Driving Performance in Construction: Innovation's Role in Entrepreneurial Orientation and Dynamic Capabilities

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Submitted:
JULY 2025

Accepted:
SEPTEMBER 2025

ABSTRACT

In a dynamic business environment, construction firms are required to innovate and adapt to enhance organizational performance. This study aims to analyze the direct and indirect effects of entrepreneurial orientation and dynamic capabilities on organizational performance through the innovation process as a mediating variable among construction service providers at Perum Jasa Tirta II. The research adopts a quantitative approach with a cross-sectional design, involving 89 companies selected through purposive sampling. Data were collected via an online questionnaire and analyzed using Structural Equation Modeling with Partial Least Squares. The findings reveal that entrepreneurial orientation and dynamic capabilities positively and significantly influence the innovation process and organizational performance, with the innovation process mediating these relationships. However, the innovation process does not have a significant direct effect on organizational performance, indicating the need for effective implementation. This study is limited to the context of Perum Jasa Tirta II, suggesting further research for broader generalization. The study concludes that construction firms should foster entrepreneurial culture and adaptive capabilities to drive innovation and enhance performance, particularly in competitive public construction projects.

Keywords*: Construction Sector Performance, Dynamic Capability, Entrepreneurial Orientation, Innovation Mediation, Organizational Performance, SEM-PLS, Strategic Management.*

ABSTRAK

Dalam lingkungan bisnis yang dinamis, perusahaan konstruksi dituntut untuk berinovasi dan beradaptasi guna meningkatkan kinerja organisasi. Penelitian ini bertujuan untuk menganalisis pengaruh langsung dan tidak langsung dari orientasi kewirausahaan serta kapabilitas dinamis terhadap kinerja organisasi melalui proses inovasi sebagai variabel mediasi pada penyedia jasa konstruksi di Perum Jasa Tirta II. Penelitian ini menggunakan pendekatan kuantitatif dengan desain cross-sectional, melibatkan 89 perusahaan yang dipilih melalui purposive sampling. Data dikumpulkan melalui kuesioner daring dan dianalisis menggunakan Structural Equation Modeling dengan Partial Least Squares. Hasil penelitian menunjukkan bahwa orientasi kewirausahaan dan kapabilitas dinamis berpengaruh positif dan signifikan terhadap proses inovasi dan kinerja organisasi, dengan proses inovasi memediasi hubungan tersebut. Namun, proses inovasi tidak memiliki pengaruh langsung signifikan terhadap kinerja organisasi, menunjukkan pentingnya implementasi yang efektif. Penelitian ini terbatas pada konteks Perum Jasa Tirta II, sehingga generalisasi ke sektor lain memerlukan studi lebih lanjut. Penelitian ini menyimpulkan bahwa perusahaan konstruksi perlu mengembangkan budaya kewirausahaan dan kapabilitas adaptif

JIMKES

Jurnal Ilmiah Manajemen Kesatuan
Vol. 13 No. 5, 2025
pp. 3443-3456
IBI Kesatuan
ISSN 2337 – 7860
E-ISSN 2721 – 169X
DOI: 10.37641/jimkes.v13i5.3744

untuk mendorong inovasi dan meningkatkan kinerja, terutama dalam proyek konstruksi publik yang kompetitif.

***Kata kunci**: Kinerja Sektor Konstruksi, Kemampuan Dinamis, Orientasi Kewirausahaan, Mediasi Inovasi, Kinerja Organisasi, SEM-PLS, Manajemen Strategis*

INTRODUCTION

Strategic entrepreneurship provides a clear roadmap for companies aiming to achieve top-tier, long-term success. It shows how they can both proactively seek out new ventures and strategically build their competitive edge (Ireland et al., 2003; Mukhlis & Tyas, 2024). This approach emphasizes the importance of integration between exploring new opportunities and exploiting existing resources, so that companies are able to innovate while maintaining a competitive advantage. This balance is particularly critical in dynamic sectors like construction, where rapid technological changes, regulatory demands, and competitive pressures necessitate adaptive and innovative strategies. Thus, developing opportunity-seeking and advantage-seeking capacities becomes the main foundation in strategic entrepreneurship practices, especially for companies operating in complex environments.

A concrete implementation of strategic entrepreneurship is strengthening entrepreneurial orientation, which reflects a company's strategic direction in addressing market opportunities (opportunity seeking) and competitive challenges (advantage seeking) simultaneously (Ireland et al., 2003; Hughes & Morgan, 2007). This orientation channels exploration and innovation through five key aspects: being innovative, acting proactively, taking risks, being aggressively competitive, and having independence in action. These dimensions foster new solutions, rapid decision-making, and flexibility in uncertain markets. However, few studies have examined the interplay between entrepreneurial orientation and dynamic capabilities, particularly regarding the mediating role of innovation processes in public construction projects like those managed by Perum Jasa Tirta II. Tidd and Bessant (2020) note that while innovation is vital for competitive advantage, its mediating effectiveness in regulated sectors remains underexplored.

