

The Mediating Role of Algorithmic Visibility in the Relationship Between Perceived Influencer Narcissism and Consumer Manipulation

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Abstract – Social media influencers play an increasingly prominent role in shaping consumer perceptions and purchasing decisions. Although previous studies have examined positive outcomes such as engagement and purchase intention, less attention has been paid to how platform algorithms amplify influencer content and strengthen its persuasive effects. This study investigates whether algorithmic visibility mediates the relationship between perceived influencer narcissism and consumer manipulation among Indonesian digital consumers. A quantitative survey is conducted with 200 social media users in Bali who regularly engage with influencers promoting small and medium enterprises. The data are analyzed using partial least squares structural equation modeling. The findings indicate that perceived influencer narcissism does not directly influence consumer manipulation ($\beta = 0.038, p = 0.505$). However, it significantly increases algorithmic visibility ($\beta = 0.684, p < 0.001$), which in turn has a significant positive effect on consumer manipulation ($\beta = 0.612, p < 0.001$). The indirect effect is also significant ($\beta = 0.418, p < 0.001$), confirming a full mediation relationship. These results suggest that persuasive influence is driven less by influencer characteristics alone than by algorithmic amplification, which increases content exposure and reinforces persuasive messages. The study extends the literature on influencer marketing by highlighting algorithmic visibility as a key mechanism linking influencer self-presentation to consumer responses in digital environments.

Keywords: *perceived influencer narcissism; algorithmic visibility; consumer manipulation; influencer marketing; social media consumers*

I. INTRODUCTION

Digital marketing has reshaped the structure of modern markets, particularly in developing countries where social media platforms have become central to commercial communication (Jibril et al., 2024). Influencers now play a strategic role in shaping consumer perceptions, brand credibility, and purchasing behavior (Khurana et al., 2025). Their visibility and influence, however, are not determined solely by content quality or expertise but also by algorithmic systems that prioritize engagement, virality, and attention metrics.

Within this environment, influencers who display narcissistic traits, such as excessive self-promotion, grandiose self-presentation, and a strong need for admiration, tend to attract higher engagement and, consequently, greater algorithmic amplification (Okazaki et al., 2021). Platform algorithms often reward personality-driven content that captures attention rather than content that promotes informed and rational consumer decision-making. In developing countries, where digital literacy and regulatory mechanisms are still evolving, this dynamic has intensified concerns about the ethical boundaries of influencer-based digital marketing (Khalfallah & Keller, 2025).

Examining this phenomenon is important for several reasons. Influencer marketing has become one of the most dominant digital marketing strategies in emerging markets, largely due to declining trust in traditional advertising and the perceived authenticity of influencer recommendations (Hasan et al., 2024). However, when narcissistic influencer behavior is systematically amplified by platform algorithms, digital marketing risks shifting from persuasive communication to

consumer manipulation (Mas Manchón & Badajoz Dávila, 2022).

Consumer manipulation in digital marketing refers to persuasive practices that reduce consumers' ability to make fully rational and autonomous decisions by relying on emotional influence, repeated exposure, social pressure, or concealed promotional intent. Unlike conventional persuasion, which still allows consumers to critically evaluate marketing messages, consumer manipulation exploits cognitive biases and psychological vulnerability to encourage behavioral compliance or uncritical acceptance (Yuan et al., 2023). In influencer marketing contexts, manipulation may occur when promotional messages are embedded within entertainment- or lifestyle-oriented content, making commercial intentions less visible and more difficult for audiences to recognize. From a marketing perspective, manipulative influence may generate short-term engagement and purchase outcomes, but it may also weaken long-term consumer trust, reduce perceived platform credibility, and raise ethical concerns regarding digital marketing practices.

From a strategic perspective, digital marketing transformation cannot be understood solely as a technological upgrade. It also involves behavioral, psychological, and algorithmic interactions that reshape market power and consumer autonomy (Dwivedi et al., 2021). Understanding how influencer narcissism interacts with algorithmic visibility is therefore essential for explaining the unintended consequences of digital transformation in contemporary marketing systems.

Despite extensive research on influencer marketing and digital transformation, several critical gaps remain. First, existing studies largely emphasize positive outcomes such as brand engagement, trust, and purchase intention (Hermenda et al., 2019; Mulyadi et al., 2025), while giving limited attention to the potentially harmful effects of influencer-driven persuasion. Second, research on narcissism has typically focused on individual personality outcomes without examining how digital platforms structurally amplify such traits through algorithmic mechanisms (Wang et al., 2023).

Third, algorithmic visibility is often treated as a technical background feature rather than as an active mediating force shaping how influence translates into consumer behavior.

In addition, prior findings regarding influencer communication and consumer response remain inconclusive. Several studies suggest that influencer self-presentation and emotional engagement strengthen consumer trust and purchase intention (Belanche et al., 2024; Hasan et al., 2024). By contrast, others argue that excessive self-promotion and attention-seeking communication reduce message credibility and increase audience skepticism, particularly when promotional intent is explicit (Wang et al., 2023). These inconsistent findings indicate that the impact of narcissistic communication may depend not only on influencer characteristics but also on structural conditions shaping content exposure and audience interpretation. Despite this theoretical tension, limited research has examined how algorithmic visibility may influence the relationship between perceived influencer narcissism and consumer manipulation.

