

Leading with AI: Strategic Leadership, AI-Based Decision Making, and Venture Performance in Student Startups

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Abstract

The rapid diffusion of artificial intelligence is reshaping how organizational leaders formulate strategy and make decisions, yet little is known about how AI-driven leadership translates into performance within student-run startups, a context marked by limited resources and heavy reliance on individual decision-makers. This study examines the influence of AI-Driven Strategic Leadership on venture performance, with AI-Based Decision Making as a mediating variable, among student entrepreneurs at Universitas Ciputra Surabaya. A quantitative survey of 200 respondents was conducted through purposive sampling, and data were analyzed using Structural Equation Modeling based on Partial Least Squares with SmartPLS 3.0. The results show that AI-Driven Strategic Leadership positively and significantly influences AI-Based Decision Making and venture performance, while AI-Based Decision Making contributes positively to venture performance and partially mediates the relationship. By integrating AI-Driven Strategic Leadership and AI-Based Decision Making into a single explanatory model of venture performance among student entrepreneurs, an approach rarely applied in prior literature that treats AI mainly as a technical support tool, this study offers a distinct contribution. The findings extend strategic leadership theory into AI-enabled entrepreneurial settings and offer practical guidance for startup leaders and university programs seeking to strengthen AI-based decision processes for sustainable venture growth.

Keywords: Artificial Intelligence, Strategic Leadership, Decision Making, Venture Performance

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1. INTRODUCTION

The development and adoption of artificial intelligence (AI) have been a major catalyst in the transformation of the global business landscape by significantly changing the way organizations formulate strategies and maintain competitiveness (Jintao et al., 2025). AI is no longer seen as just an operational support technology but has instead become an essential foundation for data-driven strategic leadership, enabling organizational leaders to identify new value opportunities, increase innovation capacity, and respond to environmental changes more adaptively. Zheng et al. (2025) said that the integration of AI in strategic leadership practices enhances organizational agility enabling companies to make faster, more accurate, and long-term-oriented decisions. In the context of an increasingly complex, uncertain, and technology-driven business environment, an organization's ability to strategically utilize AI is a key determinant for achieving competitive advantage and sustainable organizational performance (Nevi et al., 2025).

Modern leaders no longer rely solely on intuition or experience, but they increasingly depend on the ability of technologies such as AI to analyze big data (Darmawan et al., 2021), speed up decision-making processes, and accurately predict market trends (Fengkuo et al., 2024). Consequently, AI-driven leadership has been proven to improve the quality of strategic decision-making, operational efficiency, and response to the dynamics of rapidly changing business environments. The concept of AI-Driven Strategic Leadership (AIDSL) emphasizes the ability of leaders to utilize AI as the basis for vision formulation, resource allocation, and strategic decision-making. Leaders with this orientation not only understand AI technology but are also able to translate AI outputs into strategic actions that align with business goals (Kawak et al., 2026).

In the context of student entrepreneurs at Universitas Ciputra Surabaya, AIDSL is relevant because students play a dual role as business owners and main decision-makers, so that the quality of leadership has a direct impact on the performance of the venture. Universitas Ciputra (UC) is known as a private university in Surabaya, East Java applying an entrepreneurship-based educational approach through the vision of Creating World-Class Entrepreneurs. In addition, UC also emphasized that they are an AI- friendly campus. While AI offers great potential in improving the quality

and speed of strategic decision-making, the use of AI in venture leadership also presents a variety of challenges, ranging from over-reliance on algorithms, limited data quality, to reduced human judgment roles and leadership values (AI-Mamary, 2025). Therefore, the effectiveness of AI in improving venture performance is highly dependent on the leader's ability to integrate technological sophistication with strategic competencies and leadership ethics.

On the other hand, AI-Based Decision Making (AIBDM) serves as the main mechanism that bridges AI-based leadership with business performance achievements. AIBDM allows startups to process market data, consumer behavior, and operational performance more accurately, so that decisions made become more objective and adaptive. However, the effectiveness of AIBDM relies heavily on the role of leaders in strategically directing the use of AI, including in determining information priorities and managing the implications of decisions generated by AI systems. The use of AI can indeed strengthen decision-making but does not automatically guarantee performance without consideration of the strategic context by leaders (Csaszar et al., 2024).

Researchers conducted a pre-survey of 50 decision-makers at 10 ventures at UC. Some questions had been asked to find out the purpose of using AI; how often to use AI in venture management activities; the extent to which the use of AI helps improve the quality of business decision-making; and whether the use of AI has a positive impact on the overall performance of the venture. Results of the pre-survey show that 42 respondents (84%) use AI to support business decisions; 24 respondents (48%) are active users of AI; 11 respondents (22%) use AI almost daily. However, although the pre-survey results stated that they are active users and use AI to support business decisions, 26 respondents (52%) stated that they doubt the use of AI to provide relevant business decisions to their business. Only 11 respondents (26%) agree that AI has a significant impact on their business decisions, and the rest disagree that AI decisions have an impact on business decisions.

Based on the results of the pre-survey, a gap emerged. Although the majority of respondents stated that they have used AI to support business decisions, only a small percentage believe that AI has a significant impact on the quality of business decisions. 52% of respondents still doubt the relevance of AI-based decisions. In

addition, the proportion of active users of AI (48%) and near-daily users (22%) is relatively low compared to the initial adoption rate. Despite the growing body of literature on AI-Driven Strategic Leadership and AI-Based Decision Making, existing studies remain largely concentrated on top management teams and established organizations, treating AI as a self-contained technical process rather than linking it explicitly to strategic leadership behavior (Bevilacqua et al., 2025; Fayaz et al., 2024; Al Qadiri et al., 2024). AI's contribution to performance depends on leaders' strategic direction, this leadership-contingent mechanism has rarely been tested empirically, particularly in student-run ventures (Csaszar et al., 2024). This leaves an empirical and contextual gap regarding how AIDSL translates into venture performance through AIBDM among student entrepreneurs, a gap this study addresses using student entrepreneurs at Universitas Ciputra Surabaya as the unit of analysis.

