E-ISSN: 2775-3565

UPH
UNIVERSITAS PELITA HARAPAN

VOL. 5, N0. 2 SEPTEMBER 2025

MILESTONE

JOURNAL OF STRATEGIC MANAGEMENT

Published by:
Faculty of Economics and Business

E-ISSN: 2775-3565

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JOURNAL OF STRATEGIC MANAGEMENT

VOL. 5, NO. 2 SEPTEMBER 2025

Milestone: Journal of Strategic Management is published by the Faculty of Economics and Business, Universitas Pelita Harapan. The aim of Milestone: Journal of Strategic Management is to provide original research articles related to key concepts and theories in the strategic management field and a forum for independent research and analysis on business, strategy, and management.

Milestone: Journal of Strategic Management seeks to reflect a range of views from within the scholarly strategic studies, promote a better understanding of strategic thinking on contemporary national and international themes.

Publishing Information
The journal is published twice a year in April and September

Editorial Address
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E-ISSN: 2775-3565

MILESTONE

JOURNAL OF STRATEGIC MANAGEMENT

VOL. 5, N0.2 SEPTEMBER 2025

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Faculty of Economics and Business
Pelita Harapan University

SOCIAL AND EMOTIONAL DRIVERS OF ENGAGEMENT WITH AI VIRTUAL INFLUENCERS: A QUALITATIVE STUDY IN INDONESIA

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ABSTRACT

The growing presence of AI-powered virtual influencers (VIs) on social media has introduced new dynamics in digital marketing, yet little is known about how consumers in emerging markets perceive and respond to these synthetic personas. This study investigates the factors that shape consumer acceptance of virtual influencers in Indonesia, focusing on the interrelationship between social influence, performance expectancy, emotional resonance, and willingness to engage. Employing a qualitative research design, 25 in-depth semi-structured interviews with Indonesian consumers aged 18–35 were conducted, reaching thematic saturation. Thematic analysis was conducted using NVivo 14, integrating both deductive and inductive coding strategies. Findings reveal four major themes and twelve subthemes: (1) social influence functions as a cultural endorsement mechanism, shaping normative beliefs; (2) performance expectancy is driven by informational credibility, entertainment value, and behavioral consistency; (3) emotional resonance—expressed through perceived authenticity and psychological comfort—is central to consumer attachment; and (4) willingness to use VIs is closely linked to digital identity projection and contextual social legitimacy. A clear majority of participants (around four out of five) described positive evaluations of VIs, while a minority expressed skepticism and emotional discomfort, highlighting ethical and psychological boundaries in AI–human interaction. The study contributes to a deeper understanding of how social and emotional mechanisms converge in shaping digital consumer behavior, offering practical insights for marketers and advancing theory on technology acceptance in culturally nuanced settings.

Keywords: Virtual Influencers; AI Marketing; Consumer Engagement; Emotional Resonance; Indonesia

INTRODUCTION

The proliferation of artificial intelligence (AI) has dramatically reshaped the digital marketing landscape, introducing unprecedented opportunities and challenges for brands seeking deeper consumer engagement (Jhawar et al., 2023). Among these innovations, virtual influencers—AI-powered digital personas—have emerged as influential brand ambassadors capable of interacting seamlessly with consumers via social media platforms (Feng et al., 2023). Globally, prominent virtual influencers such as Lil Miquela and Shudu Gram have successfully captivated millions of followers, reinforcing their effectiveness in contemporary marketing (Laszkiewicz & Kalinska-Kula, 2023). Yet, as this novel marketing phenomenon continues to expand, significant uncertainties persist regarding consumer acceptance and long-term engagement with virtual influences, particularly within culturally nuanced markets.

In Indonesia, a dynamic and digitally populous market, virtual influencers such as Lentari Pagi (@lentaripagi) are rapidly gaining traction (Azzahra & Pratama, 2024; Kemp, 2023). Recent data show that social media usage is pervasive, with 143 million social media user identities by early 2025, representing over 50% of the national population, and 76% of users following at least one influencer, positioning Indonesia among the world's largest social media markets (Kemp, 2025; Taslaud, 2025). These figures underscore the critical need to understand how virtual influencer campaigns resonate within such a context. Accordingly, marketers' growing investment in virtual influencers hinges on insights into the socio-cultural and psychological mechanisms driving digital consumer engagement in Indonesia (Kembau et al., 2024; Kembau et al., 2025).

However, despite its expanding significance, academic inquiry into consumer acceptance of virtual influencers remains predominantly limited to quantitative evaluations within Western contexts (Belanche et al., 2024). Most extant studies have inadequately addressed subjective consumer experiences, social influences, and nuanced cultural factors shaping individual responses to virtual influencers in non-Western contexts (Chi & Vu, 2023; Cheng, Zhang et al., 2022). Recent studies in Asia, such as research in China and Korea, highlight both opportunities and challenges in integrating virtual influencers into culturally sensitive markets, emphasizing consumer concerns around authenticity and trust (Luo & Kim, 2023). In Indonesia, empirical evidence is emerging for instance, Cokki et al. (2025) demonstrate that virtual influencer–driven product placements significantly enhance brand recall and salience among university students in Jakarta and Yogyakarta, indicating the growing relevance of this phenomenon in Southeast Asia. Nevertheless, comprehensive qualitative explorations into why and how this influence unfolds across broader consumer segments remain limited, leaving a notable empirical and theoretical gap that poses a critical barrier for practitioners aiming to leverage virtual influencers effectively in culturally diverse markets, where consumer acceptance and engagement can vary significantly based on complex social and cultural dynamics (Vafaei-Zadeh et al., 2024).

To address this conspicuous gap, our study qualitatively explores the specific role of social influence and performance expectancy in shaping consumer willingness to engage with virtual influencers among Indonesian consumers. Utilizing in-depth interviews, this research probes deeper into consumer perceptions, emotional responses, and social interactions underpinning their acceptance of virtual influencer technologies. By adopting this qualitative lens, we illuminate critical consumer insights that quantitative approaches often overlook, thereby enriching existing theoretical frameworks, such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, 2022; Yu et al., 2024).

Explicitly, this study seeks to investigate three interrelated research questions. First, it examines how social influences shape Indonesian consumers' expectations of virtual influencer usefulness and acceptance. Second, it explores in what ways performance expectancy and emotional resonance contribute to consumers' willingness to engage with virtual influences. Finally, it analyzes how cultural and social contexts influence consumer perceptions of authenticity and long-term engagement with these AI-generated personas.

Ultimately, this study contributes significantly to marketing scholarship and practice by providing empirically grounded, culturally sensitive insights into consumer acceptance dynamics regarding virtual influencers in Indonesia. For scholars, our findings expand theoretical understanding of digital consumer behavior within non-Western contexts, particularly emphasizing the interplay between social influence, performance expectancy, and consumer emotional engagement. For marketing practitioners, this research offers strategic guidance on tailoring virtual influencer campaigns effectively to resonate with culturally nuanced consumer segments, ensuring not only initial acceptance but sustained long-term engagement and brand loyalty.

LITERATURE REVIEW

The emergence of virtual influencers (VI), characterized by artificially intelligent (AI)-powered avatars designed to emulate human-like interactions on digital platforms, has marked a significant shift in digital marketing practices (Jhawar et al., 2023; Kembau & Lendo, 2025). While global brands increasingly leverage virtual influencers due to their controlled brand representation and novelty, research exploring consumer acceptance, especially from a qualitative perspective in culturally distinct markets such as Indonesia, remains scarce (Kembau et al., 2024; Laszkiewicz & Kalinska-Kula, 2023).

Social influence is increasingly recognized as a critical factor in the adoption and continued use of emerging technologies, particularly in contexts shaped by collective norms (Venkatesh, 2022; Dwivedi et al., 2020). It embodies how perceptions and behaviors of consumers are shaped by their interactions within social networks. Recent studies by Zhang et al. (2024) highlight how social endorsement and perceived normative pressure significantly determine the acceptance of AI influencers. Furthermore, Vafaei-Zadeh et al. (2024) underscore the necessity of integrating social norms into technology acceptance frameworks, especially within collective cultural contexts like those prevalent in Indonesia.

In parallel, performance expectancy has been reaffirmed in recent studies as a core determinant of technology adoption, referring to the extent to which individuals believe that using a given technology will improve task performance (Venkatesh, 2022; Chatterjee et al., 2023), is central to technology adoption theories. Research consistently indicates that consumers who anticipate tangible benefits, such as accurate information dissemination or meaningful entertainment, are more inclined toward sustained engagement with AI-driven platforms (Gursoy et al., 2019). Feng et al. (2023) add that perceived influencer-product fit significantly enhances consumer attitudes, trust, and consequently, their expectancy of technology performance. Thus, a critical assessment of performance expectancy in the context of virtual influencers necessitates exploring consumer beliefs regarding the authenticity, informational value, and entertainment quality provided by these virtual entities.

Integrating these findings with TAM and UTAUT underscores that consumer willingness to engage with virtual influencers is not driven solely by utilitarian performance expectations. Rather, engagement is deeply rooted in emotional resonance and cultural framing, particularly within collectivist societies like Indonesia (Kim & Biocca, 1997; Mendelson & Papacharissi, 2020). Recent studies further confirm that parasocial bonds with digital agents and influencers are shaped not only by technological affordances but also by cultural expectations of authenticity and trust, reinforcing the role of effective and socio-cultural contexts in technology acceptance (Hu et al., 2023; Lee & Watkins, 2016). This study, therefore, does not propose constructing a novel model; instead, it situates its contribution in extending TAM/UTAUT by embedding affective and cultural dimensions that have received limited attention in prior research.

Finally, consumer willingness to use virtual influencers is intimately tied to social influence and performance expectancy. Yu et al. (2024) identify emotional engagement and trust as critical mediators influencing consumer willingness. Given that trust in AI technologies significantly increases when consumers perceive an anthropomorphic resonance (Chi & Vu, 2023; Cheng et al., 2022), the ability of virtual influencers to emulate relatable human-like interactions emerges as pivotal. Therefore, understanding how social influence and performance expectancy interplay to shape consumer trust and emotional connectivity becomes crucial for unpacking willingness to engage with virtual influencers. Drawing upon these insights, this study proposes the following:

1. **Proposition 1:** Social influence significantly shapes Indonesian consumers' performance expectancy toward virtual influencers by reinforcing normative beliefs and expectations within their social networks.
2. **Proposition 2:** Consumers' performance expectancy positively impacts their willingness to use virtual influencers when interactions are perceived as authentic, entertaining, and information rich.
3. **Proposition 3:** The relationship between social influence and willingness to use virtual influencers is mediated by consumers' emotional engagement and perceived authenticity of interactions with these AI entities.

Through qualitative exploration, these propositions aim to deepen understanding of how social contexts and perceived technological performance converge to influence consumer behaviors toward virtual influencers in Indonesia’s culturally rich digital marketplace.

RESEARCH METHOD

This study employs a qualitative research design to gain a deeper, contextualized understanding of how Indonesian consumers perceive and interact with virtual influencers, focusing specifically on the constructs of social influence, performance expectancy, and willingness to use. A qualitative approach was selected to capture the richness of subjective experiences and the social meanings attached to AI-driven digital interactions that quantitative instruments may fail to reveal.

Sampling and Participant Criteria

Participants were recruited through purposive sampling to ensure relevance and depth of insight. Inclusion criteria were clearly defined to capture the appropriate segment of digitally literate consumers: (1) aged between 18 to 35 years; (2) actively engaged with social media for more than two hours daily; (3) have followed or interacted with at least one virtual influencer; (4) have previously consumed content or products recommended by influencers (virtual or human); and (5) have used or are familiar with AI-driven platforms or features, such as virtual assistants (e.g., Siri, Alexa), filters, or chatbots. This targeted recruitment aimed to ensure that participants could reflect meaningfully on the virtual influencer experience. A total of 25 participants were selected to reach theoretical saturation, ensuring no new insights emerged after the final interviews.

Ethical considerations were carefully addressed in this study. Prior to participation, informed consent was obtained from all respondents, with clear communication regarding voluntary involvement, anonymity, and the right to withdraw at any stage. All interviews were audio-recorded with explicit permission, and transcripts were anonymized to protect participant identity.

A total of 25 participants were selected based on the principle of data saturation. Following the 22nd interview, no substantially new themes emerged, and three additional interviews were conducted to confirm saturation and strengthen the credibility of findings. The decision to limit the sample to 25 participants was therefore not arbitrary but grounded in qualitative research logic, prioritizing depth of insight over breadth. This approach aligns with Braun & Clarke (2021) and Guest et al. (2020) recommendations on thematic saturation, particularly in studies exploring emerging and context-specific digital phenomena such as virtual influencers.

Data Collection Procedures

The research was conducted over a six-week period. Semi-structured interviews were used to maintain consistency while allowing flexibility to probe emerging themes. An interview guide was developed based on the conceptual constructs derived from the literature, including questions around peer influence, expectations from digital personas, emotional resonance, and perceptions of authenticity. Each session lasted approximately 60 to 75 minutes and was conducted in Bahasa Indonesia, either via Zoom or face-to-face in urban locations across Jakarta and Bandung, depending on participant availability and preference. All sessions were audio-recorded with consent, then transcribed verbatim and translated into English for analysis.

Participants represented variation in gender, educational background, and city of origin, although the sample was largely concentrated among digitally active university students from urban areas. While this demographic focus provided rich insights into youth-oriented digital culture, it also introduced certain limitations in terms of representativeness. Specifically, the predominance of urban and student participants may constrain the transferability of findings to older or more rural populations. This limitation is acknowledged and further discussed in the conclusion to guide future research.

Data Analysis

Thematic analysis was employed to identify and interpret patterned meaning across the data. The updated six-phase approach outlined by Braun and Clarke (2021) was rigorously followed, encompassing familiarization, initial coding, theme searching, theme reviewing, theme definition, and final reporting. To ensure analytical robustness, NVivo 14 software was used to manage and organize the qualitative data. This allowed for systematic coding and facilitated the cross-referencing of themes across multiple transcripts. Coding was conducted both deductively—based on theoretical constructs such as social influence and performance expectancy—and inductively to allow emergent themes to surface organically from participant narratives.

Trustworthiness Measures

To strengthen the credibility and reliability of the findings, multiple strategies were applied: (1) investigator triangulation through peer debriefing sessions with qualitative experts; (2) member checking by sharing summary interpretations with selected participants for validation; and (3) maintaining an audit trail throughout the coding and analysis process. Ethical clearance was secured from the affiliated institution's ethics committee, and participants were briefed on confidentiality, data usage, and their right to withdraw at any time.

RESULTS AND DISCUSSION

Thematic analysis of the qualitative interview data, facilitated by NVivo 14, produced four major categories and twelve subthemes, all of which emerged through iterative coding, axial refinement, and constant comparison across 25 participant transcripts. Themes were derived through both deductive coding—based on the core constructs of social influence, performance expectancy, emotional resonance, and willingness to use—and inductive coding that allowed new, unanticipated meanings to surface from participant narratives (Saldaña, 2021; Braun & Clarke, 2021).

Table 1. Thematic Categories and Subthemes

Thematic Category	Subthemes	Description
1. Social Influence as Cultural Endorsement	1.1 Peer Group Validation	Acceptance is driven by alignment with group norms and peer recommendations.
	1.2 Family and Authority Figures' Impact	Family opinions and respected figures influence legitimacy of virtual influencer use.
	1.3 Fear of Missing Out (FOMO)	Social pressure and desire to stay updated with trends motivate engagement with VIs.
2.Performance Expectancy and Functional Trust	2.1 Informational Credibility	Users expect product endorsements and information to be reliable and helpful.
	2.2 Entertainment and Escapism	VIs are seen as a source of enjoyable content and emotional distraction.
	2.3 Consistency and Responsiveness	Regular posting and interactivity enhance the perception of usefulness.
3. Emotional Resonance and Digital Attachment	3.1 Perceived Authenticity and Relatability	Anthropomorphic design and relatable storytelling foster emotional bonding.
	3.2 Trust Beyond Realness	Users prioritize emotional connection over whether the influencer is "real."
	3.3 Psychological Comfort and Familiarity	Repeated exposure to VIs creates a sense of safety and continuity.
4. Willingness to Use and Social Identity Projection	4.1 Self-Branding Through Association	Following VIs is perceived as part of one's digital identity and personal branding.
	4.2 Aspirational Alignment	Users see VIs as reflecting ideals they wish to embody or associate with.
	4.3 Conditional Use Based on Social Relevance	Engagement depends on how socially acceptable or useful the VI appears to be in context.

Source: NVivo 14, semi-structured interviews (n = 25), (2025)

Table 1 presents the finalized structure of thematic categories and subthemes. The first category, Social Influence as Cultural Endorsement, foregrounds the ways in which participants' orientations toward virtual influencers are shaped by peer validation, family authority, and the wider social environment. This theme illustrates how normative pressure and cultural validation form the initial basis of acceptance, highlighting the inherently social nature of engagement.

Building on this social grounding, the second category, Performance Expectancy and Functional Trust, reflects participants' evaluations of the functional value of virtual influencers—particularly their informational credibility, entertainment value, and consistency in interaction. These assessments did not appear in isolation but were often interwoven with emotional satisfaction and habitual media use, suggesting a qualitative blending of instrumental and affective judgments (Braun & Clarke, 2021).

Moving beyond functional considerations, the third category, Emotional Resonance and Digital Attachment, captures participants' accounts of psychological closeness, perceived authenticity, and the sense of comfort fostered through repeated interaction. Expressions such as "comforting," "relatable," and "understanding" frequently surfaced, indicating that affective resonance was a salient dimension across diverse participant profiles, underscoring the role of emotion in sustaining engagement.

Finally, converging these dynamics, the fourth category, Willingness to Use and Social Identity Projection, emphasizes how participants incorporated virtual influencers into their sense of self and social presentation. Here, engagement was narrated not only as a functional or emotional response but as part of digital identity work—expressed through self-branding, aspirational alignment, and conditional use depending on perceived social legitimacy (Guest et al., 2020; Chatterjee et al., 2023).

As shown in Table 1, the thematic analysis generated four major categories and twelve subthemes that capture the multifaceted nature of consumer engagement with virtual influencers. To complement the tabular presentation, Figure 1 visualizes the interpretive relationships among these categories, emphasizing how social, functional, and emotional mechanisms converge to shape willingness to use. Social Influence functions as the cultural entry point that legitimizes virtual influencer adoption, while Performance Expectancy represents participants' evaluation of informational reliability, entertainment value, and functional trust. Emotional Resonance, closely connected to both social and functional assessments, emerges as the affective bridge that strengthens digital attachment. Collectively, these three dimensions feed into Willingness to Use and Social Identity Projection, which reflect consumers' self-branding, aspirational alignment, and conditional engagement.

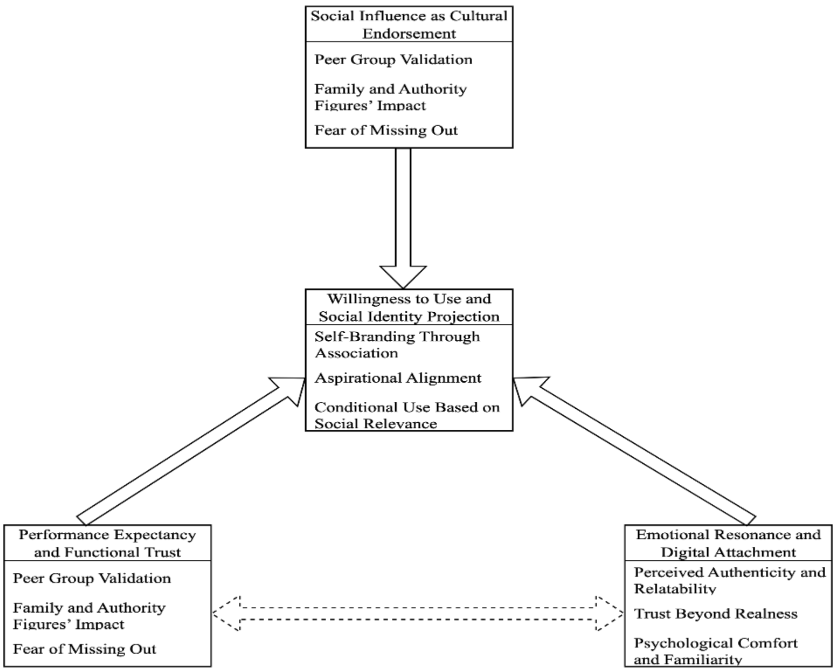

Figure 1. Thematic Map of Virtual Influencer Engagement

This thematic map not only illustrates the layered connections among the categories but also underscores the interpretive, non-linear nature of the findings, consistent with the reflexive approach of qualitative inquiry. To enrich this structural visualization, the subsequent Table 2 provides representative participant quotations that exemplify how these themes were articulated in practice, thereby grounding the thematic map in lived experiences and authentic voices.

Table 2. Representative Quotations (Thick Description)

Subtheme	Participant Quote	Code
1.1 Peer Group Validation	“My friends started following her, so I felt like I had to as well—just to keep up with what they were talking about.”	P03, Male, 22
1.2 Family and Authority Figures’ Impact	“My older cousin, who’s into tech and branding, recommended a virtual influencer to me. I trust his taste.”	P11, Female, 24
1.3 Fear of Missing Out (FOMO)	“You don’t want to be the only one who doesn’t know the ‘cool’ AI character everyone’s posting about.”	P17, Male, 21
2.1 Informational Credibility	“She [VI] talks about skincare like she actually knows what she’s doing—it feels more legit than some human influencers.”	P09, Female, 23
2.2 Entertainment and Escapism	“I follow her for fun. Her content is entertaining, visually satisfying, and kind of futuristic.”	P05, Female, 20
2.3 Consistency and Responsiveness	“They always post on time and respond through comments or stories, which feels more reliable than real people sometimes.”	P14, Male, 26
3.1 Perceived Authenticity and Relatability	“Even though she’s not real, her posts feel personal and emotional, like she understands the vibe.”	P08, Female, 19
3.2 Trust Beyond Realness	“I don’t really care if she’s fake. As long as the content connects and feels genuine, I’m in.”	P16, Male, 28
3.3 Psychological Comfort and Familiarity	“Her presence online feels stable, like I can expect her to always be there—it’s comforting somehow.”	P20, Female, 25
4.1 Self-Branding Through Association	“Following her says something about me—I’m someone who’s into AI and digital stuff, it’s part of my image.”	P07, Male, 22
4.2 Aspirational Alignment	“She represents a version of me I want to be—stylish, independent, futuristic.”	P12, Female, 21
4.3 Conditional Use Based on Social Relevance	“If my circle finds it cringy, I’ll unfollow. But if she’s trending, I’ll stay connected.”	P06, Male, 23

Source: NVivo 14, semi-structured interviews (n = 25), (2025)

Table 2 supports these themes by providing thick, contextualized quotations that anchor the analysis in participants’ lived experiences. These quotations are not presented as mere illustrations but as windows into how individuals actively negotiated meaning in their interactions with virtual influencers. By directly connecting subthemes with participants’ voices, the table demonstrates how abstract analytical categories were grounded in authentic narratives, thereby strengthening interpretive depth and transparency.