Empirical research in developing countries remains underrepresented as well. Much of the current evidence comes from developed economies with higher levels of digital literacy, stronger consumer protection frameworks, and more mature platform governance. This creates a contextual gap in understanding how algorithm-driven influencer marketing operates in emerging markets.

This gap is significant because developing countries represent some of the fastest-growing digital consumer markets. In these contexts, unchecked algorithmic amplification of narcissistic influencers may increase consumer vulnerability, normalize manipulative marketing practices, and weaken trust in digital platforms over time. Without empirical insights into these mechanisms, policymakers and practitioners risk misdiagnosing the source of consumer harm by attributing manipulation solely to influencer behavior while overlooking the systemic role of platform algorithms. To improve conceptual alignment, this study treats the term “digital marketing transformation” only as a contextual background describing the

broader evolution of platform-based marketing environments rather than as a directly measured construct. Accordingly, the empirical model focuses on the relationships among perceived influencer narcissism, algorithmic visibility, and consumer manipulation in social media marketing contexts.

This study addresses these limitations by empirically examining the mediating role of algorithmic visibility in the relationship between influencer narcissism and consumer manipulation within the context of digital marketing transformation in developing countries. By integrating perspectives from consumer psychology, digital marketing, and platform theory, it offers a more comprehensive explanation of how influence is constructed, amplified, and translated into consumer outcomes. Rather than treating algorithmic systems as neutral tools, this research positions them as active mechanisms that shape market behavior and consumer experiences.

This study makes several important contributions. First, it extends the digital marketing literature by highlighting the dark side of influencer-based marketing, shifting the focus from effectiveness to ethical and behavioral implications. Second, it advances influencer marketing theory by conceptualizing algorithmic visibility as a mediating mechanism rather than a passive technological feature. Third, it enriches consumer behavior research by demonstrating how algorithmically amplified narcissistic communication can undermine consumer autonomy and rational decision-making. Finally, the study provides practical insights for platform designers, marketers, and policymakers seeking to promote responsible and sustainable digital marketing practices in developing countries.

Self-presentation theory explains how individuals consciously manage impressions in social interactions to influence how they are perceived by others (Boursier et al., 2020). In digital environments, self-presentation becomes highly strategic because individuals can carefully curate images, narratives, and behaviors to project desirability, authority, and credibility (Walther & Lew, 2022). Social media platforms provide ideal conditions for

impression management, allowing influencers to continuously refine and amplify their self-image (Sun et al., 2021). In this study, perceived influencer narcissism refers to consumers' perceptions of influencers' exaggerated self-presentation, excessive self-promotion, superiority display, and attention-seeking behavior on social media platforms. Rather than measuring narcissism as a clinical personality trait, the study focuses on how narcissistic communication styles are interpreted and evaluated by audiences in digital marketing environments. This distinction is important because consumer responses are shaped primarily by observable communication behavior rather than by the actual psychological condition of the influencer.

Influencers with narcissistic tendencies are motivated to engage in exaggerated self-presentation (Moon et al., 2016). They emphasize personal success, uniqueness, and superiority to attract admiration and social validation. In influencer marketing, self-presentation often appears as confidence, expertise, and authenticity, which can reduce consumers' critical evaluation of promotional messages (Belanche et al., 2024). As a result, self-presentation driven by narcissistic traits can shift persuasive communication toward manipulative influence, especially when commercial intent is not clearly disclosed.

Algorithmic gatekeeping theory explains how digital platforms control information flow through automated ranking, filtering, and recommendation systems (Garajamirli, 2025). Algorithms determine which content receives visibility based on engagement metrics, thereby shaping public attention and influence. Unlike traditional gatekeepers, algorithmic systems operate continuously and at scale, making their effects more pervasive and less transparent (Scheffauer et al., 2023). Algorithmic visibility in this study refers to the extent to which influencer content is amplified, prioritized, and repeatedly exposed to users through platform recommendation systems and engagement-based ranking mechanisms. In social media environments, algorithms determine which content receives greater prominence, frequency, and reach. Thus, visibility is not entirely organic but is structurally influenced by automated

platform systems designed to maximize user interaction and engagement.

In influencer marketing, algorithmic gatekeeping transforms individual communication strategies into market-level outcomes. Content that generates strong emotional reactions and high engagement is more likely to be amplified, increasing exposure and perceived popularity (Milli et al., 2025). Consequently, algorithmic visibility becomes a structural mechanism that magnifies certain influencer characteristics and intensifies their impact on consumer behavior. Theoretical tension also exists regarding the source of persuasive influence in social media environments. Self-presentation theory explains how influencers strategically construct desirable identities to attract attention and social approval, whereas algorithmic gatekeeping theory emphasizes how platform systems amplify certain forms of communication based on engagement metrics. While the first perspective focuses on individual communication behavior, the second highlights structural visibility mechanisms controlled by digital platforms. Integrating these perspectives suggests that persuasive influence may emerge not solely from influencer characteristics but also from the interaction between strategic self-presentation and algorithmic amplification processes. Accordingly, this study positions algorithmic visibility as an intervening mechanism linking perceived influencer narcissism and consumer manipulation.

