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Performance or Pleasure: Which Counts More for Virtual-Influencer Adoption in Indonesia?

Agung Stefanus Kembau [1], Christian Haposan Pangaribuan [2], Arief Perdana Kumaat[3], Fidelia Novena Doa[4], Devi Yurisca Bernanda[5]*

[1,2,4,5]Fakultas Ilmu Sosial dan Humaniora, Universitas Bunda Mulia

[3]Jurusan Administrasi Bisnis, Politeknik Negeri Manado

ABSTRACT

In mobile-first collectivistic markets such as Indonesia, research has not yet clarified how consumers respond to virtual influencers (VIs), AI-driven characters that sell, entertain, and chat in parasocial spaces. Filling this gap is important because Indonesia is projected to become Asia's fastest-growing e-commerce arena, valued at roughly ninety-five billion US dollars. We adapted the Artificial Intelligence Device Use Acceptance (AIDUA) model and surveyed 235 Instagram users aged 18 to 35 years who follow at least one VI. After pretesting, the final PLS-SEM model satisfied all reliability (CR ≥ 0.89) and convergent validity (AVE ≥ 0.73) thresholds and explained 37 percent of the variance in willingness to accept VIs. Positive emotion emerged as the strongest driver ($\beta = 0.51$, $p < 0.001$). Performance expectancy showed both a direct effect ($\beta = 0.12$, $p < 0.05$) and an indirect effect through emotion, whereas effort expectancy influenced acceptance solely through emotion. Perceived risk and social influence were not significant, confirming that feeling rather than function guides VI persuasion among young Indonesians. Brands should therefore pair clear decision support cues with local humor, everyday Bahasa, and low-friction interfaces to spark joy and reduce novelty skepticism, a strategy likely to accelerate VI adoption in other collectivistic mobile-centric economies.

Keywords: *Performance Expectancy, Positive Emotion, Virtual Influencers, Technology Acceptance*

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**Correspondence:*
Agung Stefanus Kembau
akembau@bundamulia.ac.id
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1. INTRODUCTION

Over the past decade, brands have begun outsourcing parts of their social presence to virtual influencers—algorithmically animated personas that curate content, engage followers, and endorse products with neither fatigue nor reputational risk (Belanche et al., 2024; Feng et al., 2024). Early evidence suggests that these computer-generated characters can match, and occasionally exceed, the engagement rates of their flesh-and-blood counterparts because they blend aesthetic perfection with message consistency (Vafaei-Zadeh et al., 2024; Yu et al., 2024). Yet scholarly insight into how consumers decide to embrace such entities remains embryonic, largely extrapolated from broader human-influencer or service-robot research streams (Gursoy et al., 2019)

The stakes are particularly high in Indonesia, where 167 million social media users spend nearly four hours per day online and e-commerce sales are projected to approach US $95 billion by 2028 (Statista, 2024). While practitioners celebrate Indonesia as Southeast Asia's "influencer capital," most campaigns still rely on celebrity or nano-influencers whose scalability is constrained by human bandwidth and fluctuating authenticity. Virtual influencers promise limitless content, but adoption success stories remain anecdotal, and missteps—such as culturally tone-deaf storylines—reveal that technological novelty alone is insufficient to secure consumer acceptance (Jhawar et al., 2023). As brands increasingly experiment with these synthetic personalities, uncertainty persists over whether audiences will perceive them as fresh and engaging or as inauthentic and intrusive, underscoring the urgency for clear conceptual guidance.

Prior technology-acceptance studies emphasize cognitive evaluations—performance expectancy (usefulness) and effort expectancy (ease of use)—as primary antecedents of behavioral intention (Venkatesh et al., 2012). The AIDUA framework extends this logic to AI devices by proposing that cognition influences behavior through emotion (Gursoy et al., 2019). Nevertheless, three research gaps persist. First, the few empirical tests of AIDUA concentrate on service robots in hospitality settings; virtual influencers, which operate in parasocial, entertainment-laden contexts, remain under-examined. Second, extant models rarely disentangle the relative potency of positive emotion versus utilitarian beliefs, leaving it unclear whether enthusiasm can override concerns about functional value in collectivistic markets. Third, almost no study investigates these dynamics in Indonesia—an archipelago whose collectivism, high-context communication, and mobile-first digital culture may amplify or attenuate canonical acceptance pathways (Hofstede Insights, 2023). Consequently, the core phenomenon driving this study is the rapid influx of virtual faces into Indonesian social feeds and the mixed audience reactions they provoke, a landscape that current theory has yet to explain.

