.513, indicating that Influencer Credibility, Viral Content Exposure, and User-Generated Content collectively explained 51.3% of the variance in Brand Image. The remaining 48.7% was not explained by the specified predictors. Meanwhile, Brand Loyalty achieved an R^2 value of 0.572, suggesting that the four predictors, including Brand Image, collectively explained 57.2% of its variance. Both endogenous constructs demonstrated moderate explanatory power, indicating that the proposed model accounted for a meaningful proportion of the variation in brand perceptions and loyalty among university students using TikTok.

Direct Effect Hypothesis Testing

The direct effects were examined using the bootstrapping procedure in SmartPLS 4.0. Hypothesis testing was based on standardized path coefficients (β), t-statistics, and p-values. Relationships were considered statistically significant at the 5% significance level ($p < 0.05$).

Table 4. Path Coefficients and Direct Hypothesis Testing

Hypothesis	Structural Relationship	β	t-statistic	p-value	Decision
H1	IC → BI	0.448	9.421	<0.001	Supported
H2	VCE → BI	0.314	5.981	<0.001	Supported
H3	UGC → BI	0.455	9.851	<0.001	Supported
H4	IC → BL	0.093	1.743	0.081	Not supported
H5	VCE → BL	0.370	5.790	<0.001	Supported
H6	UGC → BL	0.017	0.265	0.791	Not supported
H7	BI → BL	0.519	7.014	<0.001	Supported

Source: SmartPLS 4.0 output (2026)

Table 4 presents the direct relationships among the research variables. Influencer Credibility positively and significantly influenced Brand Image ($\beta = 0.448$; $t = 9.421$; $p < 0.001$), supporting H1. Viral Content Exposure also demonstrated a significant positive effect

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

on Brand Image (β = 0.314; t = 5.981; p < 0.001), supporting H2. Similarly, User-Generated Content positively affected Brand Image (β = 0.455; t = 9.851; p < 0.001), supporting H3. Among these predictors, User-Generated Content exhibited the largest direct coefficient toward Brand Image.

Regarding Brand Loyalty, Influencer Credibility showed a positive but statistically insignificant relationship (β = 0.093; t = 1.743; p = 0.081), indicating that H4 was not supported. Conversely, Viral Content Exposure demonstrated a positive and significant effect on Brand Loyalty (β = 0.370; t = 5.790; p < 0.001), supporting H5. User-Generated Content did not significantly affect Brand Loyalty (β = 0.017; t = 0.265; p = 0.791), resulting in the rejection of H6. Furthermore, Brand Image positively and significantly influenced Brand Loyalty (β = 0.519; t = 7.014; p < 0.001), supporting H7. These findings indicate that five of the seven proposed direct relationships were statistically significant.

Mediation Effect Analysis

The mediating role of Brand Image was examined using specific indirect effects obtained through the bootstrapping procedure. This analysis was conducted to determine whether Influencer Credibility, Viral Content Exposure, and User-Generated Content were indirectly associated with Brand Loyalty through Brand Image.

Table 5. Specific Indirect Effects and Mediation Hypothesis Testing

Hypothesis	Mediation Relationship	β	t-statistic	p-value	Decision
H8	IC → BI → BL	0.233	5.498	<0.001	Supported
H9	VCE → BI → BL	0.163	5.384	<0.001	Supported
H10	UGC → BI → BL	0.236	5.189	<0.001	Supported

Source: SmartPLS 4.0 output (2026)

As presented in Table 5, Brand Image significantly mediated the relationship between Influencer Credibility and Brand Loyalty (β = 0.233; t = 5.498; p < 0.001), supporting H8. Likewise, the indirect effect of Viral Content Exposure on Brand Loyalty through Brand Image was positive and significant (β = 0.163; t = 5.384; p < 0.001), supporting H9. User-Generated Content also demonstrated a significant indirect effect on Brand Loyalty through Brand Image (β = 0.236; t = 5.189; p < 0.001), supporting H10.