Drawing on self-presentation theory and algorithmic gatekeeping theory, this study positions influencer narcissism as a driver of strategic self-presentation designed to attract attention and admiration (Huang & Liu, 2020). Platform algorithms then amplify this content by increasing visibility, reach, and repetition. Increased exposure strengthens perceived credibility and social proof, making consumers more susceptible to manipulative influence (Hassan et al., 2025). In this process, algorithmic visibility functions as a mediating mechanism linking influencer narcissism to consumer manipulation.

H1: Influencer narcissism positively influences consumer manipulation.

Consumer manipulation in this study refers to a condition in which consumers experience reduced critical evaluation and become more susceptible to persuasive pressure due to emotional influence, repeated exposure, and limited recognition of promotional intent within social media communication. Unlike general persuasion, the construct involves lower consumer awareness and autonomy when interpreting marketing messages (Yuan et al., 2023). Perceived influencer narcissism is associated with exaggerated self-presentation, excessive self-promotion, and the projection of superiority, attractiveness, and authority in digital environments (Misiak et al., 2025). Influencers with narcissistic communication styles often portray themselves as aspirational figures whose lifestyles, opinions, and recommendations deserve admiration and imitation. Such communication may blur the line between authentic social interaction and strategic commercial persuasion (Collins & Stukas, 2008).

This relationship can also be understood through the persuasion knowledge model, which explains that consumers generally develop awareness and coping strategies when recognizing persuasive intent in marketing communication (Friestad & Wright, 1994). However, influencer-generated content is often embedded within entertainment-oriented and highly personalized communication, making promotional intent less explicit and more difficult to evaluate critically. Under such conditions, consumers may interpret persuasive messages as authentic recommendations rather than commercial influence attempts.

The elaboration likelihood model suggests that consumers in social media environments often rely on peripheral cues rather than systematic cognitive evaluation when processing marketing information (Petty & Cacioppo, 1986). Influencer attractiveness, confidence, popularity, and perceived expertise may serve as heuristic signals shaping consumer judgment without extensive rational assessment. Narcissistic self-presentation may therefore strengthen persuasive influence by increasing symbolic appeal and social desirability.

Repeated exposure to highly curated influencer content may encourage consumers to rely more on symbolic authority and social validation than on objective evaluation (Patwa et al., 2024). From the perspective of social proof theory, visible engagement indicators, such as likes, comments, shares, and repeated algorithmic exposure, may reinforce the perception that influencer-endorsed opinions are socially accepted and trustworthy, thereby increasing susceptibility to persuasive influence. As a result, persuasive communication may shift toward manipulative influence, particularly when commercial intent is insufficiently disclosed or critically recognized by audiences. Although previous studies have reported inconsistent findings regarding the direct impact of narcissistic communication on consumer response, this study proposes that perceived influencer narcissism positively influences consumer manipulation because exaggerated self-presentation and symbolic authority can reduce critical processing in digital marketing environments.

H2: Influencer narcissism positively influences algorithmic visibility.

Digital platforms rely on algorithmic systems that prioritize content based on engagement indicators, such as likes, comments, shares, and viewing duration (Metzler & Garcia, 2024). Narcissistic self-presentation aligns with these mechanisms because it often elicits emotional reactions, admiration, and intense interaction from audiences (Maulana & Lawelai, 2025). Content highlighting personal success, confidence, and exclusivity tends to attract attention and stimulate engagement, which are key inputs for algorithmic ranking processes (Kuai et al., 2025).

Thus, influencers who display narcissistic traits are more likely to benefit from increased algorithmic visibility, not necessarily because of content quality but because their communication style aligns with platform incentives (Saroya, 2024). Over time, this process systematically amplifies narcissistic influencers, expanding their reach and reinforcing their market influence.

H3: Algorithmic visibility positively influences consumer manipulation.

Algorithmic visibility plays a critical role in shaping consumer perceptions by controlling the frequency and prominence of influencer content (Yuwantiningrum & Suwastika, 2024). Higher visibility leads to repeated exposure, which can create familiarity, perceived popularity, and social proof. When consumers encounter the same influencer messages across multiple digital touchpoints, they may perceive the content as more credible and socially endorsed (V I De Araujo et al., 2025).

This repeated exposure can reduce consumers' motivation to scrutinize persuasive intent, particularly in environments where influencer marketing is normalized as entertainment or lifestyle content. As a consequence, algorithmic visibility may intensify persuasive effects and increase consumers' susceptibility to manipulation by reinforcing acceptance rather than critical evaluation (Yuan et al., 2023).

H4: Algorithmic visibility mediates the relationship between influencer narcissism and consumer manipulation.