Although previous literature has extensively discussed digital leadership, transformational leadership, and the use of AI in organizational contexts, there are still limited research that specifically examines the relationship between AIDSL, AIBDM, and venture performance in an integrated manner. Most studies place AI as a technical factor or supporting system, without directly linking it to strategic leadership behavior (Borges et al., 2021; Santiago-Torner et al., 2026). In addition, research that focuses on student startups as a unit of analysis is still relatively limited, even though this context has unique characteristics, such as limited resources, simple organizational structure, and high dependence on individual leaders' decisions.

The novelty of this research lies in the development of a conceptual model that integrates AIDSL and AIBDM in explaining venture performance in student startups of Universitas Ciputra Surabaya. By placing AIBDM as a mediating variable, this study offers a new perspective that the success of AI-based leadership is not solely determined by technological understanding, but by the leader's ability to strategically orchestrate AI-based decision-making processes. The findings of this study are expected to enrich the literature on digital leadership and entrepreneurship, while providing practical implications for the development of AI-based leadership competencies in entrepreneurship education.

2. LITERATURE REVIEW

In this chapter, the theories used in this study, namely AI-Driven Strategic Leadership; AI-Based Decision Making and Venture Performance are elaborated.

2.1. AI-Driven Strategic Leadership

Strategic leadership in the digital era has undergone a paradigm shift along with the increasing use of artificial intelligence (AI). This technology is no longer positioned solely as an instrument of analysis, but rather as a key element that drives changes in organizational strategy (AI-Omoush, 2025). The concept of AI-Driven Strategic Leadership describes the ability of leaders to orchestrate the use of AI to strengthen strategic vision formulation, improve the quality of data-driven decision-making, and accelerate organizational responses to dynamic business environments. Recent studies have shown that the implementation of AI-based strategic leadership contributes significantly to building competitive advantage and improving organizational performance and effectiveness across industry sectors (Bevilacqua et al., 2025).

Other studies show that AI plays a significant role in supporting strategic decision-making. Through its ability to process and analyze data at scale, AI helps organizations project market dynamics, assess potential risks, and find business opportunities that are difficult to detect with conventional methods. The use of predictive capabilities strengthens leaders' ability to develop strategies that are adaptive and in harmony with changes in environmental conditions, both internal and external (Csaszar et al., 2024).

Additionally, research on the influence of AI on communication and organizational performance indicates that the application of AI in leadership practice not only contributes to the acceleration of decision-making processes but also plays a role in improving the internal efficiency of the organization through strengthening the quality of communication and collaboration interactions between leaders and team members. These findings affirm AI's position as a support system that reinforces the implementation of strategic leadership functions, rather than simply functioning as an operational automation tool (Florea & Croitoru, 2025).

2.2. AI-Based Decision Making

Artificial intelligence-based decision making (AI-Based Decision Making /AIBDM) is increasingly receiving wide attention in the study of management and business strategy in the digital era, along with its potential to increase the effectiveness and accuracy of organizational decisions through intensive data utilization. Conceptually, AIBDM is understood as the application of artificial intelligence technology such as machine learning and other computational learning systems, which function to support and automate the decision-making process. The implementation of AIBDM not only allows acceleration in information processing and analysis but also strengthens the organization's capabilities in capturing market dynamics, detecting potential risks, and developing a responsive and data-driven strategy (Fayaz et al., 2024).

The use of AI contributes significantly to improving the efficiency and accuracy of business decision-making through the integration of large-scale data analysis with predictive modeling capabilities. Nevertheless, the findings of this study confirm that the role of humans remains crucial in interpreting the output of recommendations generated by AI systems (López-Solís, et al., 2025). The use of AI has improved decision-making capabilities across sectors, including in human resource management and operational management, through its ability to analyze data patterns and generate various decision options automatically. This shows that artificial intelligence not only plays a role in improving the efficiency of organizational processes but also strengthens the organization's ability to respond to the dynamics and complexity of the business environment more quickly, adaptively, and accurately (Al Qadiri et al., 2024).

2.3. Venture Performance

Conceptually, venture performance represents the level of success of a startup in realizing strategic and economic goals that have been set (Nson, 2025). This performance can be evaluated through financial and non-financial measures, including business growth rates, profit levels, and the organization's ability to respond to market dynamics and uncertainties (Sinaga, 2025). Empirical findings in the literature also confirm that performance variation in the early stages of venture development is influenced by the interaction between internal determinants of the organization and external environmental conditions (Caliendo et al., 2023). In the

context of startups and entrepreneurship, venture performance not only emphasizes short-term financial results, but also the capacity of the venture to survive, grow, and create value in the midst of market uncertainty.