Each quotation was extracted from coded nodes within NVivo, cross-referenced with demographic metadata, and validated through researcher triangulation. This analytic strategy reflects recent qualitative standards that emphasize reflexivity, transparency, and rigor in reporting thematic insights (Braun & Clarke, 2021; Guest et al., 2020). Furthermore, attention to iterative checking and saturation enhanced the credibility of the findings, ensuring that both convergent and divergent perspectives were adequately represented (Vasileiou et al., 2018; Chatterjee et al., 2023).

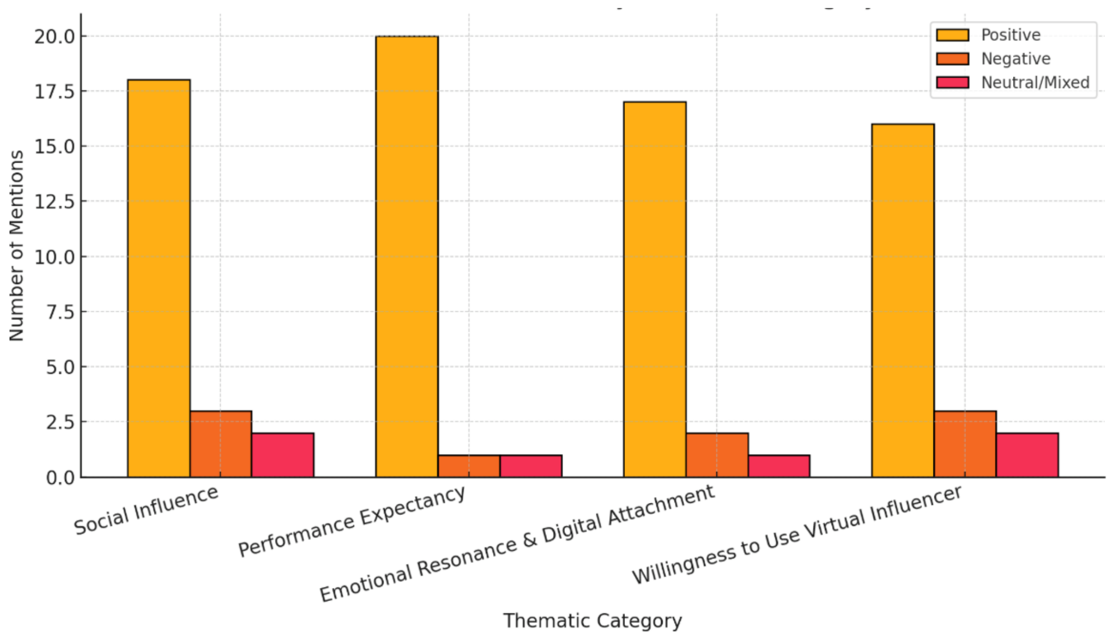

Figure 2. Frequency and Sentiment Pattern Summary by Thematic Category
Source: NVivo 14, semi-structured interviews (n = 25), (2025)

Figure 1 illustrates the affective landscape of participant narratives by visualizing the distribution of sentiments across the four main thematic categories. Rather than functioning as a quantitative measurement, sentiment coding was employed as an interpretive lens that combined manual reading with assisted classification in NVivo, enabling the identification of dominant emotional tones within the data. The analysis indicated that positive affect was particularly salient in relation to functional trust and emotional resonance, reflecting participants' appreciation of reliability, entertainment, and comfort. At the same time, a smaller yet meaningful set of negative or ambivalent responses surfaced, especially in relation to perceptions of artificiality and the uncanny qualities of anthropomorphized virtual influencers. These contrasting patterns highlight the layered and sometimes contradictory ways participants made sense of their engagement, underscoring the interpretive, non-linear character of thematic analysis (Braun & Clarke, 2021; Guest et al., 2020).

Table 3. Contrasting Views on Emotional Resonance

Participant Quote	Interpretation	Participant Code
"Honestly, I find virtual influencers a bit creepy... I prefer real humans even if they're imperfect."	Participant expresses unease with artificiality, showing preference for authentic, flawed human interaction.	P19, Female, 30
"They're trying too hard to look human. It's unsettling. I don't trust something that pretends to be alive."	Emotional discomfort stems from the uncanny valley effect; lack of trust in anthropomorphized AI.	P16, Male, 28
"I know it's fake. There's no way I can feel connected to something that's programmed to act human."	Cognitive awareness of artificiality leads to emotional detachment and rejection of the illusion.	P05, Male, 24
"It feels manipulative, like they're using emotions to sell without actually being real people."	Highlights ethical skepticism; perceives emotional cues as calculated, not genuine.	P21, Female, 26

Source: NVivo 14, semi-structured interviews (n = 25), (2025)

To account for disconfirming evidence and to enhance the credibility of the findings, Table 4 presents a focused selection of contrasting cases that highlight negative emotional reactions to virtual influencers. These cases, identified through NVivo queries that filtered references coded simultaneously as emotional detachment and skepticism, reveal participants' discomfort with artificiality, distrust toward anthropomorphized personas, and perceptions of emotional manipulation. Including these divergent voices adds interpretive depth by showing that engagement was not uniformly positive but instead negotiated through ambivalence and resistance, reflecting the complex and contested nature of human–AI interactions. Such attention to disconfirming evidence aligns with contemporary qualitative standards that emphasize reflexivity, credibility, and analytic transparency (Braun & Clarke, 2021; Guest et al., 2020). Collectively, the tables and figure substantiate the thematic claims developed through iterative coding cycles, with the resulting thematic map providing a coherent, data-driven foundation for the interpretive synthesis presented in the subsequent Discussion section.

Discussion

This study reveals that Indonesian consumers' engagement with virtual influencers is shaped by three interrelated dynamics: the normative power of social influence, the functional assessments embedded in performance expectancy, and the affective bonds arising from emotional resonance. Drawing from 25 in-depth interviews and reflexive thematic analysis, the findings highlight how these mechanisms intersect to explain why virtual influencers are accepted, resisted, or contested within Indonesia's digitally active youth culture.

Proposition 1 suggested that social influence shaped how consumers came to view VIs as useful within their social ecosystems. This was reflected strongly in Table 1 and Table 2, where peer validation and social endorsement consistently emerged as key triggers of acceptance. The prominence of "peer group validation" and "FOMO" (fear of missing out) illustrates how engagement with VIs is deeply situated within Indonesia's collectivist orientation, where conformity to group behavior is an essential social mechanism (Venkatesh, 2022; Zhang et al., 2024). As seen in the participant accounts (e.g., P03, P17), many respondents did not initially seek out VIs independently but engaged with them through their circulation in trusted networks—an insight that underscores the importance of cultural validation for technology acceptance in Southeast Asian digital contexts (Vafaei-Zadeh et al., 2024).

Proposition 2 indicated that performance expectancy was closely tied to participants' willingness to remain engaged with VIs when interactions were perceived as authentic, entertaining, and informative. This was substantiated by multiple thematic and narrative indicators. Respondents associated VIs with informational credibility, entertainment, and consistency—qualities that enhanced the perceived value of engagement (Feng et al., 2023; Gursoy et al., 2019). The subtheme "Informational Credibility," as illustrated by quotes from P09 and P14, suggests that participants often treated the expertise and content quality of VIs as digital trust markers. This aligns with recent research emphasizing the significance of functionality and informational relevance in digital endorsement contexts (Longoni & Cian, 2020; Cheng et al., 2022; Christanti & Kembau, 2024).

Proposition 3 emphasized that emotional engagement and perceptions of authenticity acted as a bridge between social influence and willingness to use. Thematic evidence from Table 1 and Table 2 reveals that emotional resonance emerged as a catalyst for moving from passive exposure to active acceptance. Participants described expectations not only in terms of functional performance but also in their search for affective familiarity and psychological comfort. Subthemes such as "Perceived Authenticity," "Digital Attachment," and "Trust Beyond Realness" demonstrate how consumers anthropomorphized VIs, attributing them with human-like reliability and emotional presence (Chi & Vu, 2023; Yu et al., 2024). Yet, Table 4 shows that this resonance was not universal; some participants (e.g., P19, P21) articulated discomfort, mistrust, and even rejection of what they perceived as emotional manipulation. These contrasting cases underscore the complex role of authenticity, resonating with recent studies that caution against the uncanny valley effect and highlight limits to anthropomorphism in AI-mediated engagement (Munnukka et al., 2022; Uysal et al., 2022).

Taken together, the three propositions reveal an interlocking framework in which social influence sets the stage, functional expectations provide justification, and emotional authenticity bridges the cognitive–affective divide. Engagement with VIs thus appears not as a purely rational decision but as a socially embedded and emotionally negotiated process. This finding expands foundational acceptance frameworks by integrating socio-cultural and affective dimensions that are critical for understanding AI–human interaction in non-Western contexts (Venkatesh, 2022; Gursoy et al., 2019).

In sum, this study extends marketing scholarship by showing that emotional resonance is not merely an outcome of engagement but a mediating force that shapes the entire acceptance process. For marketers, this underscores the importance of developing VIs that are not only visually appealing and informative but also emotionally attuned to local cultural norms and consumer expectations. For scholars, the findings suggest a need for more integrative approaches that bring together social psychology, cultural anthropology, and digital design in studying AI-driven marketing strategies.

Nonetheless, certain limitations must be acknowledged. The study's focus on digitally active Indonesian youth may limit the transferability of findings to older or less digitally engaged populations. Furthermore, as with all qualitative research, the interpretation of data is shaped by researcher reflexivity, which, despite triangulation and saturation checks, may introduce interpretive bias. These limitations highlight opportunities for future studies to include more diverse demographic groups and to explore longitudinal dynamics of consumer engagement with VIs in varying cultural contexts.

CONCLUSION

This qualitative study enriches the discourse on digital consumer behavior by illuminating the nuanced interplay between social influence, performance expectancy, and consumer willingness to engage with AI-powered virtual influencers within the Indonesian cultural context. The findings suggest that social influence provides a normative foundation for acceptance, performance expectancy offers functional justification, and emotional engagement anchored in perceived authenticity acts as an affective bridge connecting social and functional dimensions. Together, these insights reveal that acceptance of virtual influencers is not a purely rational decision but a socially embedded and emotionally negotiated process.

From a practical perspective, the study highlights strategic pathways for marketers. By leveraging peer endorsement, emphasizing the functional benefits of virtual influencer interactions, and fostering emotional authenticity, brands can design more culturally resonant campaigns that cultivate receptivity and strengthen consumer loyalty.

Nonetheless, this study carries certain limitations. The focus on digitally active Indonesian youth constrains the transferability of findings to older or less digitally engaged populations. In addition, as with all qualitative inquiry, the interpretive process is shaped by researcher reflexivity, which, despite efforts at triangulation and saturation, may still introduce bias into the interpretation of data. The relatively small number of participants and the predominance of urban-based university students further limit the demographic representativeness of the sample, creating an urban bias that may not fully capture perspectives from rural or older populations. These constraints should be acknowledged when interpreting the findings and highlight the need for future research to expand sample diversity across age groups, education levels, and geographical settings.

Future research could extend these insights by adopting comparative designs across generational or cross-cultural contexts, or by examining how consumer engagement with virtual influencers evolves over time in longitudinal studies. There is also scope for integrating mixed-method approaches that combine qualitative depth with quantitative validation in order to provide a more comprehensive understanding of how virtual influencers shape consumer–brand relationships.

In conclusion, this study contributes meaningfully to digital marketing scholarship by foregrounding the social, functional, and emotional mechanisms that shape consumer responses to virtual influencers in culturally distinct settings. It also offers practical frameworks for marketers and points toward new avenues for future inquiry.

APPENDIX

A. Semi-Structured Interview Guide

Title of Study: *Consumer Acceptance of AI-Powered Virtual Influencers in Indonesia: A Qualitative Exploration Using the AIDUA Model*

Purpose of Interview: To explore Indonesian consumers' perceptions, experiences, and motivations in engaging with virtual influencers (VIs), particularly in relation to social influence, performance expectancy, emotional connection, and willingness to use.

Interview Format: Semi-structured; conducted either in person or via secure video conferencing platform. Duration: 60–75 minutes. Language: Bahasa Indonesia (with translation for analysis).

Section 1: Introduction and Consent

1. Explain the purpose of the study and confidentiality procedures.
2. Obtain verbal consent to record the session and use anonymized data.
3. Ask basic demographic questions:
   a. Age
   b. Gender
   c. Occupation/Field of study
   d. Time spent daily on social media
   e. Familiarity with virtual influencers (e.g., names, platforms followed)

Section 2: Social Influence

1. Can you tell me how you first encountered a virtual influencer (VI)?
2. What made you decide to follow or engage with them?
3. Have people around you (e.g., friends, family, coworkers) influenced your decision to interact with a VI? How so?
4. Do you feel any social pressure to stay informed or engaged with trending digital personas?

Section 3: Performance Expectancy

1. What kind of value or benefit do you expect from virtual influencers?
2. Have you ever relied on a VI for product information, entertainment, or lifestyle ideas?
3. Compared to human influencers, what do you perceive as advantages or disadvantages of virtual influencers?

Section 4: Emotional Engagement
1. Do you feel emotionally connected to any virtual influencer? Why or why not?
2. Can you describe a time when a virtual influencer's content felt relatable or meaningful?
3. Do you perceive them as authentic or "real" in any way?
4. How do you respond when you know they are powered by AI and not real humans?

Section 5: Willingness to Use and Continued Engagement
1. What makes you continue or stop following a virtual influencer?
2. How does following a VI reflect your identity or digital persona?
3. Would you recommend a VI to others? Under what conditions?

Section 6: Concluding Reflections
1. In your opinion, what makes a virtual influencer successful?
2. What could make you trust or distrust a VI?
3. Is there anything you would like to add about your experience with virtual influencers?

Closing Statement: Thank the participant for their time and contribution. Reassure confidentiality and inform them of potential follow-up for clarification if needed.

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THE IMPACT OF INFLATION AND INTEREST RATES ON ECONOMIC GROWTH IN SOUTHEAST ASIA: A PANEL DATA ANALYSIS

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ABSTRACT

Economic growth in Southeast Asia is influenced by a variety of macroeconomic variables, with inflation and interest rates being two of the most crucial. This study aims to examine the impact of inflation and interest rates on the economic growth (measured by GDP) of ten Southeast Asian countries from 2007 to 2023. Using a panel data regression approach, the analysis applies several econometric models including Pooled OLS, Fixed Effects Model, Random Effects Model, and spatial econometric models (Spatial Autoregressive Model/SAR and Spatial Error Model/SEM) to determine the most suitable model for the data. The results show that interest rates have a significant negative effect on GDP growth, suggesting that higher interest rates tend to reduce economic activity in the region. Inflation, while showing a weaker relationship, also negatively affects GDP in most models. Spatial analysis further reveals the presence of spatial dependence among Southeast Asia countries, indicating that the economic performance of one country is not isolated but affected by its neighbors. Among the models tested, the Spatial Error Model (SEM) is found to be the best fit based on statistical criteria, highlighting the importance of unobserved regional factors and spatial spillover effects. Policy implications include the need for coordinated regional monetary policies, maintaining inflation within manageable limits, and enhancing economic cooperation among Southeast Asia nations. While the R-squared values are relatively low, the statistical significance of the core variables underscores their relevance. This study contributes to the broader understanding of macroeconomic management and regional economic integration in Southeast Asia.

Keywords: Inflation; Interest Rate; Economic Growth; Panel Data; Southeast Asia

INTRODUCTION

Economic growth remains a primary objective for Southeast Asian nations amid rapid transformation in their economic landscapes (ASEAN Statistics, 2023). However, this pursuit is often challenged by macroeconomic variables such as inflation and interest rates. Inflation, defined as the persistent rise in the general price levels of goods and services, can reduce the purchasing power of consumers, create uncertainty for investors, and disrupt the broader financial system (Sari et al., 2023). On the other hand, interest rates serve as a key instrument of monetary policy, influencing borrowing costs, consumer spending, and overall investment behavior. Adjustments in interest rates can either stimulate economic activity or help temper inflationary pressures, but finding the right balance is critical to avoid adverse side effects (Tang et al., 2023). In the context of ASEAN, these variables have shown significant impacts on GDP growth, employment, and foreign investment flows, particularly in countries like Indonesia (Sitompul & Simangunsong, 2019). The interconnectedness of ASEAN economies further amplifies the regional implications of inflation and interest rate shifts, making coordinated and data-informed policymaking essential (ASEAN Statistics, 2024). As ASEAN moves toward deeper economic integration, the importance of robust monetary frameworks and collaborative strategies among member states becomes increasingly vital to ensure inclusive and resilient development.

For Southeast Asian economies, inflation and interest rates have shown varying trends over time, influenced by global economic shocks, domestic policies, and structural economic changes. Countries like Indonesia and the Philippines have historically experienced higher inflation rates, averaging 6.76% and 3.84%, respectively, whereas Singapore has maintained relatively low inflation of around 1.53%. Similarly, interest rates in ASEAN nations have fluctuated in response to crises, such as the 2008 financial crisis and the COVID-19 pandemic, impacting capital flows and investment patterns.

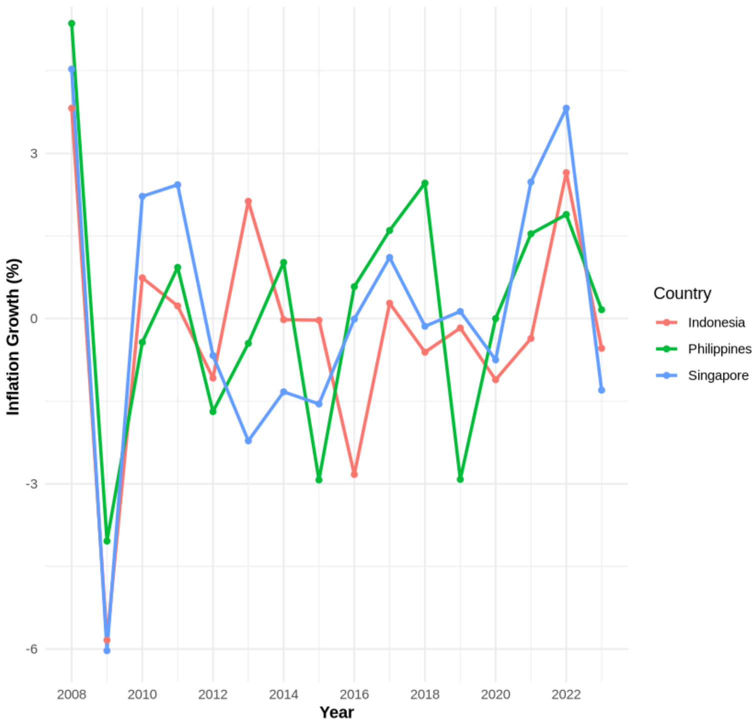

Figure 1. Fluctuation of Three ASEAN Countries' Inflation Rate

Given the significance of these macroeconomic factors, this study aims to analyze the impact of inflation and interest rates on economic growth in Southeast Asia using a panel data approach. This study also aims to determine whether inflation rates or interest rates or possibly other variables have a greater impact on one country's GDP growth. Despite extensive studies on Southeast Asian economies, there remains limited empirical consensus on the extent to which inflation and interest rates jointly affect economic growth in the region. Previous research has often focused on single-country analyses or broader macroeconomic determinants without isolating these two critical variables. This gap creates uncertainty for policymakers who must balance inflation control with growth-oriented interest rate policies.

For example, Akalpler and Duhok (2018) examined Malaysia and found that monetary policy instruments, particularly interest rates and inflation, significantly shape GDP growth. Their findings underscore how country-specific contexts reveal important interactions between macroeconomic variables and growth. Building on such evidence, this study extends the scope by employing a panel data approach across Southeast Asian countries to capture a more comprehensive picture of how inflation and interest rates jointly influence economic performance in the region.

By examining historical data and economic trends, the study will provide insights into how these variables interact and influence the broader economic environment in the region. This research contributes to the ongoing discourse on economic stability, offering policy recommendations for mitigating inflationary pressures while fostering sustainable economic growth. This research would also be an understanding of what components of economics to give more attention to support the economic growth of one country typically in Southeast Asia.

LITERATURE REVIEW

Economic Growth in Southeast Asia has been widely studied through various lenses, with many scholars emphasizing the role of macroeconomic variables such as foreign direct investment (FDI), trade openness, capital formation, inflation, and interest rates. According to Adnani (2022), Keynesian theory highlights that inflation often arises when aggregate demand exceeds the productive capacity of the economy, suggesting that demand-driven pressures are a critical factor in shaping macroeconomic stability. This view is consistent with demand-pull theory, which similarly stresses the impact of excessive aggregate demand on rising prices. By linking these perspectives, the literature underscores the importance of understanding inflation dynamics when examining economic growth in Southeast Asia.

Jackson (2024) for instance, underscores the Phillips Curve’s depiction of a trade-off between inflation and unemployment: “The inverse relationship between inflation and unemployment depicted by the Phillips Curve implies that efforts to lower one of these variables may lead to an increase in the other”. This framing spotlights the intricate policy dilemmas at the intersection of stabilization goals. By aligning Keynesian aggregate-demand frameworks with Phillips Curve trade-offs, the literature paints a richer picture of inflation dynamics, policy levers, and the complex balancing act faced by policymakers.

An investigation conducted the determinants of economic growth in the ASEAN-4 countries (Malaysia, Indonesia, Thailand, and the Philippines) using panel data analysis. Their findings indicate that FDI, openness, and gross fixed capital formation (GFCF) have a positive relationship with GDP, though only GFCF was consistently significant across all four countries (Hussin & Saidin, 2012). Interestingly, FDI and openness showed mixed results, being more impactful in some countries than others. While this study did not focus specifically on interest rates and inflation, it provides a foundational understanding of how capital formation and investment—which are influenced by inflation and interest rates policies—contribute to economic growth.

In a more recent study, an approach to directly explored the relationship between inflation and several macroeconomic variables in ASEAN countries, including interest rates. Using panel data from 2006 to 2020, their analysis found that crude oil prices, interest rates, and nominal wages significantly influence inflation (Tang et al., 2021). Specifically, the interest rate exhibited a significant negative relationship with inflation, supporting the classical monetary theory that raising interest rates helps to contain inflation by reducing borrowing and consumption. Additionally, crude oil prices had a positive and significant impact on inflation, which reflects the vulnerability of ASEAN economies to global commodity price shocks. Nominal wages also had a negative relationship with inflation, which may suggest that wage growth has not kept up with price increases in the region. On the other hand, money supply and unemployment were found to be statically insignificant in influencing inflation.