While influencer narcissism may directly affect consumer behavior through persuasive self-presentation, its broader impact cannot be fully understood without considering the role of platform algorithms (Fegan & Bland, 2021). Algorithmic visibility functions as a structural mechanism that transforms individual-level personality traits into large-scale influence. Narcissistic communication alone does not guarantee manipulation; it becomes more powerful when amplified by algorithmic systems that increase reach, repetition, and perceived legitimacy (Fang & Jin, 2022).

Through this amplification process, algorithmic visibility explains how and why influencer narcissism translates into consumer manipulation. Rather than acting as a simple background condition, algorithmic visibility mediates the relationship by intensifying exposure and shaping consumer interpretation of influencer messages (Suherman, 2025).

Based on the integration of self-presentation theory and algorithmic gatekeeping theory, this study proposes a conceptual framework in which influencer narcissism functions as an individual-level driver of strategic self-presentation, algorithmic visibility operates as a structural amplification mechanism, and consumer manipulation emerges as the behavioral outcome. Influencer narcissism is expected to directly influence consumer manipulation while simultaneously increasing algorithmic visibility through engagement-oriented platform dynamics. Algorithmic visibility, in turn, intensifies exposure and perceived legitimacy, thereby reinforcing manipulative influence on consumers. The proposed research framework illustrating the hypothesized relationships among influencer narcissism, algorithmic visibility, and consumer manipulation can be seen in Figure 1.

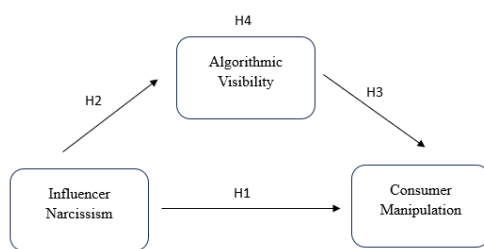


Figure 1. Theoretical Framework

II. RESEARCH METHODS

This study was conducted in Bali, Indonesia, and focused on digital consumers who actively engage with influencer-generated content related to small and medium enterprises (SMEs) through social media platforms. Digital consumers were selected as the unit of analysis because they are the primary audience exposed to influencer marketing practices and algorithm-driven content distribution. Therefore, their experiences and perceptions are directly relevant for examining how influencer characteristics and platform mechanisms shape consumer responses in digital marketing contexts. Bali was selected as the research context due to its rapidly growing digital economy, strong dependence on tourism-related SMEs, and intensive use of social media

marketing among local businesses and consumers. The province has experienced substantial growth in digital commerce and influencer-based promotion, particularly in the culinary, fashion, hospitality, beauty, and creative industries. Social media platforms such as Instagram, TikTok, and YouTube are widely used by SMEs and local influencers to promote products and services, making Bali a relevant setting for examining influencer communication and algorithm-driven visibility in digital marketing environments. In addition, Bali is an emerging digital consumer market with increasing platform engagement and evolving digital literacy patterns, which are relevant for understanding persuasive influence in social media ecosystems.

A quantitative research approach was adopted, using structured questionnaires distributed to individuals who had previously followed influencers, interacted with influencer content, or encountered influencer-based promotions for SME products or services. Purposive sampling was used to ensure that respondents had adequate exposure to the phenomenon under investigation, including influencer communication styles, algorithmically amplified content, and persuasive marketing messages. This approach allowed the study to capture informed evaluations of influencer behavior, perceived content visibility, and consumer responses. The respondents consisted of active social media users who regularly interacted with influencer-generated content related to SME products or services. They were required to meet several criteria, including (1) actively using social media platforms (e.g., Instagram, TikTok, or YouTube), (2) following at least one social media influencer, and (3) having previous experience viewing, engaging with, or responding to influencer-promoted content. These criteria were applied to ensure that respondents possessed sufficient familiarity with influencer communication patterns and algorithmically recommended content. The study focused on digitally active consumers because they are more likely to experience repeated exposure to influencer marketing and platform-driven visibility mechanisms within everyday online interactions.

Given the dynamic and expanding nature of social media usage in Bali, the exact population size of digital consumers could not be established and was therefore treated as effectively infinite. Sample size was determined following Hair (2022), who recommended a minimum of 5–10 respondents per indicator in the measurement model when applying partial least squares structural equation modeling (PLS-SEM). The measurement model comprised 15 indicators across three latent constructs: influencer narcissism, algorithmic visibility, and consumer manipulation. Based on this guideline, the minimum required sample ranged from 75 to 150 respondents. To enhance statistical power and ensure robust estimation of mediation effects, 200 valid responses were collected, which is sufficient for PLS-SEM analysis. Nevertheless, because purposive sampling and a single regional context were employed, the findings should be interpreted with caution and may not be fully generalizable to all digital consumers or developing-country contexts. The study aimed to provide contextual insights into influencer marketing dynamics within Bali's digital environment rather than to represent all emerging markets.