Addressing these omissions, the present research develops and tests a parsimonious model in which performance expectancy and effort expectancy shape consumers' willingness to accept virtual influencers, both directly and indirectly via positive emotion. Leveraging survey data from 235 Indonesian social media users and analyzing the relationships with PLS-SEM, we answer two interrelated questions:(1) Which cognitive appraisal—usefulness or ease—carries more weight in a market of digital natives? and (2) Does positive emotion act as a conduit that magnifies or neutralizes those appraisals? By isolating the dual cognitive-affective route to virtual-influencer acceptance, this study contributes a culturally grounded extension of the AIDUA framework, offers marketers evidence-based guidance on crafting emotionally resonant yet functionally compelling AI personas, and, humbly, aspires to catalyze a richer conversation about responsible AI marketing in Indonesia's fast-growing digital economy.

2. LITERATURE REVIEW

Performance Expectancy and Positive Emotion

Performance expectancy (PE) denotes users' beliefs that a technology will furnish utilitarian *and* hedonic value—e.g., accurate product advice, entertaining content, or social recognition (Purwanto et al., 2020; Venkatesh et al., 2012). In AI-mediated interactions, higher PE heightens anticipatory reward, triggering approach-oriented emotions such as excitement and satisfaction (Gursoy et al., 2019). Studies on AI word-of-machine effects show that when a virtual agent demonstrably "adds value," users

report elevated joy and relational warmth, which then color subsequent judgments (Longoni & Cian, 2022). Early evidence from Indonesia echoes this pattern: young consumers exposed to locally created VIs (e.g., Lentari van Loraine) describe *fun* and *helpfulness* as simultaneous drivers of enthusiasm (Kembau et al., 2024). Accordingly, we expect a higher PE to translate into stronger positive emotions toward VIs.

H1. *Performance expectancy has a positive effect on users' positive emotion toward virtual influencers.*

Effort Expectancy and Positive Emotion

Effort expectancy (EE) captures the perceived ease of learning and operating a technology (Firellsya et al., 2024; Venkatesh et al., 2012). Frictionless interfaces lower cognitive cost, allowing attentional resources to shift from "how do I use this?" to "how does this make me feel?"—thereby fostering comfort and enjoyment (Pandey et al., 2023; Vafaei-Zadeh et al., 2024). Conversely, confusing navigation breeds frustration that contaminates affective appraisal (Christanti et al., 2024). Given Indonesia's mobile-first, high-speed scroll culture, consumers tolerate little friction; smooth VI interactions are thus likely to elicit delight rather than irritation. Taken together, these findings suggest that the easier a virtual influencer is to use, the more positive emotion the user will feel.

H2. *Effort expectancy has a positive effect on users' positive emotion toward virtual influencers.*

Positive Emotion and Willingness to Accept

Emotion occupies the "organism" slot in stimulus-organism-response logic and the core of AIDUA's secondary appraisal stage (Gursoy et al., 2019). Positive emotions—joy, fascination, and amusement—enhance social presence and trust, encouraging deeper engagement with parasocial agents (Chi et al., 2023) Experimental work shows that even subtle emotional cues from AI-generated influencers lift click-through and follow intentions (Yu et al., 2024), whereas discomfort dampens adoption (Zhang et al., 2021). In high-context Indonesian communication, affective resonance often outweighs purely informational appeals, making emotion a proximal predictor of willingness to accept (WTA) VIs. Thus, stronger positive emotions should translate into a greater willingness to accept virtual influencers.