In addition to being a reflection of the company's strategic direction, entrepreneurial orientation also functions as a strategic resource that allows companies not only to respond to the market but also to form sustainable competitive advantages (Kiyabo & Isaga, 2020). Perum Jasa Tirta II, as a state-owned enterprise managing critical water infrastructure, presents a unique context in which bureaucratic constraints and project complexity amplify the need for an entrepreneurial orientation to drive innovation and performance. By fostering an entrepreneurial orientation, businesses can effectively navigate external shifts and ensure their internal operations remain pliable, driven by a commitment to innovation, calculated risk-taking, and a proactive competitive stance. In the complex and efficiency-pressured construction sector, entrepreneurial orientation becomes a strategic asset that supports business sustainability and long-term advantages (Zhou & Li, 2019).

To remain competitive and sustainable amidst a constantly shifting business environment, companies must prioritize innovation (Teece, 2018; Basioni & Al-Ghamdi, 2024). Companies that excel in sensing can detect innovation opportunities more quickly than their competitors, enabling them to lead the development of new products or services. Research by Khristianto et al. (2021) and Supeni and Sari (2025) mentioned that effective market sensing has a positive and significant impact on innovation and competitive advantage. However, the integration of dynamic capabilities with entrepreneurial orientation in driving innovation processes within public-sector construction remains a critical gap (Permatasari & Praswati, 2024). According to Hansen and Birkinshaw (2007), the innovation value chain requires systematic management to translate strategic capabilities into performance, yet its application in state-owned enterprise contexts is understudied. This highlights the critical role of dynamic capabilities

in ensuring that innovation is managed and implemented for maximum benefit, thereby driving competitive advantage and profitability.

The performance of companies engaged in construction is not solely determined by internal factors but is also influenced by external factors reflecting profitable growth potential. At the national level, the construction sector is a priority due to its significant contribution to Indonesia's Gross Domestic Product (GDP), with a stable trend of 10.53% in 2018, 10.75% in 2019, 10.71% in 2020, 10.44% in 2021, 9.77% in 2022, 9.92% in 2023, and 10.09% in 2024 (BPS, 2025). In 2024, the sector recorded the highest growth among industries at 7.02% (BPS, 2025). Within Perum Jasa Tirta II, 168 work packages valued at IDR 628.27 billion were tendered from 2021 to 2024, with 70.24% won by providers in West Java (PJT II, 2025). This study aims to empirically analyze the direct and indirect effects of entrepreneurial orientation and dynamic capabilities on organizational performance, with the innovation process as a mediating variable, in the context of construction providers at Perum Jasa Tirta II. By addressing the research gap in the mediating role of innovation processes, this study seeks to provide a comprehensive model for enhancing competitiveness and sustainable performance in public construction projects.

LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

Entrepreneurial Orientation and Dynamic Capabilities in Driving Performance

Strategic entrepreneurship integrates strategic management and entrepreneurial principles to balance opportunity-seeking and advantage-seeking behaviors, enabling firms to create sustainable value (Ireland et al., 2003). Entrepreneurial orientation (EO) reflects a firm's strategic posture, encompassing innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy (Covin & Slevin, 1991; Lumpkin & Dess, 1996). These dimensions foster exploration of new market opportunities and rapid decision-making in uncertain environments. According to Hou et al. (2019), Ni et al. (2020), and Lo and Kam (2022), EO significantly enhances firm performance by promoting flexibility and innovation, particularly in competitive sectors like construction. However, the construction industry's bureaucratic nature and regulatory constraints often limit EO's effectiveness, necessitating a complementary role of dynamic capabilities (DC) to ensure adaptability (Al-Shami et al., 2022).

Dynamic capabilities involve sensing opportunities, seizing them through strategic decisions, and transforming resources to align with market demands (Teece, 2007; Wilden et al., 2013). These capabilities enable firms to adapt to technological and regulatory changes, critical in construction projects managed by state-owned enterprises like Perum Jasa Tirta II. Research by Zhou and Li (2019) highlights that EO and DC, when combined, enhance performance in dynamic industries; however, their combined effect in public construction contexts remains underexplored. EO drives innovation through risk-taking and proactiveness, while DC ensures resources are reconfigured efficiently (Kotsemir et al., 2013; Wang et al., 2015). This synergy is vital in construction, where firms must innovate under tight timelines and cost pressures.