The questionnaire measured all constructs using multiple indicators rated on a five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Influencer narcissism was measured through items capturing excessive self-promotion, grandiose self-presentation, perceived superiority, and attention-seeking behavior. Algorithmic visibility was assessed through indicators reflecting the perceived frequency, prominence, and repeated exposure of influencer content, including content recommendations and amplification. Consumer manipulation was measured using items related to perceived persuasive pressure, reduced critical evaluation, emotional influence, and difficulty distinguishing promotional intent from genuine recommendations.

To improve measurement transparency and research replicability, all questionnaire items and operational indicators are presented in a separate measurement table, including construct definitions, indicator codes, and supporting references. All questionnaire items were close-ended and formulated to capture

consumers' subjective evaluations of influencer behavior, platform-driven exposure, and their behavioral and psychological responses to influencer marketing content. This measurement approach ensured consistency, scalability, and comparability across respondents while remaining suitable for structural equation modeling in digital marketing and consumer behavior research.

PLS-SEM was used to test the proposed hypotheses. It enables the simultaneous assessment of the measurement model, including indicator reliability, convergent validity, and discriminant validity, and the structural model, which evaluates the hypothesized relationships among influencer narcissism, algorithmic visibility, and consumer manipulation. PLS-SEM is appropriate for this study due to its robustness in handling non-normal data distributions and its suitability for mediation analysis in exploratory and theory-building research contexts (Nitzl et al., 2016).

Data analysis was conducted using PLS-SEM version 4.0. The reliability and validity of the measurement model were evaluated prior to testing the structural paths and indirect effects. Bootstrapping procedures were applied to assess the significance of the direct and indirect relationships, providing empirical evidence on the role of algorithmic visibility as a mediator between influencer narcissism and consumer manipulation in SME digital marketing.

The measurement model evaluation included indicator loading assessment, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) to ensure construct reliability and convergent validity. Discriminant validity was further assessed using the Fornell–Larcker criterion and heterotrait–monotrait ratio (HTMT). Structural model evaluation included path coefficient analysis, coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2), and standardized root mean square residual (SRMR) to assess overall model adequacy and predictive capability.

As all variables were collected using a single self-reported questionnaire, common method bias (CMB) diagnostics were also conducted.

Harman's single-factor test indicated that no single factor accounted for the majority of variance, suggesting that CMB was unlikely to substantially affect the results. In addition, full collinearity variance inflation factor (VIF)

values were examined, and all constructs remained below the recommended threshold, further indicating that CMB was not a critical concern in this study.

III. RESULTS AND DISCUSSION

This section presents the demographic characteristics of the survey respondents. Descriptive analysis was used to provide an overview of the respondents' profiles and ensure that the sample adequately represented digital consumers who are exposed to in

influencer-based marketing and algorithm-driven content on social media platforms. A total of 200 valid responses were included in the analysis. The detailed demographic distribution of the respondents is presented in Table 1.

Table 1. Descriptive Profile of the Respondents

Profile	Category	Frequency	Percentage (%)
Gender	Male	94	47
	Female	106	53
Age	18–24 years	48	24
	25–34 years	82	41
	35–44 years	46	23
	Above 44 years	24	12
Education Level	Senior High School	36	18
	Diploma	42	21
	Bachelor's Degree	92	46
	Postgraduate Degree	30	15
Occupation	Student	44	22
	Private Employee	76	38
	Entrepreneur	54	27
	Others	26	13
Social Media Usage (per day)	< 2 hours	28	14
	2–4 hours	68	34
	4–6 hours	66	33
	> 6 hours	38	19
Frequency of Exposure to Influencer Content	Occasionally	42	21
	Frequently	98	49
	Very Frequently	60	30

Table 1 presents a relatively balanced gender distribution, with a slightly higher proportion of female participants. Most respondents fall within the 25–34 age group, which represents

the most active segment of digital consumers and social media users. This age group is particularly relevant to influencer marketing

studies, as they are highly engaged with digital content and online purchasing activities.

In terms of educational background, most respondents hold at least a bachelor's degree, suggesting adequate cognitive ability to evaluate influencer content while still being susceptible to persuasive digital communication. Private employees and entrepreneurs dominate the sample, reflecting the economic relevance of digital consumption in the SME context.

Regarding digital behavior, a significant proportion of respondents spend more than 2 hours per day on social media, with nearly half

reporting frequent exposure to influencer-generated content. This confirms that the sample consists of respondents who are sufficiently immersed in algorithm-driven social media environments, making them appropriate for examining the relationships among influencer narcissism, algorithmic visibility, and consumer manipulation. The reliability and convergent validity of the measurement model were assessed prior to testing the structural relationships. This evaluation ensured that all constructs met the required standards of internal consistency and validity before proceeding to hypothesis testing. The results of the construct reliability and validity assessment are presented in Table 2.

