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From Influencer Credibility to E-Loyalty Intentions in Social Commerce: Digital Promotional Signals, Brand Authenticity, and the Trust–Engagement Pathway

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Abstract

Drawing on signaling theory and a relational perspective, this study examines how perceived influencer credibility is associated with e-loyalty intentions in influencer-mediated social commerce. Rather than claiming that each individual path is theoretically unexpected, this study positions its contribution in specifying a conditional signal-to-relationship process. Specifically, perceived influencer credibility is conceptualized as a credibility-based digital promotional signal, brand trust and customer engagement are examined as sequential relational mechanisms, and perceived brand authenticity is positioned as an identity-consistency boundary condition in the customer engagement–e-loyalty intention relationship. Using survey data from 372 consumers with influencer-mediated social commerce experience, the data were analyzed using partial least squares structural equation modeling (PLS-SEM). The results show that perceived influencer credibility is positively associated with brand trust, brand trust is positively associated with customer engagement, and customer engagement is positively associated with e-loyalty intentions. The bootstrapped serial indirect association through brand trust and customer engagement is significant, indicating a trust–engagement pathway linking influencer-mediated promotional credibility to e-loyalty intentions. Perceived brand authenticity also positively moderates the customer engagement–e-loyalty intention relationship. Descriptive conditional indirect estimates further suggest that the indirect association through brand trust and customer engagement is stronger at higher levels of perceived brand authenticity; however, this conditional indirect pattern is interpreted conservatively because bootstrapped confidence intervals for the low and high conditional estimates were not directly available. These findings extend influencer marketing research by shifting attention from isolated credibility effects to a theory-driven process explaining how influencer credibility is associated with e-loyalty intentions through trust, engagement, and authenticity-based boundary conditions.

Keywords: social commerce; influencer marketing; influencer credibility; digital promotional signal; brand trust; customer engagement; e-loyalty intentions; brand authenticity; conditional process

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1. Introduction

Social commerce has become an important digital marketplace in which social interaction, content consumption, and commercial decision-making are closely intertwined. Unlike traditional e-commerce, where consumers primarily rely on product information, search

efficiency, and transactional convenience, social commerce embeds consumption within platform-mediated communication, peer interaction, influencer content, live-streaming, short videos, and algorithmically curated recommendations [1–3]. In this environment, consumers often encounter brands through socially embedded cues, influencer narratives, interactive demonstrations, and community-based discussions rather than through brand-controlled information alone. These conditions make social commerce a relevant context for examining how promotional information is interpreted, trusted, and associated with longer-term brand-related responses.

Influencer marketing has become one of the most visible promotional forms in social commerce. Social media influencers translate commercial messages into personal, narrative, interactive, and socially relatable communication. This role is particularly important in short-video and live-streaming commerce, where consumers encounter brands through influencer recommendations, product demonstrations, storytelling, and real-time interaction. However, influencer communication is also characterized by commercial intent, sponsorship ambiguity, algorithmic amplification, and possible mismatch among influencers, brands, and consumer expectations. Therefore, influencer content should not be understood only as interpersonal recommendation or entertainment. It also operates as a platform-mediated promotional cue through which consumers judge whether brand-related information is credible, diagnostic, and worthy of further relational attention [4,5].

Prior influencer marketing research has shown that influencer credibility, trust, authenticity, parasocial relationships, attachment, social attractiveness, and follower engagement are associated with consumer attitudes, purchase intention, recommendation behavior, and brand loyalty [4–7]. Meta-analytic evidence also indicates that influencer marketing is associated with consumer attitudes, behavioral engagement, purchase intention, purchase behavior, and sales, with source credibility playing an important explanatory role [5]. Recent work on the creator economy further suggests that influencer marketing should be understood as part of a broader value-creation system involving creators, brands, followers, and digital platforms [8]. However, much of the existing literature continues to treat influencer credibility mainly as a source attribute that enhances persuasion. Less attention has been paid to how influencer credibility functions as a brand-relevant promotional signal under the commercial uncertainty of social commerce, and how this signal is relationally translated into e-loyalty intentions.

This distinction is theoretically important. Traditional source credibility research explains why a communicator perceived as expert, trustworthy, or attractive may be persuasive [9]. Signaling theory addresses a different question: how consumers use observable cues to infer less observable qualities under information asymmetry [10]. In influencer-mediated social commerce, consumers must interpret whether influencer-endorsed content is merely sponsored persuasion or a credible cue that can inform their evaluation of the endorsed brand. Applying signaling theory to this context suggests that perceived influencer credibility may operate as a credibility-based digital promotional signal. The theoretical issue is therefore not only whether credible influencers are persuasive, but how their perceived credibility is associated with brand-level trust inferences and subsequent relational responses.

A related issue is that influencer effectiveness cannot be fully explained by source credibility alone. Studies on influencer authenticity, perceived warmth, perceived competence, and commercial transparency suggest that consumers also evaluate whether influencers appear sincere, relatable, competent, human, and consistent with the brands they endorse. Related research on the pratfall effect further suggests that minor imperfections or humanized flaws may enhance perceived warmth and interpersonal attractiveness rather than weaken persuasion, particularly when the communicator is otherwise perceived

as competent [11–13]. These perspectives imply that influencer credibility is fragile and context-dependent. Its brand-related implications depend not only on the influencer's perceived expertise or trustworthiness, but also on how consumers interpret the influencer, the endorsed brand, and the commercialized platform environment together.

A second unresolved issue concerns how influencer-mediated promotional signals are associated with loyalty-related responses. Existing studies have frequently examined immediate persuasive outcomes such as brand attitude, purchase intention, content engagement, or intention to follow influencer recommendations [4–7]. Although these outcomes are important, they do not fully explain how influencer-mediated promotion is linked to longer-term brand relationship development. In social commerce, consumers may like, save, comment on, share, or browse brand-related content without developing stable preference or commitment toward the brand. Thus, the engagement–loyalty link should not be treated as self-evident. A more precise theoretical question is how credibility-based influencer signals are associated with e-loyalty intentions through intervening relational mechanisms.

This study addresses this issue by proposing a trust–engagement pathway. From a signaling perspective, perceived influencer credibility may reduce uncertainty and encourage favorable inferences about the endorsed brand. These inferences are reflected in brand trust, which represents consumers' willingness to rely on the brand based on perceived reliability, honesty, and positive intentions. From a relational perspective, brand trust provides a psychological basis for customer engagement because consumers are more likely to devote cognitive, emotional, and behavioral resources to a brand they perceive as dependable. Customer engagement, in turn, may be associated with e-loyalty intentions when repeated interaction develops into continued preference, repurchase intention, and recommendation intention [14–17]. The proposed model therefore examines a theoretically specified signal-to-relationship association pattern rather than isolated positive relationships among the constructs.

A third issue concerns the boundary condition under which engagement is more likely to be associated with e-loyalty intentions. In social commerce, engagement is often low-cost, fragmented, and stimulated by platform design, influencer visibility, or algorithmic exposure. Consumers may interact with brand-related content while remaining skeptical of the brand's commercial motives or perceived inconsistency. The present study therefore proposes perceived brand authenticity as an identity-consistency boundary condition that shapes the engagement-to-loyalty association. Brand authenticity differs from brand trust. Brand trust concerns whether consumers can rely on the brand, whereas brand authenticity concerns whether the brand is perceived as genuine, sincere, consistent, and true to its claimed identity. Thus, authenticity is not treated as an extension of trust, but as a condition under which engagement may be interpreted as more meaningful and relationship-relevant.

This distinction is especially relevant in influencer-mediated social commerce. Even when an influencer appears credible and consumers engage with brand-related content, e-loyalty intentions may remain limited if the endorsed brand appears artificial, opportunistic, or inconsistent with influencer-generated narratives. Conversely, when the brand is perceived as authentic, engagement is more likely to be interpreted as consistent with the brand's identity and values, thereby strengthening its association with e-loyalty intentions. Prior research suggests that perceived brand authenticity can stimulate consumer brand engagement and shape relationship-oriented brand responses [18]. Related influencer marketing research also indicates that authenticity in sponsored collaborations must be jointly managed by influencers, brands, and agencies because authenticity misalignment may weaken consumers' interpretation of influencer–brand communication [11].

Against this background, this study examines a moderated serial mediation framework linking perceived influencer credibility, brand trust, customer engagement, perceived

brand authenticity, and e-loyalty intentions in influencer-mediated social commerce. Specifically, it examines whether perceived influencer credibility is associated with e-loyalty intentions through the sequential mediating roles of brand trust and customer engagement, and whether perceived brand authenticity strengthens the customer engagement–e-loyalty intention association. The study also reports descriptive conditional indirect estimates to examine whether the trust–engagement pathway appears stronger at higher levels of perceived brand authenticity. However, this conditional indirect pattern is interpreted conservatively because fully bootstrapped conditional indirect confidence intervals were not available for the low and high authenticity conditions.

Several qualifications should be noted. First, because this study uses cross-sectional survey data, the proposed sequence among the constructs should be interpreted as a theoretically specified association pattern rather than as evidence of causality or temporal ordering. Second, although consumer skepticism is theoretically relevant, it is not directly measured in the present study. Therefore, any discussion of skepticism reduction should be understood as a theoretical interpretation of the moderating role of perceived brand authenticity rather than as a directly tested psychological mechanism. Third, the study does not claim that brand authenticity is the dominant driver of e-loyalty intentions. Instead, it conceptualizes authenticity as a theoretically meaningful but modest boundary condition that may strengthen the engagement-to-loyalty association.