H1: Entrepreneurial orientation has a positive and significant effect on the innovation process.
H2: Entrepreneurial orientation has a positive and significant effect on organizational performance.
H3: Dynamic capability has a positive and significant effect on the innovation process.
H4: Dynamic capability has a positive and significant effect on organizational performance.
H5: Innovation process has a positive and significant effect on organizational performance.

Innovation Process as a Mediating Mechanism

The innovation process is a systematic series of activities, idea generation, conversion, and diffusion, that transforms strategic inputs into competitive outputs (Hansen & Birkinshaw, 2007). According to Tidd and Bessant (2020), the innovation process is critical for translating entrepreneurial and adaptive capabilities into tangible outcomes, yet its mediating role in public-sector construction is understudied. Idea generation involves sourcing creative ideas from internal and external stakeholders, crucial for addressing complex construction challenges (Loosemore, 2015; Kazadi et al., 2016; Fontana & Musa, 2017). Idea conversion entails selecting and developing feasible ideas through resource allocation and testing, while diffusion ensures innovations are adopted internally or launched to the market (Pavlou & El Sawy, 2011; Zanello et al., 2016). In construction, this process is often constrained by rigid procurement systems, making effective management essential for performance gains (Han et al., 2022).

EO fosters an explorative culture that accelerates idea generation and risk-taking, while DC enables firms to sense opportunities and reconfigure resources for innovation implementation (Teece, 2018; Satar et al., 2024). Research by Cucculelli and Peruzzi (2020) and Saunila (2020) suggests that innovation mediates the relationship between strategic capabilities and performance in SMEs. However, its role in large-scale public projects requires further exploration. Without an effective innovation process, the potential of EO and DC may not translate into performance outcomes (Kollmann et al., 2017; Leckie & McDonald, 2021; Newbery et al., 2023). For Perum Jasa Tirta II providers, innovation in construction methods or project management can enhance efficiency and competitiveness. Thus, the innovation process acts as a bridge, transforming strategic orientations into operational and market advantages (Rosenbusch et al., 2011).

H6: Entrepreneurial orientation has a positive and significant effect on organizational performance through the innovation process as a mediating variable.
H7: Dynamic capability has a positive and significant effect on organizational performance through the innovation process as a mediating variable.

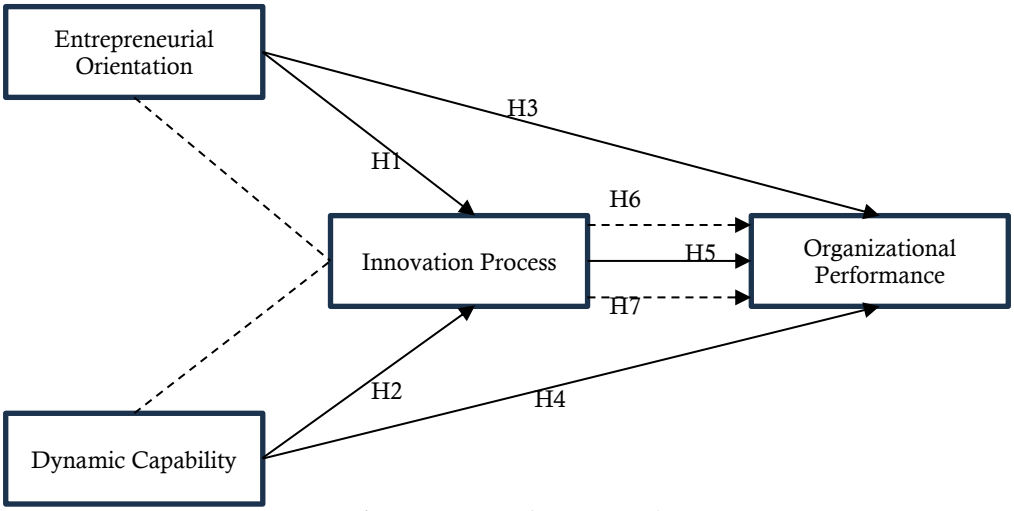

Figure 1. Research Framework

The research framework integrates entrepreneurial orientation (EO), dynamic capabilities (DC), and the innovation process to explain organizational performance in the construction sector. Figure 1 illustrates these relationships, showing EO and DC as antecedents, the innovation process as a mediator, and organizational performance as the outcome. According to Ferreira et al. (2020), such integrative models are essential for understanding how strategic capabilities drive performance in dynamic industries, yet their application in state-owned construction contexts is limited. EO, through its