Table 2. Construct Reliability and Validity

	Indicator Statement	Outer Loading	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted
Algorithmic visibility	Influencer content frequently appears on my social media feed.	0.941	0.967	0.969	0.975	0.885
	Influencer posts are repeatedly recommended to me by the platform.	0.956	0.967	0.969	0.975	0.885
	Influencer content is often prioritized over other content on my feed.	0.934	0.967	0.969	0.975	0.885
	I encounter the same influencer content across multiple digital touchpoints.	0.947	0.967	0.969	0.975	0.885
	The platform consistently amplifies influencer content through recommendations.	0.959	0.967	0.969	0.975	0.885

Consumer manipulation	Influencer content makes me feel pressured to accept product recommendations.	0.948	0.971	0.972	0.977	0.897
	I find it difficult to critically evaluate products promoted by influencers.	0.961	0.971	0.972	0.977	0.897
	Influencer promotions emotionally influence my purchasing decisions.	0.952	0.971	0.972	0.977	0.897
	I tend to trust influencer recommendations without much skepticism.	0.943	0.971	0.972	0.977	0.897
	It is hard to distinguish between genuine opinions and paid promotions.	0.967	0.971	0.972	0.977	0.897
Influencer narcissism	The influencer frequently highlights personal success and achievements.	0.782	0.733	0.760	0.799	0.546
	The influencer portrays themselves as superior to others.	0.744	0.733	0.760	0.799	0.546
	The influencer seeks excessive attention and admiration from followers.	0.731	0.733	0.760	0.799	0.546
	The influencer exaggerates their expertise or authority.	0.701	0.733	0.760	0.799	0.546
	The influencer prioritizes self-promotion over informative content.	0.756	0.733	0.760	0.799	0.546

Table 2 presents the results of the reliability and validity analyses. Specifically, the

measurement model was evaluated for the reliability and convergent validity of the

constructs used in this study, including algorithmic visibility, consumer manipulation, and influencer narcissism. The results indicate that all constructs meet the recommended criteria for internal consistency and validity, supporting their suitability for subsequent structural model analysis.

Algorithmic visibility demonstrates exceptionally strong measurement properties. All five indicators exhibit high outer loading values (0.934–0.959), exceeding the recommended threshold of 0.70. These results suggest that respondents consistently perceived the prominence, frequency, and repeated exposure of influencer content within their social media environments. The high Cronbach's alpha (0.967), CR values ($\rho_a = 0.969$; $\rho_c = 0.975$), and AVE (0.885) indicate a high degree of internal consistency and convergent validity. This finding aligns with the conceptualization of algorithmic visibility as a structurally reinforced exposure mechanism that operates consistently across digital platforms, reinforcing the role of algorithms in amplifying influencer content.

Consumer manipulation also exhibits strong reliability and validity. The outer loadings for all indicators range from 0.943 to 0.967, indicating that the items effectively capture consumers' perceived persuasive pressure, emotional influence, and reduced critical evaluation when exposed to influencer marketing. The high reliability coefficients (Cronbach's alpha = 0.971; $\rho_a = 0.972$; $\rho_c = 0.977$) and AVE value (0.897) confirm that consumer manipulation is a well-defined latent construct in this study. These results support the argument that manipulative

influence in digital marketing contexts is not a single-dimensional phenomenon but a combination of emotional, cognitive, and interpretive responses shaped by repeated and algorithmically curated exposure.

By contrast, influencer narcissism displays moderately high outer loading values (0.701–0.782). While lower than those of the other constructs, these loadings exceed the minimum acceptable threshold, indicating adequate indicator reliability. The Cronbach's alpha value of 0.733 suggests satisfactory internal consistency, while the AVE value of 0.546 confirms acceptable convergent validity. This pattern is theoretically meaningful, as influencer narcissism is a perceptual and psychological construct that may manifest in more varied and subjective ways compared with structurally driven constructs such as algorithmic visibility. The indicators reflect different dimensions of narcissistic self-presentation, including self-promotion, perceived superiority, attention-seeking behavior, and exaggerated authority, which consumers may interpret differently.

Overall, the measurement model indicates that all constructs are measured reliably and validly, providing a solid empirical foundation for examining the relationships among influencer narcissism, algorithmic visibility, and consumer manipulation. The findings also reinforce the conceptual distinction between individual-level influencer traits and platform-level amplification mechanisms, which is central to understanding the unintended consequences of digital marketing transformation in developing-country contexts.

Table 3. Discriminant Validity Assessment Using Fornell–Larcker Criterion

Construct	Algorithmic Visibility	Consumer Manipulation	Influencer Narcissism
Algorithmic Visibility	0.941		
Consumer Manipulation	0.882	0.947	
Influencer Narcissism	0.731	0.505	0.739

The Fornell–Larcker criterion in Table 3 confirms satisfactory discriminant validity, as

the square root of the AVE for each construct exceeds its correlation with other constructs.

Algorithmic visibility has a square root AVE value of 0.941, consumer manipulation has 0.947, and influencer narcissism has 0.739.

These results indicate that each construct adequately captures its intended concept and remains empirically distinct from the others.