This study makes three main contributions. First, it contributes to influencer marketing research by repositioning perceived influencer credibility from a conventional source attribute to a credibility-based digital promotional signal in social commerce. This conceptual repositioning clarifies that the theoretical issue is not merely whether credible influencers are persuasive, but how influencer credibility is interpreted as a brand-relevant cue under commercial uncertainty. Second, it contributes to social commerce and digital relationship research by specifying a trust–engagement pathway through which influencer credibility is associated with e-loyalty intentions. The theoretical value of this pathway lies not in claiming that each positive association is unexpected, but in explaining how a credibility signal may be relationally converted into loyalty-related intentions. Third, it contributes to the literature on brand authenticity by distinguishing authenticity from brand trust and positioning it as an identity-consistency boundary condition in the engagement-to-loyalty association. Together, these contributions locate the manuscript's theoretical increment in the conditional signal-to-relationship process rather than in the novelty of any single direct relationship.

2. Literature Review

2.1. Theoretical Foundations

2.1.1. Source Credibility and Signaling Theory

This study builds on the source credibility tradition but does not treat it as sufficient for explaining influencer-mediated social commerce. Source credibility theory explains why a communicator is perceived as persuasive by emphasizing attributes such as expertise, trustworthiness, and attractiveness [9]. In the present study, this perspective provides the conceptual and measurement foundation for perceived influencer credibility.

However, the focal theoretical issue in this study is not limited to whether an influencer is credible. In influencer-mediated social commerce, influencer recommendations are embedded in sponsorship arrangements, algorithmic visibility, platform-mediated communication, and possible influencer–brand fit concerns. Consumers therefore need to interpret whether influencer-endorsed content represents diagnostic brand information or mainly reflects paid persuasion. Signaling theory is useful for explaining this issue because

it focuses on how individuals use observable cues to infer less observable qualities under conditions of information asymmetry [10].

Accordingly, source credibility and signaling theory play complementary but distinct roles in this study. Source credibility explains what makes the influencer appear credible, whereas signaling theory explains how this credibility may be interpreted as a brand-relevant cue. Under this logic, perceived influencer credibility functions not only as a communicator-level attribute but also as a credibility-based digital promotional signal. Brand trust represents the consumer's brand-level inference from this signal, customer engagement represents subsequent relational involvement, and e-loyalty intentions represent the downstream loyalty-related response. This theoretical distinction helps clarify that the contribution of the study lies not in restating that credible influencers are persuasive, but in explaining how influencer credibility is associated with brand relationship development in a commercialized social commerce context.

Perceived brand authenticity further extends this signaling logic. If influencer credibility serves as an initial promotional signal, perceived brand authenticity provides an identity-consistency condition under which subsequent customer engagement may be interpreted as meaningful and relationship-relevant. In other words, the credibility signal may initiate trust-related brand inferences, whereas the conversion of engagement into e-loyalty intentions may depend on whether the endorsed brand is perceived as genuine, sincere, and consistent with its claimed identity. The distinction between source credibility and signaling theory in the present study is summarized in Table 1.

Table 1. Distinction between source credibility and signaling theory in the present study.

Dimension	Source Credibility Perspective	Signaling Theory Perspective
Primary focus	Explains why the influencer is perceived as credible and persuasive	Explains how influencer credibility is interpreted as a brand-relevant promotional signal
Main question	Is the influencer perceived as credible?	What does influencer credibility signal about the endorsed brand under commercial uncertainty?
Level of explanation	Communicator-level evaluation	Influencer-to-brand inference process
Role in this study	Provides the conceptual and measurement foundation for perceived influencer credibility	Explains the association pathway from influencer credibility to brand trust, customer engagement, and e-loyalty intentions

2.1.2. Credibility-Based Digital Promotional Signals and Relational Conversion

Signaling theory explains how individuals make judgments under information asymmetry by relying on observable cues to infer unobservable qualities [10]. In social commerce, consumers often lack complete information about product quality, brand reliability, seller intentions, and the commercial motives embedded in influencer-endorsed content. As a result, they may rely on perceived influencer credibility as a diagnostic cue when evaluating whether the endorsed brand is believable, reliable, and relationally valuable.

This study conceptualizes perceived influencer credibility as a credibility-based digital promotional signal. This conceptualization extends the source credibility perspective to a social commerce context in which influencer communication is shaped by sponsorship, platform algorithms, commercial partnerships, audience expectations, and influencer–brand fit. The theoretical emphasis therefore shifts from whether the influencer is persuasive

to how the credibility of influencer-mediated promotion is associated with brand-level trust inferences.

A relational perspective is also needed to explain how such signaling processes may be associated with loyalty-related outcomes. Brand relationships are not formed through isolated exposure alone. They develop through perceived reliability, psychological involvement, repeated interaction, and accumulated relational value. Within this logic, brand trust provides the relational foundation, customer engagement reflects cognitive, emotional, and behavioral involvement, and e-loyalty intentions represent a more stable loyalty-oriented response. Although parasocial interaction is not formally modeled in this study, prior research suggests that parasocial relationships with social media influencers can enhance perceived influencer credibility and affect brand attitudes, purchase intention, and electronic word-of-mouth [19,20]. Thus, signaling theory and relational perspectives jointly support the proposed signal-to-relationship conversion logic.

This theoretical positioning also addresses the concern that the individual paths in the model may appear expected when considered separately. The study does not claim that each direct association is unexpected. Rather, it specifies an integrated process through which a credibility-based promotional signal is associated with e-loyalty intentions through brand trust and customer engagement, and under a brand authenticity condition. Because this study uses cross-sectional survey data, this process is interpreted as a theoretically specified association pathway rather than as definitive evidence of temporal or causal ordering.

2.2. Influencer Effectiveness Beyond Source Credibility: Warmth, Competence, Authenticity, and the Pratfall Effect

To address the conceptual complexity of influencer effectiveness, it is necessary to go beyond the conventional source credibility framework. Although expertise, trustworthiness, and attractiveness remain important [9], recent influencer marketing research suggests that consumers also evaluate influencers through perceived authenticity, warmth, competence, relatability, transparency, and human imperfection [11,13]. These dimensions are particularly relevant in social commerce because influencer endorsements are interpreted as both commercial messages and socially embedded communication.

The warmth–competence framework provides one useful extension because social perception research identifies warmth and competence as two fundamental dimensions of interpersonal evaluation [13]. Competence reflects whether an influencer appears capable, knowledgeable, and skilled, whereas warmth reflects whether the influencer appears sincere, relatable, and well-intentioned. In social commerce, competence may support the diagnostic value of an endorsement, while warmth may reduce perceptions of opportunism and increase perceived sincerity. Thus, influencer credibility should not be reduced to expertise alone; it should be understood as a broader evaluation involving both ability-related and intention-related judgments.

Influencer authenticity further complicates the credibility process. Authentic influencers may be more persuasive because their recommendations appear less strategically manufactured and more consistent with their personal identity. However, authenticity is fragile. Excessive sponsorship, frequent endorsements, poor influencer–brand fit, or inconsistent content may undermine perceived authenticity and weaken credibility [11]. The pratfall effect offers a related perspective: a highly competent person may become more interpersonally attractive after committing a minor mistake because the imperfection makes the person appear more human and relatable [12]. Applied to influencer marketing, this suggests that carefully perceived imperfections or self-disclosure may strengthen warmth and relatability when the influencer is already viewed as competent.

These streams of research clarify why the association between influencer credibility and brand trust should not be treated as automatic in social commerce. Consumers are exposed to credibility cues, warmth cues, competence cues, authenticity cues, and commercial cues simultaneously. The same endorsement may be interpreted as sincere and useful by some consumers but as overly commercialized or manipulative by others. Therefore, this study positions perceived influencer credibility as a credibility-based digital promotional signal whose relational implications are examined through brand trust, customer engagement, and perceived brand authenticity.

2.3. Construct Distinctions in the Proposed Model

Because the proposed model includes several related constructs, their conceptual boundaries should be clarified. Perceived influencer credibility refers to consumers' evaluation of the influencer as a credible communicator of brand-related information. It is source-based and concerns the perceived quality of the influencer-mediated message. Brand trust, by contrast, is brand-directed and refers to consumers' willingness to rely on the endorsed brand based on perceived reliability, honesty, and positive intentions.

Customer engagement is also distinct from brand trust. Brand trust is a belief regarding brand reliability, whereas customer engagement reflects active cognitive, emotional, and behavioral involvement with the brand. In social commerce, engagement may include attending to brand content, browsing product information, interacting with posts, saving content, sharing information, clicking product links, or participating in live-streaming activities. A consumer may trust a brand without actively engaging with it, and a consumer may engage with brand-related content without having developed strong trust.

Perceived brand authenticity differs from both brand trust and influencer credibility. Brand trust answers the question, "Can I rely on this brand?" Brand authenticity answers a different question: "Is this brand genuinely what it claims to be?" Authenticity is therefore positioned as a moderator rather than as an extension of brand trust. In the proposed model, brand trust explains why consumers may become willing to engage with the brand, while brand authenticity conditions whether such engagement is interpreted as meaningful enough to be associated with e-loyalty intentions.

Finally, e-loyalty intentions are conceptually distinct from customer engagement. Customer engagement reflects consumers' cognitive, emotional, and behavioral involvement with brand-related content and interactions, whereas e-loyalty intentions refer to continued preference, repurchase intention, and recommendation intention in an online or social commerce environment. This distinction is important because engagement in social commerce can be shallow, temporary, and algorithmically stimulated. The proposed model therefore examines whether customer engagement is associated with e-loyalty intentions and whether this association becomes stronger when the brand is perceived as authentic. These construct distinctions and the corresponding theoretical increment of the present study are summarized in Table 2.

Table 2. Theoretical increment of the present study.

Prior Influencer Marketing Emphasis	Theoretical Increment of the Present Study
Influencer credibility is commonly treated as a source attribute that enhances persuasion.	Perceived influencer credibility is repositioned as a credibility-based digital promotional signal in social commerce.
Prior studies often examine direct persuasive outcomes such as attitude, purchase intention, or recommendation intention.	This study specifies a trust–engagement pathway through which influencer credibility is associated with e-loyalty intentions.