Beyond domestic macroeconomic factors, regional economic collaboration within ASEAN has also been recognized as an important driver of growth of the economy. Studies on trade and financial integration highlight that deeper cooperation among Southeast Asia Country members can reduce barriers, enhance market efficiency, and promote greater openness to global capital flow. Regional initiatives such as the ASEAN Economic Community (AEC) aim to create a single market and production base, which may not only stimulate intra-regional trade but also attract more FDI by offering a larger and more stable economic conditions. Moreover, financial integration programs—such as cross-border trades and investments help strengthen resilience against external economic problems. While integration can amplify the benefits of globalization, it may also expose member countries to synchronized risks during global crises, underscoring the need for coordinated monetary and fiscal policies across the region.

Combining insight from both studies provides a broader picture of the macroeconomic environment in Southeast Asia. Inflation and interest rates, though not always directly addressed in growth models, play crucial roles in shaping the investment climate and consumption patterns, which are central to GDP growth. High inflation erodes purchasing power and deters investment, while stable inflation—achieved through prudent interest rate policies—can enhance economic stability and promote growth. Conversely, excessively high interest rates may suppress borrowing and investment. Potentially slowing growth in the short term. Therefore, policymakers in Southeast Asia face the ongoing challenge of balancing inflation control and interest rate management to sustain long-term economic development.

RESEARCH METHOD

This study employs a quantitative approach using panel data analysis to analyze the relationship between interest rates, inflation, and economic growth in Southeast Asian countries from 2007 to 2023. Panel data time series methods are especially appropriate for this study because they address the challenges of "long" panels of potentially nonstationary macroeconomic data by pooling multiple time series across countries over an extended period, allowing for robust and insightful empirical research (Croissant & Millo, 2018). Using real-world data from the World Bank, analyzation including ten dynamic countries that includes Indonesia, Malaysia, Thailand, the Philippines, Vietnam, Singapore, Brunei, Laos, Cambodia, and Myanmar. Through panel data analysis, the measurement of GDP growth is the key indicator of economic performance, while exploring how changes in interest rates and inflation levels influence this growth.

Panel data before were once relatively used in applied economic practice but now, they are a strong feature of applied research (Hansen, 2022). In panel data analysis, the Pooled Ordinary Least Squares (OLS) model implies homogeneity across all entities (e.g., countries), suggesting no unobserved heterogeneity while ignoring country specific features such as population, policy, or geography. To overcome this constraint and improve model realism, Fixed Effects (FE) and Random Effects (RE) models are used. The FE model accounts for all unobserved, time-invariant variations between nations by assigning each country its interception, thus controlling country-specific effects and isolating within-country variation over time. It is particularly appropriate when unobserved heterogeneity is believed to correlate with the explanatory variables.

On the other hand, the RE model considers country-specific effects to be random and uncorrelated with the regressors. This approach provides greater efficacy because of the reduced number of parameters, but it may result in biased estimates if its assumptions are not met, and this model is usually considered the special case of FE model. Typically, the Hausman test is used to determine the optimal choice between FE and RE (Hansen, 2022). A statistically significant p-value indicates that FE is the preferred option due to RE's inconsistency, whereas a non-significant result indicates that both models are consistent, rendering RE the more efficient choice.

The analysis begins with a correlation test to detect early correlations between variables. A panel regression model is then performed using both the Fixed Effects and Random Effects approaches, with the Hausman test used to pick the optimal model. This test assumes the null hypothesis (H0) that the Random Effects model is more efficient (no correlation between individual effects and independent variables), and the alternative hypothesis (Ha) shows that the Fixed Effects model is more consistent. All of this follows a 95% significance level to determine the results of each test.

Several diagnostic tests are performed to validate the model's validity and determine the applicability of various estimation methodologies. The Breusch-Pagan test is used to determine heteroskedasticity, with the null hypothesis assuming constant variance in the error terms. Pesaran's Cross-sectional Dependence Test is used to discover potential interdependence between countries on the given panel of data. If the data shows cross-sectional dependency or spatial autocorrelation, it shows that typical panel models are insufficient and that spatial effects somehow need to be considered. In a particular circumstance, spatial econometric tools, including the Spatial Autoregressive Model (SAR) and the Spatial Error Model (SEM), are used to resolve geographical dependencies and strengthen the analysis.

Additionally, this study considers spatial interdependence among countries using the Spatial Lag Model (SAR) and the Spatial Error Model (SEM). The SAR test compares the hypothesis of no geographical dependency in GDP ($\rho = 0$) to the hypothesis of spatial spillover effects ($\rho \neq 0$). The SEM test compares the hypothesis of no spatial correlation in errors ($\lambda = 0$) to the hypothesis of spatial correlation ($\lambda \neq 0$). These tests employ a spatial weight matrix based on geographical proximity or economic links between countries. If SEM provides a better fit (as evidenced by a lower AIC threshold than SAR), it is used for the final estimation. This comprehensive approach should give a clearer picture of how these key economic factors interact across Southeast Asia, capturing not just domestic trends but also the ripple effects between neighboring countries.

RESULTS AND DISCUSSION

The data observed for this research come from 10 South East Asian countries, covering yearly interest rates, inflation rates, and nominal GDP from 2007 to 2023.

Presentation of Regression Analysis Results

The regression analysis was conducted to evaluate the impact of inflation and interest rates on GDP growth across ten Southeast Asian countries from 2007 to 2023. Various econometric models were tested to identify the most appropriate specification and hence obtaining results as follows:

Pooled OLS Model Results

Setting GDP value as dependent variable and Annual Inflation with Annual Interest Rate as independent variables resulting with the rough estimation in the Pooled OLS Model Analysis:

Table 1. Pooled Ols Model Analysis Result

Variable	Estimated	Std. Error	t-value	p-value	Significance
Intercept	3.6253e+11	3.2857e+10	11.03	< 2e-16	Yes
Inflation	-4.0622e+09	4.0518e+09	-1.00	0.318	No
Interest Rate	-1.4185e+10	3.9956e+09	-3.55	0.0005	Yes

The intercept is highly significant in this data, meaning the baseline level of the GDP value when Annual Inflation and Annual Interest Rate set to 0 is not zero or it's significantly different from zero. Following that, Interest Rate has a negative and statistically significant effect on GDP hence obtained that increasing interest rates by 1% is associated with a reduction of approximately $14.2 billion in GDP value. Lastly, Inflation Rate is not significant, so its effect on GDP value is statistically inconclusive in this model. But on the other hand, the obtained R-squared value is 0.087 meaning this model only represents about 8.7% variation in GDP value. The F-statistics also show a nominal of 7.99 with p-value of 0.00048 which indicating significancy in statistics on the overall model, so at least one predictor is useful.

Fixed vs Random Effects Result (Hausman Test)

Continuing the analysis of Pooled OLS Model, introducing Fixed Effects and Random Effects on this analysis are necessary to obtain a more realistic interpretation of the data. Hence the obtained value compared as follows:

Table 2. Fixed Effects and Random Effects Result Comparison

Aspect	Fixed Effects (FE)	Random Effects (RE)
Intercept	Null (country-specific)	4.17e+11 (significant)
Inflation Coef.	-3.69e+09 (p = 0.030)	-3.74e+09 (p = 0.026)
Interest Coef.	-2.97e+10 (p = 0.031)	-2.39e+10 (p = 0.027)
R-squared	6.18%	6.03%
Significance	F = 5.20, p = 0.006	Chi-square = 10.73, p = 0.0047

Both models show a consistent result of negative effects of inflation and interest rates on GDP value. For obtaining the optimal model, the Hausman Test is used in this case and resulting a p-value of 0.7872. It is clear that the Hausman Test favored the Random Effects model, indicating that no evidence that unobserved country-level effects are correlated in the regressors. From now on, the Random Effects model will be used for the main model in the analysis.

The Diagnostic Tests Result

Diagnostic tests are needed to support the reliability and dependability of this model that will be analyzed. The first diagnostic will be proven using the F-test and the test itself generates a p-value so small (less than 2.2e-16) meaning a rejection of Pooled OLS model is a must. This also strengthens the use of Random Effects model to continue the analysis. Continuing the second diagnostic test using Lagrange Multiplier (Breusch-Pagan) test on the Random Effects resulting also in a tiny p-value (less than 2.2e-16). This also means that the Pooled OLS Model is inappropriate to this analysis, and the use of Random Effects is recommended.

From now on a diagnostic on Random Effects will be done firstly using Studentized Breusch-Pagan Test to test for heteroskedasticity (non-constant variance of residuals). This test produces a p-value of 0.3732 meaning there is no significant evidence of heteroskedasticity in the Random Effects Model. Another diagnostic is done using Pesaran CD Test and this test results in an interesting p-value of less than 2.2e-16. Meaning that there is a strong cross-sectional dependence in the given panel of data, which is a problem in the analysis. Lastly, using Baltagi and Li LM Test also results in a small p-value of less than 2.2e-16, meaning that a serial correlation exists in the Random Effects Model, like the result of Pesaran CD Test.

Spatial Dependence Analysis

Putting aside the diagnostic tests, geographical dependence and correlation are economically justified in Southeast Asia. Countries in this region are deeply interconnected through trade, investment, labor mobility and coordinated regional policies. Singapore for example, is a key financial and investment hub, attracting significant capital flows into Indonesia and Malaysia. Similarly, Thailand's manufacturing sector is strongly connected to supplier chains in Cambodia, Laos, and Vietnam. This shows that Southeast Asia or countries in the ASEAN have economic dependencies on one or more countries bordering or its neighbor, hence involving the geographical variable into this study.

More recently, the introduction of significant US tariffs on Southeast Asian Exports in 2025 has underlined the region's interconnectivity. Countries such as Vietnam, Thailand and Cambodia have suffered severe economic impacts, including job losses and disrupted trade, demonstrating how external shocks may have a ripple effect throughout the region. These realities highlight the need to include spatial dependence analysis into the model, as geographical proximity and economic interconnection are likely to influence the behavior of the observed variables. From this, it is shown that a geographic variable is one important thing to consider, and spatial dependence analysis is the model chosen to continue the research.

So, the use of Spatial Dependence Analysis is recommended in this particular case because location or geography is likely to influence the data. The two main keys of this analysis are Spatial Autoregressive Model (SAR) and Spatial Error Model (SEM) and considering the longitude and latitude of each country in Southeast Asia to obtain the results as follows:

Table 3. Sar and Sem Result Comparison

Metric	SAR	SEM
Rho / Lambda	0.7936	0.80185
Log-Likelihood	-125.65	-123.49
AIC	261.31	256.98
Residual Variance	0.19694	0.19026
Significance of Inflation	Yes (p = 0.03)	Yes (p = 0.01378)
Significance of Interest Rate	No (p = 0.22)	Yes (p = 0.027)
LM Test for Residual Spatial	Significant (p = 4.26e-5)	Corrects by design

By these results, Spatial Error Model (SEM) is the better model because:
1. It has better fit on AIC or Akaike Information Criterion (256.98 < 261.31) and log-likelihood (-123.49 > -125.65)
2. It removes the spatial autocorrelation in residuals which SAR didn't fully remove.
3. It suggests that unobserved spatial factors are actually affecting GDP value.

Interpretation of Coefficients and Statistical Significance

The SEM model results provide crucial insights into the macroeconomic relationships influencing GDP in Southeast Asia:
1. Interest Rate (-0.326, p = 0.0297): A significant negative impact on GDP, indicating that higher interest rates deter investment and economic expansion.
2. Inflation (-0.062, p = 0.053): A weak negative effect, suggesting that inflation has a limited yet present influence on GDP fluctuations.
3. Spatial Error Term ($\lambda = 0.8079$, $p < 2.22e-16$): Highly significant, confirming strong spatial dependencies where economic performance in one country is influenced by neighboring nations.

The relatively low R-squared value (< 0.2) suggests that the model explains only a small portion of GDP variations. However, the statistical significance of the coefficients ($p < 0.05$) indicates that interest rates and inflation remain meaningful determinants of GDP. This phenomenon can be explained by:
1. High Noise in the Data: The relationship between interest rates, inflation, and GDP may be substantial but is influenced by external economic shocks, policy changes, and global market conditions.
2. Multiple Contributing Factors: Other macroeconomic determinants such as foreign direct investment, trade balance, government expenditures, and political stability also affect GDP growth but are not included in this model.
3. Large Sample Size: The statistical significance of the coefficients, despite a low R-squared, suggests that the sample size is sufficiently large to detect real, albeit small, effects.

CONCLUSION

This study provides empirical evidence on the relationship between interest rates, inflation, and economic growth in Southeast Asian countries using panel data regression models. The findings indicate that interest rates have a significant negative impact on GDP value, while inflation exerts a weaker but still notable effect. Additionally, spatial dependencies suggest that regional economic conditions play an essential role in shaping national economic outcomes. One important thing about the results is the use of spatial autoregressive and spatial error model showing the fact that the economic situation of one country also depends solely on another country bordering itself.

Despite the low R-squared value, the significance of the coefficients confirms the importance of these macroeconomic variables in influencing economic growth. The results highlight that interest rate policies should be carefully managed to sustain investment and consumption, while inflation stabilization remains crucial for maintaining economic confidence. Furthermore, strong spatial dependence underscores the necessity for regional economic cooperation and policy coordination. Therefore, a great economic workflow and collaboration between one or more neighboring countries is one of the most important things to ensure the safety of one’s economic stability.

Ultimately, this research contributes to the broader discourse on economic stability in Southeast Asia, emphasizing the need for holistic policy frameworks that integrate interest rate adjustments, inflation control, and regional economic collaboration. Future research could explore additional factors, such as fiscal policies, trade dynamics, and global economic shocks, to develop a more comprehensive understanding of growth determinants in the region and how that region can withstand the global economic problems.

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THE EFFECT OF INFORMATION SHARING AND TRUST ON SUPPLY CHAIN MANAGEMENT PERFORMANCE WITH LONG-TERM RELATIONSHIP AS A MEDIATOR: EVIDENCE FROM SMES IN YOGYAKARTA

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ABSTRACT

This study investigates the effect of information sharing and trust on supply chain management (SCM) performance, with long-term relationship as a mediating variable. A census sampling technique was applied to 45 Small and Medium Enterprises (SMEs) in Yogyakarta's Bakpia industry. Data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that information sharing ($\beta = 0.405$) and trust ($\beta = 0.410$) significantly influence long-term relationships. Long-term relationships, in turn, have a strong positive effect on SCM performance ($\beta = 0.378$). Information sharing also directly affects SCM performance ($\beta = 0.367$), while trust shows a weaker direct effect ($\beta = 0.212$). Indirectly, both information sharing ($\beta = 0.149$) and trust ($\beta = 0.151$) contribute to SCM performance through long-term relationships as a mediator. The total effect analysis further highlights that information sharing ($\beta = 0.578$) and trust ($\beta = 0.499$) enhance SCM performance, with long-term relationship showing the highest total effect ($\beta = 1.149$). These findings emphasize the critical mediating role of long-term relationships in strengthening supply chain collaboration, particularly where trust alone may not directly drive performance. The study contributes to SCM literature by providing empirical evidence from SMEs in the traditional food sector and offers practical implications for managers to prioritize both transparent information exchange and sustainable partnerships to improve supply chain outcomes.

Keywords: Information Sharing; Trust; Long-Term Relationship; Supply Chain Management Performance; SMEs

INTRODUCTION

One of the key priorities outlined in the National Medium-Term Development Plan (RPJMN) 2020–2024 is the strengthening of economic resilience to ensure quality and equitable growth. Within this framework, enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) has become a central strategy, given their pivotal role in supporting Indonesia's economic structure in an inclusive and sustainable manner.

The economic significance of MSMEs in Indonesia is well-documented. Data from the Indonesian Ministry of Cooperatives and SMEs (2020) reveal that MSMEs contribute more than 60.5% to the Gross Domestic Product (GDP) and absorb approximately 97% of the national workforce. In addition to their macroeconomic contribution, MSMEs function as drivers of local economies in both rural areas and smaller urban centers. Their roles are crucial in job creation, poverty reduction, and income distribution. Latuconsina et al. (2025) further emphasize that MSMEs hold a strategic position in community empowerment, market creation, product innovation, and export activities, while simultaneously utilizing local raw materials and labor. These characteristics reflect the flexibility and adaptability of MSMEs in responding to dynamic market conditions and consumer preferences.

Despite their strong potential, MSMEs face persistent challenges, particularly under conditions of global economic uncertainty and intensifying competition. In this regard, the adoption of Supply Chain Management (SCM) is considered a strategic approach to enhancing business efficiency and sustainability. SCM encompasses not only the flow of goods and information from suppliers to consumers but also the development of strong partnerships across the supply network. Effective SCM integrates demand management, procurement, operations, logistics, and inter-organizational collaboration (Perdana et al., 2023). For MSMEs, such integration is essential to maintain production continuity, secure access to raw materials, and optimize operational costs.

In Indonesia, the food and beverage sector represents the largest share of MSMEs, including in Yogyakarta. The Bakpia industry, a prominent local culinary icon, offers a distinctive case study as it exemplifies the opportunities and constraints MSMEs face in managing supply chains. The Bakpia supply chain involves multiple actors: raw material suppliers (such as flour, sugar, and mung beans), producers, distributors or logistics agents, retailers, and ultimately consumers. However, several issues hinder the efficiency of this supply chain. Masrukhan & Isnaini (2025) and other recent studies show that small Bakpia producers often struggle to access reliable suppliers and lack clarity over production costs, which forces them to contend with rising prices of raw materials. Furthermore, small-scale Bakpia businesses encounter difficulties entering the larger souvenir market dominated by well-known brands and often remain dependent on their own outlets or online platforms due to limited recognition and marketing reach.

Raw material dependency further compounds these challenges. Price fluctuations, particularly for mung beans, reduce raw material quality and force producers to substitute with lower-grade alternatives, risking product quality. Moreover, the absence of effective information sharing between producers and distributors leads to imbalances between production capacity and market demand, causing either overproduction or stock shortages. Industry relationships are often limited to transactional interactions, with few long-term partnerships between suppliers and distributors. As a result, mismatches in supply and demand remain common, undermining efficiency. The situation is aggravated by the low adoption of integrated information systems, with only about 30% of MSMEs utilizing such technologies (Das et al., 2019).

These challenges indicate that the supply chain performance of Bakpia SMEs remains low due to the limited application of robust SCM principles. Although SCM has been widely studied, research on Indonesian MSMEs has mostly remained descriptive, with limited use of standardized frameworks such as the Supply Chain Operations Reference (SCOR) model. Furthermore, empirical findings regarding the role of information sharing and trust in improving supply chain performance are still inconsistent: some studies report significant direct effects, while others suggest indirect effects through relational factors. The mediating role of long-term relationships in particular has received little empirical attention, especially in traditional food industries.

Therefore, this study seeks to fill these gaps by applying the SCOR model and employing Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the effects of information sharing and trust on supply chain performance, with long-term relationship as a mediating variable. This research contributes by (1) providing empirical evidence from the context of Bakpia SMEs in Yogyakarta, (2) extending the theoretical application of relational variables in SCM, and (3) offering practical recommendations for improving supply chain collaboration in small-scale food industries.

LITERATURE REVIEW

Supply Chain Management (SCM)

Supply Chain Management (SCM) is a systematic approach to managing a network of interconnected companies involved in supplying raw materials, manufacturing goods, and distributing them to end consumers. SCM has since evolved into a strategic approach that requires cross-functional and inter-company integration and collaboration (Anwar et al., 2025).

SCM encompasses procurement, production, and distribution, as well as the integration of information and financial flows (Power, 2020). According to Imam (2024), SCM is an integrative approach to managing the flow of products, information, and money from upstream to downstream, involving various actors ranging from suppliers and manufacturers to consumers. Its core aim is to achieve operational efficiency and maximize customer value (Aprilia et al., 2025).

According to Ding (2023), supply chain management can be viewed through three interconnected components:

1. Upstream supply chain – emphasizes supplier relationships and the procurement of raw materials.
2. Internal supply chain – includes the company’s internal operations such as production, process optimization, and inventory control.
3. Downstream supply chain – covers product distribution and market delivery to end customers.

SCM performance refers to the measurement of the effectiveness and efficiency of all supply chain activities from raw materials to the hands of consumers (Rizkya et al., 2019). This performance includes aspects such as quality, time, responsiveness, and flexibility. Holloway & Hendrie (2023) further argue that SCM must meet customer needs in terms of quality, timing, and cost efficiency while remaining adaptable to market changes.

Bakalo & Abegaz (2024) shows that performance measurement with the SCOR model helps organizations identify process bottlenecks and avoid escalation of operational issues. Recent studies emphasize that supply-chain performance indicators include total cost, cycle time, product defect rates, customer satisfaction, and flexibility (Mubaroq, 2025). Generally, indicators can be divided into short-term (e.g., cost, profitability) and long-term (e.g., sustainable relationships, supply stability) (Haessler, 2020). These indicators can be used to evaluate the effectiveness of a company's distribution strategy.

Model SCOR

The SCOR (Supply Chain Operations Reference) model was developed by the supply chain council to systematically measure and improve supply chain performance (Rizkya et al., 2019). It integrates three key elements:

1. Business process reengineering – analyzing existing processes and designing ideal future processes.
2. Benchmarking – comparing performance with best-in-class companies.
3. Process measurement – measuring, controlling, and improving processes.

The SCOR model comprises five fundamental processes (Bakalo & Abegaz, 2024):

1. Plan: Strategically planning for demand and supply.
2. Source: Procuring raw materials through supplier selection and negotiation.
3. Make: Manufacturing products either in mass production or batch processes.
4. Deliver: Distributing finished goods to customers.
5. Return: Handling product returns and reverse logistics.

Several studies confirm the relevance of SCOR. For example, Imam (2024) showed that SCOR improves supply chain responsiveness, while Anwar et al. (2025) highlighted its role in standardizing measurement. However, inconsistencies arise as some studies focus only on operational efficiency without addressing relational factors such as trust and information sharing. This indicates a research gap that justifies integrating both performance and relational variables into SCM research.

Information Sharing

Information sharing in the supply chain refers to the continuous and coordinated exchange of data among partners both formal and informal for planning and monitoring supply chain activities (David & Richard, 2024). This enhances coordination and improves the effectiveness of decision-making (Olalekan & Nwadiuru, 2021).

Key indicators include:

1. Sharing of financial, production, and design information.
2. Continuous exchange of information.
3. Information supports all relevant parties.

Some studies find a strong positive effect of information sharing on supply chain performance, while others suggest its impact is mediated by trust and relationship factors (Sridharan & Simatupang, 2019). This inconsistency suggests that relational variables may act as mediators, forming the theoretical foundation of this research.

Trust

Trust is the willingness to rely on a business partner with confidence in mutual benefits. In supply chains, trust fosters collaboration and information sharing (Kac et al., 2020). Building trust requires consistent performance and transparency. Indicators include:

1. Trust in suppliers
2. Honesty and accountability
3. Experience and information transparency.

Empirical findings, however, show variation. While some studies confirm trust directly enhances performance, others argue its effect is indirect through the development of long-term relationships (Jeong et al., 2019). This discrepancy underpins the second research hypothesis.