Table 4. HTMT Ratio Assessment

Construct	Algorithmic Visibility	Consumer Manipulation	Influencer Narcissism
Algorithmic Visibility			
Consumer Manipulation	0.896		
Influencer Narcissism	0.781	0.612	

All HTMT values are below the recommended threshold of 0.90, indicating acceptable discriminant validity among the constructs. The highest HTMT value is found between algorithmic visibility and consumer

manipulation (0.896), but it remains within acceptable limits. Therefore, the constructs are considered sufficiently distinct and free from critical discriminant validity problems.

Table 5. Structural Model Assessment

Variable	R ²	Q ²	f ²
Algorithmic Visibility	0.534	0.421	1.146
Consumer Manipulation	0.879	0.768	0.505

The structural model in Table 5 demonstrates strong predictive capability. Algorithmic visibility obtained an R² value of 0.534, indicating that perceived influencer narcissism explains 53.4% of the variance in algorithmic visibility. Consumer manipulation produced an R² value of 0.879, suggesting that perceived influencer narcissism and algorithmic visibility jointly explain 87.9% of the variance in consumer manipulation. The Q² values for both endogenous constructs are greater than zero, indicating satisfactory predictive relevance.

Algorithmic visibility achieved a Q² value of 0.421, while consumer manipulation produced a Q² value of 0.768, confirming strong predictive accuracy of the model. The effect size (f²) results indicate that perceived influencer narcissism exerts a strong effect on algorithmic visibility (f² = 1.146). Meanwhile, the structural relationships toward consumer manipulation demonstrate a moderate-to-strong effect size (f² = 0.505), indicating meaningful explanatory contribution within the proposed model.

Table 6. Model Fit Assessment

Model Fit Indicator	Value	Recommended Threshold	Result
SRMR	0.071	< 0.080	Good Fit

Table 6 reveals that the SRMR value of 0.071 is below the recommended threshold of 0.080, indicating that the structural model demonstrates acceptable overall model fit. This result suggests that the proposed PLS-SEM

model adequately represents the observed data and is suitable for explaining the relationships among perceived influencer narcissism, algorithmic visibility, and consumer manipulation.

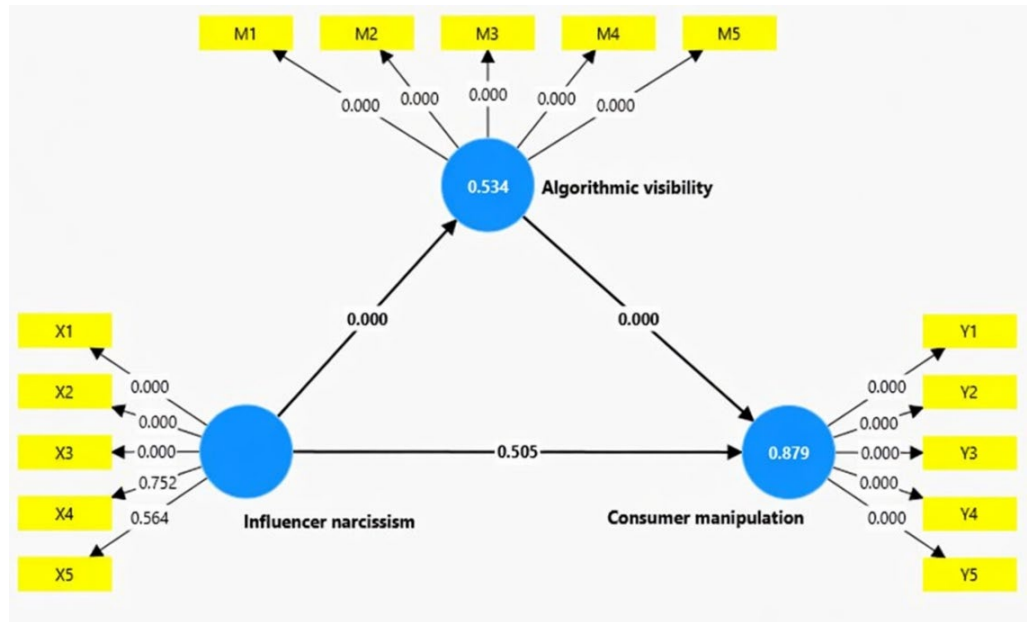


Figure 2. Structural Equation Model Testing

Table 7. Regression Weight Structural Equational Model

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Algorithmic visibility -> Consumer manipulation	0.612	0.618	0.072	8.50	0.000
Influencer narcissism -> Algorithmic visibility	0.684	0.679	0.064	10.688	0.000
Influencer narcissism -> Consumer manipulation	0.038	0.033	0.057	0.666	0.505
Influencer narcissism -> Algorithmic visibility -> Consumer manipulation	0.418	0.42	0.071	5.887	0.000

Figure 2 and Table 7 summarize the structural model results, which provide empirical support for the proposed relationships among perceived influencer narcissism, algorithmic visibility, and consumer manipulation. The findings indicate that algorithmic visibility plays an important role in strengthening the relationship between influencer communication style and consumer responses within social media marketing contexts.

The path from algorithmic visibility to consumer manipulation shows a strong and positive effect ($\beta = 0.612$, $t = 8.50$, $p < 0.001$).