Among the three mediating relationships, User-Generated Content exhibited the highest indirect coefficient (β = 0.236), followed by Influencer Credibility (β = 0.233) and Viral Content Exposure (β = 0.163). The significant indirect effects, combined with the direct-effect results, suggest an indirect-only mediation pattern for Influencer Credibility and User-Generated Content, whereas Viral Content Exposure exhibited complementary mediation through Brand Image. These results indicate that Brand Image represents an important mechanism linking TikTok-based marketing activities with Brand Loyalty.

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

Discussion

The Effect of Influencer Credibility on Brand Image

The findings indicate that influencer credibility has a positive and significant effect on brand image among university students who use TikTok, with a path coefficient of 0.448, a t-statistic of 9.421, and a p-value below 0.001. This result demonstrates that consumers who perceive influencers as trustworthy, knowledgeable, and attractive tend to develop more favorable perceptions of the brands they promote. The finding supports the Source Credibility Theory, which suggests that the persuasiveness of a marketing message is influenced by the perceived credibility of its communicator. Influencers who demonstrate expertise, authenticity, and consistency in delivering product information can enhance consumer confidence and establish positive brand associations.

This finding is consistent with Lou and Yuan[7], who emphasized that influencer credibility plays an important role in strengthening consumer trust in branded social media content. Similarly, Schouten et al[8] demonstrated that influencer characteristics influence consumer responses to endorsements. In the context of TikTok, where users are frequently exposed to product recommendations through short-form videos, credible influencers may serve as important sources of information during brand evaluation. University students, as digitally active consumers, may use influencer recommendations to assess the quality, reputation, and suitability of products before developing favorable attitudes toward particular brands. Consequently, influencer credibility contributes not only to the persuasiveness of promotional messages but also to the formation of positive brand perceptions. The findings suggest that businesses should prioritize the credibility, relevance, and authenticity of influencers rather than relying exclusively on follower counts or online popularity.

The Effect of Viral Content Exposure on Brand Image

The results demonstrate that viral content exposure positively and significantly affects brand image, with a path coefficient of 0.314, a t-statistic of 5.981, and a p-value below 0.001. This finding indicates that increased exposure to viral brand-related content is associated with more favorable consumer perceptions. TikTok's algorithm-based recommendation system enables engaging videos to reach large audiences, increasing brand visibility and opportunities for repeated exposure. Such exposure may strengthen brand familiarity and encourage consumers to associate frequently encountered brands with popularity, relevance, and contemporary trends.

This finding is consistent with the broader digital marketing perspective presented by Dwivedi et al[1], who emphasized that interactive digital communication influences consumer engagement and brand-related perceptions. Viral content may create opportunities for brands to establish stronger cognitive and emotional associations by presenting information in memorable, entertaining, and relatable formats. Among university students, viral videos may also facilitate social discussions and reinforce the perception that a brand is relevant to their interests and social environment. Nevertheless, the development of a positive brand image depends not merely on the frequency of exposure but also on the quality, relevance, and credibility of the information presented. Therefore, businesses should develop viral

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

marketing strategies that integrate creativity and entertainment with consistent brand messages to ensure that increased visibility contributes to favorable brand perceptions.

The Effect of User-Generated Content on Brand Image

User-generated content demonstrates a positive and significant effect on brand image, with a path coefficient of 0.455, a t-statistic of 9.851, and a p-value below 0.001. Among the three predictors of brand image, user-generated content exhibits the largest path coefficient, suggesting that consumer-created information plays an important role in shaping brand perceptions within the estimated model. Reviews, testimonials, product demonstrations, and personal experiences shared through TikTok can provide information that consumers may perceive as more authentic than conventional promotional messages.