Table 2. *Cont.*

Prior Influencer Marketing Emphasis	Theoretical Increment of the Present Study
Customer engagement is often examined as an outcome of influencer or brand communication.	This study positions customer engagement as a relational conversion mechanism linking brand trust to e-loyalty intentions.
Brand authenticity is frequently treated as an antecedent of favorable brand responses.	This study distinguishes brand authenticity from brand trust and positions it as an identity-consistency boundary condition in the engagement–loyalty association.

2.4. Perceived Influencer Credibility and Brand Trust

Perceived influencer credibility refers to consumers' evaluation of an influencer as a believable, knowledgeable, trustworthy, and dependable source of brand-related information. A foundational basis for this construct is Ohanian's [9] source credibility framework, which identifies expertise, trustworthiness, and attractiveness as key dimensions of endorser evaluation. In this study, the emphasis is placed mainly on expertise and trustworthiness because these dimensions are most directly related to how consumers interpret influencer recommendations as diagnostic signals in social commerce.

From a signaling theory perspective, perceived influencer credibility functions as a promotional signal that helps consumers reduce uncertainty and form inferences about the endorsed brand [10]. When an influencer is perceived as credible, consumers may infer that the endorsed brand is more reliable, less risky, and more worthy of consideration. This process involves signal interpretation and possible trust transfer from the influencer-mediated message to the endorsed brand.

This association is not assumed to be automatic. Influencer recommendations may be interpreted positively when consumers perceive the influencer as competent, sincere, and well matched with the brand. However, the same recommendations may trigger skepticism when consumers perceive excessive commercialization, poor influencer–brand fit, over-endorsement, or authenticity misalignment. Accordingly, examining the association between perceived influencer credibility and brand trust is theoretically meaningful because it assesses whether consumers interpret influencer-mediated promotion as a credible basis for brand-level trust in a commercialized social commerce context.

Hypothesis 1. *Perceived influencer credibility, conceptualized as a credibility-based digital promotional signal, is positively associated with brand trust.*

2.5. Brand Trust and Customer Engagement

Brand trust refers to consumers' willingness to rely on a brand based on perceptions of reliability, honesty, and positive intentions. In social commerce, trust is particularly important because consumers encounter abundant brand content, influencer recommendations, sponsored posts, user-generated content, and platform-generated cues. They must decide not only whether to believe a brand, but also whether to invest attention, emotion, and behavioral effort in interacting with it.

Customer engagement refers to consumers' positively valenced cognitive, emotional, and behavioral activity toward a focal brand during or related to brand interactions [15]. In social commerce, engagement may include reading brand-related posts, watching product demonstrations, saving content, clicking links, commenting, sharing, joining live streams, or following brand updates. Although consumers can engage superficially with content even when trust is limited, more meaningful engagement requires a stronger relational basis. When consumers trust a brand, they are more likely to interpret brand

interactions as worthwhile and devote sustained attention to brand-related content. Accordingly, brand trust is expected to be positively associated with customer engagement.

Hypothesis 2. *Brand trust is positively associated with customer engagement.*

2.6. Customer Engagement and E-Loyalty Intentions

E-loyalty intentions refer to consumers' favorable loyalty-oriented intentions toward an online brand, seller, or platform, including continued preference, repurchase intention, and recommendation intention [16,17]. Customer engagement and e-loyalty intentions are conceptually distinct. Engagement reflects active cognitive, emotional, and behavioral involvement, whereas e-loyalty intentions reflect a more stable commitment-oriented response.

This distinction is especially important in social commerce because engagement behaviors can be temporary, low-cost, and platform-stimulated. Consumers may like, save, comment on, or share brand-related content because of curiosity, entertainment value, social influence, or algorithmic exposure. Such behaviors do not necessarily imply continued preference, repurchase intention, or recommendation intention. However, when engagement is repeated, positively valenced, and psychologically meaningful, it may strengthen brand familiarity, emotional connection, and perceived relational value, thereby supporting e-loyalty intentions. Prior research suggests that customer engagement contributes to relationship outcomes such as trust, loyalty, and long-term brand connection across digital and influencer-related settings [21–24].

Hypothesis 3. *Customer engagement is positively associated with e-loyalty intentions.*

2.7. Perceived Brand Authenticity as an Identity-Consistency Boundary Condition

Perceived brand authenticity refers to the extent to which consumers perceive a brand as genuine, sincere, consistent, and true to its claimed identity. Prior research conceptualizes brand authenticity as involving credibility, integrity, symbolism, and continuity [25], while consumer-based authenticity research emphasizes cues that make a brand appear real, meaningful, and trustworthy [26]. In this study, brand authenticity is understood as an identity-consistency evaluation: consumers assess whether the endorsed brand's actions, values, and communication are coherent with what the brand claims to represent.

This conceptualization distinguishes brand authenticity from brand trust. Brand trust concerns reliance, whereas brand authenticity concerns genuineness and identity consistency. This distinction is central to the model because brand trust is positioned as a mediator in the signal-to-engagement process, while brand authenticity is positioned as a boundary condition that shapes whether engagement is associated with e-loyalty intentions.

The moderating role of brand authenticity is especially relevant in influencer-mediated social commerce. Consumers may engage with brand-related content because it is entertaining, visible, socially endorsed, or algorithmically promoted. However, such engagement may not become loyalty-relevant if the endorsed brand appears artificial, opportunistic, or inconsistent with the influencer's claims. Conversely, when the brand is perceived as authentic, consumers are more likely to interpret their engagement as meaningful and relationship-consistent. Sponsored influencer content can also trigger perceptions of manipulative intent, especially when the endorsement appears overly commercialized or poorly aligned with the brand. Prior research suggests that perceived manipulative intent can weaken advertising and brand evaluations [27], while authenticity misalignment in sponsored collaborations may undermine consumers' interpretation of influencer–brand communication [11]. Because consumer skepticism is not directly measured in this study, this interpretation is treated as a theoretical explanation rather than as a directly tested psychological mechanism.

Accordingly, perceived brand authenticity is expected to positively moderate the relationship between customer engagement and e-loyalty intentions. The argument is not that authenticity is the dominant driver of loyalty, but that authenticity may provide an identity-consistency condition under which engagement is more likely to be interpreted as meaningful and loyalty-relevant.

Hypothesis 4. *Perceived brand authenticity positively moderates the relationship between customer engagement and e-loyalty intentions, such that the positive association between customer engagement and e-loyalty intentions is stronger when perceived brand authenticity is higher.*

2.8. Serial Mediation and Conditional Indirect Association

2.8.1. The Serial Mediating Roles of Brand Trust and Customer Engagement

The association between perceived influencer credibility and e-loyalty intentions is unlikely to operate only as a direct persuasive association. In influencer-mediated social commerce, credibility must first be interpreted as a meaningful brand-related signal. When consumers perceive influencer-mediated promotion as credible, they may infer that the endorsed brand is more trustworthy. Brand trust may then encourage consumers to invest cognitive, emotional, and behavioral resources in brand-related interactions. Such engagement may subsequently be associated with e-loyalty intentions when it develops into continued preference, repurchase intention, and recommendation intention.

This sequential logic represents a signal-to-relationship conversion process. Perceived influencer credibility functions as the initial signal, brand trust represents the consumer's brand-level inference, customer engagement reflects active relational involvement, and e-loyalty intentions represent the downstream loyalty-related response. Prior research supports different parts of this pathway, showing that influencer credibility and trust are associated with purchase intention, recommendation behavior, and customer loyalty [4,6], that influencer marketing associations may be transmitted through credibility-related mechanisms [5,28], and that influencer-related associations with brand loyalty may operate through follower engagement [7]. Building on these findings, this study integrates these mechanisms into a sequential model.

Hypothesis 5. *Perceived influencer credibility is positively associated with e-loyalty intentions through the serial mediating roles of brand trust and customer engagement.*

2.8.2. The Conditional Role of Perceived Brand Authenticity in the Serial Indirect Association

If perceived brand authenticity strengthens the relationship between customer engagement and e-loyalty intentions, it may also condition the broader indirect association between perceived influencer credibility and e-loyalty intentions through brand trust and customer engagement. Even when influencer credibility is associated with brand trust and engagement, the extent to which engagement becomes loyalty-relevant may depend on whether consumers perceive the endorsed brand as authentic.

This logic reflects a conditional serial indirect association. A credible influencer may be associated with brand trust, and brand trust may be associated with engagement, but the final conversion from engagement to e-loyalty intentions may depend on the authenticity of the brand context. Brand authenticity therefore functions as an identity-consistency boundary condition that shapes the estimated strength of the indirect association from influencer credibility to e-loyalty intentions. This conditional process perspective moves the model beyond a simple chain of expected positive relationships and specifies when the trust–engagement pathway is more likely to be loyalty-relevant.

Given the cross-sectional design of this study, the proposed conditional process should be interpreted as a theoretically specified association pattern rather than as evidence of causal ordering. In addition, the empirical interpretation of this conditional indirect pattern should depend on the level of inferential support available for conditional indirect estimates.

Hypothesis 6. *Perceived brand authenticity positively conditions the serial indirect association between perceived influencer credibility and e-loyalty intentions through brand trust and customer engagement, such that the estimated indirect association is stronger when perceived brand authenticity is higher.*

Taken together, the hypotheses specify a moderated serial mediation framework in which perceived influencer credibility is associated with e-loyalty intentions through brand trust and customer engagement, while perceived brand authenticity moderates the customer engagement–e-loyalty intentions association. The proposed moderated serial mediation framework is presented in Figure 1.