dimensions of innovativeness, proactiveness, and risk-taking, fosters an environment conducive to generating and implementing new ideas (Covin & Wales, 2019). DC, encompassing sensing, seizing, and transforming, enables firms to adapt resources and processes to market changes, critical for navigating regulatory and technological shifts in construction (Zahoor et al., 2022). The innovation process links these capabilities to performance by systematically converting ideas into valuable outputs, such as efficient construction methods or sustainable practices (Hansen & Birkinshaw, 2007). In the context of Perum Jasa Tirta II, this framework is particularly relevant due to the competitive tendering process and complex project requirements, which demand both entrepreneurial agility and adaptive capacity (Nguyen et al., 2021). Organizational performance, measured through financial, social, environmental, innovative, and market dimensions, reflects the success of these strategic inputs (Klammer et al., 2017). The framework addresses a gap in understanding how EO and DC, mediated by innovation, enhance performance in public construction, offering a model for sustainable competitiveness. This integrative approach aligns with strategic entrepreneurship principles, emphasizing the synergy of opportunity-seeking and advantage-seeking behaviors (Ireland et al., 2003).

RESEARCH METHOD

This study adopts a quantitative approach with a single cross-sectional design, collecting data at a specific point in time to capture the phenomenon under investigation. The survey method serves as the primary data collection technique, involving direct observations and structured questionnaires distributed to respondents to gather systematic and reliable data. Primary data are obtained from responses provided by construction service provider companies operating within the Perum Jasa Tirta II environment, ensuring originality and relevance to the study's context. Secondary data, sourced from reports, official documents, and statistical records from Perum Jasa Tirta II, complements the primary data to support comprehensive analysis. The questionnaire was developed based on established scales from prior studies, comprising 60 items adapted from Covin and Slevin (1991) for entrepreneurial orientation, Teece (2007) for dynamic capabilities, Hansen and Birkinshaw (2007) for the innovation process, and Klammer et al. (2017) for organizational performance, using a 5-point Likert scale to measure respondents' perceptions.

The population consists of companies providing goods and services, registered as valid partners with Perum Jasa Tirta II. According to the Procurement Service Unit of Perum Jasa Tirta II, 128 companies were registered as partners by 2024. A purposive sampling technique, a form of non-probability sampling, was employed to select respondents based on specific criteria aligned with the study's objectives. The criteria include being a provider in the construction sector and having secured a work package at Perum Jasa Tirta II between 2021 and 2024. Based on secondary data, 89 construction service providers met these criteria, forming the sample for this study. This purposive approach ensures that only firms with relevant experience in the competitive tendering environment of Perum Jasa Tirta II are included, enhancing the study's focus on context-specific dynamics.

Data collection was conducted through an online survey using Google Forms, distributed via email and WhatsApp to ensure accessibility and timely responses. The collected data were analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) to examine the relationships between entrepreneurial orientation, dynamic capabilities, innovation process, and organizational performance. Prior to structural model testing, an Outer Model evaluation was performed to confirm instrument validity and reliability. Convergent validity was assessed through outer loading values ($\geq$0.70) and Average Variance Extracted (AVE $\geq$0.50), while reliability was evaluated using Composite Reliability (CR $\geq$0.70) and Cronbach's Alpha ($\geq$0.70), following guidelines by Hair Jr et al. (2021). This rigorous analytical approach ensures that the measurement instruments accurately capture the constructs and support robust hypothesis

testing, aligning with the study's objective to explore direct and mediating effects in the construction sector.

RESULTS

This section presents the findings of the study, which examines the relationships between entrepreneurial orientation, dynamic capabilities, innovation process, and organizational performance among construction service providers at Perum Jasa Tirta II. The analysis is based on data collected from 89 respondents through an online survey, with descriptive statistics revealing mean scores for entrepreneurial orientation (M = 3.85, SD = 0.62), dynamic capabilities (M = 3.92, SD = 0.58), innovation process (M = 3.78, SD = 0.65), and organizational performance (M = 4.01, SD = 0.55), indicating moderate to high levels of these constructs within the sample. The results are derived from Structural Equation Modeling using Partial Least Squares (SEM-PLS), with evaluations of measurement and structural models to ensure robust findings. The elimination of certain indicators, such as EO9 and DC6, was necessary to enhance construct validity, primarily due to their low alignment with the bureaucratic and efficiency-driven context of public construction projects.