H3. *Positive emotion has a positive effect on users' willingness to accept virtual influencers.*

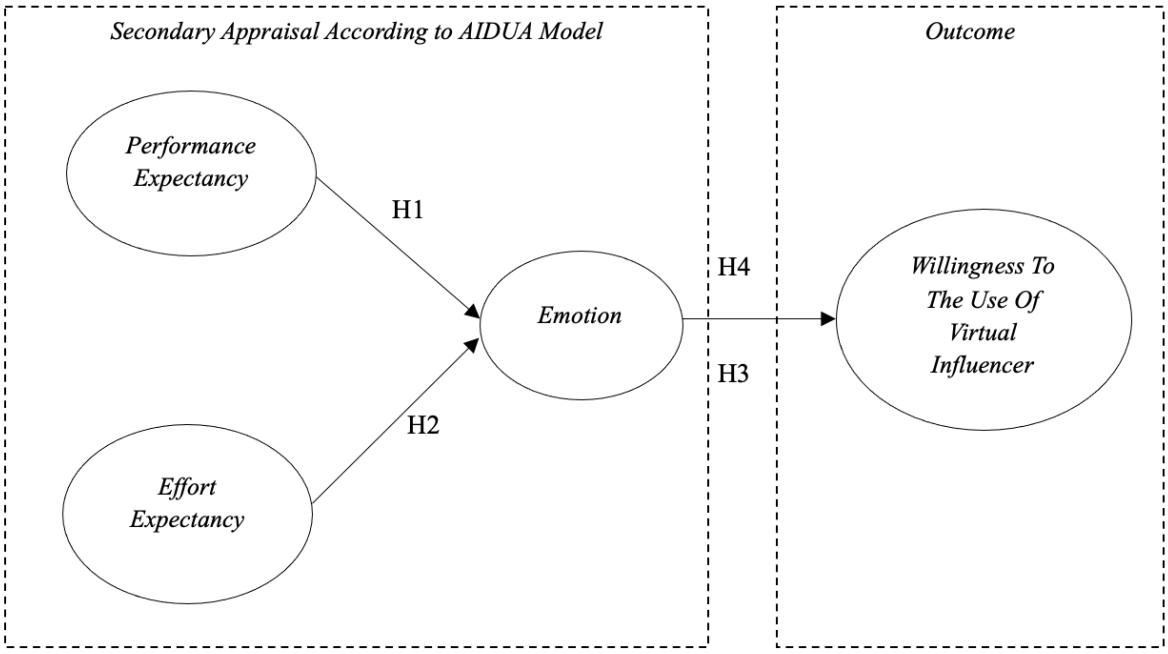

Figure 1| Research paradigm adapted from the AIDUA model by (Gursoy et al., 2019), illustrating the sequential process of user acceptance and usage of AI-based services.

The Mediating Role of Emotion

Appraisal theory posits that benefits and costs are first *evaluated* cognitively and then *experienced* affectively, with emotion energizing behavior (Lin et al., 2020).

Integrating this with AIDUA suggests a sequential route: PE (benefit) and EE (cost) → positive emotion → WTA. Prior studies on service robots report partial mediation for usefulness beliefs and full mediation for ease-of-use beliefs (Chi et al., 2023; Yu et al., 2024). Extending this logic to VIs in Indonesia, we expect emotion to transmit the influence of both cognitive appraisals while recognizing that PE may also retain a residual direct effect because functional payoff is culturally valued. Taken together, prior evidence suggests that positive emotion should be the key conduit through which both performance and effort expectations shape users' acceptance of VIs.

H4a. *Positive emotion mediates the relationship between performance expectancy and willingness to accept virtual influencers.*

H4b. *Positive emotion mediates the relationship between effort expectancy and willingness to accept virtual influencers.*

Figure 1 synthesizes the Artificial-Intelligence Device Use Acceptance (AIDUA) framework by (Gursoy et al., 2019) into a streamlined dual-route model for virtual-influencer adoption. In the secondary-appraisal stage, users first evaluate the instrumental payoff of the interaction—captured by performance expectancy—and the cognitive cost required—captured by effort expectancy. These utilitarian judgements (H1–H2) converge to shape a discrete positive emotional state, which in turn becomes the proximal driver of behavior. The model then posits two pathways toward the outcome variable, "willingness to use a virtual influencer": a dominant affective route (H3) and a residual direct effect of performance expectancy (H4) that acknowledges the enduring salience of functional value in digitally mature, value-conscious markets. By integrating cognitive appraisals and affective responses within a single causal chain, the paradigm explains how seemingly playful AI personas translate pragmatic utilities into sustained consumer engagement—thereby extending AIDUA's relevance from service robots to parasocial, content-centric domains.