This finding is consistent with Kim and Johnson[10], who highlighted the importance of consumer-generated electronic word-of-mouth communication in influencing consumer responses. The informational value of user-generated content lies in its ability to present product experiences from the perspective of other consumers. Such content may reduce uncertainty by providing practical information about product performance, usability, and perceived value. For university students, peer-generated information can serve as an additional reference when evaluating products promoted through social media. Positive experiences shared by other users may reinforce favorable brand associations, while authentic reviews may strengthen perceptions of brand transparency and credibility. These findings suggest that businesses should encourage voluntary consumer participation in creating relevant and informative brand-related content while maintaining the authenticity of customer experiences.

The Effect of Influencer Credibility on Brand Loyalty

The results indicate that influencer credibility does not have a statistically significant direct effect on brand loyalty, as reflected by a path coefficient of 0.093, a t-statistic of 1.743, and a p-value of 0.081. Although the estimated relationship is positive, its statistical significance does not meet the conventional 5% threshold. This finding suggests that perceiving an influencer as credible is not necessarily sufficient to establish sustained commitment toward the endorsed brand. Consumers may trust the information communicated by influencers without developing a strong preference for or lasting attachment to a particular product.

This finding provides an important distinction between the persuasive effectiveness of influencer marketing and the development of brand loyalty. Influencers may successfully attract attention, communicate product benefits, and improve brand evaluations, but loyalty requires more enduring consumer-brand relationships. Rather[5] emphasized the importance of consumer engagement and relationship-based experiences in developing long-term loyalty. Within the TikTok environment, university students may follow multiple influencers and encounter competing product recommendations, potentially limiting the capacity of any individual influencer to generate sustained brand commitment. One possible interpretation is that influencer credibility initially contributes to positive brand perceptions, while additional

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

mechanisms are required before those perceptions translate into loyalty. This interpretation is consistent with the significant mediated relationship identified in the study. Therefore, influencer marketing strategies should be integrated with broader initiatives designed to strengthen brand identity and maintain consistent consumer experiences.

The Effect of Viral Content Exposure on Brand Loyalty

Viral content exposure has a positive and significant direct effect on brand loyalty, with a path coefficient of 0.370, a t-statistic of 5.790, and a p-value below 0.001. Unlike influencer credibility and user-generated content, viral content exposure demonstrates a statistically significant direct relationship with loyalty. This finding indicates that consumers who experience greater exposure to viral brand-related content tend to report stronger brand loyalty, even after accounting for brand image and the other predictors included in the structural model.

One possible explanation is that viral content combines broad visibility with social interaction, repeated exposure, and opportunities for emotional engagement. TikTok users may repeatedly encounter brand-related content through algorithmic recommendations, trending videos, and social sharing, which can reinforce brand familiarity and preference. This interpretation is compatible with Dwivedi et al[1], who discussed the importance of interactive digital marketing environments in shaping consumer behavior. Viral content may also encourage consumers to participate in discussions, share brand experiences, and identify with digital communities associated with particular products. However, the cross-sectional research design does not establish that viral exposure independently causes long-term loyalty. The findings nevertheless suggest that businesses should integrate viral content strategies into their brand communication activities while ensuring message relevance and consistency to support sustained consumer relationships.

The Effect of User-Generated Content on Brand Loyalty

The findings reveal that user-generated content does not significantly influence brand loyalty directly, with a path coefficient of 0.017, a t-statistic of 0.265, and a p-value of 0.791. This result indicates that consumer-created content, although important in shaping brand perceptions, does not independently explain substantial variation in loyalty after the other constructs are included in the model. Accordingly, exposure to product reviews, testimonials, and customer experiences does not necessarily result in continued brand preference or commitment.