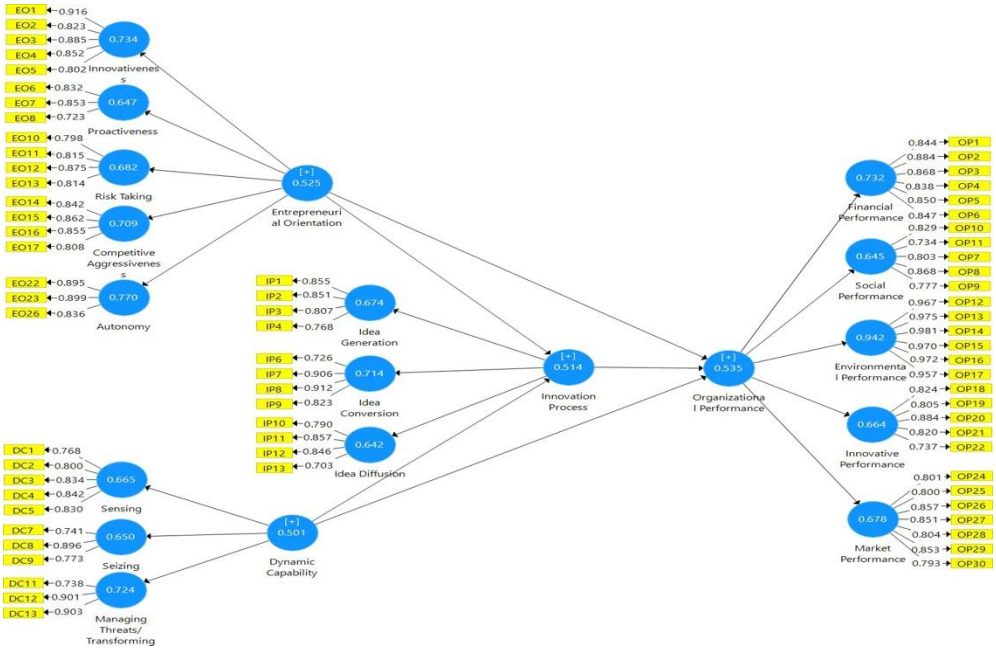

Figure 2. PLS Algorithm (Final Outer Model Structural Model)

Figure 2 illustrates the finalized measurement model. The following sections detail the measurement model (outer model) and structural model (inner model) analyses, supported by Table 1 through Table 6, which summarize validity, reliability, explanatory power, and hypothesis testing results. Initial findings suggest that entrepreneurial orientation and dynamic capabilities significantly influence innovation and performance, with implications for enhancing competitiveness in public construction.

Table 1. Convergent Validity Testing for All Constructs

Construct	Indicator	Final Loading Factor	Description
Entrepreneurial Orientation	EO1	0.916	Valid
	EO2	0.823	Valid
	EO3	0.885	Valid
	EO4	0.852	Valid
	EO5	0.802	Valid
	EO6	0.832	Valid
	EO7	0.853	Valid
	EO8	0.723	Valid

Construct	Indicator	Final Loading Factor	Description
	EO10	0.798	Valid
	EO11	0.815	Valid
	EO12	0.875	Valid
	EO13	0.814	Valid
	EO14	0.842	Valid
	EO15	0.862	Valid
	EO16	0.855	Valid
	EO17	0.808	Valid
	EO22	0.895	Valid
	EO23	0.899	Valid
	EO26	0.836	Valid
Dynamic Capability	DC1	0.768	Valid
	DC2	0.800	Valid
	DC3	0.834	Valid
	DC4	0.842	Valid
	DC5	0.830	Valid
	DC7	0.741	Valid
	DC8	0.896	Valid
	DC9	0.773	Valid
	DC11	0.738	Valid
	DC12	0.901	Valid
	DC13	0.903	Valid
Innovation Process	IP1	0.855	Valid
	IP2	0.851	Valid
	IP3	0.807	Valid
	IP4	0.768	Valid
	IP6	0.726	Valid
	IP7	0.906	Valid
	IP8	0.912	Valid
	IP9	0.823	Valid
	IP10	0.790	Valid
	IP11	0.857	Valid
	IP12	0.846	Valid
	IP13	0.703	Valid
Organizational Performance	OP1	0.844	Valid
	OP2	0.884	Valid
	OP3	0.868	Valid
	OP4	0.838	Valid
	OP5	0.850	Valid
	OP6	0.847	Valid
	OP7	0.803	Valid
	OP8	0.868	Valid
	OP9	0.777	Valid
	OP10	0.829	Valid
	OP11	0.734	Valid
	OP12	0.967	Valid
	OP13	0.975	Valid
	OP14	0.981	Valid
	OP15	0.970	Valid
	OP16	0.972	Valid
	OP17	0.957	Valid
	OP18	0.824	Valid
	OP19	0.805	Valid
	OP20	0.884	Valid
	OP21	0.820	Valid
	OP22	0.737	Valid
	OP24	0.801	Valid
	OP25	0.800	Valid
	OP26	0.857	Valid
	OP27	0.851	Valid
	OP28	0.804	Valid
	OP29	0.853	Valid
	OP30	0.793	Valid