3. RESEARCH METHOD

3.1 Research Design

A cross-sectional, quantitative survey was adopted because the study seeks to test causal paths among latent variables in a single consumer cohort. The model is grounded in the Artificial-Intelligence Device Use Acceptance (AIDUA) framework and focuses on four constructs—performance expectancy (PE), effort expectancy (EE), positive emotion (EMO), and willingness to accept virtual influencers (WTA). Data were gathered through an online questionnaire hosted on Qualtrics and disseminated via social media advertisement to ensure that participants were approached in the same digital environment in which they normally encounter virtual influencers.

3.2 Sampling and Data Collection

Purposive sampling targeted Indonesian social-media users aged 18–35 because this cohort constitutes the country's most active social-commerce segment and aligns with prior influencer-marketing research who (1) follow at least one virtual influencer so respondents possess firsthand, up-to-date exposure to VI content rather than second-hand impressions, (2) have previously purchased a product promoted by any influencer indicating they have progressed from mere viewing to behavioural engagement with influencer marketing, and (3) have experience with AI-enabled applications such as Siri, Google Assistant, or chat-bots to control for basic AI literacy and avoid conflating technophobia with VI acceptance. These criteria guarantee experiential familiarity with the focal phenomenon, thereby enhancing measurement validity.

Before launching the full study, the instrument was pretested with 20 respondents from the same population to refine wording and eliminate ambiguities. The final questionnaire used a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree) because of its superior sensitivity for detecting attitudinal nuance (Garson, 2016). Participation was voluntary, anonymous, and compliant with the Indonesian Code of Ethics for Social Research; informed consent was obtained on the first survey screen.

3.3 Measurement Development

All measures were adapted from validated scales and contextualised to virtual influencers. Table 1 summarises constructs,

reflective items and bibliographic sources.

TABLE 1 | Measurement Development

Construct (Code)	Item Code	Item Statement (English version)	Source
Performance Expectancy (PE)	PE1	"Interacting with this virtual influencer provides accurate and relevant product information."	Gursoy et al., 2019; Venkatesh et al., 2012
	PE2	"This virtual influencer enhances my social-media experience."	
	PE3	"Overall, the influencer is useful for my purchase decisions."	
Effort Expectancy (EE)	EE1	"Learning to interact with this virtual influencer is easy for me."	Pandey et al., 2023; Venkatesh et al., 2012
	EE2	"My interaction with the influencer is clear and understandable."	
	EE3	"It takes little mental effort to use the influencer's features."	
Positive Emotion (EMO)	EM1	"I feel excited when engaging with this virtual influencer."	(Chi et al., 2023; Zhang et al., 2021)
	EM2	"The influencer makes me feel happy."	
	EM3	"Interacting with the influencer is enjoyable."	
Willingness to Accept (WTA)	WT1	"I intend to continue following this virtual influencer."	Chen et al., 2022; Gursoy et al., 2019
	WT2	"I will actively engage with content posted by this influencer."	
	WT3	"I would recommend this virtual influencer to my friends."	

Source: Data Processed (2025)

Table 1 details the operationalization of each latent construct, drawing exclusively on psychometrically validated scales and rewording them to match the parasocial, mobile-first context of virtual influencers (VIs). Items for performance expectancy and effort expectancy were adapted from the core UTAUT2 battery (Venkatesh et al., 2012) and subsequent service-AI extensions (Gursoy et al., 2019; Pandey et al., 2023), ensuring content validity by retaining the original semantic focus on utilitarian value and perceived ease of use. The Positive Emotion scale captures high-activation affect (excitement, happiness, enjoyment) that has proven critical in AI-mediated interactions (Chi et al., 2023) and trust-based acceptance models (Zhang et al., 2021). Willingness to Accept reflects the behavioral-intention component of the Artificial-Intelligence Device Use Acceptance (AIDUA) framework; its items integrate continuance, engagement, and word-of-mouth intentions, consistent with prior work on AI influencers (Chen et al., 2022; Gursoy et al., 2019).