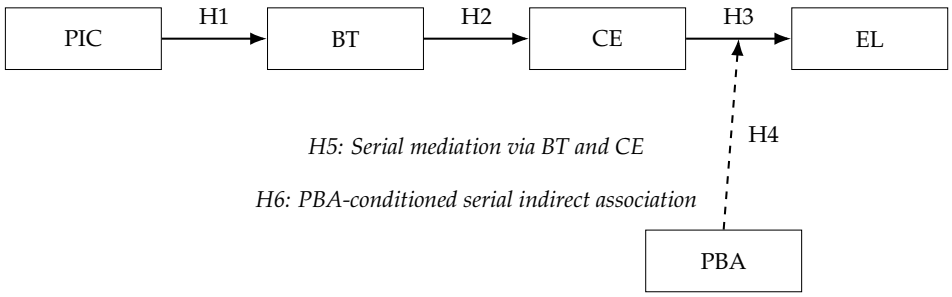


Figure 1. Proposed moderated serial mediation framework. PIC = perceived influencer credibility, conceptualized as a credibility-based digital promotional signal; BT = brand trust; CE = customer engagement; EL = e-loyalty intentions; PBA = perceived brand authenticity, conceptualized as an identity-consistency boundary condition.

3. Research Methodology

3.1. Research Design

This study employed a quantitative, cross-sectional survey design to examine the theoretically specified associations among perceived influencer credibility, brand trust, customer engagement, perceived brand authenticity, and e-loyalty intentions in influencer-mediated social commerce. A questionnaire-based approach was appropriate because the focal constructs concern consumers' subjective evaluations, relational perceptions, engagement responses, and loyalty-related intentions toward a brand encountered through influencer-mediated communication.

Consistent with the theoretical positioning of this study, perceived influencer credibility was operationalized using established credibility indicators while being interpreted as a credibility-based digital promotional signal. Perceived brand authenticity was examined as an identity-consistency boundary condition rather than as an additional mediator or extension of brand trust. This design allowed the study to distinguish brand trust as a reliance-based relational belief from brand authenticity as an evaluation of whether the endorsed brand is genuine, sincere, and consistent with its claimed identity.

To ensure contextual consistency, respondents were asked to recall a specific brand they had encountered through an influencer recommendation in a social commerce environment. They then answered all focal measurement items based on that influencer-endorsed brand experience, which could include exposure to posts, short videos, product demonstrations, live-streaming content, brand-related links, or other social commerce interactions.

Because the study used cross-sectional data, the proposed sequence among the constructs was specified on theoretical grounds and should be interpreted as an association pattern rather than as definitive evidence of causality or temporal ordering.

3.2. Measurement Development

All measurement items were adapted from established scales and slightly modified to fit the social commerce and influencer marketing context. All focal constructs were modeled as reflective constructs because the indicators were treated as manifestations of their underlying latent variables. Unless otherwise noted, each item was measured on a seven-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

Perceived influencer credibility was measured using items adapted primarily from Ohanian's source credibility scale [9] and related influencer credibility research. These items captured whether the focal influencer was perceived as knowledgeable, trustworthy, reliable, believable, and credible in communicating brand-related information. Brand trust was measured using items adapted from Delgado–Ballester [14], assessing the extent to which respondents perceived the focal brand as dependable, honest, reliable, and worthy of trust.

Customer engagement was measured using items adapted from Hollebeek et al. [15]. These items reflected respondents' cognitive, emotional, and behavioral involvement with the focal brand in the social commerce context. E-loyalty intentions were measured using items adapted from Anderson and Srinivasan [16] and Srinivasan et al. [17], capturing respondents' intentions to continue choosing, following, repurchasing from, and recommending the focal brand. Perceived brand authenticity was measured using items adapted from Morhart et al. [25] and Napoli et al. [26], assessing whether the focal brand was perceived as genuine, sincere, consistent, and true to its identity.

3.3. Questionnaire Design and Pretest

The questionnaire consisted of four sections. The first section contained screening questions to ensure that respondents had relevant influencer-mediated social commerce experience. Specifically, respondents had to confirm that, within the past three months, they had encountered influencer-endorsed brand or product content, had engaged in at least one related interaction, and were able to recall a specific influencer-endorsed brand experience. Related interactions included liking, commenting, sharing, saving, clicking a product link, browsing a product page, following brand-related content, or watching a live stream.

The second section instructed respondents to focus on one specific influencer-endorsed brand experience throughout the survey. The third section contained the main measurement items for perceived influencer credibility, brand trust, customer engagement, perceived brand authenticity, and e-loyalty intentions. The final section collected demographic and usage-related information, including gender, age, education, social media usage frequency, prior purchase experience due to influencer recommendations, recent purchase of the focal brand, and exposure frequency to influencer-endorsed content.

Several procedural remedies were adopted to reduce potential common method bias and recall-related concerns. Respondents were assured of anonymity, the questionnaire was organized into separate sections, and respondents were instructed to answer the focal items based on a concrete influencer-endorsed brand experience rather than on general impressions of influencer marketing. A three-month recall window was used to improve recall salience while maintaining a sufficient pool of eligible respondents.

To ensure content validity and clarity, the questionnaire was reviewed by three practitioners with professional experience in digital marketing, social commerce, and consumer

research. A pilot test was then conducted with 50 respondents who matched the target population. Based on the pilot results, minor revisions were made to item wording, item order, and questionnaire clarity. Because the questionnaire was administered in Chinese while the manuscript was written in English, a translation and back-translation procedure was applied to ensure semantic equivalence.

3.4. Sampling and Data Collection

The target population consisted of consumers with relevant influencer-mediated social commerce experience. To be eligible, respondents had to meet three criteria: (1) they had encountered influencer-endorsed brand or product content on a social media platform within the past three months; (2) they had engaged in at least one form of interaction with the focal brand or related content; and (3) they were able to recall a specific influencer-endorsed brand experience when answering the questionnaire. These criteria were used to ensure that respondents evaluated the focal constructs in relation to a concrete social commerce encounter.

This study employed purposive sampling through online convenience channels. The survey link was distributed through social media and online communities, including Facebook groups, Instagram, and Dcard, to reach respondents with relevant social commerce experience. The recruitment message explained the academic purpose of the study, the eligibility criteria, the voluntary nature of participation, and the anonymous treatment of responses.

Data were collected from February 2026 to March 2026 through an online self-administered questionnaire. A total of 700 responses were initially obtained. After applying the three contextual eligibility criteria, 372 valid responses were retained as the final analytical sample. This screening procedure was not intended to produce a representative sample of the general consumer population; rather, it was designed to identify respondents with active and relevant influencer-mediated social commerce experience.

3.5. Data Analysis

The data were analyzed using partial least squares structural equation modeling (PLS-SEM) with SmartPLS 4. PLS-SEM was appropriate because the proposed model includes multiple latent constructs, a serial indirect association, a moderating association, and a conditional indirect pattern involving moderation. Bootstrapping with 5000 resamples was used to assess the significance of the direct, indirect, and moderating associations.

Following established PLS-SEM guidelines, the measurement model was assessed using outer loadings, Cronbach's alpha, ρ_A, composite reliability (ρ_c), average variance extracted (AVE), heterotrait–monotrait ratio (HTMT), and variance inflation factor (VIF) values [29]. Bootstrapped HTMT confidence intervals were also examined to further assess discriminant validity. The structural model was evaluated using path coefficients, bootstrapped standard errors, t-values, p-values, confidence intervals, coefficient of determination (R^2), adjusted R^2, and effect sizes (f^2).

The serial indirect association from perceived influencer credibility to e-loyalty intentions through brand trust and customer engagement was tested using bootstrapped indirect estimates. The moderating role of perceived brand authenticity in the customer engagement–e-loyalty intention association was examined using an interaction term, and simple slope analysis was used to interpret the interaction. The conditional indirect pattern involving perceived brand authenticity was evaluated by estimating conditional indirect associations at low, mean, and high levels of perceived brand authenticity. Because bootstrapped confidence intervals for the low and high conditional indirect estimates were not directly available, these estimates were interpreted conservatively as

point estimates derived from standardized structural path coefficients rather than as fully bootstrapped conditional indirect effects.

Predictive relevance was assessed using PLSpredict with 10 folds and 10 repetitions. The predictive performance of the PLS-SEM model was compared with the indicator average benchmark and the linear model benchmark. In addition, robustness checks were conducted by re-estimating the hypothesized model with gender, age, education, platform use frequency, and prior influencer-induced purchase experience as control variables linked to e-loyalty intentions. Several competing models were also estimated, including a partial mediation model, a parallel mediation model, a reversed sequence model, and a no-moderation model.

Potential common method variance was assessed using both procedural and statistical approaches. In addition to the procedural remedies described above, Harman's single-factor test and full collinearity VIF diagnostics were conducted. These tests were used to assess whether common method variance was likely to dominate the structural associations. However, because all focal variables were measured using self-reported survey responses, common method bias and recall bias cannot be completely ruled out.

Given the cross-sectional nature of the data, all structural paths and indirect associations were interpreted as theoretically specified associations rather than definitive causal effects. Because respondents reported experiences across different social media platforms and influencer contexts, platform and respondent characteristics were considered in the descriptive profile and robustness checks. However, platform-specific and influencer-type differences were not the primary focus of this study and are addressed as limitations and directions for future research.

3.6. Ethical Considerations

Participation in the survey was voluntary and anonymous. Before answering the questionnaire, respondents were informed of the academic purpose of the study, the approximate content of the questionnaire, and their right to discontinue participation at any time. No personally identifiable information was collected, and the data were used only for academic research purposes. Informed consent was obtained from all respondents before they proceeded to the survey items.