The measurement model analysis evaluates the validity and reliability of the constructs to ensure that indicators accurately represent entrepreneurial orientation, dynamic capabilities, innovation process, and organizational performance. Convergent validity was assessed through outer loading values (ideally >0.70) and Average Variance Extracted (AVE ≥0.50), while reliability was confirmed using Cronbach's Alpha and Composite Reliability (CR ≥0.70). Table 1 presents the final loading factors for valid indicators across all constructs after refinement. For entrepreneurial orientation, most indicators in innovativeness (EO1–EO5), proactiveness (EO6–EO8), and competitive aggressiveness (EO14–EO17) achieved loading factors above 0.70, confirming validity. The risk-taking dimension required the elimination of EO9 (initial loading = 0.674) due to its low contribution, likely because risk-taking behaviors are constrained by strict regulatory compliance in Perum Jasa Tirta II projects. The autonomy dimension saw significant refinement, with seven indicators (EO18–EO21, EO24–EO25, EO27) removed due to loadings below 0.70, reflecting the bureaucratic culture that limits independent decision-making in public construction firms. The remaining indicators (EO22, EO23, EO26) achieved valid loadings above 0.80. For dynamic capabilities, all sensing indicators (DC1–DC5) were valid, while seizing and transforming dimensions improved after eliminating DC6 and DC10, which were less relevant due to the focus on technical efficiency over strategic flexibility in this context. The innovation process indicators (IP1–IP4, IP6–IP13) were mostly valid, with IP5 removed due to a low loading (0.679). Organizational performance indicators across financial, social, environmental, innovative, and market dimensions showed strong validity, with OP23 removed due to its lack of relevance. These refinements ensure that the measurement model aligns with the operational realities of construction firms at Perum Jasa Tirta II, enhancing the robustness of subsequent analyses.

Table 2. AVE Value Test

Construct	Average Variance Extracted (AVE)
Entrepreneurial Orientation	0.525
Dynamic Capability	0.501
Innovation Process	0.514
Organizational Performance	0.535

Table 2 confirms the convergent validity of the constructs, with all AVE values exceeding 0.50, indicating that each construct explains over 50% of its indicator variance. Entrepreneurial orientation achieved an AVE of 0.525, dynamic capability of 0.501, innovation process of 0.514, and organizational performance of 0.535. These results validate the measurement model's ability to capture the intended constructs accurately. This high AVE suggests that the constructs are well-defined, particularly in the context of construction firms where precise measurement of strategic capabilities is crucial for assessing competitiveness.

Table 3. Reliability Test

Construct	Cronbach's Alpha	Composite Reliability
Entrepreneurial Orientation	0.930	0.939
Dynamic Capability	0.873	0.899
Innovation Process	0.913	0.927
Organizational Performance	0.960	0.964

Table 3 demonstrates strong internal consistency for all constructs, with Cronbach's Alpha and Composite Reliability (CR) values exceeding 0.70. Entrepreneurial orientation recorded an Alpha of 0.930 and CR of 0.939, dynamic capability 0.873 and 0.899, innovation process 0.913 and 0.927, and organizational performance 0.960 and 0.964. These results confirm the reliability of the measurement instruments, ensuring stable and consistent data for further analysis. The high reliability scores indicate that the survey items effectively captured the constructs, supporting the robustness of findings in the public construction sector.