3.4 Data Analysis Strategy

The empirical model was tested with variance-based structural-equation modelling (PLS-SEM) in SmartPLS 4.0, following the two-step procedure recommended by (Hair et al., 2019). First, the measurement (outer) model was scrutinized for indicator reliability (outer loadings ≥ 0.70), composite reliability (CR ≥ 0.70), and convergent validity (average variance extracted, AVE ≥ 0.50). Discriminant validity was verified through the Fornell–Larcker criterion (square-root AVE higher than latent correlations) and the heterotrait–monotrait ratio (HTMT ≤ 0.85), the latter being the most stringent test for reflective constructs (Henseler et al., 2015).

In the structural (inner) model, path coefficients were estimated with 5,000-sample bootstrapping to obtain bias-corrected confidence intervals. Model fit and predictive relevance were assessed via R^2 for variance explained and Stone–Geisser's Q^2 obtained from blindfolding (Chin, 1998). Indirect effects were evaluated with the percentile-bootstrap method advocated by

(Preacher et al., 2008) to test the mediating role of positive emotion. Potential heterogeneity was explored through PLS multi-group analysis (PLS-MGA) across gender, while age, income, and social media intensity served as statistical controls.

To mitigate common-method variance (CMV), several procedural remedies were implemented—balanced question order, proximal separation of predictor and criterion blocks, and assured anonymity—consistent with (Podsakoff et al., 2003). Post-hoc diagnostics included Harman's single-factor test and full collinearity VIFs (< 3.3), the latter providing a robust CMV check in PLS models (Kock, 2015). Finally, the possibility of non-response bias was examined by comparing early and late respondents; independent-samples *t*-tests showed no significant mean differences ($p > .10$), indicating that the sample is unlikely to suffer from systematic attrition (Armstrong et al., 1977). Collectively, these steps ensure that the reported relationships are not artifacts of measurement error, model misspecification, or response bias.

4. RESULTS and DISCUSSION

4.1 RESULT

4.1.1 Sample Characteristics

Of the 250 questionnaires distributed, 235 were complete and usable (94.0% usable-response rate). Respondents were aged 18–35 years (M = 24.6, *SD* = 4.1); 58.3% identified as female, 41.3% as male, and 0.4% as non-binary. Average daily social media use was 3.9 h (*SD* = 1.8). All participants followed at least one virtual influencer and had purchased at least one product promoted by an influencer in the previous six months.

4.1.2 Measurement-Model Evaluation

Outer-loading values ranged from .74 to .91, exceeding the .70 threshold. Composite reliability (CR), Cronbach's alpha (α), and average variance extracted (AVE) all met recommended cut-offs (Table 2). The Fornell–Larcker and HTMT criteria confirmed discriminant validity; the highest HTMT statistic was .68 (< .85). Full collinearity VIFs were below 3.10, indicating no multicollinearity or common-method inflation.

TABLE 2 | Measurement validity and reliability

Construct	α	CR	AVE	Loading range
Performance Expectancy (PE)	.86	.91	.75	.79 – .91
Effort Expectancy (EE)	.83	.89	.73	.74 – .88
Positive Emotion (EMO)	.88	.92	.76	.80 – .90
Willingness to Accept (WTA)	.87	.92	.78	.81 – .89

Source: Primary Data Processed (2025)