This result indicates that higher levels of perceived algorithmic amplification, such as frequent appearance, prioritization, and repeated exposure of influencer content, are associated with higher levels of perceived consumer manipulation. Repeated exposure and enhanced prominence may reduce consumers' critical evaluation and reinforce their acceptance of persuasive messages. This finding is consistent with previous studies suggesting that repeated digital exposure can increase persuasive effectiveness and perceived message legitimacy within platform-based communication environments.

The relationship between perceived influencer narcissism and algorithmic visibility is also positive and statistically significant ($\beta = 0.684$, $t = 10.688$, $p < 0.001$). This finding suggests that narcissistic self-presentation, characterized by excessive self-promotion and attention-seeking behavior, aligns with engagement-oriented platform algorithms. Influencers displaying such communication styles are more likely to receive greater visibility through algorithmic recommendation systems. This result supports prior research arguing that social media algorithms tend to prioritize emotionally engaging and interaction-generating content.

By contrast, the direct effect of perceived influencer narcissism on consumer manipulation is not statistically significant ($\beta = 0.038$, $t = 0.666$, $p = 0.505$). This result suggests that perceived narcissistic communication alone may not be sufficient to directly manipulate consumers. The finding differs from earlier studies that directly associated influencer self-presentation with consumer persuasion and purchase behavior. One possible explanation is that consumers in digital environments still maintain a degree of skepticism toward influencer behavior unless such content receives repeated algorithmic reinforcement.

The insignificant direct relationship also suggests that platform exposure mechanisms may be more influential than influencer personality characteristics alone in shaping consumer responses. Rather than functioning independently, influencer communication style and algorithmic visibility appear to operate together within digital marketing environments.

The mediating role of algorithmic visibility provides additional insight into how perceived influencer narcissism may indirectly relate to consumer manipulation. Narcissistic self-presentation appears to become more influential when supported by continuous algorithmic amplification, repeated exposure, and content prioritization. Accordingly, the findings imply that algorithmic visibility may function as an important contextual mechanism linking influencer communication strategies and consumer behavioral responses.

However, these findings should be interpreted within the scope of the study. Since the research applied a cross-sectional design and focused on consumers in Bali, the results reflect contextual associations rather than definitive causal relationships. Different social media environments, cultural contexts, and platform characteristics may produce different patterns of interaction among the constructs.

The findings also contribute to ongoing discussions within influencer marketing literature regarding the role of platform systems in shaping digital persuasion. While some previous studies emphasized influencer authenticity and consumer trust as the primary drivers of engagement, the present study suggests that visibility and repeated exposure may also significantly shape how persuasive messages are perceived by audiences.

From a managerial perspective, the results suggest that engagement metrics and visibility indicators should not automatically be interpreted as signals of content credibility or consumer trust. Brands and marketers may therefore need to consider broader evaluation criteria, including message transparency and audience perception, when selecting influencer partnerships.

For platform providers, the findings indicate that algorithmic recommendation systems may unintentionally strengthen highly self-promotional communication styles. Although this study does not directly evaluate platform ethics or governance, the results suggest the importance of considering how visibility systems influence consumer exposure patterns within digital marketing ecosystems.

In summary, this study suggests that consumer manipulation within influencer marketing environments is associated more strongly with algorithmically amplified exposure than with influencer communication style alone. The findings contribute to the influencer marketing literature by highlighting the mediating role of algorithmic visibility in shaping consumer responses within social media-based marketing contexts.

IV. CONCLUSION

This study concludes that the relationship between perceived influencer narcissism and consumer manipulation is influenced by algorithmic visibility within social media marketing environments. The findings show that perceived influencer narcissism does not have a significant direct effect on consumer manipulation, while algorithmic visibility significantly mediates the relationship between influencer communication style and consumer responses. This suggests that repeated exposure and platform-driven content amplification may strengthen the persuasive impact of influencer communication on digital consumers. The study also indicates that algorithmic visibility is an important mechanism shaping how influencer content is distributed, prioritized, and repeatedly encountered by users. Rather than positioning algorithms as the sole determinant of consumer behavior, the findings suggest that consumer responses are shaped through the interaction between influencer communication patterns and platform visibility systems.

This study has several limitations. First, the use of purposive sampling and data collection limited to consumers in Bali restrict the generalizability of the findings to other regions or digital environments. Second, the study relies on self-reported perceptions collected through a single cross-sectional questionnaire, which may introduce response bias and limit causal interpretation. Third, the construct of influencer narcissism was measured based on consumer perception rather than psychological assessment of influencer personality traits.

Future research could apply longitudinal or experimental designs to better examine causal relationships between algorithmic exposure and consumer behavior. Comparative studies across regions, platforms, or demographic groups may also broaden understanding of how algorithmic visibility influences digital marketing outcomes in different contexts. Future studies may also integrate variables such as digital literacy, consumer skepticism, platform trust, or persuasion knowledge to develop a more comprehensive explanation of consumer responses toward influencer marketing content.

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