Similarly, Chen et al., (2024) examined this relationship by using a sample drawn in Suzhou's 2021 Gusu Science and Technology Angel Program, a competitive government-backed scheme for technology-based startups in China. Of the 160 randomly selected business plan applications, 157 were retained as the valid analytical sample after excluding submissions that did not meet the quality criteria for a complete and formally written business plan. Eligible ventures were further required to have been established for no more than 42 months and to hold at least a patent application. For instance, Nguyen et al., (2021) empirically demonstrated this relationship using data collected over a three-month online survey period from small and medium IT enterprises operating at Quang Trung Software City, Ho Chi Minh City, Vietnam. From 280 total responses received, 182 were retained as the valid analytical sample after excluding respondents from large enterprises and incomplete questionnaire submissions. Using PLS-SEM, the study found that entrepreneurial leadership significantly enhanced SME performance through the full mediating roles of team creativity, dynamic capabilities, and competitive advantage.

2.4. Hypothesis Development

2.4.1. AI-Driven Strategic Leadership has a positive effect on AI-Based Decision Making

The integration of artificial intelligence/AI in strategic leadership processes has changed the way organizations formulate and execute business decisions. The concept of AI-Driven Strategic Leadership (AIDSL) refers to the ability of leaders to utilize AI as a source of strategic information to direct vision, set priorities, and manage the uncertainty of the business environment. In this context, AI is not positioned as a substitute for leaders, but rather as a decision support system that strengthens the quality of decision-making (Mohammed et al., 2025).

Recent research shows that the role of leadership is becoming crucial in determining whether AI recommendations are used, understood, and translated into relevant strategic actions. Without clear leadership direction, the utilization of AI is

often partial and limited to operational functions (Zárate-Torres, et al., 2025). In the context of entrepreneurship and startups, the relationship between AIDSL and AIBDM is becoming increasingly relevant. A dynamic business environment demands fast, adaptive, and data-driven decisions, yet it still requires leadership that is able to manage risk and uncertainty (Csaszar et al., 2024).

2.4.2. AI-Based Decision Making has a positive effect on Venture Performance

AI-Based Decision Making (AIBDM) is understood as a decision-making process powered by AI algorithms, predictive analytics, and intelligent data processing to improve the accuracy, speed, and quality of business decisions. AIBDM has great potential in improving venture performance, especially in startups that operate in a dynamic and competitive environment (Giachino et al., 2024). These findings are reinforced by the statement that AIBDM has a significant effect on startup performance, especially in supporting market analysis and data-driven decision-making (Hasya & Sabri, 2025). They state that the use of AI in the decision-making process helps ventures in managing risk and creating a sustainable competitive advantage.

However, other literature also indicates that the relationship between AIBDM and venture performance is not always linear. The effectiveness of AI-based decisions is highly dependent on the ability of business actors to interpret and integrate AI output into business strategies. In other words, AI does not automatically improve venture performance without adequate leadership support and organizational context (Csaszar et al., 2024). This confirms that AIBDM is an important determinant of venture performance, but its impact is greatly influenced by contextual factors such as leadership quality and organizational readiness.

2.4.3 AI-Driven Strategic Leadership has a positive effect on Venture Performance

The development of artificial intelligence (AI) has driven the emergence of a new strategic leadership approach known as AI-Driven Strategic Leadership (AIDSL). AIDSL plays an important role in improving organizational performance, especially in the context of dynamic and innovation-based business. Leaders who are strategically oriented towards AI are able to leverage data and analytics to

improve decision accuracy and responsiveness to changing business environments (Bevilacqua et al., 2025). Strategically led AI can improve an organization's productivity, operational efficiency, and competitive advantage, especially when AI is used as part of a strategic decision-making process. In addition, AI-based leadership also encourages the creation of an adaptive and innovative organizational culture, which is an important prerequisite for improving business performance (Cui, 2025).

However, the literature also indicates that the influence of AIDSL on venture performance is not always direct. The effectiveness of AI-driven leadership is highly dependent on the organization's ability to translate AI outputs into relevant and implementable decisions. In this context, AI-Based Decision Making is often positioned as a key mechanism that bridges strategic leadership and venture performance (Jowarder & Jowarder, 2025).

2.4.4. AI-Based Decision Making has a positive effect as a mediation between AI-Driven Strategic Leadership and Venture Performance

The development of artificial intelligence has driven significant transformations in strategic leadership practices and organizational decision-making. A number of studies in the last four years confirm that Artificial Intelligence-Based Decision Making (AIBDM) contributes positively to the performance of organizations and ventures through improved data analysis accuracy, response speed, and predictive capabilities in a dynamic business environment. However, the effectiveness of AIBDM does not stand alone, but is greatly influenced by the leadership's capabilities in integrating the technology into the organization's strategy (Bevilacqua et al., 2025).

Leaders who have an AI-based strategic orientation are able to translate analytical outputs into decisions that align with the organization's long-term vision. Taken together, these findings suggest that AISDL does not influence venture performance directly through leadership vision alone, but by shaping how effectively AI-based decision-making is deployed within the organization. In other words,

AIBDM functions as the operational mechanism through which strategic leadership's AI orientation is translated into measurable venture outcomes, providing the theoretical basis for testing AIBDM as a mediating variable between AIDSL and venture performance.