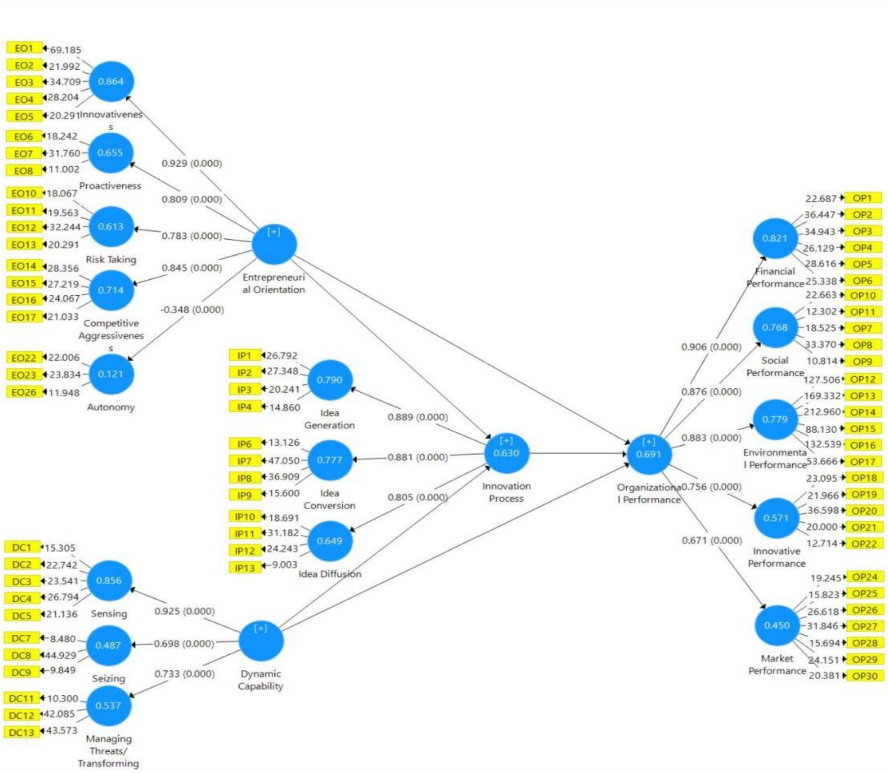

Figure 3. PLS Algorithm (Structural Model Inner Model)

The structural model analysis, depicted in Figure 3, evaluates the relationships between constructs to test the proposed hypotheses. Table 4 shows the explanatory power of the model, with R^2 values of 0.630 for the innovation process and 0.691 for organizational performance, indicating high predictive ability. The adjusted R^2 values (0.621 and 0.680, respectively) confirm the model's efficiency without overfitting. These results suggest that entrepreneurial orientation and dynamic capabilities explain a substantial portion of variance in innovation and performance, highlighting their strategic importance for construction firms at Perum Jasa Tirta II.

Table 4. Evaluation of R Square Value

Construct	R Square	R Square Adjusted
Innovation Process	0.630	0.621
Organizational Performance	0.691	0.680

The effect size evaluation (f^2), previously presented in a separate table, indicates that entrepreneurial orientation has the largest effect on the innovation process ($f^2 = 0.313$), followed by dynamic capability ($f^2 = 0.122$), while the innovation process has a smaller effect on organizational performance ($f^2 = 0.041$). These findings underscore the dominant role of entrepreneurial orientation in driving innovation, with dynamic capabilities providing complementary support, particularly in resource reconfiguration. Hypothesis testing was conducted using path coefficients, T-statistics, and p-values, with a T-statistic threshold of 1.645 (one-tailed, 5% significance) and a p-value below 0.05 to reject the null hypothesis.

Table 5 presents the results of direct effect hypotheses. Entrepreneurial orientation significantly affects the innovation process (coefficient = 0.519, T = 5.013, p = 0.000) and organizational performance (coefficient = 0.386, T = 3.945, p = 0.000), supporting H1 and H2. Dynamic capability also significantly influences the innovation process (coefficient = 0.325, T = 2.746, p = 0.003) and organizational performance (coefficient = 0.337, T = 2.820, p = 0.002), supporting H3 and H4. However, the innovation process does not have a significant direct effect on organizational performance (coefficient =

0.184, T = 1.581, p = 0.057), leading to the rejection of H5. This non-significant result suggests that while innovation is a critical process, its direct impact on performance may depend on effective implementation and organizational support within the bureaucratic constraints of public construction.

Table 5. Direct Influence

Hypothesis	Original Sample	T-Statistics	P-Values
Entrepreneurial Orientation -> Innovation Process	0.519	5.013	0.000
Entrepreneurial Orientation -> Organizational Performance	0.386	3.945	0.000
Dynamic Capability -> Innovation Process	0.325	2.746	0.003
Dynamic Capability -> Organizational Performance	0.337	2.820	0.002
Innovation Process -> Organizational Performance	0.184	1.581	0.057

Table 6. Test of Indirect Influence

Hypothesis	Original Sample	T-Statistics	P-Values
Entrepreneurial Orientation -> Innovation Process -> Organizational Performance	0.185	3.466	0.000
Dynamic Capability -> Innovation Process -> Organizational Performance	0.189	3.072	0.001

Table 6 examines the mediating role of the innovation process. The indirect effect of entrepreneurial orientation on organizational performance through the innovation process is significant (coefficient = 0.185, T = 3.466, p = 0.000), supporting H6. Similarly, dynamic capability significantly affects organizational performance through the innovation process (coefficient = 0.189, T = 3.072, p = 0.001), supporting H7. These results highlight the innovation process as a critical mediator, transforming strategic capabilities into performance outcomes. This mediation effect suggests that construction firms can enhance performance by fostering innovation through entrepreneurial and adaptive strategies, particularly in navigating the competitive tendering environment of Perum Jasa Tirta II.

These findings provide initial implications for construction firms at Perum Jasa Tirta II, emphasizing the need to strengthen entrepreneurial orientation and dynamic capabilities to drive innovation and performance. The significant mediating role of the innovation process suggests that systematic management of idea generation, conversion, and diffusion is essential for translating strategic capabilities into competitive advantages. The non-significant direct effect of the innovation process on performance highlights the importance of organizational readiness and effective implementation in achieving desired outcomes.