4. Results

4.1. Respondent Profile and Data Screening

A total of 700 responses were initially obtained. Because this study examined influencer-mediated social commerce experiences, data screening was conducted according to three contextual eligibility criteria. Respondents were retained only if they (1) had encountered influencer-endorsed brand or product content on a social media platform within the past three months, (2) had engaged in at least one form of interaction with the focal brand or related content, and (3) were able to recall a specific influencer-endorsed brand experience when answering the questionnaire. After these screening criteria were applied, 372 valid responses were retained as the final analytical sample. The data screening procedure is summarized in Table 3.

Table 4 summarizes the respondent profile. In terms of gender, 216 respondents were female (58.1%), 148 were male (39.8%), and 8 selected other or preferred not to disclose (2.2%). Regarding age, the largest group was 25–34 years old (n = 161, 43.3%), followed by 18–24 years old (n = 112, 30.1%), 35–44 years old (n = 69, 18.5%), and 45 years or above (n = 30, 8.1%). Most respondents held a college or bachelor's degree (n = 243, 65.3%). Regarding the focal platform, Instagram accounted for the largest proportion (n = 96, 25.8%), followed by YouTube (n = 90, 24.2%), TikTok (n = 74, 19.9%), Facebook

(n = 64, 17.2%), Dcard/PTT (n = 30, 8.1%), and other platforms (n = 18, 4.8%). In addition, 269 respondents (72.3%) reported that they had previously purchased a product or brand due to an influencer recommendation, and 259 respondents (69.6%) had purchased the recalled brand within the past three months.

Table 3. Data screening procedure.

Screening Step	Retained Responses	Percentage
Initial responses	700	100.0%
Encountered influencer-endorsed content within the past three months	620	88.6%
Also interacted with the focal brand or related content	432	61.7%
Able to recall a specific endorsed-brand experience	372	53.1%
Final analytical sample	372	53.1%

Table 4. Respondent profile.

Variable	Category	Frequency	Percentage
Gender	Male	148	39.8%
	Female	216	58.1%
	Other/Prefer not to disclose	8	2.2%
Age	18–24 years old	112	30.1%
	25–34 years old	161	43.3%
	35–44 years old	69	18.5%
	45 years or above	30	8.1%
Education	High school or below	50	13.4%
	College/Bachelor's degree	243	65.3%
	Graduate school or above	79	21.2%
Main platform	Instagram	96	25.8%
	YouTube	90	24.2%
	TikTok	74	19.9%
	Facebook	64	17.2%
	Dcard/PTT	30	8.1%
	Other	18	4.8%
Purchase due to influencer recommendation	Yes	269	72.3%
	No	103	27.7%
Purchased the recalled brand within the past three months	Yes	259	69.6%
	No	113	30.4%

4.2. Measurement Model Assessment

The measurement model was assessed in terms of descriptive statistics, internal consistency reliability, convergent validity, indicator reliability, discriminant validity, collinearity, and potential common method bias. As shown in Table 5, Cronbach's alpha values ranged from 0.866 to 0.886, ρ_A values ranged from 0.866 to 0.889, and composite reliability values (ρ_c) ranged from 0.908 to 0.916. These values exceeded the recommended threshold of 0.70. The average variance extracted (AVE) values ranged from 0.677 to 0.713, exceeding the recommended threshold of 0.50. These results indicate satisfactory internal consistency reliability and convergent validity.

Table 5. Descriptive statistics, reliability, and convergent validity.

Construct	Items	Mean	SD	Cronbach's α	ρ_A	ρ_c	AVE
Perceived Influencer Credibility (PIC)	5	4.953	0.696	0.886	0.886	0.916	0.687
Brand Trust (BT)	4	4.763	0.709	0.866	0.866	0.908	0.713
Customer Engagement (CE)	5	4.852	0.690	0.885	0.886	0.916	0.685
Perceived Brand Authenticity (PBA)	5	4.783	0.694	0.881	0.889	0.913	0.677
E-Loyalty Intentions (EL)	5	4.620	0.708	0.886	0.888	0.916	0.686

Table 6 reports the correlation matrix among the focal constructs. The correlations were positive and did not suggest excessive overlap among the constructs. The highest correlation was observed between perceived influencer credibility and brand trust (r = 0.594), which is consistent with the conceptual relationship between credibility-based promotional signals and brand-level trust inferences but does not indicate construct redundancy.

Table 6. Correlation matrix.

Construct	PIC	BT	CE	PBA	EL
PIC	1.000	0.594	0.510	0.427	0.433
BT	0.594	1.000	0.552	0.242	0.463
CE	0.510	0.552	1.000	0.300	0.566
PBA	0.427	0.242	0.300	1.000	0.347
EL	0.433	0.463	0.566	0.347	1.000

Indicator reliability was assessed using outer loadings. As shown in Table 7, all indicator loadings exceeded the recommended threshold of 0.70, ranging from 0.788 to 0.849.

Table 7. Outer loadings of the measurement model.

Construct	Item	Outer Loading
BT	BT1	0.841
	BT2	0.847
	BT3	0.843
	BT4	0.846
CE	CE1	0.833
	CE2	0.829
	CE3	0.824
	CE4	0.825
	CE5	0.827
EL	EL1	0.801
	EL2	0.828
	EL3	0.829
	EL4	0.835
	EL5	0.848
PBA	PBA1	0.834
	PBA2	0.849
	PBA3	0.804
	PBA4	0.788
	PBA5	0.836
PIC	PIC1	0.831
	PIC2	0.834
	PIC3	0.839
	PIC4	0.813
	PIC5	0.826

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT). As shown in Table 8, all HTMT values were below the conservative threshold of 0.85. The highest HTMT value was observed between perceived influencer credibility and brand trust (HTMT = 0.678). In addition, the bootstrapped confidence intervals for the HTMT values did not include 1. These results support discriminant validity among the focal constructs.

Collinearity diagnostics were also satisfactory. The indicator-level VIF values ranged from 1.000 to 2.253, and the inner-model VIF values ranged from 1.000 to 1.104. These values were below the recommended thresholds.

Potential common method variance was assessed using Harman's single-factor test and full collinearity diagnostics. The results are summarized in Table 9. Harman's single-factor test showed that the first unrotated factor accounted for 38.596% of the total variance, below the commonly used 50% threshold. Full collinearity VIF values for the major constructs ranged from 1.291 to 1.871, below the recommended threshold of 3.3. These results suggest that severe common method bias was unlikely to dominate the estimated associations, although it cannot be completely ruled out because all focal variables were measured using self-reported survey responses.

Overall, the measurement model demonstrated satisfactory reliability, convergent validity, discriminant validity, and collinearity diagnostics. Based on these measurement model results, the structural model was assessed in the next step.

Table 8. Discriminant validity (HTMT).

Construct	BT	CE	EL	PBA	PIC
BT	—				
CE	0.632	—			
EL	0.528	0.640	—		
PBA	0.279	0.341	0.394	—	
PIC	0.678	0.576	0.489	0.485	—

Table 9. Common method bias assessment.

Assessment	Result	Interpretation
Harman's single-factor test	38.596%	Below 50% threshold
Full collinearity VIF range	1.291–1.871	Below 3.3 threshold

4.3. Structural Model Assessment and Hypothesis Testing

The structural model was assessed by examining explanatory power, path coefficients, bootstrapped significance tests, confidence intervals, and effect sizes. Given the cross-sectional nature of the data, the results are interpreted as theoretically specified associations rather than as evidence of causality.

Table 10 presents the explanatory power of the model. The model explained 35.4% of the variance in brand trust, 30.7% of the variance in customer engagement, and 38.2% of the variance in e-loyalty intentions.

Table 10. R^2 and adjusted R^2.

Construct	R^2	Adjusted R^2
BT	0.354	0.352
CE	0.307	0.305
EL	0.382	0.377

Table 11 reports the direct relationships and effect sizes. Perceived influencer credibility was positively associated with brand trust ($\beta = 0.595$, $t = 17.778$, $p < 0.001$), supporting H1. Brand trust was positively associated with customer engagement ($\beta = 0.554$, $t = 15.389$, $p < 0.001$), supporting H2. Customer engagement was positively associated with e-loyalty intentions ($\beta = 0.514$, $t = 13.444$, $p < 0.001$), supporting H3. Perceived brand authenticity was positively associated with e-loyalty intentions ($\beta = 0.201$, $t = 4.468$, $p < 0.001$). The interaction between perceived brand authenticity and customer engagement was also positively associated with e-loyalty intentions ($\beta = 0.147$, $t = 3.736$, $p < 0.001$), supporting H4.

The effect sizes indicate that perceived influencer credibility had a large effect on brand trust ($f^2 = 0.547$), brand trust had a large effect on customer engagement ($f^2 = 0.444$), and customer engagement had a large effect on e-loyalty intentions ($f^2 = 0.386$). Perceived brand authenticity ($f^2 = 0.059$) and the interaction term ($f^2 = 0.037$) showed small effect sizes for e-loyalty intentions. Thus, the moderation effect should be interpreted as statistically significant but modest in magnitude.

Table 11. Direct relationships and effect sizes.

Path	β	SD	t-Value	p-Value	95% CI	f^2	Result
PIC → BT	0.595	0.033	17.778	<0.001	[0.529, 0.660]	0.547	Supported
BT → CE	0.554	0.036	15.389	<0.001	[0.484, 0.624]	0.444	Supported
CE → EL	0.514	0.038	13.444	<0.001	[0.440, 0.589]	0.386	Supported
PBA → EL	0.201	0.045	4.468	<0.001	[0.110, 0.290]	0.059	Significant
PBA × CE → EL	0.147	0.039	3.736	<0.001	[0.064, 0.220]	0.037	Supported

4.4. Predictive Relevance

PLSpredict was conducted using 10 folds and 10 repetitions. As shown in Table 12, all Q^2_{predict} values were above zero, indicating positive out-of-sample predictive relevance for brand trust, customer engagement, and e-loyalty intentions. The PLS-SEM model significantly outperformed the indicator average benchmark. Compared with the linear model benchmark, the PLS-SEM model showed comparable predictive performance, as the loss differences were not statistically significant.