Long Term Relationship

According to Qian et al. (2023), long-term commitment, mutual trust, and cooperation between buyers and suppliers play a decisive role in achieving stability and operational efficiency within the supply chain. Key factors include:

1. Long-term commitment in production processes.
2. Mutual trust and interdependence.
3. Cooperation as a foundation for continuity.

Some research emphasizes the direct impact of long-term relationships on SCM performance, while others highlight their mediating role. This indicates the theoretical space for testing mediation effects in this study (Adebanjo et al., 2021).

The hypotheses in this study are summarized in the following figure:

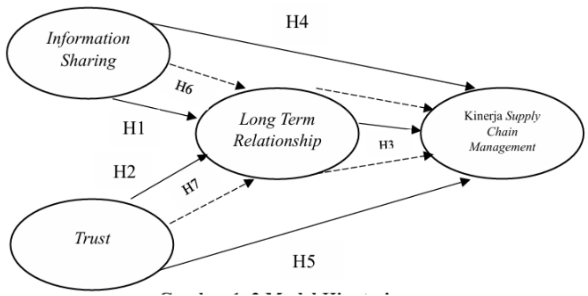

Figure 1. Hypotheses

Development of Hypotheses

Based on the theoretical discussion above, hypotheses are derived from the integration of SCM theory, relational governance (trust and information sharing), and prior findings with noted inconsistencies. Specifically:

1. Information sharing and trust are expected to strengthen long-term relationships.
2. Long-term relationships are theorized to enhance SCM performance.
3. Mediation effects are hypothesized, as prior studies show mixed evidence regarding whether trust and information sharing influence performance directly or through relational mechanisms.

Thus, this study develops the following hypotheses:

1. H1: Information sharing has an effect on long-term relationships.
2. H2: Trust has an effect on long-term relationships.
3. H3: Long-term relationship has an effect on supply chain management performance.
4. H4: Information sharing has an effect on supply chain management performance.
5. H5: Trust has an effect on supply chain management performance.
6. H6: Information sharing indirectly affects supply chain management performance through long-term relationship
7. H7: Trust indirectly affects supply chain management performance through long-term relationships.

RESEARCH METHOD

Research Design and Approach

This study employs a quantitative associative explanatory design. The quantitative approach is used because the data are analyzed statistically, while the associative explanatory orientation is chosen to test causal relationships among variables rather than merely describing phenomena. The study examines the influence of information sharing and trust (independent variables) on supply chain management performance (dependent variable), with long-term relationship as a mediating variable.

A census method is applied to the research population, which consists of all 45 MSMEs producing Bakpia under the supervision of KSP Sumekar Yogyakarta. The use of a census is justified because the population is relatively small and accessible, allowing complete coverage of all business units without the need for sampling.

The analytical method used is Partial Least Squares Structural Equation Modeling (PLS-SEM). This method is selected over covariance-based SEM (CB-SEM) because the research focuses on prediction and theory development, involves a relatively small sample size, and includes a mediating variable. PLS-SEM is also more robust in handling non-normal data distribution, which is often encountered in MSME research.

The research instrument is a structured questionnaire measured using a five-point likert scale. The validity and reliability of the instrument are ensured through both content validation (expert judgment) and construct validation using convergent and discriminant validity tests. Reliability is assessed using cronbach's alpha and composite reliability, with supporting details provided in the appendix.

Population and Sample

The research population consists of all 45 MSMEs (Micro, Small, and Medium Enterprises) producing Bakpia under the supervision of KSP Sumekar Yogyakarta, which are members of the Bakpia Sumekar artisan cluster. A census method is applied, meaning that all units within the population are included in the study. The census approach is chosen to ensure comprehensive coverage of the relatively small population and to avoid sampling bias, thereby increasing the accuracy of the analysis results.

Data Collection Techniques

The data used include:

1. Primary data: Obtained directly from questionnaires and interviews with MSME actors.
2. Secondary data: Obtained from books, journals, reports, and other relevant literature.

The research instrument utilizes a likert scale (1–5), and data collection techniques include questionnaires and interviews.

The primary data was obtained directly from questionnaires and interviews with MSME actors, while secondary data came from books, journals, reports, and other relevant sources. The research instrument was developed using a likert scale (1–5).

Instrument validity and reliability were ensured through the following steps:

1. Content validity: Questionnaire items were constructed based on established theories and prior studies and further reviewed by academic experts to confirm their relevance.
2. Construct validity: Tested through convergent and discriminant validity within the PLS-SEM framework.
3. Reliability: Assessed using cronbach's alpha and Composite Reliability, with a threshold of ≥ 0.7. (Appendices of the instrument items and validity testing results are provided to

support transparency).

Data Processing and Analysis Techniques

Data processing involves the following steps:
1. Editing: Checking the completeness and consistency of questionnaire responses.
2. Coding: Converting answers into numerical codes.
3. Scoring: Assigning scores based on the Likert scale.
4. Tabulating: Organizing data into tables for further analysis.

The data are then analyzed using Partial Least Squares Structural Equation Modeling (PLS- SEM) through the following stages:
1. Data cleaning
   This includes checking for outliers, missing values, and assessing the distribution of data to ensure it meets analysis requirements.
2. Outer model evaluation
   - Convergent Validity: Assessed using Average Variance Extracted (AVE ≥ 0.5) and factor loading (≥ 0.7).
   - Discriminate Validity: Evaluated through the square root of AVE value.
   - Reliability: Measured using cronbach's alpha and composite reliability (≥ 0.7).
3. Inner model evaluation
   - R-Square (R^2): Indicates the strength of the influence of exogenous variables (≥ 0.7 = strong). F-Square (F^2): Assesses the effect size (0.02 = small, 0.15 = medium, 0.35 = large).
   - Hypothesis testing: Conducted using bootstrapping with t-statistics and p-values (< 0.05 = significant).
4. Mediation analysis
   Mediation testing is conducted to assess the role of the mediating variable (long-term relationship) in the relationships between variables:
   - Full mediation: The direct effect X→Y is not significant, but the indirect effect X→Z→Y is significant.
   - Partial mediation: Both direct (X→Y) and indirect (X→Z→Y) effects are significant.
   - No mediation: Only the direct effect (X→Y) is significant.

RESULTS AND DISCUSSION

The findings of this study confirm that information sharing, and trust significantly influence the development of long-term relationships among SMEs in the Bakpia cluster of Yogyakarta. In turn, long-term relationships were found to positively affect Supply Chain Management (SCM) performance. These results are consistent with previous Rizkya et al. (2019), which emphasized that sustained cooperation and open information exchange strengthen supply chain stability and efficiency.

Interestingly, this study revealed that trust does not have a significant direct effect on SCM performance. This result contrasts with the findings of Power (2020), who reported that trust directly enhances performance in large-scale industrial settings. However, the current study supports David & Richard (2024), who argued that trust exerts its influence indirectly by fostering relational continuity and collaborative commitment. In the context of SMEs producing Bakpia, trust alone may not be sufficient to improve performance without being transformed into concrete collaborative practices through long-term relationships. This divergence indicates that the role of trust may be highly context-dependent, particularly when comparing small-scale enterprises with large corporations.

Moreover, the significant mediating role of long-term relationships highlights that information sharing, and trust are more impactful when institutionalized into sustainable partnerships. These findings align with the theoretical framework of relational governance Ridho et al. (2024) which emphasizes that collaborative norms and interdependence serve as bridges between relational resources (trust, information sharing) and operational performance outcomes.

Theoretical Implications

Theoretically, this study contributes to the SCM literature by clarifying the inconsistent findings regarding the role of trust. It demonstrates that trust may not always produce a direct performance outcome but operates more effectively through relational mechanisms. This strengthens the argument for incorporating mediating variables, such as long-term relationships, into SCM research. Furthermore, by situating the study in the context of SMEs in Yogyakarta's Bakpia industry, it broadens the empirical scope of SCM studies, which have been dominated by large-scale industrial or multinational settings.

Practical Implications

Practically, the results suggest that SME actors and cooperative institutions should not only focus on building interpersonal trust but also translate it into structured, long-term collaborations, such as joint procurement, shared logistics, or collaborative marketing. Government agencies and local cooperatives can play a facilitating role by providing platforms for transparent information exchange and formalizing agreements that strengthen relational continuity. For Bakpia producers, this means that investing in open communication systems and collaborative practices will be more beneficial than relying solely on informal trust. Ultimately, such strategies can enhance efficiency, reduce uncertainty, and improve competitiveness in the increasingly dynamic food industry supply chain.

Outer Model

Convergent Validity

The measurement model (outer model) describes the relationship between latent variables and their corresponding indicators. It is evaluated through convergent validity, discriminant validity, and composite reliability to ensure the validity and reliability of the variables used in the study. Based on the test results shown in Figure 2, no indicators were found with loading values below 0.70.

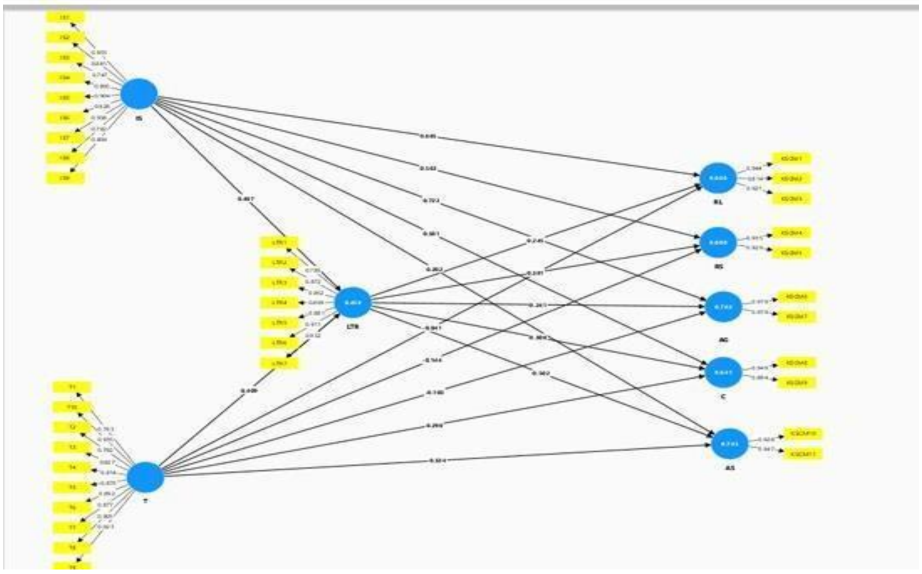

Figure 1. Path Analysis

Therefore, it can be concluded that the latent constructions are acceptable, as they are able to represent their respective indicators adequately. The decision to retain or remove an indicator is based on the values of Average Variance Extracted (AVE) and Composite Reliability (CR), where a construct is considered valid if AVE > 0.5 and CR > 0.70. The following section presents the results of the AVE value assessment.

Table 1. Convergent Validity

Indicator	Average Variance Extracted (AVE)
Information Sharing (IS)	0.740
Trust (T)	0.740
Long Term Relationship (LTR)	0.762
Reliability	0.801
Responsiveness	0.868
Agility	0.958
Cost	0.849
Assets	0.879

Based on Table 1, the AVE values obtained for each dimension are greater than 0.50. This indicates that all indicators have met the established criteria. Therefore, it can be concluded that convergent validity has been achieved.

Discriminant Validity

The measurement model (outer model) illustrates the relationship between latent variables and the indicators that measure them, and it is evaluated through convergent validity, discriminant validity, and composite reliability to ensure the validity and reliability of the variables in the research.

Table 2. Fornell Lacker

	AG	AS	C	IS	LTR	RL	RS	T
AG	0.979							
AS	0.576	0.938						
C	0.693	0.846	0.922					
IS	0.819	0.607	0.664	0.860				
LTR	0.589	0.798	0.686	0.562	0.873			
RL	0.954	0.622	0.746	0.806	0.606	0.895		
RS	0.902	0.601	0.693	0.722	0.616	0.888	0.932	
T	0.307	0.684	0.608	0.379	0.563	0.356	0.283	0.860

Based on Table 2, discriminant validity has been met. This is indicated by the square root of the AVE for each construct (the values on the diagonal) being greater than the correlations between the other constructs. For example, the square root of the AVE for the AG construct is 0.979, which is higher than its correlation with other constructs, such as AS (0.576) and C (0.693). Similarly, the square roots of the AVE for other constructs, such as AS (0.938), C (0.922), IS (0.860), LTR (0.873), RL (0.895), RS (0.932), and T (0.860), are also greater than the correlations with other constructions. Therefore, it can be concluded that the discriminant validity test has been fulfilled based on the Fornell-Larcker criterion.

Reliability

The reliability test in this study is based on the values of composite reliability and cronbach's alpha. A variable is considered reliable if both values exceed 0.70. Next, the data on composite reliability and cronbach's alpha values will be presented.

Table 3. Reliability Test

Indicator	Cronbach's Alpha	Composite Reliability (rho_c)
Information Sharing (IS)	0.956	0.962
Trust (T)	0.961	0.966

Long Term Relationship (LTR)	0.948	0.957
Reliability (RL)	0.875	0.923
Responsiveness (RS)	0.848	0.930
Agility (AG)	0.956	0.979
Cost (C)	0.828	0.918
Assets (AS)	0.848	0.36

Based on the table above, all composite reliability values exceed 0.70, while the cronbach's alpha values for each indicator also show results above 0.70. Therefore, it can be concluded that the instruments used in this study have a good level of reliability and are considered reliable.

Inner Model

R-Square

The evaluation of the Partial Least Squares (PLS) model is performed by analyzing the R-Square values for each dependent latent variable. This test aims to measure the extent to which the exogenous latent variables (independent) affect the endogenous latent variables (dependent). The table below presents the R-Square values for each variable influenced by other variables in this study.

Table 4. R-Square

	R-Square
Long Term Relationship	0.461
Performance Supply Chain Management	0.764

Based on the table above, there are two variables in this research model that are influenced by other variables, namely long-term relationship with an R-Square value of 0.461, and supply chain management performance with an R-Square value of 0.764. These results indicate that information sharing, and trust contribute 46.1% to the long-term relationship, while the remaining 53.9% is influenced by factors outside the scope of this research. Meanwhile, the performance of supply chain management is explained by information sharing, trust, and long- term relationship, with a contribution of 76.4%, while 23.6% is influenced by other variables not included in the research model.

According to Ghozali and Latan (2020), the research model can be categorized as strong (≥0.75), moderate (0.26-0.74), or weak (≤0.25) based on the R-Square value. Based on this classification, the R-Square value for the long-term relationship falls into the moderate category (0.461), while the supply chain management performance is in the strong category

(0.764). This indicates that the model used is quite effective in explaining the influence of the variables in this research.

F-Square

F-square effect is used to measure the magnitude of the influence of independent variables on dependent variables. The F-square value is classified into three categories: small (0.02), medium (0.15), and large (0.35). Below is the table that presents the F-square values in terms of effect size for the path coefficients.

Table 5. F-Square

	Information Sharing (IS)	Trust (T)	Long Term Relationship (LTR)	Performance Supply Chain Management (KSCM)
Information Sharing (IS)			0.405	0.578
Trust (T)			0.410	0.061
Long Term Relationship (LTR)				0.367
Performance Supply Chain Management (KSCM)				

Hypothesis Tests (Direct-Indirect)

In this test, a direct effect test is conducted as follows:

Table 6. Direct Effect

	Path Coeff	Sample Mean	Standard Deviation	T statistics	P values	Conclusion
Information Sharing -> Long Term Relationship	0.405	0.404	0.128	3.173	0.002	H1 Accepted
Trust -> Long Term Relationship	0.410	0.411	0.127	3.239	0.001	H2 Accepted
Long Term Relationship -> Performance Supply Chain Management	0.367	0.348	0.123	2.982	0.003	H3 Accepted

	Path Coeff	Sample Mean	Standard Deviation	T statistics	P values	Conclusion
Information Sharing -> Performance Supply Chain Management	0.578	0.597	0.121	4.786	0.000	H4 Accepted
Trust -> Performance Supply Chain Management	0.061	0.048	0.086	0.707	0.480	H5 Rejected

Based on the output path coefficients in Table 6, it is found that the first (H1) and second (H2) hypotheses indicate that Information Sharing (IS) and Trust (T) have a positive and significant effect on Long-Term Relationship (LTR). IS has a path coefficient of 0.405 with a T- statistic of 3.173 and a P value of 0.002, while trust has a coefficient of 0.410 with a T-statistic of 3.239 and a P value of 0.001. This suggests that improvements in information exchange and trust between business partners can strengthen long-term relationships in the supply chain. Furthermore, the third hypothesis (H3) is also accepted, as LTR has a positive and significant effect on Supply Chain Management Performance (KSCM) with a path coefficient of 0.367, a T- statistic of 2.982, and a P value of 0.003.

Next, the fourth hypothesis (H4) states that IS also has a strong direct effect on KSCM, evidenced by a path coefficient of 0.578, a T-statistic of 4.786, and a P value of 0.000. This underscores that effective information exchange is crucial in enhancing the supply chain performance of SMEs. However, unlike the other variables, the fifth hypothesis (H5) is rejected because Trust (T) does not show a significant effect on KSCM directly, with a coefficient of 0.061, a T-statistic of 0.707, and a P value of 0.480. Therefore, it can be concluded that in the context of Bakpia SMEs in Yogyakarta, Information Sharing and long-term relationships are key factors that significantly influence supply chain performance, while Trust plays a more prominent role in strengthening long-term relationships than in directly impacting performance. In addition to the direct effect test, an indirect effect test was also conducted as follows:

Table 7. Indirect Effect

	Path Coeff	Sample Mean	Standard Deviation	T statistics	P values	Conclusion
Information Sharing -> Long Term Relationship -> Performance Supply Chain Management	0.149	0.135	0.058	2.555	0.011	H1 Accepted
Trust -> Long Term Relationship -	0.0151	0.147	0.074	2.029	0.042	H2 Accepted

> Performance Supply Chain Management	

Based on the output of the specific indirect effects in Table 3.22, it is evident that there is a significant indirect effect between the Information Sharing variable and Supply Chain Management Performance (KSCM) through Long Term Relationship (LTR). With a path coefficient of 0.149, a T-statistic of 2.555, and a p-value of 0.011 (< 0.05), it can be concluded that effective information exchange helps establish strong long-term relationships, which ultimately has a positive impact on improving supply chain performance. Therefore, the sixth hypothesis (H6) is accepted, as it shows the mediating role of LTR in the relationship between IS and KSCM.

Additionally, the analysis also indicates that Trust has a significant indirect effect on KSCM through LTR. This is evidenced by a path coefficient of 0.151, a T-statistic of 2.029, and a p-value of 0.042 (< 0.05). This means that although Trust does not directly affect supply chain performance, it still contributes indirectly through strengthening the long-term relationship between SMEs and suppliers. Therefore, the seventh hypothesis (H7) is also accepted, emphasizing the importance of LTR as a mediating variable that enhances the positive effect of Trust on supply chain performance.

Mediation Test

In this study, a mediation test was conducted to analyze how Long-Term Relationship (LTR) mediates the relationship between Information Sharing (IS) and Trust (T) towards Supply Chain Management Performance (KSCM). The analysis results will determine whether the long-term relationship variable acts as full mediation, partial mediation, or has no mediation effect.

Table 7. Mediation Test

Hypothesis	Track	Original Sampel	P Value		Result
Direct Effect	IS □ LTR	0.405	0.002	Significant	
	LTR □ KSCM	0.367	0.003	Significant	
	IS □ KSCM (without mediation)	0.578	0.000	Significant Significant	Partial Mediation
Indirect Effect	IS □ LTR □ KSCM (by mediation)	0.149	0.011	Significant	
Hypothesis	Track	Original Sampel	P Value	Significant	
	T □ LTR	0.410	0.001	Significant	
Direct Effect	LTR □ KSCM	0.367	0.003	Significant	
	T □ KSCM (without mediation)	0.061	0.480	Insignificant	

Indirect Effect	T → LTR → KSCM (by mediation)	0.151	0.042	Significant

Based on the results of hypothesis testing 6, it was found that information sharing (X1) has a significant direct effect on supply chain management performance (Y), as indicated by a path coefficient of 0.578 and a p-value of 0.000 (< 0.05). In addition to this direct effect, the analysis also shows a significant indirect effect through the long-term relationship (Z) variable, with a path coefficient of 0.149 and a p-value of 0.011 (< 0.05). These results indicate that good information sharing not only directly impacts supply chain performance but also indirectly improves it by fostering strong long-term relationships between SMEs and their partners in the supply chain.

Based on the combination of direct and indirect effects, it can be concluded that the relationship between information sharing and supply chain management performance through long term relationship falls under the category of partial mediation. This means that while information sharing can directly enhance supply chain performance, the presence of long-term relationship as a mediating variable further strengthens this effect. Therefore, strategies that emphasize open information sharing and efforts to build long-term relationships will be more optimal in improving the efficiency and effectiveness of the supply chain for SMEs, such as Bakpia in Yogyakarta.

Meanwhile, the results of hypothesis testing 7 show that Trust (X2) does not have a significant direct effect on Supply Chain Management Performance (Y), as evidenced by a path coefficient of 0.061 and a p-value of 0.480 (> 0.05). However, when tested indirectly through Long Term Relationship (Z), a significant effect was found, with a path coefficient of 0.151 and a p-value of 0.042 (< 0.05). This suggests that while trust does not directly enhance supply chain performance, it still makes a positive contribution through the formation of a good long-term relationship.

From these findings, it can be concluded that the relationship between trust and supply chain management performance through long-term relationship is a form of full mediation. This means that the influence of trust on performance will not be felt unless mediated through long-term relationships. Therefore, for SMEs, building trust with partners is not enough with good intentions or transparency; it must also be accompanied by efforts to create sustainable relationships to have a tangible impact on supply chain performance.

CONCLUSION

This study set out to examine the influence of information sharing and trust on supply chain management (SCM) performance, with long-term relationship as a mediating variable, in the context of SMEs producing Bakpia in Yogyakarta. The research problem raised in Chapter 1 whether relational factors such as information sharing, and trust contribute directly or indirectly to SCM performance has been answered. The results show that information sharing has both a direct and indirect positive effect on SCM performance, while trust exerts an indirect effect mediated by long-term relationships. These findings confirm that the establishment of long-term relationships is essential for translating relational resources into improved performance.

Theoretically, this research contributes to clarifying the inconsistent findings in prior SCM literature regarding the role of trust. By demonstrating that trust has no direct effect on performance but operates fully through long-term relationships, the study highlights the importance of relational governance mechanisms in SCM research. Practically, the results suggest that Bakpia SMEs need to institutionalize information sharing and strengthen long-term collaborations to achieve sustainable supply chain performance.

This study is not without limitations. First, the research was conducted in a single industry cluster (Bakpia SMEs in Yogyakarta), which may limit the generalizability of the findings to other sectors. Second, the use of cross-sectional data prevents dynamic changes in relationships over time. Finally, the study relied on self-reported measures, which may be subject to respondent bias.