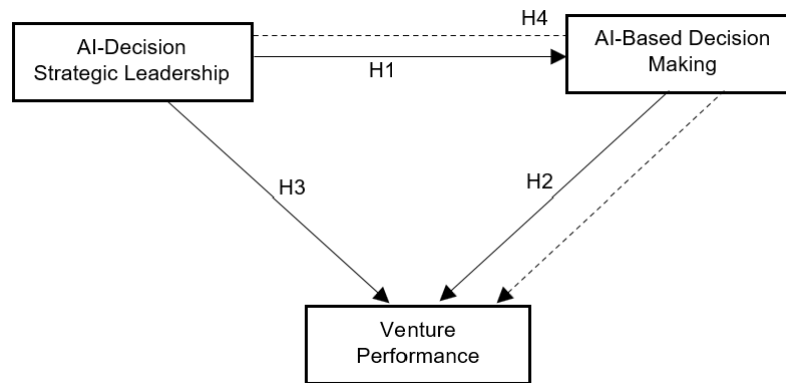


Figure 1. Path Diagram

3. METHODOLOGY

3.1. Sampling

This study used a quantitative approach aiming to examine the empirical relationship between variables in the context of student entrepreneurship. The selection of respondents was based on their actual involvement in entrepreneurial activities, experience in dealing with market uncertainties, and active role in leading and directing business development. Thus, this research population represented the right empirical context to evaluate the influence of AI-based leadership and decision-making on business performance in the early growth stage. The participants of this study were students of Universitas Ciputra Surabaya who met several inclusion criteria relevant to the research objectives. These criteria included students who had actively managed or operated startups/ventures for at least one year, were enrolled in entrepreneurship programs, had experience using artificial intelligence-based technologies, and were willing to participate as respondents by completing the research questionnaire.

3.2. Data collection

The sampling technique applied was purposive sampling, method of choosing respondents based on certain characteristics that are in line with the needs of the research, namely students who actively run startups and use AI in decision-making. This approach was used as not all Universitas Ciputra students were actively involved in venture management. Thus, a selection process was needed to ensure that the respondents involved truly represent the entrepreneurial population studied. The determination of sample size followed the Structural Equation Modeling (SEM-PLS) guidelines recommended by Hair and Alamer (2022), which suggest using a maximum of 20 times the number of indicators included in the research model. With a total of sixteen indicators, the minimum sample number set was 200 respondents to ensure the adequacy of statistical power and the reliability of the empirical analysis results.

3.2. Measurement

Table 1. Measurement

Variables		Indicators	References
AI-Based Decision Making (Accuracy of Decision-Making)	Decision	ABDM1: Decisions made by AI applications achieve the desired goals.	Aljohani & Albliwi, (2022)
		ABDM2: The ability of AI applications to make decisions in a risky or uncertain environment.	
		ABDM3: The ability of AI technology to make accurate decisions is only in the certainty environment.	
AI-Driven Strategic Leadership (Emotional and Social Intelligence)	Strategic	ADSL1: Able to manage my own emotions	Bevilacqua, et, al., (2025)
		ADSL2: Build and maintain positive relationships with team	
		ADSL3: Ensure that the use of AI in my venture remains human-centered	
Venture Performance		VP1: In terms of sales	Saleem et al., (2023)
		VP2: In terms of net profit	
		VP3: In terms of market share	
		VP4: In terms of return on investment	

This study employed a field-based research approach by collecting primary data directly from respondents. This research data processing used Smart Partial Least Square (SmartPLS) 3.0 software. The analytical model used in this study was the structural equation model (SEM). Data were gathered using a structured questionnaire adapted from measurement instruments developed in prior studies. Responses were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to capture respondents' perceptions and attitudes in a systematic and quantifiable manner.

4. RESULT AND DISCUSSION

In this section, the results of data processing analysis of respondent characteristics and inner and outer models will be discussed.

4.1. Respondent Characteristics

Based on the characteristics of the respondents, the majority of participants in this study were male with a proportion of 54% while female respondents reached 46% which showed a balanced gender distribution. All respondents were venture managers with a minimum of 1 year of business so that it reflects the characteristics of startups in the initial phase to the development phase.

Table 2. Respondent Characteristics Test Results

Respondent Characteristics		Frequency	Percentage
Gender	Male	108	54%
	Female	92	46%
Venture time	Minimum 1 year	200	100%
Kind of Business	F&B	122	61.25%
	Fashion	34	16.87%
	Construction Services	6	3.12%
	Cosmetics	18	9.37%
	Agency and Photography	8	4.37%
	Others	12	5.02%

Source: Data analysis (2026)

In terms of venture type, the food and beverage sector dominates with a percentage of 61.25%, followed by the fashion and cosmetics sectors. Meanwhile, the construction services, agencies, and photography sectors showed a smaller proportion. This composition illustrates the tendency of students to choose business fields that have a relatively high level of market access and commercialization opportunities.

4.2. Test Measurement Model

4.2.1. Validity Test

Table 3. Validity Test Results

	AIBDM	AIDSL	VP
AIBDM1	0.905		
AIBDM2	0.931		
AIBDM3	0.927		
AISDL1		0.892	
AISDL2		0.844	
AISDL3		0.836	
SP1			0.697
SP2			0.773
SP3			0.794
SP4			0.842

Source: Data analysis (2026)

The result of the validity test in Table 3 shows that all indicators used in this study have an outer loading value above the recommended minimum limit, which is 0.50. AI-Based Decision Making (AIBDM) indicator shows very strong loading values, ranging from 0.905 to 0.931, which reflects the indicator's ability to represent constructs consistently. Furthermore, the AI-Driven Strategic Leadership (AIDSL) indicator also shows an adequate level of validity with a loading value above 0.80. Meanwhile, the Venture Performance (VP) indicator has a loading value between 0.697 to 0.842, which is still within the valid criteria. These findings confirm that the entire construct has qualified for convergent validity and is worthy of further analysis.

4.2.2. Reliability Test

Table 4. Reliability Test Results

Variable	Composite Reliability (rho_a)	Cronbach's Alpha	Average Variance Extracted
AIBDM	0.916	0.911	0.848
AIDSL	0.823	0.820	0.736
VP	0.903	0.807	0.706

Source: Data analysis (2026)

Based on the result of the reliability test presented in Table 4, all constructs in this study show an adequate level of internal consistency. The composite reliability values for the AI-Based Decision Making (AIBDM), AI-Driven Strategic Leadership (AIDSL), and Venture Performance (VP) variables were above the threshold of 0.70, which indicates strong reliability.