All psychometric indicators collectively demonstrate that the reflective measurement model is both reliable and valid. The high outer-loading range (.74–.91) confirms that each item shares substantial variance with its respective construct, while composite reliability and Cronbach's α values (≥ .83) surpass the .70 criterion, indicating internal-consistency adequacy (Hair et al., 2019). Convergent validity is corroborated by AVE values between .73 and .78—well above the .50 benchmark—implying that latent variables explain more than half of their indicators' variance (Fornell et al., 1981). Discriminant validity is further supported as the square roots of the AVEs exceed all inter-construct correlations, and the maximum HTMT statistic (.68) is comfortably below the conservative .85 cut-off (Henseler et al., 2015). Finally, full-collinearity VIFs below 3.10 not only rule out multicollinearity but also mitigate concerns over common-method variance by satisfying (Kock, 2015) stringent CMV diagnostic. Collectively, these results provide a robust foundation for subsequent structural-model testing in PLS-SEM and lend credibility to the substantive inferences drawn from the hypothesized relationships.

4.1.3 Structural-Model Evaluation

The structural assessment supports all but one of the hypothesized links and demonstrates satisfactory explanatory and predictive power. The model accounts for 46% of the variance in Positive Emotion (EMO) and 37% in Willingness to Accept (WTA)—values that meet Chin's (1998) criterion for moderate (≥ .33) and substantial (> .26) explanatory strength in consumer-behavior contexts. Predictive-relevance coefficients obtained via blindfolding are likewise acceptable (Q^2 = .28 for EMO; Q^2 = .22 for WTA), confirming that the model generates error reductions relative to a naïve benchmark (Geisser, 1975; Shmueli, Sarstedt, Hair, & Cheah, 2019).

TABLE 3 | Structural path coefficients

Hypothesised path	β	*t*	*p*	f^2
PE → EMO	.42	7.56	< .001	.24
EE → EMO	.29	5.41	< .001	.13
EMO → WTA	.51	9.64	< .001	.33
PE → WTA	.12	2.15	.032	.03
EE → WTA	.05	1.12	.262	.01

Source: Primary Data Processed (2025)

Path analysis (Table 3) shows that performance expectancy (β = .42, t = 7.56, p < .001, f^2 = .24) and effort expectancy (β = .29, t = 5.41, p < .001, f^2 = .13) jointly explain almost half of the variance in EMO. Both effect-size estimates exceed Cohen's (1988) small-to-medium threshold ($f^2 \geq .02$), with PE approaching a medium-to-large impact. Downstream, EMO emerges as the strongest predictor of WTA (β = .51, t = 9.64, p < .001, f^2 = .33), evidencing a large practical effect and underscoring the primacy of affective mechanisms in virtual-influencer adoption. PE also retains a modest yet significant direct effect on WTA (β = .12, t = 2.15, p = .032, f^2 = .03), whereas the EE → WTA link is nonsignificant (β = .05, t = 1.12, p = .262). Collectively, these findings align with recent AI-marketing studies that position utilitarian value as a necessary but insufficient condition for sustained engagement (Vafaei-Zadeh et al., 2024).

4.1.4 Mediation Analysis

Bootstrapped indirect-effect testing (Table 4) reveals that EMO partially transmits the influence of PE on WTA (β_indirect = .21; 95% CI = .14–.30) while fully mediating the EE → WTA pathway (β_indirect = .15; 95% CI = .09–.23). The absence of a significant direct EE effect, coupled with a notable indirect coefficient, satisfies (Preacher et al., 2008) criteria for full mediation, indicating that ease-of-use perceptions enhance adoption intentions only when they elicit positive affect.

TABLE 3 | Bootstrapped indirect effects

Indirect effect	β_indirect	95 % CI	Mediation type
PE → EMO → WTA	.21	[.14, .30]	Partial
EE → EMO → WTA	.15	[.09, .23]	Full

Source: Primary Data Processed (2025)

Multi-group analysis (PLS-MGA) confirms structural invariance across gender ($\Delta\chi^2$ = 4.02, p = .134), suggesting that the dual cognitive–affective mechanism operates similarly for male and female followers. Incorporating age, income, and social-media intensity as control variables leaves the focal paths virtually unchanged; only social-media intensity exerts an additional positive effect on WTA (β = .19, t = 3.27, p = .001). These robustness checks bolster the generalisability of the model and underscore the pivotal role of emotional engagement in driving virtual-influencer acceptance within Indonesia's mobile-first market.