For future research, it is recommended to expand the scope of analysis to other SME clusters or industries in order to test the robustness of the findings. Longitudinal studies are also suggested to better capture the evolution of trust and relationships in supply chain dynamics. Additionally, future studies may consider integrating other relational variables such as commitment, power balance, or digital collaboration tools, to enrich the understanding of how relational governance shapes SCM performance in SMEs

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Milestone: Journal of Strategic Management Vol. 5, No. 2, September 2025
Faculty of Economics and Business
Pelita Harapan University

THE COMPETITIVE ADVANTAGE OF CCC IN INTEGRATED SERVICES OF CONSTRUCTION IN INDONESIA

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ABSTRACT

In the background of global infrastructure construction and the transformation of the construction industry to an integrated service model, this study draws on strategic management theory, especially Porter's theory of competitive advantage and the resource-based view (RBV), to explore the research questions: 1. What are the strategic factors that contribute to the competitive advantage of CCC? 2. How are the strategic factors applied/implemented to contribute to the competitive advantage of CCC. And draw the competitive advantages of CCC to maintain its leading position in the highly competitive integrated building services field. This study is mainly based on interviews, through qualitative research and literature analysis, to explore the factors that CCC uses to build differentiated competitive advantages. The development of CCC in Indonesia shows that Chinese enterprises should pay attention to the comprehensive balance of technical capabilities, quality control, social responsibility and employee development in the process of "going out" to achieve a high-quality and responsible international development path. The researchers hope that this study can provide some reference for peer companies to enhance their competitive advantages, and at the same time provide strategic inspiration for international customers and other researchers to understand how Chinese integrated building service providers can gain competitive advantages in the evolving global infrastructure ecosystem.

Keywords: Integrated Construction Services; Strategic Management; Competitive Advantages; Differentiated Competitive Advantages

INTRODUCTION

The global construction industry has experienced significant shifts from 2020 to the present. The COVID-19 pandemic had a profound impact on the industry, causing delays in projects, supply chain disruptions, and increased material costs. However, post-pandemic recovery efforts, government infrastructure investments, and technological advancements have fueled growth in key regions, including Asia-Pacific, North America, and Europe, especially in the Asia-Pacific region construction growth rates were particularly strong (Ogunnusi et al., 2021; Hossain et al., 2022).

Indonesia, as one of the largest economies in Southeast Asia, has shown unique resilience and potential in its construction market. Indonesia has a large population and a low urbanization rate. After the pandemic, Indonesia's economy is gradually recovering, and the government will increase infrastructure investment to boost employment and GDP, and there will be more opportunities for international contractors (Zhu & He, 2022; World Bank, 2020).

In recent years, China-Indonesia bilateral economic and trade cooperation has developed comprehensively, especially in the fields of trade, investment and engineering contracting. As far as the construction industry is concerned, Indonesia has long been one of the top ten overseas markets for Chinese companies to carry out engineering contracting.

CCC is a leading global comprehensive service provider of ultra-large infrastructure, mainly engaged in investment, construction and operation of transportation infrastructure, equipment manufacturing, real estate and urban comprehensive development. In 2024， CCC ranked 63rd in Fortune global 500. As the Chinese enterprise with the best overseas market business, CCC has been operating in Indonesia for nearly 30 years, and CCC has established a strong presence in the Indonesian market, undertaking key projects such as the Sura-Madu Bridge and various port developments. The research problem in this research emerges from the need to understand how CCC gains and sustains its competitive advantage in Indonesia’s construction industry amid increasing competition from local firms and other international players.

While significant research has been conducted on competitive advantage in the construction industry, existing literature has primarily focused on Western firms and large multinational construction companies from the US and Europe (Martek, 2022; Zhao et al., 2016). Studies analyzing Chinese state-owned enterprises (SOEs), particularly in Southeast Asian markets, remain relatively limited. Additionally, prior research has largely examined traditional construction services (Siman & Nugraha, 2023; Rehman et al., 2023) but has not adequately addressed the growing trend of integrated construction services, which encompass design, engineering, financing, construction, and operation (such as EPC+F model and PPP model). However, this research on CCC leverages its vertical integration capabilities and strong financial backing to gain a competitive edge that the researcher is investigating (Tan et al., 2011; Rehman et al., 2023).

CCC is a leading global comprehensive service provider of ultra-large infrastructure, and CCC has been operating in Indonesia for nearly 30 years. Many of its subsidiaries have set up branches in Indonesia, with business covering port dredging, roads and bridges, housing construction, rail transit, clean energy and other fields. Over the years, CCC has undertaken a number of landmark infrastructure projects in Indonesia, playing a positive role in local connectivity, improving people's livelihood and economic development.

Affected by the pandemic, CCC's annual revenue in Indonesia showed a significant downward trend from 2019 to 2021. After reaching a low point in 2021, it began to steadily recover from 2022. The annual revenue in 2019 was US$1.2 billion, the highest point in the past five years; while the annual revenue in 2020 fell to US$1 billion, a decrease of about 16.7% from 2019, the revenue in 2021 further fell to US$600 million, a sharp drop of 50% from 2019. As the global economy gradually recovered, the revenue in 2022 rebounded to US$900 million and continued to grow to US$1.1 billion in 2023, close to the 2019 level. CCC's rapid recovery after the impact of the epidemic, reflecting its resilience and competitive advantages as a leading global infrastructure company.

This article aims to comprehensively explore the core competitive advantages of CCC in the Indonesian integrated construction services market in the post-epidemic era. The study seeks to reveal how CCC maintains its leading position amid intensifying international competition and shifting market demands.

Based on the research problems above, below are the research questions:

1. What are the strategic factors that contribute to the competitive advantage of CCC?
2. How are the strategic factors applied/implemented to contribute to the competitive advantage of CCC?

LITERATURE REVIEW

TCS and ICS

Traditional Construction Services (TCS) mainly focus on the construction phase of the project, undertaking specific construction tasks assigned by the owner or general contractor through contracts (such as civil engineering, installation, decoration, etc.). Integrated Construction Services (ICS), provides full life cycle services, covering the entire process of the project from preliminary planning, design, construction to operation and maintenance (Liu et al., 2021). Through the CCC five businesses strategy, CCC has successfully transformed from a Traditional Construction Services (TCS) provider to an Integrated Construction Services (ICS) provider (Zhang et al., 2014).

Competitive Advantage

Jurevicius (2025) explained the competitive advantage of an enterprise that comes from the combined effect of many aspects. The following are two basic factors: 1. Differentiation strategy: An enterprise stands out in the market by providing unique products or services that meet the specific needs or preferences of consumers. 2. Cost leadership strategy: Through effective cost control and economies of scale, enterprises provide the same or similar products or services at a lower price than competitors, thereby attracting price-sensitive consumers (Olanrewaju & Abdul-Aziz, 2021).

Porter's 5 Forces

The five forces model analysis was proposed by Michael Porter in the early 1980s. He believed that there are five forces in the industry that determine the scale and degree of competition. These five forces combined affect the attractiveness of the industry. The five forces are threat of new entrants, threat of substitutes, buyer bargaining power, seller bargaining power, and competition between existing competitors.

Pangarkar & Prabhudesai (2024) believes porter's five forces model provides a comprehensive framework for analyzing industry competition. If the threat of potential entrants is small, the threat of substitutes is small, the bargaining power of suppliers is weak, the bargaining power of buyers is weak, and the competition among existing competitors in the industry is relatively mild, then the company is in a relatively favorable competitive environment and can consider adopting expansion strategies, such as expanding production scale and opening up new markets. On the contrary, if all five forces are unfavorable to the company, the company needs to make cautious decisions, find new competitive advantages or consider transformation.

Porter's Generic Strategy

Porter's generic strategy Islami et al. (2020) believes that in the struggle against the five competitive forces, there are three types of successful strategic ideas, which are: total cost leadership strategy; differentiation strategy; specialization strategy. Porter believes that the goal of these strategic types is to make the company's operations superior in industry competition: in some industries, this means that the company can achieve higher returns; while in other industries, the success of a strategy may only be a necessary condition for the company to obtain a small profit in an absolute sense.

Resource-Based View, RBV (Liu & Liang, 2023)

The publication of Wernerfelt's "Resource-Based Theory of the Firm" in 1984 marked the birth of resource-based view. RBV focuses on how the resources within an enterprise affect its strategic decisions and competitive advantages. The RBV holds that the key to a company's success in market competition is to identify, develop and utilize its unique resources. Knott (2022) believed these resources must have certain characteristics, such as Value（V, which means they can help companies meet market demand, improve efficiency or create value; Rareness（R, which means that not all companies can easily obtain these resources; Inimitability（I, which means that other companies find it difficult to copy or imitate these resources; and Organization（O, which means that there are no other resources that can completely replace their performance.

RESEARCH METHOD

This study adopts positivism and interpretivism paradigms to understand how construction companies develop competitive advantages in the Indonesian market. Through in-depth case analysis and interviews, this study aims to explore the competitive advantages of CCC in the field of integrated construction services in Indonesia, facing various competitions and challenges (Saunders et al., 2019; Wang & Li, 2024; Financial Times, 2023).

In the research strategy of integrating positivism and interpretivism, this study adopts a mixed methods strategy. This study first obtains the data characteristics of CCC in Indonesian integrated construction services by consulting the company's financial statements and industry data, and then explains the organizational mechanisms, cultural factors or strategic considerations behind these data through in-depth interviews. This "quantification first, then qualitative" or "parallel design" method helps to obtain more comprehensive insights (Creswell & Clark, 2018).

CCC is the case chosen to analysis the competitive advantage of a company in ICS industry. The data comes from employees, managers, and customers. Researchers use an semi-structured interviews, observation, and field notes to collect data on this research. Interviews are conducted face-to-face or via WeChat call. A qualitative research method was used to get in-depth information from the informants (Zhao et al., 2016).

Analyzing data will be started by thematizing the collected data. Afterward, classifying those several topics through topic analysis. Next, pattern analysis will be done to create latent variables. The researchers will closely check to ensure the elements can be used as the competitive advantage of CCC.

Table 1. Respondent Data

Name	Position	Age	Detail
Chai XZ (1–1)	Supervisor	50–55	The GM of the CCC technical center, He has extensive experience in engineering survey and design and strong technical R&D capabilities.
Wei W (1–2)	Supervisor	45–50	Deputy GM of CCC Overseas Business Department. He has extensive experience in overseas integrated construction services and served as GM of CCC Indonesian subsidiary in Indonesia for 10 years.
Wang Z (1–3)	Supervisor	40–45	Project manager of a large-scale integrated project of CCC in Indonesia, which includes mining, EPC of supporting wharf and coal transport road, coal transportation and sales and other services.
Pi QL (2–1)	Employee	35–40	He is an RD leader with rich R&D experience and is based in Indonesia.
Li XT (2–2)	Employee	25–30	Indonesia market specialist, responsible for the development of Indonesian market and maintaining relationships with customers.
Wilson (2–3)	Employee	30–35	An Indonesian employee with comprehensive management experience, he was once named one of CCC's top ten foreign employees.
Junanto (3–1)	Customer	50–55	Senior project leader, Junanto's company is the owner of the large-scale integrated project in Indonesia mentioned above. They have high requirements for project quality and construction technology.
Roza (3–2)	Customer	40–45	Special attention is paid to the quality issues of construction projects.
Sapri (3–3)	Customer	35–40	The company Sapri belongs to plans to build a premium office building in Jakarta CBD and is investigating potential integrated construction service providers.

RESULTH AND DISCUSSION

This research will use the latent variables obtained from interviews with CCC supervisors, employees, and customers. The latent variables will then be used to construct the proposition of the mini model theory of the research.

Construct Propositions

In this section, the researcher will construct propositions using these latent variables. Through these propositions, the researcher will examine and explain how these latent variables contribute to CCC's competitive advantage in the field of ICS.

Proposition 1 (P1): Integrated Service Capabilities Across the Entire Industry Chain (V1) Contributes to the Competitive Advantage (V9).

In the Indonesian market, CCC has effectively achieved differentiated competition with local and international competitors by building integrated service capabilities across the entire industry chain, thereby gaining significant competitive advantages. This integrated service capability across the entire industry chain not only improves the overall execution efficiency of the project and the added value of services, but also enhances customer stickiness, forms a solid government relationship network and good brand recognition, and thus builds a sustainable competitive barrier in the complex infrastructure market environment in Indonesia. In the interviews with supervisors, employees and customers, they said: *"In the supporting infrastructure project of Sulawesi Industrial Park in Indonesia, CCC not only undertook the construction tasks of roads and ports but also provided early investment planning and later maintenance and operation support, greatly improving the overall life cycle efficiency of the project."- Chai XZ (1-1). "We can cover the entire process from design, investment and financing, construction, procurement, operation and maintenance, etc., which greatly reduces the cost of multi-party coordination for customers and makes the project more efficient. In* *addition, in bidding, we are often directly selected as the preferred candidate because of our integrated capabilities."- Wei W (1-2). "We are no longer just a construction party but are also extending into comprehensive fields such as urban development, industrial park construction, and integrated port log party but rations. In the future, Indonesia will become one of our most important strategic fulcrums in Southeast Asia."- Wang Z (1-3).*

Through the above interviews with supervisors, employees and customers, the proposition that integrated service capabilities across the entire industry chain contributes to competitive advantage is confirmed. At the same time, it also confirms the importance of differentiation strategy for CCC to build a competitive advantage in the field of ICS.

Proposition 2 (P2): Strong Technical R&D Capabilities (V2) Contributes to the Competitive Advantage（V9)

With its strong technical R&D capabilities, CCC has established a clear technical competitive advantage in international engineering projects in the Indonesian market, especially in complex geological conditions and large-scale infrastructure projects. By fully integrating advanced design concepts, BIM digital modeling systems and green and low-carbon concepts into engineering practice, CCC has won high recognition from the government and owners in project bidding and implementation. This differentiated technology strategy with scientific research and innovation as the core driving force has not only greatly improved the quality of project delivery but also consolidated its technological leadership in the Indonesian engineering market, becoming an important support for its continued expansion of overseas markets.

In interviews with supervisors, employees and customers, they said: *"Indonesia has relatively advanced technologies in municipal roads and building construction, but China has more advanced technologies in ports, highways, railways, large bridges, etc., and CCC is one of the few large state-owned companies that possess these core technologies."- Wei W(1-2)."Overseas environment is indeed more complicated, with different geology, climate and specifications. But we have our own mature overseas design system, such as earthquake-resistant structure design, rainfall drainage optimization, etc. We have formed a set of design capabilities that combine "localization + standardization"."- Pi QL (2-1).*

Therefore, it can be seen that CCC attaches great importance to the improvement of technical R&D capabilities, and has invested a lot of funds, manpower and other resources. Its strong technical R&D capabilities have brought it unstoppable competitive advantages.

Proposition 3 (P3): Localized Operation Capabilities (V3) Contributes to the Competitive Advantage（V9).

By continuously strengthening its local operation capabilities in the Indonesian market, CCC has effectively improved the local adaptability and social integration capabilities of project execution and built a core competitive advantage that is different from other international contractors. Localized operations are not only reflected in the localization of labor use but also include the deep embedding of multiple dimensions such as management system, supply chain system, legal compliance, and cultural integration.

In interviews with supervisors, employees and customers, they said: *"In terms of government relations and community management, CCC has established a local affairs team led by Indonesian employees, actively maintaining communication with local governments, village committees, and religious organizations, promoting social responsibility projects such as environmental compliance, resettlement compensation, and festival co-construction, and effectively resolving external risks in project implementation."-Wilson(2-3). "CCC actively* *cooperate with local companies, introduce local subcontractors, employ a large number of Indonesian workers, and set up a local employee training center to help improve skills, thereby enhancing the social acceptability of the project and the local economic driving effect. They also select the top ten foreign employees every year, which is already a very successful practice in their localization of employees."- Junanto (3-1).*

It can be seen that through its local operation capabilities, CCC has not only achieved the above-mentioned results, but also enhanced and consolidated its competitive advantages in the Indonesian market.

Proposition 4 (P4): Integrated Centralized Management Systems (V4) Contributes to the Competitive Advantage（V9).

By building and implementing an integrated centralized management system in the Indonesian market, CCC has significantly improved the organizational efficiency and risk control capabilities of overseas projects, thus forming a solid competitive advantage. Faced with Indonesia's diverse geographical environment, complex administrative procedures and cultural differences, CCC relies on its independently developed engineering project management platform to integrate multiple key modules such as progress control, cost control, quality and safety, contract management, and local compliance, and realizes dynamic management and real-time monitoring of the entire process, all elements, and all participants of the project. In the interviews with supervisors, employees and customers, they said: *"We rely on our self-developed integrated centralized management systems (such as overseas project collaboration platforms, financial audit systems, and compliance tracking systems) to achieve unified scheduling and dynamic management and control across countries, regions, and businesses. These systems support multiple languages, different laws, and exchange rate environments, improving operational efficiency and project control."- Wei W (1-2). "CCC's integrated centralized management system is very advanced. Through ERP, progress control platform and budget system, we can grasp project data and risk warning in real time, which greatly improves our work efficiency and reduces errors and duplication of work."- Wilson (2-3).*

Through an integrated management system, CCC has achieved cross-border data integration and remote supervision and established unified standards and process specifications for the company in overseas projects. Through the integrated management system, management efficiency and quality have been improved, consolidating CCC's competitive advantage in Indonesia's ICS market.

Proposition 5 (P5): Infrastructure Quality Control (V5) Contributes to the Competitive Advantage（V9).

By building a systematic and standardized infrastructure quality control system in the Indonesian market, CCC has won high recognition from project owners and government regulators in the fierce international engineering competition, thereby gaining significant competitive advantages. Through the infrastructure quality control system measures, CCC has significantly reduced the rework rate and project quality complaints, improved overall construction efficiency and customer satisfaction, and formed a good brand image of "CCC= High Quality". In interviews with supervisors, employees and customers, they said: *"Taking a port expansion project in Jakarta as an example, CCC set up a special infrastructure quality management department at the project site, equipped with Chinese and Indonesian quality inspection engineers, third-party testing agencies and laboratory real-time monitoring mechanisms to ensure that key indicators such as concrete strength, steel structure welding,* *and anti-corrosion technology meet international standards."-Wei W (1-2). "First, CCC has a complete infrastructure quality management organizational structure, including full-time quality engineers and third-party testing agencies. They organize technical briefings before each key process to clarify standards and acceptance procedures. Secondly, they use intelligent testing equipment, such as wireless sampling and automatic upload systems for concrete strength, to improve quality traceability. We participate in joint inspection meetings every month, and the data is open and transparent, which truly makes the whole process controllable."- Roza (3-2).*

This infrastructure quality control capability is not only the core guarantee for it to win the trust of Indonesian owners, but also a key competitive resource for it to consolidate its market share and expand high-end projects in the international market.

Proposition 6 (P6): Aggressive Exploration of the Market Segments of ICS (V6) Contributes to the Competitive Advantage（V9).

CCC has successfully achieved a strategic transformation from a traditional construction contractor to a diversified integrated service provider by actively exploring the construction comprehensive service market segment in the Indonesian market, thereby establishing a unique competitive advantage in the fierce international competition. Through precise layout in the market segment, CCC can better meet the diversified and complex needs of owners and rely on its integrated service capabilities and resource integration advantages to improve project bargaining power and profit margins.

In interviews with supervisors, employees and customers, they said: *"CCC is good at combining Indonesia's local development policies, such as "National Strategic Projects" and "Indonesia Vision 2045", to seize opportunities in infrastructure upgrades and regional integration projects, thereby increasing its project acquisition rate and brand influence."-Chai XZ (1-1). "In projects such as the Jakarta CBD office building project and the Central Java Industrial Corridor supporting project, CCC not only provides design and construction services, but also is involved in early consultation, investment and financing integration, project operation and maintenance, etc., demonstrating its full-chain service capabilities."-Wei W (1-2). "Of course, for example, last year we participated in the development of an industrial park on the island of Java. We not only built roads and factories, but also provided overall planning, investment and financing advice, and post-operation plans. This "packaged" service has won high recognition from the park management."-Li XT (2-2).*

Actively exploring niche markets has not only broadened CCC's business boundaries in Indonesia but also enhanced its ability to withstand risks in a single market. It is an important strategic path for it to build differentiated competitive advantages and achieve sustainable development.

Proposition 7 (P7): Focus on the Realization of Employee Welfare and Employee Value (V7) Contributes to the Competitive Advantage（V9).

By paying close attention to employee welfare and employee value realization in the Indonesian market, CCC has effectively enhanced organizational cohesion and the level of local talent, thereby forming a unique competitive advantage in the international engineering competition. As a representative of state-owned enterprises that "go global", CCC not only pays attention to project benefits and engineering quality but also pays more attention to the career development and life security of overseas project employees, especially local employees. By creating a corporate culture of "people-oriented and common growth", CCC has built a stable and efficient localized management team, significantly reduced labor costs and staff turnover, and also improved its cooperative relationship with the government and the community.

In the interviews with supervisors, employees and customers, they said: *"In many key projects in Indonesia, CCC has established a systematic local employee training mechanism to help employees improve their professional capabilities and achieve career advancement through job skills training, production safety education, engineering technology guidance, etc. At the same time, CCC provides Indonesian employees with salary packages that are better than the industry average, regular physical examinations, holiday condolences, labor protection measures, and special care for religious festivals such as Eid al-Fitr, winning high recognition and loyalty from employees."-Wei W (1-2). "High employee satisfaction means high site stability, and naturally low construction risks and uncertainties. We treat our employees as partners, and they will treat projects as their own careers and the company as their home. When employees have a sense of belonging, the company's cohesion will be strong, which in turn enhances its competitive advantage over other companies."-Wang Z (1-3). "CCC's employees in Indonesia, whether Chinese or local, enjoy good accommodation, medical care, social security and holiday benefits. We also have annual physical examinations, family days and cultural exchange activities, which make us feel truly valued."-Wilson (2-3).*

The employee-centric management model of CCC not only optimizes the efficiency of project execution but also establishes a responsible and trustworthy image of Chinese enterprises in Indonesian society, becoming an important soft power support for CCC's continued expansion in overseas markets.

Proposition 8 (P8): State-Owned Enterprise (SOE) Reputation Guarantee (V8) Contributes to the Competitive Advantage（V9).