Table 12. PLSpredict Results.

Target Construct	Q^2_{predict}	PLS Loss	IA Loss	p vs. IA	LM Loss	p vs. LM
BT	0.348	0.532	0.708	<0.001	0.546	0.078
CE	0.225	0.591	0.698	<0.001	0.587	0.720
EL	0.190	0.636	0.732	<0.001	0.643	0.536
Overall	—	0.590	0.713	<0.001	0.595	0.507

Note. IA = indicator average benchmark; LM = linear model benchmark.

4.5. Mediation, Moderation, and Conditional Indirect Pattern

4.5.1. Serial Mediation

The serial mediation relationship was examined using bootstrapped indirect effects. As shown in Table 13, the specific indirect relationship between perceived influencer credibility and e-loyalty intentions through brand trust and customer engagement was significant ($\beta = 0.169$, $t = 7.399$, $p < 0.001$, 95% CI [0.128, 0.219]). Therefore, H5 was supported.

Table 13. Indirect relationships.

Indirect Path	β	SD	t-Value	p-Value	95% CI	Result
BT → CE → EL	0.285	0.031	9.144	<0.001	[0.226, 0.349]	Significant
PIC → BT → CE	0.330	0.032	10.315	<0.001	[0.271, 0.396]	Significant
PIC → BT → CE → EL	0.169	0.023	7.399	<0.001	[0.128, 0.219]	Supported

4.5.2. Moderating Role of Perceived Brand Authenticity

Because the interaction term was significant, simple slope analysis was conducted. As shown in Table 14, the estimated association between customer engagement and e-loyalty intentions was positive at low, mean, and high levels of perceived brand authenticity. The slope increased from 0.367 at low perceived brand authenticity to 0.514 at the mean level and 0.661 at high perceived brand authenticity. These results support H4 and indicate that perceived brand authenticity served as a statistically significant but modest boundary condition.

Table 14. Simple slopes for the moderating role of perceived brand authenticity.

Level of Perceived Brand Authenticity	Simple Slope of CE → EL
Low PBA (−1 SD)	0.367
Mean PBA	0.514
High PBA (+1 SD)	0.661

4.5.3. Conditional Indirect Pattern Involving Perceived Brand Authenticity

H6 proposed that the estimated serial indirect association between perceived influencer credibility and e-loyalty intentions through brand trust and customer engagement would be stronger when perceived brand authenticity was higher. As shown in Table 15, the estimated conditional indirect association increased from 0.121 at low levels of perceived brand authenticity to 0.169 at the mean level and 0.218 at high levels. The descriptive index of the conditional process pattern was 0.048.

Because bootstrapped confidence intervals for the low and high conditional indirect estimates were not directly available, these values are interpreted conservatively as point estimates derived from standardized structural path coefficients. Therefore, the results are descriptively consistent with H6, but they should not be interpreted as a fully bootstrapped confirmation of moderated serial mediation.

Table 15. Estimated conditional indirect associations across levels of perceived brand authenticity

Level of Perceived Brand Authenticity	Estimated Conditional Indirect Association
Low PBA (−1 SD)	0.121
Mean PBA	0.169
High PBA (+1 SD)	0.218
Descriptive index of the conditional process pattern	0.048

Note. Values are point estimates derived from standardized structural path coefficients. The index is reported as a descriptive index of the conditional process pattern. The conditional indirect estimates are interpreted conservatively because bootstrapped confidence intervals for the estimates at low and high PBA were not directly available.

4.6. Robustness Checks

To examine the robustness of the hypothesized associations, the model was re-estimated by including gender, age, education, platform use frequency, and prior influencer-

induced purchase experience as control variables linked to e-loyalty intentions. As shown in Table 16, the main hypothesized associations remained significant and substantively stable after including these controls. None of the control variables was significantly associated with e-loyalty intentions. The explanatory power for e-loyalty intentions increased only slightly from $R^2 = 0.382$ in the baseline model to $R^2 = 0.387$ in the controlled model, suggesting that the estimated associations were not substantively altered by the included demographic or usage-related variables.

The explanatory power for e-loyalty intentions increased slightly from $R^2 = 0.382$ in the baseline model to $R^2 = 0.387$ in the controlled model. This small increase, together with the nonsignificant control variables and stable main paths, suggests that the hypothesized relationships were not substantively altered by the included demographic or usage-related variables.

Table 16. Controlled robustness check.

Path	Baseline β	Controlled β	t-Value	p-Value	Interpretation
PIC → BT	0.595	0.595	17.299	<0.001	Stable
BT → CE	0.554	0.554	15.224	<0.001	Stable
CE → EL	0.514	0.511	12.947	<0.001	Stable
PBA → EL	0.201	0.204	4.524	<0.001	Stable
PBA × CE → EL	0.147	0.151	3.732	<0.001	Stable
Age → EL	—	−0.026	0.661	0.509	Control
Education → EL	—	0.052	1.260	0.208	Control
Female → EL	—	0.010	0.120	0.905	Control
Platform use frequency → EL	—	−0.007	0.177	0.860	Control
Prior influencer-induced purchase → EL	—	0.107	1.205	0.228	Control

4.7. Competing Model Analysis

Several competing models were estimated to assess the robustness and theoretical ordering of the proposed model. These models included a partial mediation model, a parallel mediation model, a reversed sequence model, and a no-moderation model. Table 17 summarizes the key results.

Table 17. Comparison of competing models

Model	Model Specification	R^2_{BT}	R^2_{CE}	R^2_{EL}	Key Interpretation
M0: Hypothesized model	PIC → BT → CE → EL with PBA moderation	0.354	0.307	0.382	The proposed model was consistent with the hypothesized serial mediation and moderation pattern.
M1: Partial mediation model	Added PIC → CE, PIC → EL, and BT → EL	0.354	0.358	0.407	The serial path remained significant; PIC → EL was not significant, suggesting that PIC is mainly linked to EL through relational mechanisms.
M2: Parallel mediation model	PIC → BT → EL and PIC → CE → EL	0.354	0.261	0.403	Both parallel indirect paths were significant, but this model removed the theoretically important BT → CE pathway.
M3: Reversed sequence model	PIC → CE → BT → EL	0.308	0.262	0.275	The reversed sequence was statistically plausible, but its explanatory power for EL was substantially lower than that of the hypothesized model.
M4: No-moderation model	Removed PBA × CE → EL	0.354	0.307	0.359	The serial mediation remained significant, but the explanatory power for EL was lower than in the moderated model.

The competing model results suggest that the hypothesized model provides a parsimonious and theoretically coherent explanation of the observed associations. The partial mediation model showed that complementary paths may exist, but the direct path from perceived influencer credibility to e-loyalty intentions was not significant. The reversed sequence model had substantially lower explanatory power for e-loyalty intentions than the hypothesized model. The no-moderation model also showed lower explanatory power for e-loyalty intentions than the moderated model. Because the data are cross-sectional, these comparisons should be interpreted as robustness and theory-comparison evidence rather than as definitive confirmation of temporal or causal ordering.

4.8. Summary of Hypothesis Testing

Table 18 summarizes the hypothesis testing results. Overall, H1, H2, H3, H4, and H5 were supported by the estimated associations. H6 was treated more conservatively: the conditional indirect estimates were descriptively consistent with the proposed pattern, but they were not interpreted as fully bootstrapped conditional indirect effects because confidence intervals for the low and high conditional estimates were not directly available.

Table 18. Summary of hypothesis testing.

Hypothesis	Path	Result
H1	PIC → BT	Supported
H2	BT → CE	Supported
H3	CE → EL	Supported
H4	PBA × CE → EL	Supported
H5	PIC → BT → CE → EL	Supported
H6	Conditional indirect association involving PBA	Descriptively consistent; not formally confirmed

5. Discussion and Implications

5.1. Discussion

This study examined a theory-driven conditional process model linking perceived influencer credibility, brand trust, customer engagement, perceived brand authenticity, and e-loyalty intentions in influencer-mediated social commerce. Overall, the findings are consistent with the proposed trust–engagement pathway and provide descriptive evidence for a conditional indirect pattern involving perceived brand authenticity. Given the cross-sectional and self-reported nature of the data, the results should be interpreted as theoretically specified associations rather than as evidence of causal or temporal ordering.

The value of the findings lies less in the novelty of any single positive association and more in the integrated explanation of how credibility, trust, engagement, and authenticity operate together in influencer-mediated social commerce. The observed pattern is consistent with a signal-to-relationship conversion logic in which influencer credibility functions as a market-facing promotional cue, brand trust reflects a brand-level inference, customer engagement reflects relational involvement, and e-loyalty intentions represent a downstream loyalty-related response. This interpretation directly addresses the concern that individual paths may appear expected when considered separately: the theoretical contribution lies in specifying how these associations operate as an integrated conditional process.

The positive association between perceived influencer credibility and brand trust is consistent with the signaling logic of the study. In influencer-mediated social commerce, endorsements are often embedded in sponsorship arrangements, platform visibility, commercial collaboration, and possible influencer–brand fit concerns. Consumers therefore need to decide whether influencer-mediated content provides diagnostic brand informa-

tion or mainly reflects paid persuasion. The findings suggest that consumers may use perceived influencer credibility as a cue for forming brand-level trust inferences. This extends the source credibility perspective by showing that influencer credibility is relevant not only to communicator evaluation but also to brand-related inference under commercial uncertainty [9,10,30,31].