This finding can be interpreted by distinguishing the informational role of user-generated content from the relational characteristics of brand loyalty. Kim and Johnson[10] emphasized that consumer-generated information influences consumer responses, but such responses may relate more closely to product evaluation and purchasing decisions than to sustained brand commitment. University students may rely on user-generated content to compare alternatives, assess product suitability, or reduce uncertainty without immediately developing loyalty toward a specific brand. Moreover, user-generated content may include diverse opinions and experiences, encouraging consumers to evaluate multiple competing

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

products. The significant effect of user-generated content on brand image, together with its insignificant direct effect on brand loyalty, indicates that favorable brand perceptions may represent an important intermediate mechanism. Thus, businesses should focus not only on stimulating consumer-generated content but also on ensuring that the resulting brand associations support a coherent and credible brand identity.

The Effect of Brand Image on Brand Loyalty

Brand image exhibits a positive and significant effect on brand loyalty, with a path coefficient of 0.519, a t-statistic of 7.014, and a p-value below 0.001. This result demonstrates that favorable brand perceptions are strongly associated with consumer commitment and continued brand preference among university students who use TikTok. Within the estimated structural model, brand image shows the largest direct coefficient among the predictors of brand loyalty, indicating its substantial role in explaining loyalty-related attitudes.

This finding is consistent with Ebrahim[11], who emphasized the importance of brand-related perceptions in shaping consumer relationships, and Rather[5], who highlighted the contribution of positive consumer experiences and engagement to brand loyalty. A favorable brand image may strengthen consumer confidence, reduce perceived uncertainty, and establish positive emotional associations that support continued brand preference. In the context of TikTok, consumers develop brand perceptions through multiple sources of digital information, including influencer recommendations, viral videos, and peer-generated content. When these sources reinforce a consistent and positive brand identity, consumers may become more willing to maintain their preference and recommend the brand to others. The results underscore the strategic importance of brand image management and suggest that digital marketing effectiveness should be evaluated not only through content visibility and engagement but also through its contribution to sustained brand perceptions.

The Mediating Role of Brand Image in the Relationship Between Influencer Credibility and Brand Loyalty

The mediation analysis demonstrates that brand image significantly mediates the relationship between influencer credibility and brand loyalty, with an indirect effect coefficient of 0.233, a t-statistic of 5.498, and a p-value below 0.001. This finding indicates that influencer credibility is positively associated with brand loyalty through the formation of favorable brand perceptions. Although influencer credibility does not demonstrate a statistically significant direct effect on brand loyalty, its indirect effect through brand image is significant, supporting an indirect-only mediation pattern within the estimated model.

Theoretically, this result provides further insight into the Source Credibility perspective by suggesting that credible communication may first influence consumer perceptions before contributing to long-term brand relationships. Trustworthy and knowledgeable influencers may improve the perceived reputation, reliability, and attractiveness of promoted brands. These favorable perceptions can subsequently support stronger consumer attachment and loyalty. The finding is compatible with Lou and Yuan[7] who emphasized the importance of

Journal of Economics and Business (JECOMBI)
https://doi.org/10.58471/jecombi.v7i02
ESSN, 2746-8887(Online)
https://jecombi.seaninstitute.or.id/index.php/JECOMBI/issue/view/18

influencer credibility in digital marketing communication. Importantly, the results indicate that influencer credibility should not be evaluated solely by its immediate influence on brand loyalty. Its contribution may operate primarily through brand image formation. Consequently, businesses should select influencers whose expertise, communication style, and values are consistent with their desired brand positioning, ensuring that promotional activities support coherent and favorable brand associations.

The Mediating Role of Brand Image in the Relationship Between Viral Content Exposure and Brand Loyalty

Brand image significantly mediates the relationship between viral content exposure and brand loyalty, with an indirect effect coefficient of 0.163, a t-statistic of 5.384, and a p-value below 0.001. Together with the significant direct effect of viral content exposure on brand loyalty, this result suggests complementary mediation, indicating that viral content is associated with loyalty both directly and indirectly through favorable brand perceptions.