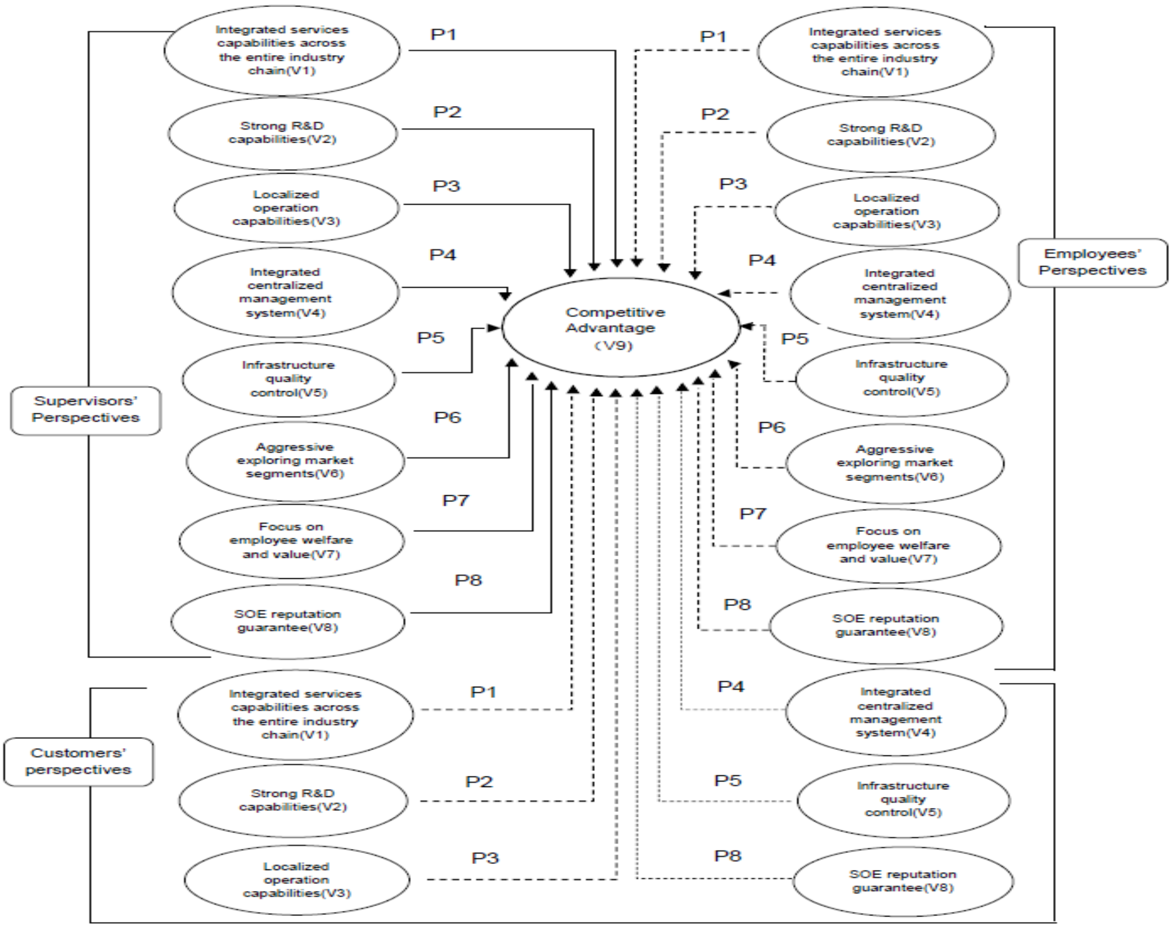
As a key state-owned enterprise in China, CCC has benefited from the Chinese government's policy promotion, diplomatic coordination and financial support under the framework of the "Belt and Road" initiative and has strong international endorsement capabilities. This ability to combine government resources with corporate operations makes it significantly superior to other international contractors that rely on market mechanisms in terms of project acquisition and financing convenience. In addition, as a state-owned enterprise, CCC has a good international reputation and strong contract performance capabilities, and represents the image of "high standards, high efficiency and low risks" in the minds of the Indonesian government and owners. This reputation not only helps it win bids for large public engineering projects but also establishes a reliable brand recognition for it among local governments and social groups in Indonesia, significantly improving the efficiency and social acceptance of project implementation.

In interviews with supervisors, employees and customers, they said: *"CCC's state-owned enterprise background is very advantageous. Many countries along the "Belt and Road Initiative" have a high degree of trust in Chinese companies, and as a central enterprise, our credibility and policy execution are more important in project negotiations. Customers believe that we are "controllable", trustworthy, and cooperative. "We maintain long-term institutionalized cooperation with relevant Chinese government departments, embassies abroad, and financial institutions (such as China Development Bank and Export-Import Bank), which can help projects quickly land financing and obtain policy endorsements. This policy resource integration capability is unmatched by private enterprises."-Wei W (1-2). "Being a state-owned enterprise is a plus in Indonesia. The government and major owners will feel that we are more stable, supported by the state, and have lower risks, especially in large-scale infrastructure and strategic projects, where we have obvious advantages."*

The policy resource advantages and state-owned enterprise brand effect that CCC relies on have become an important source of its differentiated competition, enabling it to stand out in Indonesia's complex political and economic environment, win more high-quality project resources and establish a solid market position.

CONCLUSION

Through the data collected in the previous analysis, we obtained 8 latent variables and 8 propositions and created the mini-model theory shown in Figure below. CCC has successfully built a multi-dimensional and differentiated competitive advantage in the Indonesian market by relying on these advantages. These advantages make CCC stand out among many international contractors. In the context of the high degree of fit between the "Belt and Road" initiative and Indonesia's national infrastructure development strategy, CCC's competitive advantages not only support its continued expansion in the Indonesian market but also provide useful experience for other Chinese companies to "go global".



The dotted lines refer to the latent variables and propositions that appear in more than one perspective.

RECOMMENDATIONS AND IMPLICATIONS

Limitations and Recommendations

This study investigated CCC from the whole projects in Indonesia, rather than focusing on one specific location. Therefore, further study can be applied to specific location or project in Indonesia, for comparative analysis.

Implications

This research analyzes the competitive advantages of CCC in the Indonesian market, which provides many useful inspirations for the "going out" strategy of Chinese enterprises. First, building integrated service capabilities across the entire industry chain has become an important trend in the competition of the international infrastructure market. Enterprises should transform from single contractors to integrated service providers of "investment, construction and operation" to enhance customer stickiness and project added value. Second, localization strategy and local operation capabilities are the key to enterprises' deep cultivation of overseas markets. CCC has successfully established a sustainable social relationship network through local management, local talent training and cultural integration, which is worth learning from other enterprises. In addition, giving play to the advantages of national policy resources and the brand reputation of central enterprises will not only help improve the ability to obtain projects in the international market, but also enhance cross-cultural trust and cooperation efficiency. More importantly, the development of CCC in Indonesia shows that Chinese enterprises should pay attention to the comprehensive balance of technical capabilities, quality control, social responsibility and employee development in the process of "going out" to achieve a high-quality and responsible international development path. Overall, the practical experience of CCC provides a replicable and polarizable strategic paradigm for Chinese engineering enterprises to expand markets and create differentiated competitive advantages in countries along the "Belt and Road".

ACKNOWLEDGEMENTS

The researchers would like to thank Universitas Pelita Haparan for their guidance and assistance in this study. We also greatly appreciate the perspectives and insights provided by informants.

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NILAI PERUSAHAAN MEMEDIASI *FINANCIAL DISTRESS* DAN *FIRM SIZE* TERHADAP *RETURN* SAHAM

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ABSTRACT

This study aims to provide empirical evidence regarding the effect of financial distress and firm size on stock returns through firm value. This study examines the variables of financial distress, firm size, stock returns and firm value in the property sector in 2021-2023 in the ASEAN Region 5. The method of sampling is purposive sampling. The type of data selected is panel data. This secondary data is taken from annual reports and financial statements available through S&P Capital IQ. The results of the study stated that financial distress does not affect the firm's value. Firm size has a negative effect on the firm's value. Financial distress has a negative effect on stock returns. Firm size has a negative effect on stock returns. Firm value has a positive effect on stock returns. Firm value does not significantly mediate the relationship between financial distress and stock returns. Firm value does not significantly mediate the relationship between firm size and stock returns. Academic implication for this research is enriching literature studies about firm value, financial distress and stock return. Practical implication is Companies do not only need to maintain financial stability but also build reputation and credibility among investors as a strategic effort to improve their stock market performance.

***Keywords**: Financial Distress; Stock Return; Firm Value; ASEAN; Real Estate Sector*

ABSTRAK

Penelitian ini bertujuan untuk memberikan bukti empiris mengenai pengaruh kesulitan keuangan dan ukuran perusahaan terhadap pengembalian saham melalui nilai perusahaan. Penelitian ini mengkaji variabel kesulitan keuangan, ukuran perusahaan, pengembalian saham, dan nilai perusahaan pada sektor properti tahun 2021–2023 di Kawasan ASEAN 5. Metode pengambilan sampel yang digunakan adalah *purposive sampling*. Jenis data yang dipilih adalah data panel. Data sekunder ini diambil dari laporan tahunan dan laporan keuangan yang tersedia melalui *S&P Capital IQ*. Hasil penelitian menyatakan bahwa kesulitan keuangan tidak memengaruhi nilai perusahaan. Ukuran perusahaan berpengaruh negatif terhadap nilai perusahaan. Kesulitan keuangan berpengaruh negatif terhadap pengembalian saham. Ukuran perusahaan berpengaruh negatif terhadap pengembalian saham. Nilai perusahaan berpengaruh positif terhadap pengembalian saham. Nilai perusahaan tidak memediasi hubungan antara kesulitan keuangan dan pengembalian saham secara signifikan. Nilai perusahaan tidak memediasi hubungan antara ukuran perusahaan dan pengembalian saham secara signifikan. Implikasi akademis dari penelitian ini adalah memperkaya studi literatur tentang nilai perusahaan, kesulitan keuangan, dan pengembalian saham. Implikasi praktisnya adalah perusahaan tidak hanya perlu menjaga stabilitas keuangan, tetapi juga membangun reputasi dan kredibilitas di kalangan investor sebagai upaya strategis untuk meningkatkan kinerja pasar sahamnya.

Kata Kunci: Kesulitan Keuangan; Imbal Hasil Saham; Nilai Perusahaan; ASEAN; Sektor Real Estat

PENDAHULUAN

Imbal hasil saham merupakan salah satu aspek yang mendorong investor untuk melakukan investasi (Nugroho *et al*., 2021). Kenaikan nilai saham menjadi faktor yang sangat menguntungkan bagi investor, terutama dalam hal meraih keuntungan besar berupa *capital gain*, yang secara signifikan dapat meningkatkan aset kekayaan yang dimiliki oleh investor tersebut (Nurhalimah & Mahroji, 2024). Oleh karena itu, berbagai faktor yang memengaruhi *return* saham menjadi fokus penelitian dalam bidang keuangan.

PT. Bakrieland Development Tbk (ELTY) di Indonesia ialah salah satu industri properti besar di berbagai segmen, mulai dari pembangunan kawasan hunian, kawasan komersial, hingga proyek infrastruktur. Tahun 2021, Bakrieland tercatat membukukan rugi bersih (Putra, 2022). Berdasarkan laporan CNBC, 21 Nov 2023 ELTY mengalami lonjakan rugi bersih sebesar 177% pada semester I/2023. Berdasarkan laporan keuangan terbaru, rugi bersih yang dapat diatribusikan kepada pemilik entitas induk tercatat sebesar Rp7,80 miliar, meningkat dibandingkan dengan Rp2,81 miliar pada periode September 2022.

Hal ini dapat mengurangi kepercayaan investor terhadap perusahaan, dan membuat sulit untuk mengumpulkan modal dari pasar modal. Bakrieland mengalami masalah beban utang yang sangat besar, terutama setelah melakukan ekspansi besar-besaran dalam pengembangan properti (Nurhalimah & Mahroji, 2024). Kondisi ini dapat menciptakan ketidakpastian di kalangan investor dan berdampak negatif pada harga saham perusahaan. Ketika perusahaan berada dalam kondisi *financial distress*, investor mungkin akan menilai risiko yang lebih tinggi dan sebagai konsekuensinya, menuntut *return* yang lebih tinggi atau bahkan menghindari saham perusahaan tersebut.

Financial distress merujuk pada kondisi di mana suatu perusahaan mengalami kesulitan keuangan yang signifikan, yang dapat mengancam kelangsungan operasionalnya. Hal ini terjadi ketika perusahaan tidak dapat memenuhi kewajiban keuangannya, seperti membayar utang atau biaya operasional, yang mengarah pada penurunan nilai perusahaan atau bahkan kebangkrutan jika tidak ditangani dengan baik (Haris & Sandra, 2023).

Faktor kesulitan keuangan menarik perhatian para peneliti beberapa dekade yang lalu, terutama setelah terjadinya krisis keuangan yang lalu karena mempunyai akibat yang signifikan bagi seluruh pemangku kepentingan suatu perusahaan (Urguiza-Bravo & Moreno-Ureba, 2021). Penurunan harga saham mengindikasikan terjadinya *financial distress* pada perekonomian perusahaan. *Financial distress* ini penting karena menggambarkan kondisi keuangan perusahaan yang terkena dampak di tengah pandemi, mampu memitigasi dan memprediksi kelangsungan hidup perusahaan di masa depan, yang bisa dijadikan saran dalam strategis perusahaan (Haris & Sandra, 2023). Kondisi *financial distress* atau kesulitan keuangan harus diketahui sejak dini agar tindakan yang dapat dilakukan untuk mengantisipasi kondisi yang mengarah pada kebangkrutan (Dini *et al*., 2023). Penelitian Wawo dan Nirwana (2020) menyatakan *financial distress* berpengaruh positif terhadap *return* saham. Penelitian Merliyana & Kusumah (2021) dan Sitoresmi & Herawaty (2020) menyatakan *financial distress* berpengaruh negatif terhadap *return* saham. penelitian Nurhalimah dan Mahroji (2024) yang meyatakan *financial distress* tidak berpengaruh terhadap return saham.

Selain *financial distress*, *firm size* juga menjadi faktor penting yang sering diteliti dalam kaitannya dengan *return* saham. Ukuran perusahaan dapat mencerminkan kekuatan finansial, kapasitas operasional, serta stabilitas pendapatan perusahaan (Hasangapon *et al*., 2021). Perusahaan besar sering kali dianggap lebih stabil dan mampu bertahan di tengah fluktuasi pasar dibandingkan dengan perusahaan kecil (Ulfa & Efendi, 2025). Oleh karena itu, ukuran perusahaan sering kali diasumsikan memiliki hubungan positif dengan *return* saham. Penelitian Pasaribu dan Nugroho (2023) menyatakan *firm size* berpengaruh negatif terhadap *return* saham. Tetapi penelitian Nurhalimah dan Mahroji (2024) yang menyatakan *firm size* tidak berpengaruh terhadap return saham.

Nilai perusahaan memiliki peran krusial karena mencerminkan sejauh mana besarnya ukuran atau keberhasilan perusahaan (Juniarsi *et al*., 2023). Bisnis dapat menawarkan investor, membuat berbagai keputusan keuangan yang relevan, dan memengaruhi nilai perusahaan adalah penting bagi perusahaan untuk memenuhi tujuannya dalam memaksimalkan kekayaan pemegang saham (Muslih & Pratiwi, 2019).

Nilai perusahaan yang diukur dengan *price book value* mencerminkan pendapat pasar mengenai prospek masa depan perusahaan, yang mencakup pertumbuhan, profitabilitas, dan risiko. Nilai perusahaan menjadi perantara antara *financial distress* dan *firm size* dengan *return* saham. Artinya, dampak *financial distress* dan *firm size* terhadap *return* saham mungkin terjadi secara tidak langsung melalui perubahan dalam nilai perusahaan. Perbedaan dengan penelitian sebelumnya adalah penelitian ini bertujuan untuk menganalisis pengaruh *financial distress* dan *firm size* terhadap *return* saham dengan memasukkan nilai perusahaan sebagai variabel mediasi. Dengan memahami hubungan ini, diharapkan riset yang menjadikan pengetahuan yang lebih mendalam bagi investor, manajer keuangan, dan pemangku kepentingan lainnya dalam mengambil keputusan investasi serta strategi keuangan perusahaan dan menjadi kontribusi serta pengembangan dari penelitian sebelumnya.

Penelitian Muslih & Pratiwi (2019) dan Sulistiyowati & Devinaya (2021) mengemukakan *financial distress* berdampak positif ke nilai perusahaan. Tetapi Adaria *et al*., (2022) berdampak negatif terhadap nilai perusahaan. *Financial distress* tidak memengaruhi nilai perusahaan (Melina & Husna, 2022). Penelitian Pamuji dan Hartono (2020) *firm size* berpengaruh negatif pada nilai perusahaan. Penelitian Rohmatulloh (2023) dan Mahardikari (2021) menyatakan *firm size* tidak memengaruhi nilai perusahaan. Penelitian Wulandari (2022) dan Kumala & Ahya (2020) mengemukakan nilai perusahaan memiliki dampak positif terhadap tingkat pengembalian saham. Sedangkan penelitian Khoirunnisa (2022) nilai perusahaan tidak berdampak terhadap *return* saham. Penelitian Wulandari dan Irwanto (2020) nilai perusahaan terbukti memiliki pengaruh negatif yang signifikan terhadap *return* saham.

Karena adanya inkonsistensi dari hasil penelitian sebelumnya, maka penelitian ini penting untuk dilakukan. Selain itu penelitian ini diharapkan mampu memberikan kontribusi baik bagi dunia akademis maupun praktis. Bagi dunia akademisi diharapkan mampu memperkaya literatur dan pembuktian teori. Kontribusi untuk praktis diharapkan dapat memberikan gambaran kepada investor untuk menentukan strategi dalam berinvestasi. Salah satu keunikan penelitian ini adalah fokus pada lingkup negara-negara ASEAN 5, agar memberikan panduan bagi investor lokal dan regional dalam mengelola kinerja saham mereka. Selain itu penelitian ini juga memiliki keterbaruan dengan memasukkan nilai perusahaan sebagai variabel mediasi karena diduga memediasi hubungan antara *financial distress* dan ukuran perusahaan (*firm size*) terhadap *return* saham.

Perumusan masalah dalam penelitian ini adalah untuk menyelidiki *apakah financial distress* dan *firm size* berpengaruh terhadap nilai perusahaan, apakah nilai perusahaan berpengaruh terhadap *return* saham, serta ingin mengetahui apakah *financial distress* dan *firm size* dapat memengaruhi *return* saham secara langsung atau melalui nilai perusahan.

TINJAUAN PUSTAKA

Teori Sinyal (*Signaling Theory*)

Teori sinyal (*signaling theory*) adalah teori dalam bidang ekonomi dan manajemen yang menjelaskan bagaimana informasi yang tidak seimbang antara pihak yang memiliki informasi (*insider*) dan pihak yang tidak memiliki informasi (*outsider*) dapat memengaruhi keputusan dan perilaku di pasar (Brigham & Houston, 2014; Hasangapon *et al*., 2021). Dalam konteks perusahaan, teori ini menjelaskan bagaimana perusahaan dapat mengirimkan sinyal kepada pasar atau investor untuk mengatasi masalah asimetri informasi. Dengan sinyal yang dikirimkan maka informasi yang diterima investor atau pasar dapat meminimalkan asimetri informasi, dalam penelitian ini *return* saham memberikan sinyal kepada investor mengenai kemampuan perusahaan untuk memberikan imbal hasil. *Financial distress* yang dapat diukur dengan menggunakan altman *Z-score* juga merupakan sinyal kepada investor maupun pasar, apakah perusahaan menghadapi kesulitan keuangan atau tidak.

Stakeholder Theory

Teori pemangku kepentingan (*stakeholder theory*) adalah teori dalam manajemen dan etika bisnis yang menekankan pentingnya memperhatikan kepentingan berbagai pihak yang terlibat atau memiliki hubungan dengan perusahaan (*stakeholders*). Dalam pengambilan keputusan bisnis, bukan hanya fokus pada kepentingan pemegang saham (*shareholders*). Teori ini dikembangkan oleh R. Edward Freeman pada tahun 1984. Menurut *stakeholder theory*, perusahaan memiliki tanggung jawab terhadap semua pihak yang terpengaruh oleh aktivitas bisnisnya, termasuk karyawan, pelanggan, pemasok, masyarakat sekitar, dan lingkungan (Davila, 2024). Prinsip utama dari teori ini adalah bahwa bisnis harus bertanggung jawab untuk menciptakan nilai bagi semua pemangku kepentingan tersebut, termasuk nilai perusahaan, bukan hanya untuk memaksimalkan keuntungan bagi pemegang saham akan tetapi untuk *stakeholder* (Freeman *et al*., 2021). Dalam penerapannya, teori ini mengarahkan perusahaan untuk mengambil keputusan yang lebih etis, mempertimbangkan dampak sosial dan lingkungan, serta mengutamakan hubungan jangka panjang yang saling menguntungkan dengan berbagai pihak.

Untuk perusahaan yang berskala besar, sedang maupun kecil dalam pengambilan keputusan harus mempertimbangkan kepentingan berbagai pihak. Untuk perusahaan yang berskala besar, biasanya masalah lebih kompleks sehingga untuk mengambil keputusan harus mempertimbangkan manfaat serta dampaknya bagi *stakeholder*.

***Return* Saham**

Return saham adalah *return* atas saham serta pembayaran tunai yang diterima karena kepemilikan suatu saham pada awal investasi (Lasa & Mustafa, 2023). *Return* saham adalah tingkat menghasilkan stok atas investasi yang dilakukan oleh investor. *Return* saham erat kaitannya dengan harga saham karena harga saham awal dan harga penutupan digunakan untuk menghitungnya (Wulandari, 2022). Keuntungan dari saham dapat diperoleh melalui dividen (imbal hasil) maupun kenaikan nilai saham (*capital gain*).

Nilai Perusahaan

Nilai perusahaan merupakan nilai yang didapat industri melalui kepercayaan publik sesudah menjalankan operasinya selama bertahun-tahun, dimulai dari berdirinya perusahaan hingga saat ini (Muslih & Pratiwi, 2019). Nilai perusahaan, semakin besar nilai perusahaan, maka semakin tinggi pula daya tariknya di mata investor. pula kekayaan yang akan diperoleh pemiliknya. Nilai industri mencerminkan bagaimana investor memandang suatu emiten. Dalam pengukurannya, nilai perusahaan mempunyai berbagai dimensi dan metode yang dapat digunakan (Juniarsi *et al*., 2023).

Financial Distress

Financial distress merujuk pada kondisi penurunan keuangan yang dialami perusahaan sebelum terjadi kebangkrutan atau likuidasi. Kondisi ini dapat menimpa perusahaan dari berbagai sektor atau skala usaha (Nustini & Amiruddin, 2019). *Financial distress* adalah suatu kondisi perekonomian suatu industri yang mengalami ketidakmampuan untuk membayar kewajiban jangka pendek (Harjadi & Sihombing, 2020). Adawiyah *et al*. (2022) mendefinisikan kesulitan keuangan sebagai fase penurunan dalam kondisi keuangan yang dialami oleh sebuah perusahaan. sebelumnya kebangkrutan atau likuidasi. Kinerja sebuah perusahaan merupakan gambaran dari sehatnya kondisi keuangannya.

