

# From Learning to Performance: The Strategic Role of Knowledge Management in Indonesian Universities

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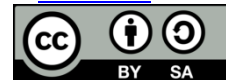
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## ABSTRACT

Higher education institutions in developing countries face persistent challenges in enhancing institutional performance amid rapid digital transformation, yet the mechanisms through which organizational learning and knowledge management contribute to performance outcomes remain underexplored in the Indonesian context. This study aims to: (1) analyze the effect of the learning organization on knowledge management strategy; (2) examine the influence of knowledge management strategy on university performance; and (3) investigate the direct effect of the learning organization on university performance at universities in Eastern Priangan, Indonesia. A quantitative cross-sectional survey design was employed, involving 420 academic and administrative staff selected through purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with WarpPLS 7.0 software. The results demonstrate that the learning organization exerts a strong and significant positive effect on knowledge management strategy ( $\beta = 0.899$ ,  $p < 0.001$ ,  $R^2 = 0.807$ ) and on university performance ( $\beta = 0.521$ ,  $p < 0.001$ ). Knowledge management strategy also significantly influences university performance ( $\beta = 0.412$ ,  $p < 0.001$ ), with the combined model explaining 75.6% of the variance in performance outcomes ( $R^2 = 0.756$ ). These findings confirm that an organizational learning culture is a critical antecedent to the development of effective knowledge management systems, which, in turn, drive improvements in academic quality, research productivity, and institutional governance. This study enriches the learning organization literature in the Indonesian higher education context and provides practical implications for university leaders in designing sustainable institutional development strategies.

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## 1. INTRODUCTION

Higher education institutions currently face complex challenges that demand a fundamental transformation in governance and in the development of institutional capacity. The dynamics of the global environment—characterized by accelerated digital technologies, international accreditation demands, and shifting stakeholder expectations—require

universities to adopt more adaptive and innovative management approaches (Altbach & de Wit, 2019; Guthrie et al., 2024). In this context, university performance becomes a crucial indicator reflecting the institution's ability to produce high-quality graduates, conduct impactful research, and contribute meaningfully to society.

Paradigm shifts in higher education management have encouraged the adoption of innovative concepts originating from the business sector but highly relevant to education. One approach that has received significant attention is the concept of the learning organization. Rad and Bocoş [29], in their comprehensive review, emphasize that learning organizations possess a superior capacity to improve performance and organizational adaptability in dynamic environments. This concept highlights the importance of continuous learning, knowledge creation, and knowledge sharing within the organizational framework.

The learning organization, as conceptualized by Senge [31], is an entity that systematically develops its capacity to create desired results through new and expansive patterns of thinking, collective aspirations, and continuous team learning. In the university context, this approach is believed to strengthen internal processes and enhance the quality of institutional services [5]. Empirical research shows that the learning organization positively influences the performance of educational institutions, both through improvements in academic processes and more efficient governance [26].

Another critical dimension that has gained increasing attention in higher education management is knowledge management strategy. Through a qualitative meta-synthesis, Zerafati and Hosseinpour [33] identify that implementing knowledge management in higher education institutions involves critical success factors, implementation challenges, and comprehensive strategies. Knowledge management is a systematic mechanism for managing an institution's intellectual assets, including knowledge creation, storage, distribution, and utilization [28].

Within the higher education ecosystem, knowledge management plays a multidimensional strategic role. Horban [23] and Escorcía Guzmán and Barros Arrieta [13] highlight that higher education institutions must identify their strategic needs based on organizational goals, hierarchical systems, stakeholders, and operational procedures. Recent studies indicate that universities with mature knowledge management strategies can accelerate innovation, increase research productivity, and strengthen their capacity to deliver high-quality educational services [1], [6].

The convergence between the learning organization concept and knowledge management strategy creates a powerful synergy in higher education. Dovleac and Căramidaru [12] argue that, in the transition toward Education 4.0, knowledge management strategies are increasingly critical, particularly given that higher education institutions are recognized as key sources of knowledge creation and dissemination. The integration of emerging technologies generates massive volumes of data that require careful, comprehensive management to yield maximum benefit, such as the development of personalized learning experiences and intelligent ways to track student progress.

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Although numerous studies have discussed the relationships among learning organizations, knowledge management strategies, and organizational performance, empirical findings remain varied. Donate, and Sánchez de Pablo [11] found a significant influence of knowledge-oriented leadership on organizational innovation, while Hussein et al. [24] showed that performance improvements are more strongly mediated by organizational culture and institutional learning processes. These disparities indicate the need for more contextual research, particularly in higher education settings in developing countries.

The Indonesian context is particularly interesting due to the unique characteristics of its national higher education system. Ghasemy et al. [15], in their comprehensive review of PLS-SEM applications in higher education research, emphasize the importance of considering local context in learning organization studies. Indonesian universities face specific challenges that differ from institutions in developed countries, including resource constraints, heterogeneous institutional capacities, and complex governance systems. Therefore, research exploring the dynamics of learning organizations and knowledge management in Indonesia is vital to produce locally relevant findings that also contribute to global discourse.