In addition, Cronbach's Alpha values on all three variables also exceeded the minimum recommended criteria, thus reflecting good measurement stability. These findings show that all indicators are able to measure constructs consistently and reliably. Therefore, the measurement model used in this study is feasible to proceed to the structural analysis stage to test the relationship between variables empirically.

4.2.3. Heteroit-Monotrait Ratio (HTMT)

Table 5. HTMT Test

	AIBDM	AIDSL	SP
AIBDM			
AIDSL	0.733		
VP	0.510	0.480	

Source: Data analysis (2026)

Discriminant validity was assessed using the Heteroit-Monotrait ratio (HTMT), following the criterion that HTMT values should remain below the threshold of 0.90 to confirm that each construct is empirically distinct from the others. As shown in the table, the HTMT value between AIBDM and AIDSL is 0.733, while the values between VP and AIBDM, and between VP and AIDSL, are 0.510 and 0.480, respectively. All HTMT values obtained are well below the recommended threshold, indicating that discriminant validity has been adequately established among the

three constructs. These results confirm that AIBDM, AIDSL, and VP represent conceptually and empirically distinct constructs within the research model.

4.2.4. R Square Test

Table 6. Test Result R Square

	R-Square	R-Square Adjusted
AIBDM	0.524	0.523
VP	0.275	0.271

Source: Data analysis (2026)

The results of the determination coefficient test shown in Table 5 show that the R-Square value for the AI-Based Decision Making (AIBDM) variable is 0.524, which indicates that 52.4 percent of the variation in AIBDM can be explained by independent variables in the study model. Although the model explains only 27.5% of the variance in venture performance, this does not diminish the statistical significance of the direct and indirect effects of AIDSL and AIBDM found in this study. Rather, it suggests that while AI-driven leadership and decision-making meaningfully contribute to shaping business performance among student ventures, performance outcomes at this early stage are also substantially influenced by external factors—such as funding access, market competitiveness, and team capability—that fall outside the scope of the current model. This finding is consistent with the nature of early-stage entrepreneurship, where venture performance is rarely determined by internal leadership factors alone.

4.2.5 Hypothesis Testing Results

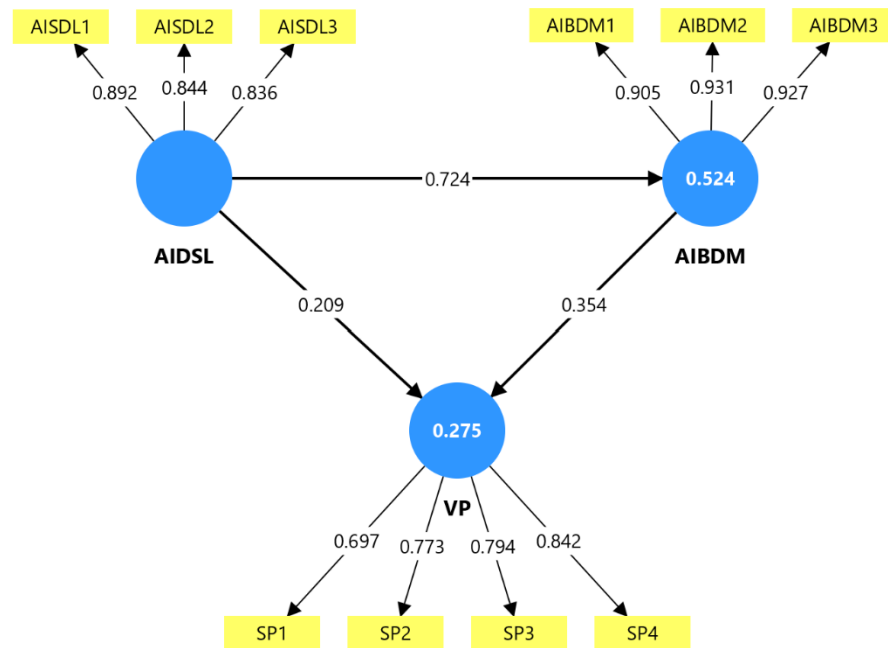


Figure 2. Research Model Framework

Table 7. Path Coefficient Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Description
AIBDM - > VP	0.354	0.346	0.091	3.903	0.000	Positive, significant
AIDSL -> AIBDM	0.724	0.726	0.049	14.646	0.000	Positive, significant
AIDSL -> VP	0.209	0.222	0.097	2.149	0.032	Positive, significant

AIDSL ->						Positive,
AIBDM -	0.256	0.249	0.060	4.242	0.000	significant
> VP						

Source: Data analysis (2026)

The result of the path coefficient analysis as presented in Table 6 shows that all structural relationships tested in this research model have a positive and statistically significant direction of influence. The relationship between AI-Based Decision Making (AIBDM) and Venture Performance (VP) showed a path coefficient of 0.354 with a t-statistical value of 3.903 and a p-value of less than 0.001. These findings indicate that the utilization of artificial intelligence-based decision-making contributes significantly to improved venture performance. Furthermore, the influence of AI-Driven Strategic Leadership (AIDSL) on AIBDM showed a very strong coefficient, which was 0.724, with a t-statistical value of 14.646. This shows that AI-based strategic leadership plays a critical role in driving the adoption and effectiveness of data-driven decision-making in organizations.