Pengembangan Hipotesis

Pengaruh *Financial Distress* Terhadap Nilai Perusahaan

Financial distress digunakan untuk menggambarkan masalah keuangan perusahaan sebelum mencapai tahap kebangkrutan. Jika perusahaan mengalami penurunan pendapatan, ketidakefektifan dalam pengelolaan aset, meningkatnya utang maka akan berdampak negatif pada kondisi keuangan mereka. Meningkatnya utang dapat meningkatkan risiko kebangkrutan (Bui *et al*., 2023). Penurunan laba yang diterima oleh para pemegang saham dapat berdampak pada menurunnya nilai perusahaan. Menurut Murtadha *et al*. (2018) peningkatan kondisi kesulitan keuangan disebabkan oleh berkurangnya modal, yang pada akhirnya memengaruhi kinerja keuangan dan menyebabkan penurunan nilai perusahaan.

Financial distress berdampak buruk terhadap penurunan nilai perusahaan karena dengan adanya *financial distress*. Kemampuan aset perusahaan dalam menghasilkan laba ditahan tergolong lemah atau minim (Sulistiyowati & Devinaya, 2021). Peningkatan kesulitan keuangan menurunkan nilai perusahaan, karena ketika sebuah perusahaan mengalami kesulitan keuangan atau berada dalam kondisi *financial distress*, hal ini cenderung menurunkan nilai perusahaan tersebut (Sulistiyowati & Devinaya, 2021)).

Penelitian Sulistiyowati & Devinaya (2021) dan Murtadha *et al*. (2018) yang menyatakan hipotesis *financial distress* berpengaruh negatif ke nilai perusahaan.

H1: *Financial distress* berpengaruh negatif terhadap nilai perusahaan.

Pengaruh *Firm Size* Terhadap Nilai Perusahaan

Menurut Pamuji dan Hartono (2020), teori sinyal mengungkapkan ukuran perusahaan yang lebih besar cenderung memiliki nilai perusahaan yang tinggi. Perusahaan dengan skala besar biasanya mendapatkan kepercayaan lebih besar dari investor, terutama ketika membutuhkan pendanaan tambahan di tengah ketidakstabilan ekonomi. Hal ini sejalan dengan pandangan teori s*ignaling*, di mana informasi mengenai besarnya ukuran perusahaan umumnya direspons positif oleh investor karena mencerminkan kemampuan perusahaan dalam menjamin pembayaran kewajiban di masa mendatang (Agatha & Irsad, 2021). Semakin besar perusahaan, semakin banyak aset yang bisa dijadikan agunan untuk memperoleh pembiayaan, yang pada akhirnya meningkatkan persepsi nilai perusahaan di mata investor (Rohmatulloh 2023; Sutanto *et al*., 2018). *Firm size* berpengaruh positif terhadap nilai perusahaan karena perusahaan yang lebih besar cenderung memiliki sumber daya yang lebih kuat, stabilitas finansial yang lebih baik, serta akses lebih mudah terhadap pasar dan modal. Hal ini meningkatkan daya tarik perusahaan di mata investor, yang pada gilirannya dapat meningkatkan nilai perusahaan di pasar (Rohmatulloh, 2023).

Dalam teori sinyal, ukuran perusahaan (*firm size*) dapat berdampak positif terhadap nilai perusahaan karena ukuran yang lebih besar biasanya dianggap sebagai sinyal stabilitas dan kemampuan untuk bertahan dalam pasar. Perusahaan besar cenderung memiliki akses lebih baik terhadap sumber daya, jaringan yang luas, dan diversifikasi operasi, yang memperkuat pendapat pemegang saham tersebut mempunyai kemajuan keberlanjutan yang lebih baik. Ukuran perusahaan yang besar juga dapat mengirimkan sinyal kepercayaan kepada para pelaku kepentingan seperti investor dan kreditur, organisasi memiliki manajemen yang handal dan kemampuan finansial yang kuat untuk mengelola risiko dan menjaga profitabilitas.

Penelitian yang dilakukan oleh Agatha & Irsad (2021), Sutanto *et al*. (2018) dan Rohmatulloh (2023) yang menyatakan hipotesis *firm size* berdampak positif terhadap nilai perusahaan.

H2: *Firm size* berpengaruh positif terhadap nilai perusahaan.

Pengaruh *Financial Distress* Terhadap *Return* Saham

Financial distress saat suatu perusahaan mulai mengalami ketidakmudahakn dalam membayar pinjaman, seperti utang atau bunga pinjaman (Nustini & Amiruddin, 2019). Kebangkrutan diukur melalui *Z-score* dapat berdampak pada tingkat pengembalian pemegang saham dari investasi suatu saham. Kinerja keuangan yang buruk biasanya direspon negatif oleh pasar, ditandai dengan penurunan harga saham yang berdampak pada penurunan *return* saham bagi investor (Sitoresmi & Herawaty, 2020). Kondisi *financial distress*, atau kesulitan keuangan, dapat menurunkan nilai perusahaan karena semakin parah kondisi kesulitan keuangan yang dialami, semakin rendah tingkat pengembalian saham yang diberikan (Merliyana & Kusumah, 2021).

Dalam perspektif teori sinyal, *financial distress* memberikan sinyal negatif kepada investor dan pasar yang dapat berdampak negatif terhadap return saham perusahaan. Ketika perusahaan mengalami kesulitan keuangan, informasi mengenai *financial distress* ini sering kali dianggap sebagai tanda ketidakstabilan dan peningkatan risiko, yang memicu kekhawatiran di kalangan investor tentang kemampuan perusahaan untuk mempertahankan profitabilitas dan likuiditasnya. negatif dari *financial distress* dapat menurunkan minat investor terhadap saham perusahaan, karena mereka melihat potensi keuntungan yang lebih rendah.

Penelitian yang dilakukan oleh Nustini & Amiruddin (2019), Sitoresmi & Herawaty (2020), dan Merliyana & Kusumah (2021) yang menyatakan hipotesis *financial distress* berpengaruh negatif terhadap *return* saham.

H3: *Financial distress* berpengaruh negatif terhadap *return* saham.

Pengaruh *Firm Size* Terhadap *Return* Saham

Menurut Helia *et al.* (2020), ukuran perusahaan juga sering menjadi acuan bagi investor sebelum menanamkan modalnya, dengan asumsi bahwa ukuran perusahaan yang besar atau ukuran perusahaan yang kecil akan memengaruhi bagaimana perusahaan tersebut menghadapi berbagai situasi dan risiko yang menimpa perusahaan, kelangsungan usaha dan berkaitan dengan operasi yang juga akan memengaruhi pengembalian yang diterima pemegang saham. Perusahaan dengan ukuran besar cenderung dipandang mempunyai kinerja yang baik.

Perusahaan yang menunjukkan kinerja positif biasanya mampu menghasilkan laba, dan ketika laba tersebut telah diperoleh, perusahaan akan membagikan dividen kepada para pemegang saham (Yuliarti & Diyani, 2018). Hal ini dapat memengaruhi investor lebih memilih berinvestasi pada perusahaan besar dibandingkan perusahaan dengan skala lebih kecil cenderung lebih memilih untuk menginvestasikan keuntungan mereka dalam pengembangan bisnis, daripada membagikannya sebagai dividen kepada pemegang saham (Yuliarti & Diyani, 2018).

Dalam teori sinyal, *firm size* atau ukuran perusahaan memberikan sinyal positif kepada pasar dan investor yang dapat berpengaruh pada peningkatan pengembalian saham. Industri yang besar biasanya dipersepsikan sebagai entitas yang stabil, mapan, dan memiliki kemampuan untuk bertahan dalam kondisi pasar yang berfluktuasi. Ukuran besar juga mengindikasikan akses yang lebih baik terhadap modal, diversifikasi yang lebih luas, dan sumber daya yang mendukung pertumbuhan jangka panjang, yang semuanya dianggap sebagai indikator kesehatan finansial dan prospek yang baik oleh para investor. Sinyal positif ini membuat perusahaan besar lebih menarik bagi investor, yang melihatnya sebagai pilihan yang lebih aman dengan risiko yang lebih rendah dibandingkan perusahaan kecil.

Penelitian Helia *et al.* (2020) dan Syakur *et al.* (2019) yang menyatakan hipotesis *firm size* berpengaruh positif terhadap *return* saham.

H4: *Firm size* berpengaruh positif terhadap return saham.

Pengaruh Nilai Perusahaan Terhadap *Return* Saham

Menurut Helia *et al.* (2020) nilai perusahaan yang diukur menggunakan *price-to-book value* memiliki dampak positif terhadap *return* saham karena investor akan bersedia untuk menilai sahamnya di atas nilai buku apabila perusahaan tersebut mempunyai rasio yang lebih tinggi atau lebih tinggi satu sehingga tingkat pengembalian atau *return* saham juga akan meningkat.

Menurut Weygandt *et al.* (2025) menyatakan bahwa naik turunnya nilai perusahaan dengan PBV akan berdampak pada saham return yang artinya jika nilai perusahaan dengan PBV meningkat maka akan berdampak pada peningkatan return saham, namun jika nilai perusahaan PBV menurun maka akan memengaruhi atau menurunkan penyediaan *return* saham karena semakin besar nilai perusahaan, semakin tinggi kepercayaan pasar terhadap prospek perusahaan tersebut. Hal ini akan menarik minat investor untuk membeli saham, yang pada gilirannya akan meningkatkan permintaan dan mendorong kenaikan harga saham (Kumala & Ahya, 2020). Sehingga semakin tinggi nilai perusahaan, semakin besar pula *return* saham yang dihasilkan bagi investor. Oleh sebab itu, nilai perusahaan berpengaruh positif dan signifikan berpengaruh terhadap return saham.

Dalam teori sinyal, *firm size* atau ukuran perusahaan memberikan sinyal positif kepada pasar dan investor yang dapat berpengaruh pada peningkatan return saham. Perusahaan dengan ukuran yang lebih besar biasanya dipersepsikan sebagai entitas yang stabil, mapan, dan memiliki kemampuan untuk bertahan dalam kondisi pasar yang berfluktuasi. Ukuran besar juga mengindikasikan akses yang lebih baik terhadap modal, diversifikasi yang lebih luas, dan sumber daya yang mendukung pertumbuhan jangka panjang, yang semua hal tersebut dianggap sebagai tanda kesehatan keuangan yang baik dan prospek yang positif oleh para investor. Sinyal positif ini membuat perusahaan besar lebih menarik bagi investor, yang melihatnya sebagai pilihan yang lebih aman dengan risiko yang lebih rendah dibandingkan perusahaan kecil.

Penelitian yang dilakukan oleh Wulandari (2022), Helia *et al*. (2020) dan Kumala & Ahya (2020) yang menyatakan hipotesis nilai perusahaan berpengaruh positif ke *return* saham.
H5: Nilai perusahaan berpengaruh positif terhadap return saham

Pengaruh *Financial Distress* Terhadap *Return* Saham Yang Dimediasi Oleh Nilai Perusahaan

Financial distress mengacu pada kondisi keuangan di mana perusahaan mengalami kesulitan dalam memenuhi kewajiban finansialnya. Kondisi ini sering ditandai dengan arus kas yang tidak mencukupi, utang yang menumpuk, atau ketidakmampuan membayar bunga pinjaman. Ketika perusahaan mengalami kesulitan keuangan, persepsi investor terhadap risiko perusahaan juga akan meningkat (Saputra & Andani, 2023). Hal ini dapat menyebabkan penurunan harga saham karena investor menjadi kurang bersedia untuk membayar premi yang lebih tinggi untuk saham perusahaan yang dianggap berisiko. Dengan demikian, nilai perusahaan cenderung menurun dalam kondisi financial distress.

Financial distress memengaruhi *return* saham secara tidak langsung melalui pengaruhnya terhadap nilai perusahaan. Ketika perusahaan mengalami *financial distress*, nilai perusahaan cenderung menurun karena meningkatnya persepsi risiko di mata investor. Penurunan nilai ini pada akhirnya berdampak negatif pada *return* saham, karena harga saham menurun seiring dengan penurunan nilai perusahaan. Memahami hubungan ini penting bagi investor dan manajemen perusahaan untuk mengelola risiko dan strategi investasi mereka. Hanya peneliti dan hasil penelitian Sulistiyowati & Devinaya (2021) dan Murtadha *et al*. (2018) yang menyatakan hipotesis *financial distress* berpengaruh negatif terhadap nilai perusahaan.

Dalam teori sinyal, *financial distress* dapat memengaruhi return saham dengan nilai perusahaan sebagai mediator. Ketika perusahaan mengalami *financial distress*, sinyal negatif dikirimkan kepada para investor dan pemangku kepentingan yang mencerminkan ketidakstabilan keuangan dan meningkatnya risiko likuiditas. Sinyal ini membuat para investor mempertanyakan kemampuan perusahaan untuk menghasilkan keuntungan dan menjaga pertumbuhan di masa depan, sehingga mereka mungkin menilai perusahaan dengan lebih rendah. Dampak dari sinyal negatif ini adalah penurunan nilai perusahaan di pasar, karena investor cenderung mengurangi permintaan untuk saham perusahaan yang dianggap berisiko tinggi. Nilai perusahaan yang menurun sebagai akibat dari *financial distress* kemudian berdampak pada *return* saham. Saat nilai perusahaan merosot, harga saham cenderung mengalami tekanan jual yang lebih besar, yang menyebabkan penurunan return saham. Dengan kata lain, *financial distress* menurunkan nilai perusahaan melalui sinyal risiko keuangan, dan nilai perusahaan yang lebih rendah ini, pada gilirannya, menyebabkan penurunan *return* saham.

Penelitian Wulandari (2022), Helia *et al*. (2020) dan Kumala & Ahya (2020) yang menyatakan hipotesis nilai perusahaan berpengaruh positif terhadap *return* saham. Oleh sebab itu dirumuskan hipotesis:
H6: *Financial distress* berpengaruh terhadap *return* saham yang dimediasi oleh nilai perusahaan.

Pengaruh *Firm Size* Terhadap *Return* Saham Yang Dimediasi Oleh Nilai Perusahaan

Ukuran perusahaan (*firm size*) dapat memengaruhi nilai perusahaan. Umumnya, perusahaan besar lebih mampu memanfaatkan skala ekonomis, memiliki daya tawar yang lebih tinggi, serta akses lebih baik ke pasar modal dan pendanaan (Mar'ati, 2019). Dengan kapasitas ini, perusahaan besar umumnya dipandang lebih stabil dan memiliki tingkat risiko yang lebih rendah dibandingkan dengan perusahaan kecil. Kondisi ini meningkatkan kepercayaan investor, yang pada akhirnya dapat meningkatkan nilai perusahaan karena persepsi positif terhadap prospek pertumbuhan dan stabilitas keuangan perusahaan tersebut (Ananda & Sinaga, 2024).

Dalam konteks ini, nilai perusahaan berperan sebagai variabel mediator antara *firm size* dan *return* saham. Perusahaan dengan ukuran yang lebih besar umumnya berkontribusi pada peningkatan nilai perusahaan melalui efisiensi operasional, diversifikasi risiko, dan akses ke sumber daya (Rahma, 2024). Nilai perusahaan yang lebih tinggi kemudian memengaruhi *return* saham dengan meningkatkan harga saham karena investor lebih percaya pada stabilitas dan prospek perusahaan besar. Oleh karena itu, efek positif dari *firm size* terhadap *return* saham sebagian besar ditransmisikan melalui dampaknya pada nilai perusahaan.

Dalam perspektif teori sinyal, *firm size* atau ukuran perusahaan memengaruhi *return* saham melalui nilai perusahaan sebagai perantara. Perusahaan dengan ukuran besar cenderung mengirimkan sinyal positif kepada investor, yang mengasosiasikan ukuran besar dengan stabilitas, kemampuan bertahan di pasar, dan kekuatan finansial yang lebih kuat dibandingkan perusahaan kecil. Sinyal ini membuat investor memandang perusahaan besar sebagai entitas yang memiliki prospek keuntungan yang lebih baik dan risiko yang lebih rendah, yang mendorong peningkatan persepsi terhadap nilai perusahaan di pasar.

Nilai perusahaan yang lebih tinggi, yang diperkuat oleh sinyal positif dari ukuran perusahaan, berperan sebagai mediator yang kemudian berdampak positif pada return saham. Ketika nilai perusahaan meningkat, hal ini menarik minat investor yang lebih besar, yang berpotensi meningkatkan nilai saham memberikan imbal hasil saham yang lebih besar. Dengan kata lain, *firm size* memberikan sinyal stabilitas dan prospek pertumbuhan yang baik kepada pasar, yang menaikkan nilai perusahaan. Nilai perusahaan yang lebih tinggi ini selanjutnya berkontribusi pada peningkatan *return* saham, menjadikan peran nilai perusahaan sebagai variabel perantara dalam hubungan antara ukuran perusahaan dan imbal hasil saham.

Penelitian Agatha & Irsad (2021), Sutanto *et al*. (2018) dan Rohmatulloh (2023) yang menyatakan hipotesis *firm size* berpengaruh positif terhadap nilai perusahaan. Kemudian penelitian Helia *et al*. (2020) dan Kumala & Ahya (2020) yang menyatakan hipotesis *firm size* berpengaruh positif terhadap *return* saham. Oleh sebab itu dirumuskan hipotesis :
H7: *Firm size* berpengaruh terhadap *return* saham yang dimediasi oleh nilai perusahaan

METODE PENELITIAN

Penelitian ini merupakan penelitian kuantitatif, dengan menggunakan data sekunder yang berasal dari *S&P Capital IQ* tahun 2019–2023. Teknik *sampling* dalam riset ini *purposive sampling.* Metode *purposive sampling* digunakan dalam penelitian ini dengan ketentuan sebagai berikut:

1. Entitas *real estate* negara ASEAN-5 terdaftar di *S&P Capital IQ* antara tahun 2019 sampai 2023.
2. Entitas *real estate* negara ASEAN-5 yang mempunyai informasi lengkap yang selaras dengan variabel penelitian.

3. Entitas *real estate* negara ASEAN-5 yang menerbitkan secara konsisten setiap tahunnya periode tahun 2019 sampai 2023.

Informasi keuangan yang berupa laporan tahunan perusahaan yang digunakan pada penelitian ini didapatkan dari *platform* penyedia data *S&P Capital IQ* (dapat diakses melalui https://platform.spgi.spglobal.com/) yang terdiri perusahaan-perusahaan *real estate* di 5 negara yang termasuk kawasan Asia Tenggara (Indonesia (IDX), Malaysia (KLSE), Singapura (SGX), Thailand (SET), dan Filipina (PSE)) sesuai dengan 32 bursa efek masing-masing. Pemilihan sampel negara ASEAN-5 ini dilakukan untuk memberikan panduan bagi investor lokal dan internasional dalam melakukan keputusan berinvestasi di negara ASEAN 5 khususnya perusahaan *real estate*. Data yang digunakan mencakup data keuangan menurut variabel penelitian dari tahun 2019 hingga 2023 dan dikumpulkan dengan metode *purposive sampling*.

Model empiris penelitian adalah sebagai berikut:

$$PBV = \alpha + \beta 1\ FDit + \beta 2\ FZit + \beta 3\ CPI + \beta 4\ DAR + \beta 5\ GDP + \beta 6\ ROA + e \quad (1)$$
$$RS = \alpha + \beta 1\ PBVit + \beta 2\ CPI + \beta 3\ DAR + \beta 4\ GDP + \beta 5\ ROA + e \quad (2)$$
$$RS = \alpha + \beta 1\ FDit + \beta 2\ FZit + \beta 3\ CPI + \beta 4\ DAR + \beta 5\ GDP + \beta 6\ ROA + e \quad (3)$$

Keterangan:
α = konstanta
β = koefisien variabel
RS = *return* saham
FD = *financial distress*
FZ = *firm size*
PBV = *price book value* / nilai perusahaan variabel kontrol
DAR = *debt asset ratio / leverage*
CPI = *consumer index price* / tingkat inflasi
GDP = *gross domestic product* / GDP ROA = *return on asset*
ROA e = *error*
i = perusahaaan.

Tabel 1. Definisi Operasional

Variabel	Definisi Operasional	Pengukuran
Financial distress	*Financial distress* merupakan menurunnya kondisi keuangan yang dialami suatu perusahaan yang terjadi sebelum kebangkrutan atau likuidasi (Nustini & Amiruddin, 2019).	Zi = 6,56 X1 + 3,26 X2 + 6,72 X3 + 1,05 X4 Keterangan : Xl = Modal Kerja terhadap Total Aktiva X2 = Laba Ditahan terhadap Total Aset X3 = Laba Sebelum Bunga dan Pajak terhadap Total Aset X4 = Nilai Buku Ekuitas terhadap Nilai Buku Total Hutang Zi = Indeks kebangkrutan

		a) Nilai Z < 1,1 menunjukkan kemungkinan perusahaan mengalami kebangkrutan b) Nilai Z 1,1 < Z < 2,6 menunjukkan bahwa perusahaan berada pada zona abu-abu (Grey area) c) Nilai Z > 2,6 Menunjukkan kecil kemungkinan perusahaan untuk mengalami kebangkrutan atau perusahaan tersebut masuk keadaan baik
Firm Size	Fernández *et al.* (2019), *firm size* mengacu pada ukuran perusahaan yang dapat diukur melalui total aset.	$Firm\ Size = Ln\ Total\ Aset$
Nilai Perusahaan	*Price Book Value* merupakan rasio antara harga saham di pasar dengan nilai bukunya (Weygandt *et al.*, 2025).	*Price Book Value* = $\frac{Har\$a\ Pasar\ Saham}{Nilai\ Buku\ Per\ Lembar\ Saham}$
Return Saham	Stereńczak (2022), *return* saham mengacu pada keuntungan yang diperoleh investor dari kepemilikan saham dalam suatu perusahaan	*Return* Saham = $\frac{P_t - P_{t-1}}{P_{t-1}}$ x 100% Keterangan : P_t = Harga saham untuk periode ke t P_{t-1} = Harga saham untuk periode ke t-1
Tingkat Inflasi	Inflasi merujuk pada kondisi di mana terjadi kecenderungan kenaikan harga barang dan jasa secara umum, yang berdampak pada menurunnya nilai atau daya beli mata uang (Putra *et al.,* 2022)	CPI = $\frac{IHK_t - IHK_{t-1}}{IHK_{t-1}}$ x 100% Keterangan : IHK_t = IHK periode ke t IHK_{-1} = IHK periode ke t-1
Leverage	*Leverage* merupakan indikator risiko keuangan serta kemampuan perusahaan dalam membayar kembali utangnya (Weygandt *et al.*, 2025).	DAR = $\frac{Total\ Liabilitas}{Total\ Aset}$

Gross Domestic Product (GDP)	*Gross Domestic Product* merupakan penghasilan yang dihasilkan dari aktivitas penjualan barang atau jasa, yang mencerminkan kinerja usaha dalam menghasilkan pendapatan tingkat kesejahteraan masyarakat dalam suatu periode tertentu (Putra *et al*., 2022)	$GDP = \frac{Kuantitas\ produk\ t}{Har\$a\ tahun\ dasar}$
Profitabilitas	Tingkat kemampuan perusahaan untuk memperoleh keuntungan (Mondayri & Tresnajaya, 2022)	$ROA = \frac{Net\ income}{Total\ Aset}$

Sumber: Data diolah oleh penulis (2025)

HASIL DAN PEMBAHASAN

Informasi keuangan yang berupa laporan tahunan perusahaan yang digunakan pada penelitian ini didapatkan dari *platform* penyedia data *S&P Capital IQ* (dapat diakses melalui https://platform.spgi.spglobal.com/) yang terdiri perusahaan-perusahaan real estate di 5 negara yang termasuk kawasan Asia Tenggara (Indonesia (IDX), Malaysia (KLSE), Singapura (SGX), Thailand (SET), dan Filipina (PSE)) sesuai dengan bursa efek masing-masing. Data yang digunakan mencakup data keuangan menurut variabel penelitian dari tahun 2019 hingga 2023 dan dikumpulkan dengan metode *purposive sampling*. Tabel 1 menjelaskan sampel data penelitian yang dipilih adalah sebagai berikut:

Table 2. Sampel Data Penelitian

Informasi	Jumlah Data
Perusahaan Real Estate berdasarkan *S&P Capital IQ* di kawasan ASEAN (5 Negara)	340
(-) Laporan Keuangan yang datanya tidak lengkap dan outliers	(267)
(-) Laporan Keuangan yang tidak sesuai dengan variabel penelitian (harga saham penutupan 0)	(73)
Perusahaan yang memenuhi kriteria penelitian	185
Periode yang digunakan untuk penelitian	5
Total perusahaan yang digunakan sebagai bahan penelitian (sampel x 5 tahun)	740

Sumber: Data diolah penulis (2025)

Statistik deskriptif menyajikan gambaran menyeluruh mengenai data yang dipakai dalam penelitian ini. Melalui pendekatan ini, peneliti dapat mengidentifikasi informasi penting seputar karakteristik distribusi data, seperti jumlah data yang diamati. Nilai *mean*, simpangan baku, serta nilai terendah dan tertinggi dari setiap variabel yang dianalisis. Statistik deskriptif berperan penting dalam mengungkap pola-pola dasar dalam data dan menjadi landasan bagi analisis yang lebih mendalam. Tabel 3 memberikan penjelasan rinci mengenai statistik deskriptif setiap variabel:

Table 3. *Descriptive Statistics*

Variable	*Obs*	*Mean*	*Std Dev*	*Min*	*Max*
sqrtRS	740	0,429982	0,265171	0,042257	2,934561
FD	740	5,033403	3,776702	-0,341845	25,75578
FZ	740	15,78636	1,491422	12,65123	19,92636
sqrtPBV	740	0,066906	0,190938	0,002755	1,449733
LEV	740	0,451785	0,239466	0,0430532	2,649541

CPI	740	2,010676	2,079556	-1,1	6,1
GDP	740	281.510,6	25.489,37	231.200,8	345.325,7
PROF	740	0,016488	0,066534	-0,687532	0,223147

Sumber : *Output Stata Ver.* 16 (2025)

RS (*Return* Saham)

Rata-rata *return* saham adalah 4,29%, yang mencerminkan bahwa secara umum, perusahaan dalam sampel memberikan imbal hasil positif. Nilai minimum sebesar 4% menunjukkan adanya return saham yang relatif rendah dibeberapa perusahaan, sedangkan nilai maksimum 293% kemungkinan terjadi karena lonjakan harga saham yang luar biasa. Standar deviasi sebesar 0,265 menunjukkan bahwa variasi return saham relatif sedang antar perusahaan.