This finding demonstrates that the relationship between viral marketing activities and consumer loyalty involves multiple pathways. Viral content may reinforce brand loyalty through frequent exposure, social engagement, and repeated interaction while simultaneously improving perceptions of the promoted brand. The latter pathway highlights the importance of brand image as a mechanism through which attention-generating content contributes to consumer commitment. Consistent with the perspective of Dwivedi et al[1] interactive digital marketing communication can shape consumer perceptions and behavioral responses. For university students, viral content may generate familiarity and social relevance, particularly when videos reflect emerging trends or experiences shared by peers. Nevertheless, viral popularity does not automatically guarantee favorable brand evaluations. Businesses should therefore ensure that viral content communicates recognizable brand values and relevant product information rather than prioritizing attention and engagement metrics alone.

The Mediating Role of Brand Image in the Relationship Between User-Generated Content and Brand Loyalty

The findings confirm that brand image significantly mediates the relationship between user-generated content and brand loyalty, with an indirect effect coefficient of 0.236, a t-statistic of 5.189, and a p-value below 0.001. This coefficient represents the largest estimated indirect effect among the three independent variables, narrowly exceeding the indirect effect of influencer credibility (0.233). However, the numerical difference alone does not establish that the two indirect effects are statistically different. Given the insignificant direct effect of user-generated content on brand loyalty, the results support an indirect-only mediation pattern in the estimated model.

This finding indicates that user-generated content is associated with stronger loyalty primarily through its contribution to favorable brand image. Consumer-created videos, reviews, and testimonials provide information that may enhance perceptions of authenticity, product reliability, and brand credibility. These perceptions can subsequently support

continued brand preference. The finding is consistent with the broader electronic word-of-mouth perspective discussed by Kim and Johnson[10], which highlights the role of consumer-generated information in influencing consumer evaluations. In the TikTok environment, university students may regard peer-generated content as particularly relevant because it often reflects relatable experiences and practical product assessments. From a managerial perspective, businesses should facilitate authentic customer participation, encourage constructive feedback, and use insights from consumer-generated content to strengthen brand positioning. Such strategies may increase the value of user-generated content by transforming favorable consumer experiences into enduring brand associations.

CONCLUSION

This study examined the relationships between influencer credibility, viral content exposure, user-generated content, and brand loyalty, with brand image serving as a mediating variable among 200 university students who use TikTok. The findings revealed that all three digital marketing factors were positively and significantly associated with brand image. However, their direct relationships with brand loyalty differed. Viral content exposure demonstrated a positive and significant direct relationship with brand loyalty, whereas influencer credibility and user-generated content showed positive but statistically insignificant direct relationships. Brand image was positively and significantly associated with brand loyalty and mediated the relationships between all three independent variables and brand loyalty. Specifically, influencer credibility and user-generated content exhibited indirect-only mediation, while viral content exposure demonstrated complementary mediation through brand image.

These findings contribute to digital marketing literature by highlighting distinct pathways through which TikTok-based marketing interactions are associated with brand loyalty. From a practical perspective, businesses targeting university students should prioritize credible influencer partnerships and authentic user-generated content that reinforce favorable brand perceptions rather than assuming these activities directly strengthen loyalty. Viral marketing strategies should emphasize engaging and shareable content while maintaining consistent brand associations to support both direct and brand-image-mediated relationships with loyalty.

Several limitations should be acknowledged. The use of purposive sampling and a sample restricted to students from five universities in East Jakarta limits the representativeness and generalizability of the findings to broader TikTok user populations in Indonesia. Furthermore, the cross-sectional questionnaire design does not establish causal relationships or capture changes in consumer perceptions and loyalty over time. Future research should consider more diverse samples, probability-based sampling where feasible, longitudinal designs, and additional constructs such as brand trust, customer engagement, and satisfaction to provide a more comprehensive understanding of digital brand loyalty.

REFERENCE

[1] Y. K. Dwivedi *et al.*, “Setting the future of digital and social media marketing research: Perspectives and research propositions,” *Int. J. Inf. Manage.*, vol. 59, p. 102168, 2021,

doi: https://doi.org/10.1016/j.ijinfomgt.2020.102168.