The findings also clarify the relational mechanism linking influencer-mediated credibility to e-loyalty intentions. Brand trust and customer engagement should not be treated as interchangeable constructs. Brand trust reflects consumers' confidence in the reliability, honesty, and positive intentions of the endorsed brand, whereas customer engagement reflects active cognitive, emotional, and behavioral involvement with that brand. The results suggest that trust may provide a relational basis for engagement, and that engagement may be associated with e-loyalty intentions when it is more than a shallow platform response [14–17].

This distinction is important because engagement in social commerce can be temporary, low-cost, and platform-stimulated. Consumers may like, comment on, save, share, or browse brand-related content because of entertainment, curiosity, influencer appeal, or algorithmic exposure. These behaviors do not necessarily imply durable brand preference or repurchase intention. Therefore, the positive association between customer engagement and e-loyalty intentions should be understood as part of a broader relational pathway rather than as evidence that engagement automatically becomes loyalty [21–24].

The moderating role of perceived brand authenticity further refines this explanation. The customer engagement–e-loyalty intention association was stronger when perceived brand authenticity was higher. This finding suggests that engagement may be more loyalty-relevant when the endorsed brand is perceived as genuine, sincere, consistent, and true to its claimed identity. By contrast, when the brand appears artificial, opportunistic, or inconsistent with influencer-generated narratives, engagement may remain more superficial and may be less strongly associated with loyalty-related responses [11,18,25,26].

This result also clarifies the conceptual distinction between brand trust and brand authenticity. Brand trust concerns whether consumers can rely on the brand, whereas brand authenticity concerns whether the brand is perceived as genuine and consistent with what it claims to be. In the proposed model, brand trust explains the relational inference associated with influencer credibility, while brand authenticity conditions whether engagement is more strongly associated with e-loyalty intentions. This distinction prevents authenticity from being treated merely as another form of trust and instead positions it as an identity-consistency boundary condition in influencer-mediated social commerce [18,25,26].

The conditional indirect estimates are descriptively consistent with the proposed process. The estimated indirect association between perceived influencer credibility and e-loyalty intentions through brand trust and customer engagement was stronger at higher levels of perceived brand authenticity. However, because bootstrapped confidence intervals for the low and high conditional indirect estimates were not directly available, this pattern should be interpreted descriptively rather than as a fully bootstrapped confirmation of moderated serial mediation. Thus, the results are consistent with the proposed conditional indirect logic, but they should not be overstated as definitive evidence of conditional indirect effects at each moderator level.

The robustness and competing model analyses provide further evidence for the theoretical plausibility of the proposed model. The main associations remained stable after controlling for gender, age, education, platform use frequency, and prior influencer-induced purchase experience. The competing model analyses also suggested that complementary paths may exist. However, the nonsignificant direct path from perceived influencer credibility to e-loyalty intentions in the partial mediation model indicates that influencer credibility

may be more closely associated with e-loyalty intentions through relational mechanisms than through a direct route. Because the data are cross-sectional, these comparisons should be interpreted as robustness and theory-comparison evidence rather than as definitive confirmation of causal ordering.

Several qualifications should be emphasized. First, the cross-sectional and self-reported design does not establish temporal or causal relationships. The model should therefore be understood as a theoretically specified association pattern. Second, although perceived brand authenticity significantly moderated the engagement–e-loyalty intention relationship, the interaction effect size was small. Perceived brand authenticity should therefore be interpreted as a statistically reliable but modest boundary condition rather than as the dominant driver of e-loyalty intentions. Third, consumer skepticism was not directly measured. Accordingly, the interpretation of brand authenticity as a possible response to commercial skepticism should be treated as a theoretical explanation rather than as a directly tested psychological mechanism.

Taken together, the findings suggest that influencer marketing in social commerce should not be understood solely as a short-term persuasive tactic. Its loyalty-related value may lie in a broader relational process in which influencer credibility is associated with brand trust, brand trust is associated with customer engagement, and engagement is more strongly associated with e-loyalty intentions when the endorsed brand is perceived as authentic.

5.2. Theoretical Implications

This study offers three main theoretical implications.

First, the study contributes to influencer marketing research by clarifying how source credibility theory and signaling theory jointly explain the role of perceived influencer credibility in social commerce. Prior research has often examined influencer credibility as a communicator characteristic that enhances persuasion. This study does not claim that credibility itself is a new construct. Rather, it specifies how influencer credibility may operate as a brand-relevant cue under conditions of sponsorship ambiguity, commercial uncertainty, and platform-mediated promotion. Source credibility theory provides the conceptual and measurement foundation for perceived influencer credibility by explaining why a communicator is perceived as believable, knowledgeable, and trustworthy [9]. Signaling theory provides a complementary explanation by showing how perceived credibility may be interpreted as a brand-relevant signal under information asymmetry [10]. Thus, the contribution is not simply to relabel source credibility as a signal, but to specify how source-level credibility becomes meaningful for brand-level trust formation in influencer-mediated social commerce.

Second, this study contributes to social commerce and brand relationship research by proposing a process-oriented trust–engagement pathway. The theoretical value of this pathway does not lie in claiming that each direct association is counterintuitive. Rather, it lies in explaining how established constructs operate together as an integrated relational process. In this process, perceived influencer credibility functions as the initial credibility cue, brand trust represents the brand-level inference, customer engagement reflects relational involvement, and e-loyalty intentions represent the downstream loyalty-related response. This process-oriented explanation helps move influencer marketing research beyond isolated persuasion outcomes and toward a more relational understanding of how influencer-mediated promotional credibility is associated with loyalty-related intentions.

Third, this study contributes to the literature on customer engagement and brand authenticity by distinguishing engagement, trust, and authenticity in the loyalty formation process. Brand trust reflects consumers' willingness to rely on the brand, customer engage-

ment reflects cognitive, emotional, and behavioral involvement, and brand authenticity reflects perceived genuineness and identity consistency. The findings suggest that engagement should not be equated with loyalty, especially in social commerce where interaction behaviors can be low-cost and algorithmically stimulated. Engagement is more strongly associated with e-loyalty intentions when it is embedded in a trust-related pathway and when the brand is perceived as authentic [18,25,26]. This positions perceived brand authenticity as a modest but meaningful identity-consistency boundary condition rather than as another form of brand trust.

Overall, the theoretical increment of this study is deliberately process-oriented rather than construct-oriented. The study does not introduce entirely new constructs, nor does it claim that each individual path is surprising. Instead, it specifies how established constructs are theoretically connected in influencer-mediated social commerce and identifies perceived brand authenticity as a modest identity-consistency boundary condition in the trust–engagement pathway.

5.3. Limitations and Future Research

Finally, consumer skepticism was discussed as part of the theoretical explanation for the boundary role of perceived brand authenticity, but it was not directly measured. Future research could explicitly include consumer skepticism, perceived manipulative intent, persuasion knowledge, or sponsorship skepticism as mediators or moderators to test this explanation more directly. Relatedly, future studies could extend the model by incorporating additional influencer-, platform-, and consumer-level conditions. For example, influencer over-endorsement may shape how consumers interpret commercial credibility and authenticity in social commerce contexts [32]. Platform attributes, customer engagement pathways, and repurchase-related responses also deserve closer attention when examining loyalty development in social commerce [33,34]. The proposed trust–engagement pathway may further differ between human and virtual influencers, especially when parasocial relationships and emotional attachment are salient [35]. Broader digital relationship mechanisms, such as online customer experience, value co-creation, and loyalty formation, could enrich the relational perspective [36]. In addition, inconsistency between influencer-generated content and user-generated content may weaken perceived content credibility and brand-related inferences [37]. Methodologically, future studies could apply conditional process analysis to directly estimate moderated mediation and conditional indirect effects with bootstrapped confidence intervals [38]. Because interaction and moderator effects are often statistically difficult to detect, larger samples, stronger research designs, or experimental manipulations should be considered when testing authenticity-based boundary conditions [39]. Finally, platform affordances in social and livestream commerce, including content format, interactivity, visibility, social presence, and commercial disclosure norms, should be examined more explicitly because they may condition how influencer-mediated signals are interpreted [40].

5.4. Conclusions

In conclusion, this study provides evidence consistent with a theory-driven conditional process model in which perceived influencer credibility is associated with e-loyalty intentions through brand trust and customer engagement. The findings are consistent with a trust–engagement pathway linking perceived influencer credibility, brand trust, customer engagement, and e-loyalty intentions. Perceived brand authenticity further served as a boundary condition, as the estimated association between customer engagement and e-loyalty intentions was stronger when perceived brand authenticity was higher. Descriptive conditional indirect estimates also suggest that the indirect association through brand trust

and customer engagement was stronger at higher levels of perceived brand authenticity. However, this conditional indirect pattern should be interpreted conservatively because fully bootstrapped conditional indirect confidence intervals were not available.

Overall, this study advances understanding of influencer-mediated social commerce by conceptualizing perceived influencer credibility as a credibility-based digital promotional signal and perceived brand authenticity as an identity-consistency boundary condition. The study's theoretical increment lies in specifying a conditional signal-to-relationship process rather than in claiming that each individual association is unexpected. The findings suggest that influencer marketing should not be understood merely as a short-term persuasive tactic or exposure-generating tool. Instead, its loyalty-related value may depend on a relational process in which credible influencer-mediated promotion is associated with brand trust, brand trust is associated with engagement, and engagement is more strongly associated with e-loyalty intentions when the endorsed brand is perceived as authentic.

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Institutional Review Board Statement: According to the announcement issued by the Department of Health, Executive Yuan, Taiwan, on the scope of human research cases that may be exempt from Institutional Review Board review, certain anonymous, non-identifiable, and minimal-risk studies may be eligible for exemption from ethical review. The present study involved an anonymous online questionnaire administered to adult participants, collected no personally identifiable or sensitive information, and posed no more than minimal risk to participants. Therefore, formal full-board ethical review was not sought under the applicable Taiwanese regulations and institutional guidelines. Reference: Department of Health, Executive Yuan, Taiwan. Announcement on the Scope of Human Research Cases Exempt from Institutional Review Board Review. Official document No. 1010034612, issued on 5 July 2012.