FD (*Financial Distress*)

Tingkat *financial distress* memiliki rata-rata 5,03 dengan standar deviasi 3,77, menunjukkan tingkat tekanan keuangan yang bervariasi. Nilai minimum -0,34 bisa mengindikasikan perusahaan dalam kondisi keuangan sangat sehat atau adanya penghitungan dengan pendekatan tertentu. Nilai maksimum 25,75 menunjukkan kondisi *distress* yang signifikan.

FZ (*Firm Size*)

Rata-rata ukuran perusahaan adalah 15,78, dengan standar deviasi 1,49, nilai minimum 12,65, dan maksimum 19,92 menunjukkan adanya perbedaan ukuran yang cukup besar antar perusahaan, dengan rentang (*range*) sebesar 7,27. Hal ini mencerminkan bahwa sampel mencakup perusahaan dari berbagai skala, sehingga dapat mewakili kondisi lintas ukuran perusahaan secara cukup baik.

PBV (*Price to Book Value* / Nilai Perusahaan)

Rata-rata PBV adalah 0,066, yang menunjukkan bahwa perusahaan secara umum dihargai pasar di bawah nilai bukunya, mencerminkan persepsi pasar yang pesimistis atau sektor yang *undervalued*. Nilai maksimum sebesar 1,44 menunjukkan adanya perusahaan yang dinilai lebih tinggi dari nilai bukunya. Standar deviasi 0,190 menunjukkan bahwa ada cukup banyak variasi penilaian pasar terhadap perusahaan.

LEV (*Debt to Asset Ratio* / *Leverage*)

LEV rata-rata sebesar 0,451, berarti sekitar 45,1% aset perusahaan dibiayai oleh utang, yang tergolong moderat. Nilai minimum sangat rendah (0,043), sementara maksimum 2,64 menunjukkan adanya perusahaan dengan beban utang melebihi total aset (*overleveraged*), yang bisa menjadi sinyal risiko finansial. Standar deviasi 0,239 mengindikasikan penyebaran nilai *leverage* yang moderat. CPI (*Consumer Price Index* / Inflasi) Rata-rata CPI sebesar 2,01 dengan standar deviasi 2,07 menunjukkan fluktuasi yang cukup tinggi dalam laju inflasi. Nilai minimum -1,1 mengindikasikan adanya periode deflasi yang bisa terjadi akibat pelemahan permintaan atau kebijakan moneter tertentu.

GDP (*Gross Domestic Product*)

Rata-rata GDP adalah 281.510,6, dengan standar deviasi 25.489,37, minimum 231.200,8, dan maksimum 345.325,7. Variasi ini mencerminkan perubahan pertumbuhan ekonomi tahunan yang masih dalam batas wajar, tergantung wilayah dan waktu. Angka ini menunjukkan kestabilan relatif ekonomi selama periode observasi.

PROF (*Return on Asset*)

Rata-rata PROF adalah 1,6%, menunjukkan bahwa perusahaan menghasilkan laba bersih sebesar 1,6% dari total asetnya. Nilai minimum -68,75% menunjukkan kerugian signifikan, sementara maksimum 22,31% menunjukkan efisiensi tinggi.

Standar deviasi 0,066 menunjukkan penyebaran profitabilitas yang cukup besar antar perusahaan.

Table 4. *T-Test Results*

Variable	*Sign Prediction*	*Model 1 Coefficient*	*T-Statistic*	*p-value*	*Model 2 Coefficient*	*T-Statistic*	*p-value*	*Model 3 Coefficient*	*T-Statistic*	*p-value*
Cons		0.400269	3.97	0.000	0.1268825	0.47	0.636	1.158548	5.26	0.000
Variabel Independen										
FD	*(-)*	-0.000009	-0.01	0.990				-0.006996	-2.04	0.041**
FZ	*(+)*	-0.014349	-2.18	0.030**				-0.033198	-3.71	0.000***
Variabel Mediasi										
sqrtPBV	*(+)*				1.146784	3.08	0.002***			
Variabel Kontrol										
LEV		0.013779	0.58	0.560	0.329219	1.87	0.062	0.112859	2.05	0.040
CPI		0.001597	2.53	0.012	-0.001309	-0.23	0.818	0.003370	0.73	0.466
GDP		-0.000000	-4.24	0.000	0.000000	0.34	0.737	-0.000000	-1.67	0.094
PROF		0.016948	0.55	0.583	-0.248991	-0.92	0.356	-0.128805	-0.74	0.460

Tingkat Signifikansi *, **, *** untuk persentase 10%, 5%, dan 1%
Sumber: *Output Stata Ver* 16

Berdasarkan hasil uji hipotesis yang ada di tabel 4 maka diperoleh hasil sebagai berikut:

1. Pada hasil uji hipotesis yang dilakukan terhadap variabel independen *Financial Distress* (FD), di mana hasil koefisien menunjukan arah negatif dengan tingkat signifikansi >10% yaitu 0,495 yang berarti H0 diterima dan H1 ditolak.
2. Pada hasil uji hipotesis yang dilakukan terhadap variabel independen *Firm Size* (FZ), di mana hasil koefisian menunjukan arah negatif dengan tingkat signifikansi <5% yaitu 0,015. Meskipun FZ sangat signifikan tetapi arah hubungannya negatif, yang berarti H0 diterima dan H2 ditolak.
3. Pada hasil uji hipotesis yang dilakukan terhadap variabel independen *Financial Distress* (FD), di mana hasil koefisien menunjukan arah negatif dengan tingkat signifikansi <5% yaitu 0,0205 yang berarti H0 ditolak dan H3 diterima.
4. Pada hasil uji hipotesis yang dilakukan terhadap variabel independen *Firm Size* (FZ), di mana hasil koefisian menunjukan arah negatif dengan tingkat signifikansi <1% yaitu 0,000. Meskipun FZ sangat signifikan tetapi arah hubungannya negatif, yang berarti H0 diterima dan H4 ditolak.
5. Pada hasil uji hipotesis yang dilakukan terhadap variabel independen *Firm Size* (FZ), di mana hasil koefisian menunjukan arah positif dengan tingkat signifikansi <1% yaitu 0,001, yang berarti H0 ditolak dan H5 diterima.

Uji Sobel

Selanjutnya akan dilakukan pengujian apakah *price book value* (M) signifikan memediasi hubungan antara *financial distress* (X1), *firm size* (X2) terhadap *return* saham (Y). Pengujian dilakukan dengan menggunakan uji Sobel.

Tabel 5. Uji Sobel

Path	Pengaruh Langsung	t Statistics	t Sobel	P value
FD -> PBV -> RS			0.015	0.9879

FZ -> PBV -> RS	0.086	0.9308

Sumber: Data diolah oleh penulis, (2025)

Berdasarkan Tabel 5. Berikut menjelaskan hasil uji hipotesis 6 dan hiptesis 7:

1. Pengaruh tidak langsung *financial distress* terhadap *return* saham melalui *price book value* (M), dengan *p value* 0,9879 > 0,05. *Price book value* tidak signifikan memediasi hubungan antara *financial distress* dan *return* saham, yang artinya H6 ditolak.
2. Pengaruh tidak langsung *firm size* terhadap *return* saham melalui *price book value* (M) adalah dengan *p value* 0,9308 > 0,05. *Price book value* tidak signifikan memediasi hubungan antara *firm size* dan *return* saham, yang artinya H7 ditolak.

Pembahasan

***Financial Distress* Berpengaruh Negatif Terhadap Nilai Perusahaan**

Peningkatan tingkat kesulitan keuangan tidak terbukti secara statistik menurunkan nilai perusahaan. Ketidaksignifikanan ini mungkin disebabkan oleh berbagai faktor. Salah satunya adalah bahwa investor dan pasar modal mungkin telah mengantisipasi kondisi keuangan perusahaan, sehingga informasi mengenai *financial distress* telah terinternalisasi ke dalam harga saham, dan tidak lagi menciptakan perubahan besar pada nilai pasar perusahaan (PBV). Hasil ini tidak sejalan dengan *signaling theory* yang menyatakan bahwa kondisi keuangan buruk (*financial distress*) merupakan sinyal negatif yang menurunkan kepercayaan investor terhadap nilai perusahaan.

Hasil penelitian ini sesuai dengan penelitian yang dilakukan oleh Saputra dan Andani (2023) yang menyatakan bahwa *financial distress* tidak signifikan terhadap nilai perusahaan, dan penelitian ini bertolak belakang dengan penelitian Sulistiyowati & Devinaya (2021) dan Murtadha *et al*. (2018) yang menyatakan hipotesis *financial distress* berpengaruh negatif terhadap nilai perusahaan.

***Firm Size* Berpengaruh Positif Terhadap Nilai Perusahaan**

Menunjukkan bahwa semakin besar ukuran perusahaan, semakin rendah nilai perusahaan yang tercermin dalam PBV. Karena arah hubungan berlawanan dari yang dihipotesiskan. Hasil ini bertentangan dengan *signaling theory*, yang menyatakan bahwa perusahaan besar seharusnya memberikan sinyal positif berupa stabilitas dan kapasitas produksi, sehingga meningkatkan nilai pasar.

Hasil penelitian ini searah dengan penelitian yang dilakukan oleh Wijaya dan Susilowati (2024) yang menyatakan bahwa *firm size* berpengaruh negatif terhadap nilai perusahaan, dan penelitian ini bertolak belakang dengan penelitian Rohmatulloh (2023) yang menyatakan hipotesis *firm size* berpengaruh positif terhadap nilai perusahaan.

***Financial Distress* Berpengaruh Negatif Terhadap *Return* Saham**

Terdapat cukup bukti untuk menyimpulkan bahwa *financial distress* memengaruhi *return* saham secara nyata. Dalam teori *signaling theory*, kondisi *financial distress* memberikan sinyal negatif kepada investor mengenai ketidakmampuan perusahaan dalam memenuhi kewajiban jangka panjang maupun jangka pendek. Sinyal ini menurunkan kepercayaan investor dan berdampak pada turunnya harga saham, sehingga *return* saham juga ikut menurun. Dengan kata lain, semakin tinggi tingkat *financial distress* suatu perusahaan, maka semakin besar kemungkinan *return* saham yang diperoleh investor akan menurun.

Penelitian ini searah dengan studi yang dilakukan oleh Merliyana dan Kusumah (2021) yang menyatakan hipotesis *financial distress* berpengaruh negatif signifikan terhadap *return* saham. Dan, bertolak belakangan dengan penelitian Anastasya dan Orita (2024), yang menemukan bahwa *financial distress*tidak signifikan terhadap *return* saham.

Firm Size Berpengaruh Positif Terhadap _Return_ Saham

Semakin besar ukuran perusahaan, justru cenderung menghasilkan return yang lebih rendah. Dalam *stakeholder theory*, perusahaan besar cenderung lebih stabil dan memperhatikan banyak *stakeholder*, tetapi hasil ini menunjukkan *return* investor justru lebih kecil, mungkin karena ekspektasi pertumbuhan yang rendah atau risiko yang sudah tersebar

Penilitian ini searah dengan studi yang dilakukan oleh Vanessa dan Achmad (2023), yang menemukan bahwa ukuran perusahaan berpengaruh negatif signifikan terhadap *return* saham, dan penelitian ini bertolak belakang dengan dan penelitian ini bertolak belakang dengan penelitian Syakur *et al*. (2019) yang menyatakan hipotesis firm size berpengaruh positif terhadap *return* saham.

Nilai Perusahaan Berpengaruh Positif Terhadap _Return_ Saham

Nilai perusahaan menunjukkan pengaruh positif signifikan terhadap *return* saham. Artinya, semakin tinggi nilai PBV perusahaan, maka semakin besar peluang investor memperoleh *return* yang lebih tinggi.

Dalam *signaling theory,* PBV yang tinggi dianggap sebagai sinyal positif dari manajemen kepada pasar bahwa perusahaan berada dalam kondisi keuangan yang baik dan memiliki prospek pertumbuhan yang menjanjikan. Sinyal ini meningkatkan kepercayaan investor dan mendorong permintaan atas saham perusahaan, yang berdampak pada kenaikan harga saham dan *return*.

Penelitian ini searah dengan studi yang dilakukan oleh Wulandari (2022) yang menyatakan hipotesis nilai perusahaan berpengaruh positif terhadap *return* saham, dan penelitian ini bertolak belakang dengan penelitian Lestari *et al*. (2023) yang menemukan bahwa PBV berpengaruh negatif terhadap *return* saham.

Financial Distress Berpengaruh Terhadap _Return_ Saham Yang Dimediasi Oleh Nilai Perusahaan

Price book value tidak memediasi hubungan antara *financial distress* dan *return* saham dengan *p value* 0,2912 > 0,05. Berdasarkan hasil pengujian, *financial distress* tidak berpengaruh signifikan terhadap PBV maupun *return saham*. Selain itu, *price book value* juga tidak berpengaruh signifikan terhadap *return saham*. Oleh karena itu, tidak terdapat efek mediasi dari *price book value* dalam hubungan antara *financial distress* dan *return saham*. Maka, hipotesis H6 tidak didukung oleh data.

Secara logis, dalam kondisi *financial distress*, investor mungkin merespons langsung terhadap kondisi keuangan yang buruk tanpa melalui persepsi terhadap nilai perusahaan. Dengan kata lain, pasar langsung merespons risiko kebangkrutan atau ketidakstabilan perusahaan tanpa mengaitkan terlebih dahulu dengan kinerja atau valuasi pasar (PBV). Kondisi ini mungkin mencerminkan karakteristik investor pada perusahaan-perusahaan yang terdaftar di *S&P Capital IQ*, yang cenderung bereaksi cepat terhadap indikator risiko fundamental.

Dalam konteks *signaling theory*, *financial distress* gagal mengirimkan sinyal signifikan ke pasar melalui nilai perusahaan (PBV). Artinya, investor tidak menanggapi tekanan keuangan sebagai sinyal yang memengaruhi valuasi atau *return*. Dalam *stakeholder theory*, *stakeholder* mungkin tidak cukup terdampak oleh *distress* untuk mengubah persepsi nilai (PBV), sehingga tidak mengalirkan dampak ke return saham.

Penelitian ini bertolak belakang dengan penelitian Sulistiyowati & Devinaya (2021) dan Murtadha *et al*. (2018) yang menyatakan hipotesis *financial distress* berpengaruh negatif terhadap nilai perusahaan. Tetapi sejalan dengan Saputra dan Andani (2023) yang menyatakan bahwa *financial distress* tidak signifikan terhadap nilai perusahaan, dan penelitian ini bertolak belakang dengan penelitian.

Penelitian ini bertolak belakang dengan studi yang dilakukan oleh Vanessa dan Achmad (2023), yang menemukan bahwa ukuran perusahaan berpengaruh negatif signifikan terhadap return saham. Tetapi sejalan dengan penelitian Siskayanti & Widyawati (2022) dan Ryangga *et al*. (2020) yang menyatakan hipotesis *firm size* tidak berpengaruh terhadap *return* saham.

Firm Size Berpengaruh Terhadap _Return_ Saham Yang Dimediasi Oleh Nilai Perusahaan

Nilai perusahaan tidak signifikan memediasi hubungan antara *firm size* dan *return* saham dengan *p value* 0, 2067 > 0,05. *Firm size* memiliki pengaruh signifikan terhadap *price book value* dan juga terhadap *return* saham. Namun, *price book value* sebagai mediator tidak menunjukkan pengaruh signifikan terhadap *return* saham. Dengan demikian, tidak terdapat hubungan mediasi yang terbentuk. Oleh karena itu, hipotesis H7 juga tidak didukung.

Temuan ini mengindikasikan bahwa ukuran perusahaan memengaruhi persepsi nilai pasar (*price book value*) misalnya karena perusahaan besar cenderung memiliki valuasi yang lebih stabil atau konservatif namun pengaruh tersebut tidak cukup kuat untuk berdampak pada *return* saham. Investor mungkin menganggap ukuran perusahaan penting, tetapi keputusan investasi tetap didasarkan pada ekspektasi *return* aktual, bukan semata pada valuasi berbasis pasar.

Dalam *signaling theory*, ukuran perusahaan memberi sinyal ke pasar, tetapi sinyal tersebut tidak tercermin dalam *price book value* yang kemudian memengaruhi *return*. Ini bisa berarti bahwa pasar menanggapi ukuran secara langsung, bukan melalui valuasi. Dalam *stakeholder theory*, meskipun perusahaan besar punya lebih banyak *stakeholder* dan potensi stabilitas, nilai perusahaan tidak menjadi penghubung signifikan ke *return stakeholder* tidak cukup memengaruhi jalur tersebut dalam konteks ini.

Hasil penelitian ini tidak sejalan dengan penelitian Rohmatulloh (2023) yang menyatakan hipotesis *firm size* berpengaruh positif terhadap nilai perusahaan. Tetapi sejalan dengan penelitian Wijaya dan Susilowati (2024) yang menyatakan hipotesis *firm size* berpengaruh negatif terhadap *return* saham. Penelitian ini bertolak belakang dengan studi yang dilakukan oleh Vanessa dan Achmad (2023), yang menemukan bahwa ukuran perusahaan berpengaruh negatif signifikan terhadap *return saham*. Tetapi sejalan dengan penelitian Siskayanti & Widyawati (2022) dan Ryangga *et al*. (2020) yang menyatakan hipotesis *firm size* tidak berpengaruh terhadap *return* saham.

KESIMPULAN DAN SARAN

Menurut pengujian dan analisis yang telah dilakukan, penelitian ini memperoleh temuan empiris sebagai berikut: *financial distress* tidak berpengaruh terhadap nilai perusahaan. *Firm size* berpengaruh negatif terhadap signifikan nilai perusahaan. *Financial distress* berpengaruh negatif signifikan terhadap *return* saham. *Firm size* berpengaruh negatif signifikan terhadap *return* saham. Nilai perusahaan berpengaruh positif terhadap returned saham. *Price book value* tidak signifikan memediasi hubungan antara *financial distress* dan *return* saham. *Price book value* tidak signifikan memediasi hubungan antara *firm size* dan *return* saham.

Hasil penelitian ini memberikan implikasi penting bagi manajemen perusahaan dan investor. Temuan bahwa kondisi *financial distress* menunjukkan bahwa investor sangat responsif terhadap indikator kesehatan keuangan perusahaan. Ketika perusahaan menghadapi tekanan keuangan, seperti tingginya beban utang atau menurunnya kemampuan membayar kewajiban, risiko investasi meningkat sehingga harga saham cenderung mengalami penurunan. Oleh karena itu, manajemen perlu lebih proaktif dalam menjaga likuiditas, efisiensi operasional, dan struktur permodalan agar dapat mempertahankan kepercayaan pasar dan mencegah penurunan nilai saham. Di sisi lain, temuan bahwa nilai perusahaan yang tinggi, tercermin dari *price to book value*, yang berpengaruh positif signifikan terhadap *return* saham, hal mengindikasikan bahwa persepsi pasar terhadap prospek pertumbuhan dan kinerja perusahaan menjadi faktor penting dalam menarik minat investor. Perusahaan yang mampu menciptakan nilai tambah bagi pemegang saham akan lebih dihargai oleh pasar, yang pada akhirnya berdampak pada peningkatan return saham. Ini menggarisbawahi pentingnya strategi penciptaan nilai jangka panjang, seperti inovasi, efisiensi, dan tata kelola yang baik. Dengan demikian, perusahaan tidak hanya perlu menjaga stabilitas keuangan, tetapi juga membangun reputasi dan kredibilitas di mata investor sebagai upaya strategis dalam meningkatkan kinerja pasar sahamnya.

Penelitian mendatang dapat mempertimbangkan penggunaan variabel mediasi lain selain nilai perusahaan seperti kinerja perusahaan atau tata kelola perusahaan, sehingga menggambarkan hubungan yang lebih kompleks antara variabel independen dan return saham.

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