From a methodological perspective, research on the complex relationships among these constructs requires sophisticated analytical approaches. PLS-SEM has become increasingly popular in higher education research due to its ability to handle complex models with limited sample sizes and non-normal data distributions [19], [10]. In the context of research on AI adoption in Vietnamese higher education, PLS-SEM has proven effective for testing complex theoretical models, especially when data are limited or non-normally distributed [27]. The strengths of PLS-SEM in handling reflective and formative measurement models and its predictive capabilities make it an appropriate methodological choice for this study [30].

This study offers several important contributions. First, it enriches the learning organization literature in the Indonesian higher education context by providing empirical evidence on how organizational learning culture influences the development of knowledge management strategies and institutional performance. Second, it employs PLS-SEM, an advanced analytical method that is still relatively underutilized in Indonesian higher education management research. Third, the findings provide practical implications for university leaders in designing strategic interventions to enhance organizational capacity and institutional performance.

Despite these contributions, several research gaps remain unaddressed. First, the majority of prior studies were conducted in Western or East Asian institutional contexts, leaving the dynamics of learning organizations and knowledge management in Indonesian higher education largely underexplored. Second, most existing studies treat the learning organization and knowledge management as separate constructs, without examining their integrated structural relationships and their combined effect on institutional performance. Third, very few studies have adopted advanced variance-based SEM methods, such as PLS-SEM, in the context of Indonesian public universities, despite their suitability for complex

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models with heterogeneous data [19]. This study addresses these gaps by simultaneously examining the structural relationships among the learning organization, knowledge management strategy, and university performance within the Indonesian higher education context, using PLS-SEM as the analytical method. Specifically, this study aims to: (1) analyze the effect of the learning organization on knowledge management strategy in universities; (2) examine the influence of knowledge management strategy on university performance; and (3) investigate the direct effect of the learning organization on university performance. The findings of this study are expected to: (a) contribute theoretically by enriching the learning organization and knowledge management literature in developing-country higher education contexts; (b) provide methodological contributions through the application of PLS-SEM in Indonesian institutional research; and (c) offer practical guidance for university leaders in designing evidence-based strategies for sustainable institutional development.

## 2. METHOD

This study employs a quantitative, cross-sectional survey design to test a structural model linking the learning organization, knowledge management strategy, and university performance. This approach was chosen due to its ability to identify causal relationships among complex latent constructs [9]. The study population consists of academic and administrative staff at universities in the Eastern Priangan region. A purposive sampling technique was used with the following criteria: respondents must have worked at their current institution for at least two years and possess an understanding of the university's academic and managerial processes. Based on the "ten times rule" recommended by Hair et al. [18], the minimum sample size is ten times the number of structural paths directed toward the endogenous constructs in the model. Given the model's complexity, this study included 420 respondents to ensure an adequate sample size and sufficient statistical power. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with WarpPLS 7.0 software. PLS-SEM was selected for several reasons: (1) its ability to handle complex structural models; (2) its lack of requirement for multivariate normal data distribution; (3) its effectiveness for moderate sample sizes; and (4) its capability to simultaneously handle models with reflective and formative indicators [19], [25].

Based on the literature review, this study tests three main hypotheses:

1. H1: The learning organization has a positive and significant effect on the knowledge management strategy.
  2. H2: The knowledge management strategy has a positive and significant effect on university performance.
  3. H3: The learning organization has a positive and significant effect on university performance.
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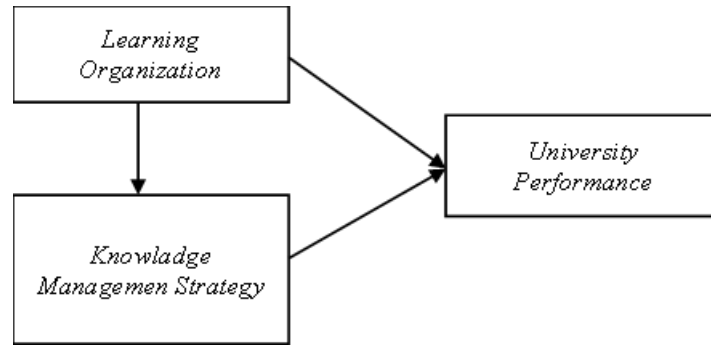


Figure 1. Relationship Model between Learning Organization and Knowledge Management Strategy on University Performance

### 3. RESULTS AND DISCUSSION

#### 3.1. RESULTS

##### Characteristics of Respondents

Data were collected from 420 respondents, comprising faculty members (72%), administrative staff (18%), and structural leaders (10%) from various universities in Eastern Priangan. The majority of respondents had worked for 5–10 years (45%), followed by more than 10 years (38%) and 2–5 years (17%). Regarding educational qualifications, 58% of respondents held a master's degree (S2), 32% a doctoral degree (S3), and 10% a bachelor's degree (S1).