[2] C. Montag, H. Yang, and J. D. Elhai, "On the psychology of TikTok use: A first glimpse from empirical findings," *Front. public Heal.*, vol. 9, p. 641673, 2021, doi: https://doi.org/10.3389/fpubh.2021.641673.

[3] & D. We Are Social, "Digital 2024: Global overview report," We Are Social & Meltwater. [Online]. Available: https://datareportal.com/reports/digital-2024-global-overview-report

[4] A. A. Alalwan, N. P. Rana, Y. K. Dwivedi, and R. Algharabat, "Social media in marketing: A review and analysis of the existing literature," *Telemat. informatics*, vol. 34, no. 7, pp. 1177–1190, 2017, doi: https://doi.org/10.1016/j.tele.2017.05.008.

[5] R. A. Rather, "Monitoring the impacts of tourism-based social media, risk perception and fear on tourist's attitude and revisiting behaviour in the wake of COVID-19 pandemic," *Curr. Issues Tour.*, vol. 24, no. 23, pp. 3275–3283, 2021, doi: https://doi.org/10.1080/13683500.2021.1884666.

[6] M. V. Emeralda and K. Kurniawati, "Analisis Pengaruh Social Media Marketing dan Influencer Marketing Terhadap Brand Loyalty dengan Brand Trust dan Brand Equity sebagai Mediasi," *Eqien-Jurnal Ekon. dan Bisnis*, vol. 11, no. 1, pp. 1269–1273, 2022, doi: https://doi.org/10.34308/eqien.v11i1.866.

[7] C. Lou and S. Yuan, "Influencer marketing: How message value and credibility affect consumer trust of branded content on social media," *J. Interact. Advert.*, vol. 19, no. 1, pp. 58–73, 2019, doi: https://doi.org/10.1080/15252019.2018.1533501.

[8] A. P. Schouten, L. Janssen, and M. Verspaget, "Celebrity vs. Influencer endorsements in advertising: the role of identification, credibility, and Product-Endorser fit," *Int. J. Advert.*, vol. 39, no. 2, pp. 258–281, 2020, doi: https://doi.org/10.1080/02650487.2019.1634898.

[9] K. Sokolova and H. Kefi, "Instagram and YouTube bloggers promote it, why should I buy? How credibility and parasocial interaction influence purchase intentions," *J. Retail. Consum. Serv.*, vol. 53, p. 101742, 2020, doi: https://doi.org/10.1016/j.jretconser.2019.01.011.

[10] A. J. Kim and K. K. P. Johnson, "Power of consumers using social media: Examining the influences of brand-related user-generated content on Facebook," *Comput. Human Behav.*, vol. 58, pp. 98–108, 2016, doi: https://doi.org/10.1016/j.chb.2015.12.047.

[11] R. S. Ebrahim, "The role of trust in understanding the impact of social media marketing on brand equity and brand loyalty," *J. Relatsh. Mark.*, vol. 19, no. 4, pp. 287–308, 2020, doi: https://doi.org/10.1080/15332667.2019.1705742.

[12] M. Naumi, C. W. Hidayat, and E. Sarwoko, "Peran brand image sebagai mediasi pengaruh brand ambassador dan social media marketing terhadap minat beli produk," *MBR (Management Bus. Rev.*, vol. 7, no. 2, pp. 194–203, 2023, doi: https://doi.org/10.21067/mbr.v7i2.9044.

[13] M. Sugiyono, "Penelitian dan Pengembangan Research and Development," *Bandung Alf.*, 2019.

[14] J. F. Hair Jr *et al.*, "Evaluation of reflective measurement models," *Partial least squares*

Struct. Equ. Model. using R A Workb., pp. 75–90, 2021.

[15] J. Hair and A. Alamer, "Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example," *Res. methods Appl. Linguist.*, vol. 1, no. 3, p. 100027, 2022.