Theoretically, this finding reinforces the notion that AI-Driven Strategic Leadership contributes to venture performance not only indirectly through AI-Based Decision Making, but also through non-data-driven leadership mechanisms—such as vision-setting, resource mobilization, and team motivation—that operate independently of AI-supported decisions. Practically, however, the relatively modest coefficient (0.209) suggests that AIDSL alone offers limited standalone impact on venture performance; student founders who possess strong AI-driven leadership qualities but fail to translate them into effective AI-based decisions may still see only marginal gains in business outcomes. This underscores that AI-driven leadership functions best as an enabling capacity rather than a direct performance driver, implying that leadership development programs for student entrepreneurs should pair strategic leadership training with practical AI-decision-making skills to fully realize its impact.

4.3. Discussion

4.3.1. AI-Driven Strategic Leadership has a positive effect on AI-Based Decision Making

AI-Driven Strategic Leadership (AIDSL) is understood as the capacity of leaders to integrate artificial intelligence as a source of strategic input in formulating organizational vision, determining priority focus, and dealing with the complexity and uncertainty of the business environment. Within this framework, AI functions as a decision support system that complements the leader's role, not replaces it, so that the quality of strategic decisions can be improved more objectively and data-driven (Mohammed et al., 2025). This conceptualization is particularly relevant to the present study's respondent profile, in which the majority of student founders were aged 19-22 years old, and had more than 1 year of venture operation. suggesting that their leadership practices are still in a formative stage where AI-based tools may serve as an accessible substitute for the extensive managerial experience typically associated with seasoned executives.

The absence of strategically oriented leadership often leads to the use of AI being limited to purely operational activities, without making a significant contribution to strategic-level decision-making (Zárate-Torres, et al., 2025). This condition is becoming increasingly important in the context of entrepreneurship and startups, where the linkage between AIDSL and AI-Based Decision Making (AIBDM) plays a crucial role. The high dynamics of the business environment demand fast, adaptive data-driven decisions, but still require leadership to balance technology recommendations with risk considerations and strategic uncertainties (Csaszar et al., 2024).

4.3.2. AI-Based Decision Making has a positive effect on Venture Performance

AI-Based Decision Making (AIBDM) refers to a decision-making mechanism that utilizes artificial intelligence algorithms, predictive analytics, and advanced data processing to improve the accuracy, speed, and quality of managerial decisions. This approach is seen as having a strategic capacity to encourage increased venture performance, especially in startups that operate in dynamic and competitive market conditions (Giachino et al., 2024). The use of artificial intelligence in this context allows ventures to manage uncertainty more systematically and build a sustainable competitive advantage. AIBDM makes a significant contribution to startup performance, especially through strengthening market analysis capabilities and decision-making based on factual data (Hasya & Sabri, 2025). The results of

the data processing also stated that the use of AI in the decision-making process helps ventures in managing risk and creating a sustainable competitive advantage (Al-Mamary, 2025).

4.3.3. AI-Driven Strategic Leadership has a positive effect on Venture Performance

Rapid advances in artificial intelligence technology have given birth to a form of strategic leadership that is more integrated with technology, known as AI-Driven Strategic Leadership (AIDSL). This leadership approach is increasingly seen as crucial in encouraging improvement in organizational performance, especially in a business environment characterized by a high level of dynamism and innovation. Strategically oriented leaders with an AI-based approach have the ability to optimize the use of advanced data and analytics to improve the quality of decision-making and improve the organization's responsiveness to external changes (Bevilacqua et al., 2025). The application of strategically directed AI has been proven to be able to support increased productivity, operational efficiency, and organizational competitiveness, especially when the technology is systematically integrated in the strategic decision-making process. In addition, AI-driven leadership contributes to shaping an adaptive and innovation-oriented organizational culture, which is an important foundation for achieving sustainable business performance (Cui, 2025).

4.3.4. AI-Based Decision Making has a positive effect as a mediation between AI-Driven Strategic Leadership on Venture Performance

Advances in artificial intelligence technology have triggered fundamental changes in strategic leadership patterns and decision-making processes within organizations. Through improving the accuracy of data analysis, accelerating strategic responses, and superior predictive capabilities in dealing with the dynamics of the business environment. However, the use of AIBDM is not autonomous, but rather relies heavily on the ability of leadership to integrate AI technology in a manner that aligns with the direction and strategy of the organization (Bevilacqua et al., 2025). Leaders with an AI-driven strategic orientation have the

capacity to interpret analytics results into decisions that are consistent with the organization's long-term vision and goals.

Leadership that uses AI strategically is able to improve the quality of decision-making through the harmonization between data utilization, managerial intuition, and contextual understanding of the business environment faced (Abositta et al., 2024). AI-Driven Strategic Leadership not only encourages the adoption of technology operationally but also ensures that AI management is carried out strategically, so that its influence on improving venture performance can be maximized (Alami & Al Masaeid, 2025).

5. CONCLUSION

In this section, the conclusions and managerial implications of the findings will be explained along with the limitations in this study.

5.1. Managerial Implication

The findings of this study offer broader managerial implications applicable to leaders and managers across entrepreneurial and startup organizations in general, regardless of venture size, stage, or resource level. First, leaders are encouraged to cultivate AI-Driven Strategic Leadership capabilities so that the adoption of AI technology extends beyond routine operational tasks and becomes embedded in the formulation and execution of core business strategy. Second, organizations should invest in strengthening their teams' data literacy and analytical competencies, enabling AI-generated outputs to be interpreted and translated into decisions that are contextually relevant and actionable. Third, leaders are advised to foster an organizational culture that is adaptive and open to data-driven experimentation, as such a culture provides the necessary foundation for AI-Based Decision Making to be implemented effectively. Taken together, these implications suggest that organizations seeking to leverage AI for improved performance should prioritize leadership development, workforce capability building, and cultural readiness as interconnected and mutually reinforcing priorities.