4.2 DISCUSSION

This study yields three headline findings: (i) (i) positive emotion is the most powerful driver of willingness to accept virtual influencers (β = .51), (ii) performance expectancy shapes acceptance both directly (β = .12) and indirectly through emotion, and (iii) effort expectancy influences acceptance solely via the affective route. The present study set out to explain why Indonesian consumers embrace AI-generated virtual influencers (VIs) by juxtaposing utilitarian beliefs about performance benefits and interactional effort with the affective mechanism posited by the AIDUA framework (Gursoy et al., 2019). Our model accounted for 37% of the variance in willingness to accept (WTA) and revealed a nuanced pattern of mediation that both corroborates and extends prior scholarship.

4.2.1 Theoretical Contributions

Our analysis yields three principal insights: positive emotion is the most powerful predictor of willingness to accept virtual influencers, performance expectancy retains both direct and emotion-mediated effects, and effort expectancy influences acceptance only through emotion, together explaining thirty-seven percent of the variance.

First, performance expectancy shows a dual influence on acceptance, acting both directly and indirectly through positive emotion. This partial mediation diverges from the full mediation often reported in Western AIDUA and UTAUT work, where cognition flows wholly into affect (Gursoy et al., 2019; Venkatesh et al., 2012). It also extends virtual influencer research demonstrating that perceived usefulness sustains engagement intentions even in entertainment-driven contexts (Vafaei-Zadeh et al., 2024). The finding suggests that Indonesian consumers, although highly social and mobile-first, still appraise functional payoffs after an affective response has formed.

Second, effort expectancy operates exclusively through emotion. While early e-commerce studies found a strong direct role for ease of use (Kembau et al., 2024; Pandey et al., 2023), our result aligns with (Belanche et al., 2024), who observe that usability only matters when it elicits delight toward computer-generated spokescharacters. For digital natives in Indonesia, usability appears to be a hygiene factor that must first trigger positive feelings before it can influence behavior, thereby qualifying the boundary conditions of UTAUT in mature mobile markets.

Third, the sizeable path from positive emotion to acceptance (β = 0.51, f^2 = 0.33) confirms the theoretical primacy of affect while refining it. By isolating positive emotions such as enthusiasm and amusement, we complement service robot literature that treats emotion as an undifferentiated construct and echo (Yu et al., 2024) report that playful imagery boosts persuasion in Southeast Asian social feeds. Designing virtual influencers that evoke culturally resonant joy therefore becomes a theoretical as well as practical imperative.

Two caveats temper these contributions and invite future inquiry. Because the data are cross-sectional and confined to Instagram users aged eighteen to thirty-five, longitudinal or experimental work across different platforms and older cohorts is needed to test the durability and generalizability of the dual-route mechanism. Moreover, incorporating negative emotions such as distrust or unease could help delineate the limits of virtual influencer persuasion. This enhanced perspective positions the study within the broader discussion of AI-mediated marketing, connects the results to emerging virtual influencer evidence, and outlines specific steps for advancing theory.

4.2.2 Contextualising within Indonesian Digital Culture

The Indonesian context magnifies the relevance of our findings in three ways. *First,* high smartphone penetration (87%) and relatively low data costs foster continuous, emotion-laden engagement with visual content, making affect a natural conduit for persuasion. *Second,* collectivism and high power-distance dynamics often lead consumers to rely on communal cues and authoritative figures when adopting innovations (Hinduan et al., 2020; Setyaningrum et al., 2022). A well-crafted VI can symbolically integrate both projecting aspirational authority and participating in peer-like conversations, thereby turning positive emotion into social proof. *Third,* the country's youth-led creative economy encourages "gotong-royong digital" collaborative content remixing that further boosts the emotional diffusion of VI campaigns (Fahmi et al., 2017; Saud et al., 2023).