DISCUSSION

This study demonstrates that entrepreneurial orientation (EO) has a significant impact on the innovation process, with a path coefficient of 0.519 (p = 0.000), thus supporting H1. This finding is consistent with Han et al. (2022), who highlight that EO dimensions, including innovativeness and proactiveness, encourage firms to seek new opportunities and develop creative solutions. In Perum Jasa Tirta II's construction projects, firms with high EO can introduce novel project management and technical approaches, improving their capacity to address complex challenges. EO also significantly influences organizational performance (coefficient = 0.386, p = 0.000), supporting H2, in line with Ferreira et al. (2020), who emphasized EO's role in enhancing financial and market

outcomes through proactive strategies. Additionally, as Zahoor et al. (2022) note, EO promotes risk-taking and competitive aggressiveness, which are vital in rapidly evolving industries such as construction. Nonetheless, in public-sector contexts, bureaucratic requirements such as strict procurement rules may limit EO's full potential, necessitating a balance between innovation and regulatory compliance.

Dynamic capabilities (DC) also significantly influence the innovation process (coefficient = 0.325, p = 0.003), supporting H3, and organizational performance (coefficient = 0.337, p = 0.002), supporting H4. This corroborates Teece (2018), who emphasized DC's role in sensing, seizing, and transforming resources to adapt to market changes. In Perum Jasa Tirta II, DC enables firms to reconfigure resources, such as adopting new construction technologies, to improve efficiency. Nguyen et al. (2021) highlight that DC is particularly vital in public construction, where firms must navigate regulatory shifts and stakeholder expectations to maintain competitiveness. The non-significant direct effect of the innovation process on organizational performance (coefficient = 0.184, p = 0.057) leads to the rejection of H5, suggesting that innovation alone does not guarantee performance improvements without effective implementation. This finding aligns with Cucculelli and Peruzzi (2020), who argue that innovation's impact depends on organizational readiness and market alignment, particularly in regulated sectors where bureaucratic delays can hinder diffusion.

The innovation process significantly mediates the link between EO and organizational performance (coefficient = 0.185, p = 0.000), supporting H6, and between DC and performance (coefficient = 0.189, p = 0.001), supporting H7. Consistent with Hansen and Birkinshaw (2007), it functions as a value chain converting strategic capabilities into outcomes. At Perum Jasa Tirta II, effective idea generation, conversion, and diffusion are crucial for transforming EO and DC into competitive advantages, such as improved project delivery or sustainability. This mediation acts as a bridge between strategy and results. External factors, including regulation or competition, may shape this effect, aligning with Rosenbusch et al. (2011) on environmental dynamism's role.

These findings offer significant theoretical and practical implications. Theoretically, this study extends the strategic entrepreneurship framework of Ireland et al. (2003) by demonstrating the mediating role of the innovation process in linking EO and DC to performance in the public construction sector, an understudied context. It also enriches the literature by highlighting the interplay of bureaucratic constraints and strategic capabilities, contributing to a nuanced understanding of innovation dynamics. Practically, construction firms at Perum Jasa Tirta II should foster EO through training programs that encourage risk-taking and proactiveness, while strengthening DC to enhance resource adaptability. Policymakers can support these efforts by streamlining procurement processes to reduce barriers to innovation. Future research should explore additional mediators, such as organizational culture, or external factors, like digital technology adoption, to further elucidate performance drivers in public construction.

CONCLUSION

This study confirms that entrepreneurial orientation and dynamic capabilities significantly enhance the innovation process, which in turn positively influences organizational performance among construction service providers at Perum Jasa Tirta II. Entrepreneurial orientation fosters a culture of innovativeness, proactiveness, and competitiveness in the face of dramatic changes and competitive pressures. These findings suggest that fostering entrepreneurial and adaptive strategies can significantly enhance competitiveness in public construction projects, providing a robust model for sustainable performance in dynamic environments.

Theoretically, this study advances the understanding of strategic entrepreneurship by highlighting the critical mediating role of the innovation process in linking entrepreneurial orientation and dynamic capabilities to organizational performance in the public construction sector. Practically, construction firms should prioritize fostering a culture of innovation and adaptability to improve project outcomes and competitiveness. The

study's limitations include its focus on a single organization, Perum Jasa Tirta II, and its cross-sectional design, which may limit generalizability and insights into long-term dynamics. Future research should explore additional mediators, such as organizational culture or digital technology adoption, and adopt longitudinal approaches to capture evolving strategic dynamics in public construction.

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