5.2. Limitation

This study has several limitations that need to be considered in interpreting the findings. First, the research was conducted with a cross-sectional approach, so it has not been able to capture the dynamics of leadership behavior change and AI-based decision-making in the long term. Second, data was collected through questionnaires based on respondent perception, which has the potential to cause subjectivity bias. Third, the research context was limited to startups of Universitas Ciputra Surabaya students, so the generalization of findings to the context of other organizations needs to be done carefully. Therefore, further research is recommended to use longitudinal design, mixed methods, as well as expand the object of research.

REFERENCE

- Abositta, A., Adedokun, M. W., & Berberoglu, A. (2024). Influence of Artificial Intelligence on Engineering Management Decision-Making with Mediating Role of Transformational Leadership. *Systems*, 12, 1-21. <https://doi.org/10.3390/systems12120570>.
- Al Qadiri, W. M., Alkaf, M., & Supratikta, H. (2024). Analyzing the Impact of Artificial intelligence (AI) on Decision-Making Strategies. *Journal of Investment, Development, Economics, and Accounting (IDEA)*, 1(2), 182-190, DOI: <https://doi.org/10.70001/jidea.v1i2.221>.
- Alami, R., & Al Masaeid, T. F. (2025). The AI-Executive Partnership: A New Paradigm for Decision-Making and Strategic Leadership. *Journal of Information & Knowledge Management*, 1-16, DOI: 10.1142/S0219649225500650.
- Aljohani, N. B., & Albliwi, S. (2022). Impacts of Applying Artificial Intelligence on Decision-Making Quality: A Descriptive Study in Saudi Arabian Private Sector Organizations. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 13(5), 1-14, DOI: 10.14456/ITJEMAST.2022.104.
- Al-Mamary, Y. H. (2025). The transformative power of artificial intelligence in entrepreneurship: exploring AI's capabilities for the success of entrepreneurial ventures. *Future Business Journal*, 11, 1-25, DOI: 10.1186/s43093-025-00533-7.
- Al-Omoush, K. S. (2025). The Drivers of AI Adoption Maturity and the Domino Effects on Frugal Innovation Adoption and Social Impact. *International*

- Journal of Innovation Science*, 1-22, <https://doi.org/10.1108/IJIS-06-2025-0318>.
- Armayani, R., & Soemaryani, I. (2025). Impact of Retention and Development on Turnover Intention among Gen Z at Bank BNI. *Jurnal Ilmiah Manajemen Kesatuan*, 13(5), 3777-3786, DOI: <https://doi.org/10.37641/jimkes.v13i5.3903>.
- Bevilacqua, S., Masarova, J., Perotti, F. A., & Ferraris, A. (2025). Enhancing top managers' leadership with artificial intelligence: insights from a systematic literature review. *Review of Managerial Science*, 19(9), 2899-2935, DOI: 10.1007/s11846-025-00836-7.
- Borges, A. F., Laurindo, F. J., Spínola, M. M., Gonçalves, R. F., & Mattos, C. A. (2021). The Strategic Use of Artificial Intelligence in the Digital Era: Systematic Literature Review and Future Research Directions. *International Journal of Information Management*, 57, 1-15, <https://doi.org/10.1016/j.ijinfomgt.2020.102225>.
- Caliendo, M., Kritikos, A., Rodríguez, D., & Stier, C. (2023). Self-Efficacy and Entrepreneurial Performance of Start-Ups. *Small Business Economics*, 61(3), 1-25, DOI: 10.1007/s11187-022-00728-0.
- Chen, S., Zhong, L., Wang, X., & Chen, B. (2024). Impact of Entrepreneurs' Prior Experience on their New Ventures' Early-Stage Performance: the Mediation Effect of Entrepreneurial Mindset Level. *Frontiers Organizational Psychology*, 1-17, DOI 10.3389/forgp.2024.1435134.
- Csaszar, F. A., Ketkar, H., & Kim, H. (2024). Artificial Intelligence and Strategic Decision-Making: Evidence from Entrepreneurs and Investors. *INFORMS*, 9(4), 322-345, <https://doi.org/10.1287/stsc.2024.0190>.
- Cui, J. (2025, 05 16). *AI-Driven Digital Transformation and Firm Performance in Chinese Industrial Enterprises: Mediating Role of Green Digital Innovation and Moderating Effects of Human-AI Collaboration*. Retrieved from Cornell University: <https://arxiv.org/abs/2505.11558>
- Darmawan, B. A., Maulida, R. L., & Nasito, M. (2021). Supply Chain Performance of SMEs: The Role of Triple-A Strategy. *Kinerja*, 25(1), 91-102, <https://doi.org/10.24002/kinerja.v25i1.3588>.
- Fayaz, M., Amin, M., & Iqbal, M. (2024). Artificial Intelligence in Decision-Making: A Descriptive Analysis of Its Impact on Strategic Planning. *Journal of Business and Management Research*, 3(2), 222-235, <https://www.jbmrjournal.com/index.php/Journal/article/view/228>.
- Fengkuo, S., Yijia, Z., Comite, U., Badulescu, A., & Badulescu, D. (2024). Artificial Intelligence-Supported Leadership: A Catalyst for Team Excellence in