Informed Consent Statement: All participants were informed of the purpose of the study, the voluntary nature of their participation, the anonymity of their responses, and their right to withdraw from the survey at any time before submission. Informed consent was obtained from all participants prior to data collection. All responses were collected anonymously and stored securely.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

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References

1. Grange, C.; Benbasat, I.; Burton-Jones, A. A network-based conceptualization of social commerce and social commerce value. *Comput. Hum. Behav.* **2020**, *108*, 105855. [CrossRef]
2. Zhang, K.Z.K.; Benyoucef, M.; Zhao, S.J. Consumer behavior in social commerce: A literature review. *Decis. Support Syst.* **2016**, *86*, 95–108. [CrossRef]
3. Zhao, W.; Zhang, K.Z.K.; Benyoucef, M. A systematic literature review on social commerce. *Electron. Commer. Res. Appl.* **2023**, *58*, 101219. [CrossRef]
4. Chen, N.; Yang, Y. The role of influencers in live streaming e-commerce: Influencer trust, attachment, and consumer purchase intention. *J. Theor. Appl. Electron. Commer. Res.* **2023**, *18*, 1601–1618. [CrossRef]
5. Pan, M.; Blut, M.; Ghiassaleh, A.; Lee, Z.W.Y. Influencer marketing effectiveness: A meta-analytic review. *J. Acad. Mark. Sci.* **2025**, *53*, 52–78. [CrossRef]
6. Alcántara-Pilar, J.M.; Rodríguez-López, M.E.; Kalinić, Z.; Liébana-Cabanillas, F. From likes to loyalty: Exploring the impact of influencer credibility on purchase intentions in TikTok. *J. Retail. Consum. Serv.* **2024**, *78*, 103709. [CrossRef]
7. Ahmed, S.; Islam, T.; Ghaffar, A. Shaping brand loyalty through social media influencers: The mediating role of follower engagement and social attractiveness. *SAGE Open* **2024**, *14*, 1–17. [CrossRef]
8. Libai, B.; Rosario, A.B.; Beichert, M.; Donkers, B.; Haenlein, M.; Hofstetter, R.; Kannan, P.K.; van der Lans, R.; Lanz, A.; Li, H.A.; et al . Influencer marketing unlocked: Understanding the value chains driving the creator economy. *J. Acad. Mark. Sci.* **2025**, *53*, 4–28. [CrossRef]

9. Ohanian, R. Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *J. Advert.* **1990**, *19*, 39–52. [CrossRef]
10. Spence, M. Job market signaling. *Q. J. Econ.* **1973**, *87*, 355–374. [CrossRef]
11. Duffek, B.; Eisingerich, A.B.; Merlo, O.; Lee, G. Authenticity in influencer marketing: How can influencers and brands work together to build and maintain influencer authenticity? *J. Mark.* **2025**, *89*, 21–46. [CrossRef]
12. Aronson, E.; Willerman, B.; Floyd, J. The effect of a pratfall on increasing interpersonal attractiveness. *Psychon. Sci.* **1966**, *4*, 227–228. [CrossRef]
13. Fiske, S.T.; Cuddy, A.J.C.; Glick, P.; Xu, J. A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *J. Personal. Soc. Psychol.* **2002**, *82*, 878–902. [CrossRef]
14. Delgado-Ballester, E. Applicability of a brand trust scale across product categories: A multigroup invariance analysis. *Eur. J. Mark.* **2004**, *38*, 573–592. [CrossRef]
15. Hollebeek, L.D.; Glynn, M.S.; Brodie, R.J. Consumer brand engagement in social media: Conceptualization, scale development and validation. *J. Interact. Mark.* **2014**, *28*, 149–165. [CrossRef]
16. Anderson, R.E.; Srinivasan, S.S. E-satisfaction and e-loyalty: A contingency framework. *Psychol. Mark.* **2003**, *20*, 123–138. [CrossRef]
17. Srinivasan, S.S.; Anderson, R.; Ponnavolu, K. Customer loyalty in e-commerce: An exploration of its antecedents and consequences. *J. Retail.* **2002**, *78*, 41–50. [CrossRef]
18. Kumar, V.; Kaushik, A.K. Engaging customers through brand authenticity perceptions: The moderating role of self-congruence. *J. Bus. Res.* **2022**, *138*, 26–37. [CrossRef]
19. Balaban, D.C.; Szambolics, J.; Chirică, M. Parasocial relations and social media influencers' persuasive power: Exploring the moderating role of product involvement. *Acta Psychol.* **2022**, *230*, 103731. [CrossRef] [PubMed]
20. Aw, E.C.-X.; Fernando, A.G.; Balakrishnan, S.; Palaniappan, U.; Booshnam, D. Consumers' parasocial interactions and relationships with online influencers: A systematic review. *J. Consum. Mark.* **2026**, 1–22. [CrossRef]
21. Lim, W.M.; Rasul, T. Customer engagement and social media: Revisiting the past to inform the future. *J. Bus. Res.* **2022**, *148*, 325–342. [CrossRef]
22. Santos, Z.R.; Cheung, C.M.K.; Coelho, P.S.; Rita, P. Consumer engagement in social media brand communities: A literature review. *Int. J. Inf. Manag.* **2022**, *63*, 102457. [CrossRef]
23. Vo, T.-H.; Tan, G.W.-H.; Pham, N.T.; Truong, T.H.-D.; Ooi, K.-B. Promoting customer engagement and brand loyalty on social media: The role of virtual influencers. *Int. J. Consum. Stud.* **2025**, *49*, e70028. [CrossRef]
24. Zahran, I.; Aljuhmani, H.Y. Seduced by style: How Instagram fashion influencers build brand loyalty through customer engagement in sustainable consumption. *Sustainability* **2025**, *17*, 7888. [CrossRef]
25. Morhart, F.; Malär, L.; Guèvremont, A.; Girardin, F.; Grohmann, B. Brand authenticity: An integrative framework and measurement scale. *J. Consum. Psychol.* **2015**, *25*, 200–218. [CrossRef]
26. Napoli, J.; Dickinson, S.J.; Beverland, M.B.; Farrelly, F. Measuring consumer-based brand authenticity. *J. Bus. Res.* **2014**, *67*, 1090–1098. [CrossRef]
27. Li, J.; Ma, Y.; Sommerfeldt, E.J. When consumers smell a sell in personal stories: How influencer narratives backfire and the role of sponsorship disclosures. *J. Mass Commun. Q.* **2025**, *Advance online publication*. [CrossRef]
28. Barari, M.M.; Eisend, M.; Jain, S.P. A meta-analysis of the effectiveness of social media influencers: Mechanisms and moderation. *J. Acad. Mark. Sci.* **2026**, *54*, 28–48. [CrossRef]
29. Hair, J.F.; Hult, G.T.M.; Ringle, C.M.; Sarstedt, M. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd ed.; Sage: Thousand Oaks, CA, USA, 2022.
30. Shamim, K.; Islam, T. Digital influencer marketing: How message credibility and media credibility affect trust and impulsive buying. *J. Glob. Sch. Mark. Sci.* **2022**, *32*, 601–626. [CrossRef]
31. Shamim, K.; Ahmad, M.S.; Iqbal, J. The power of social media influencers: Unveiling the impact on consumers' impulse buying behaviour. *Humanit. Soc. Sci. Commun.* **2024**, *11*, 1532. [CrossRef]
32. Cheah, C.W.; Koay, K.Y.; Lim, W.M. Social media influencer over-endorsement: Implications from a moderated-mediation analysis. *J. Retail. Consum. Serv.* **2024**, *79*, 103831. [CrossRef]
33. Herzallah, F.; Abosamaha, A.J.; Salameh, S.M.; Alhayek, M. Social commerce attributes, customer engagement and repurchase intention in social commerce platforms: A stimulus–organism–response approach. *J. Open Innov. Technol. Mark. Complex.* **2025**, *11*, 100635. [CrossRef]
34. Mubdir, G.A.; Hashim, S.; Ayob, A.H.; Rosli, N. Exploring customer engagement in social commerce: A literature review of frameworks, pathways, and emerging trends. *Eng. Technol. Appl. Sci. Res.* **2025**, *15*, 20601–20608. [CrossRef]
35. Nguyen, D.H.; Hoang, L.C. Customers' engagement with virtual influencers: The roles of parasocial relationship, emotional attachment. *Young Consum.* **2025**, *27*, 109–129. [CrossRef]

36. Ahmad, F.; Mustafa, K.; Hamid, S.A.R.; Khawaja, K.F.; Zada, S.; Jamil, S.; Qaisar, M.N.; Vega-Muñoz, A.; Contreras-Barraza, N.; Anwer, N. Online customer experience leads to loyalty via customer engagement: Moderating role of value co-creation. *Front. Psychol.* **2022**, *13*, 897851. [CrossRef] [PubMed]
37. Liu, Y.; Wang, X.; Chen, Y. Does inconsistency between influencer-generated and user-generated content hurt brands? The role of perceived content credibility. *Psychol. Mark.* **2025**, *42*, 2444–2472. [CrossRef]
38. Hayes, A.F. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, 3rd ed.; The Guilford Press: New York, NY, USA, 2022.
39. McClelland, G.H.; Judd, C.M. Statistical difficulties of detecting interactions and moderator effects. *Psychol. Bull.* **1993**, *114*, 376–390. [CrossRef] [PubMed]
40. Kawaf, F.; Girotto, M. Mapping the terrain of social and livestream commerce research through the affordance lens: A bibliometric review and research agenda. *Electron. Commer. Res. Appl.* **2024**, *65*, 101399. [CrossRef]

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