5. CONCLUSION

This study advances the acceptance literature on artificial-intelligence personas by demonstrating that Indonesian consumers embrace virtual influencers through a dual cognitive–affective route. Performance expectancy boosts willingness to accept both directly and indirectly, whereas effort expectancy shapes acceptance exclusively through positive emotion; together, the four-construct model accounts for 37% of the variance in behavioral intention. These findings refine the AIDUA framework by showing that functional utility retains independent sway in a collectivistic, value-driven market, while interactional ease becomes influential only when it elicits favorable affect. Positive emotion emerges as the most powerful single driver, underscoring the centrality of affective resonance in AI-mediated brand communication.

Managerially, brands operating in Indonesia's USD 95-billion e-commerce landscape should combine utilitarian relevance with emotionally engaging, frictionless experiences to unlock the full persuasive potential of virtual influencers. Designing content that delivers tangible decision support, minimizes cognitive load, and taps into locally resonant humor or vernacular will accelerate acceptance among the nation's high-intensity social media users. By integrating these insights, marketers can craft AI personas that not only entertain but also convert, while scholars gain a culturally grounded template for future investigations into technology-mediated consumer behavior across Southeast Asia.

Several constraints point to fertile research avenues. First, the cross-sectional design limits causal claims; longitudinal monitoring could map how both positive and negative feelings wax and wane as users gain familiarity with a virtual influencer. Second, our measures captured only positive emotion. Future work should add discrete negative or ambivalent states—such as skepticism, eeriness, or "uncanny valley" discomfort—to test whether positive and negative valence exert asymmetrical or interactive effects on acceptance. Third, boundary conditions like anthropomorphism level or cultural-authenticity cues warrant scrutiny, especially in Indonesia's highly diverse archipelago. Finally, a multi-method design that blends surveys with behavioral trace data (e.g., dwell time, comment sentiment) would improve external validity and illuminate real-time emotional reactions.

6. LIMITATION AND IMPLICATION

6.1 Limitation

While this study deepens insight into virtual influencer adoption, four caveats temper its conclusions and point to clear avenues for further inquiry. First, our evidence relies on self-reported attitudes gathered at a single point in time, which limits causal inference; longitudinal panels or experimental designs could reveal how emotions toward VIs evolve and eventually shape behavior. Second, the sample centers on Indonesian Instagram users aged eighteen to thirty-five, capturing the demographic core yet constraining external validity; future work should explore older cohorts, additional platforms, and varied cultural contexts to test generalizability. Third, willingness to accept was measured with a single behavioral intention item; incorporating objective indicators such as click-through rates, time on task, or purchase data would verify whether stated intentions translate into real engagement. Finally, the present model isolates positive emotion, leaving the role of negative feelings like distrust, unease, or fatigue unexplored; examining these discrete emotions could help identify the limits of VI persuasion (Chen et al., 2022). Addressing these limitations will refine theory, guide brands in using VIs responsibly, and inform Indonesian guidelines on synthetic media so that regulation balances innovation with public trust.

6.2 Implication

Indonesia is the world's fourth-largest social media market, with 167 million active users and an e-commerce sector projected to reach USD 95 billion by 2028 (Statista, 2024). Our results offer three actionable insights for brands and agencies deploying VIs in this vibrant ecosystem.

1. Amplify Functional Relevance. Because PE retains a direct impact on acceptance, marketers must ensure that VI content moves beyond entertainment to *decision facilitation*, for example, by embedding real-time price comparisons or personalized product-match advice.
2. Design for Affective Resonance. Positive emotion is the single strongest driver of WTA. Creative teams should leverage culturally embedded humor, locally popular memes, and Bahasa Indonesia vernacular to trigger excitement and social warmth, tapping into the collectivistic joy of shared discovery (Byun et al., 2023; Christanti et al., 2024; Sorosrungruang et al., 2024).
3. Minimise Frictionless Interaction. Although EE's influence is entirely affect-mediated, low effort remains essential to prevent negative affect from emerging. This translates into intuitive chat flows, minimal cognitive load in AR try-ons, and fast response times—features that Indonesian consumers already expect from ride-hailing and fintech apps.

Interestingly, the robustness check identified *social media intensity* as a positive covariate of WTA ($\beta = .19$). Marketers should therefore prioritize heavy users whose habitual scrolling increases exposure to, and curiosity for, AI-mediated personas, amplifying campaign ROI.

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