- China's. *Journal of Organizational and End User Computing*, 37(1), 1-29, <https://doi.org/10.4018/JOEUC.379769>.
- Florea, N. V., & Croitoru, G. (2025). The Impact of Artificial Intelligence on Communication Dynamics and Performance in Organizational Leadership. *Administrative Sciences*, 15(2), 1-33, <https://doi.org/10.3390/admsci15020033>.
- Giachino, C., Cepel, M., Truant, E., & Bargoni, A. (2024). Artificial Intelligence-Driven Decision Making and Firm Performance: a Quantitative Approach. *Management Decision*, 63(10), 3454-3476, <https://doi.org/10.1108/MD-10-2023-1966>.
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics* (1), 1-16, DOI: 10.1016/j.rmal.2022.100027.
- Hasya, A., & Sabri, A. Q. (2025). The Impact of AI Based Decision Making, Market Intelligence, and Chatbot Integration on Business Performance in Indonesian Start-ups. *Jurnal Strategi Bisnis*, 34(1), 1-10, <https://doi.org/10.14710/jbs.34.1.1-10>.
- Jintao, Y., Ximing, Z., & Bojja, G. R. (2025). Exploring Artificial Intelligence for Sustainable Business Development: A Review. *Data Science and Management*, 1-39, <https://doi.org/10.1016/j.dsm.2025.10.001>.
- Jowarder, R. A., & Jowarder, M. I. (2025). AI-Driven Strategic Insights: Enhancing Decision-Making Processes in Business Development. *International Journal of Innovative Research of Science, Engineering, and Technology (IJIRSET)*, 14(1), 99-116, <https://www.ijirset.com/upload/2025/january/12>.
- Kawak, M. Y., Aprillia, S., & Budisantoso, A. T. (2026). The Future of Accounting: The Impact of AI on Accounting Students' Career Prospects. *Kinerja*, 30(1), 98-111, <https://doi.org/10.24002/kinerja.v30i1.12734>.
- Li, H., Li, F., Ma, J., & Liu, B. (2025). How Digital Leadership Adds Affective Commitment of New Generation Employees: an Affective Events Perspective. *Front. Psychology*, 15, 1-11, <https://doi.org/10.3389/fpsyg.2024.1476047>.
- López-Solís, O., Luzuriaga-Jaramillo, A., Bedoya-Jara, M., Naranjo-Santamaría, J., Bonilla-Jurado, D., & Acosta-Vargas, P. (2025). Effect of Generative Artificial Intelligence on Strategic Decision-Making in Entrepreneurial Business Initiatives: A Systematic Literature Review. *Administrative Sciences*, 15(2), 1-25, <https://doi.org/10.3390/admsci15020066>.

- Mohammed, A., Bambale, S. A., & Abdullah, U. (2025). AI-Driven Decision-Making in Leadership: Balancing Automation and Human Judgment for Optimal Organizational Performance. *Journal of Economics and Administrative Sciences*, 31(150), 129-141, <https://doi.org/10.33095/hv149002>.
- Nevi, G., Palazzo, M., Ferri, M. A., & Dezi, L. (2025). Redefining identity: corporate evolution in the AI era. *European Journal of Innovation Management*, 1–33, <https://doi.org/10.1108/EJIM-03-2025-0389>.
- Nguyen, P. V., Huynh, H. T., Lam, L. N., Le, T. B., & Nguyen, N. H. (2021). The Impact of Entrepreneurial Leadership on SMEs' Performance: The Mediating Effects of Organizational Factors. *Heliyon*, 7, 1-13, <https://doi.org/10.1016/j.heliyon.2021.e07326>.
- Nson, Y. D. (2025). Entrepreneurial orientation and start-ups performance: The role of entrepreneurial self-efficacy. *Annals of Management and Organization Research (AMOR)*, 6(3), 1-18.
- Saleem, I., Saleem, A., Hassan, A., Farukh, M. U., & Kamran, H. (2023). Psychological Aspects Affecting the Venture Performance of Indian Women Entrepreneurs. *Cogent Business & Management*, 10, 1-19, <https://doi.org/10.1080/23311975.2023.2259144>.
- Santiago-Torner, C., Corral-Marfil, J. A., & Tarrats-Pons, E. (2026). Artificial Intelligence and Leadership in Organizations: A PRISMA Systematic Review of Challenges, Risks, and Governance Dynamics. *Sustainability*, 18(8), 1-40, <https://doi.org/10.3390/su18084085>.
- Sinaga, G. J. (2025). Social Media and Market Orientation in SMEs Performance: Competitive Advantage as Mediating Factor. *Kinerja*, 29(1), 91-113, <https://doi.org/10.24002/kinerja.v29i1.9519>.
- Trinet. (2025, 11 05). *Gen Z on the Move: Why One-Third Plan to Switch Jobs Within the next Six Months*. Retrieved from Trinet: https://www.trinet.com/insights/gen-z-turnover-trends-2025?utm_source=chatgpt.com
- Zárate-Torres, R., Rey-Sarmiento, C. F., Acosta-Prado, J. C., Gómez-Cruz, N. A., Castro, D. Y., & Camargo, J. (2025). Influence of Leadership on Human–Artificial Intelligence Collaboration. *Behavioral Science*, 15(7), 1-10, doi: 10.3390/bs15070873.
- Zheng, H., Dai, J., & Li, B. (2025). Exploring the Relationship between Digital Integration and Agility: The Role of Organizational Inertia and Market Information Transparency. *International Journal of Operations & Production Management*, 45(8), 1602-1626, <https://doi.org/10.1108/IJOPM-08-2024-0663>.