##### Measurement Model Evaluation (Outer Model)

Before analyzing the structural model, a comprehensive evaluation of the measurement quality was conducted to ensure that the indicators used demonstrated adequate reliability and validity. This process follows procedures recommended by Hair et al. [19] and Becker et al. [4].

Table 1. Measurement Model Evaluation Results

Construct	AVE	Composite Reliability	Cronbach's Alpha	Interpretation
Learning Organization	0.742	0.941	0.926	Excellent
Knowledge Management Strategy	0.688	0.916	0.894	Excellent
University Performance	0.713	0.924	0.902	Excellent

##### Indicator Reliability

The evaluation results show that all outer loadings are above the recommended threshold of  $\geq 0.70$  [18]. Some indicators fall slightly below the minimum boundary (0.68–0.72), but they were retained because they do not significantly reduce construct reliability and are strongly theoretically justified. These findings are consistent with Demir and Uşak [10], who found that in educational research, outer loadings between 0.65 and 0.70 may still be accepted if AVE meets the threshold.

### Convergent Validity

The Average Variance Extracted (AVE) values for all constructs range from 0.688 to 0.742, meaning that all latent variables explain more than 50% of the variance in their indicators. Thus, convergent validity is achieved according to Fornell and Larcker [14] criteria. This indicates that indicators within each construct consistently measure the same underlying concept.

### Internal Consistency Reliability

Composite Reliability (CR) values for all constructs range from 0.916 to 0.941, far exceeding the minimum standard of 0.70, indicating that the constructs are highly reliable. Cronbach's Alpha values also show strong internal consistency, ranging from 0.894 to 0.926. These results confirm that the indicators within each construct exhibit high stability and consistency [20]. This high level of reliability aligns with the findings of Cao et al. [5] in their study of learning organizations in the Vietnamese context.

### Discriminant Validity

Discriminant validity testing using the Fornell–Larcker criterion shows that each construct has a higher square root of AVE than its correlations with other constructs. Additional evaluation using the Heterotrait–Monotrait (HTMT) ratio reveals values below 0.85 for all construct pairs, fulfilling the strict criteria recommended by Henseler et al. [21].

Table 2. HTMT Matrix for Discriminant Validity

Construct	LO	KMS	UP
Learning Organization (LO)	-		
Knowledge Management Strategy (KMS)	0.782	-	
University Performance (UP)	0.814	0.796	-

These results confirm that the measurement model satisfies discriminant validity, indicating that the constructs are unique and non-overlapping. Therefore, the measurement model is deemed adequate for proceeding to the structural model evaluation.

### Structural Model Evaluation and Hypothesis Testing

Following confirmation of the measurement model's quality, the next step was to evaluate the structural model to test the research hypotheses and assess its predictive power. The evaluation follows procedures recommended by Hair et al. [19] and Sarstedt et al. [30].

Table 3. Hypothesis Testing Results

Hypothesis	Structural Path	Path Coefficient	t-value	p-value	Result
H1	LO → KMS	0.899	28.745	<0.001	Accepted
H2	KMS → UP	0.412	9.823	<0.001	Accepted
H3	LO → UP	0.521	11.456	<0.001	Accepted

Note: LO = Learning Organization; KMS = Knowledge Management Strategy; UP = University Performance

The analysis shows that all three hypotheses are accepted with a very high level of significance ( $p < 0.001$ ). These findings offer several important implications:

**Hypothesis 1: Learning Organization → Knowledge Management Strategy ( $\beta = 0.899$ )**

This finding confirms that the learning organization has a very strong influence on the development of knowledge management strategy. A path coefficient of 0.899 indicates that a one-unit increase in organizational learning culture increases the effectiveness of the knowledge management strategy by 89.9%. This aligns with Nonaka and Takeuchi's (1995) theoretical argument that learning organizations are a prerequisite for effective knowledge creation. Zerafati and Hosseinpour [33] also found that organizational culture and learning are critical enablers for implementing knowledge management in higher education institutions.

**Hypothesis 2: Knowledge Management Strategy → University Performance ( $\beta = 0.412$ )**

The results indicate that knowledge management strategy significantly affects university performance. Although the path coefficient (0.412) is lower than that of H1, the effect remains statistically and practically substantial. This finding underscores that universities capable of managing knowledge effectively—through their acquisition, creation, storage, distribution, and application—will experience improvements in institutional performance. These results are consistent with those of Dovleac and Cărmămidaru [12], who found that knowledge management strategies significantly impact academic performance during the transition toward Education 4.0.

**Hypothesis 3: Learning Organization → University Performance ( $\beta = 0.521$ )**

The study shows that the learning organization also has a strong direct effect on university performance. This indicates that organizational learning culture not only affects performance through the mediation of knowledge management strategy but also directly influences various aspects of institutional performance. This finding aligns with Cao et al. [5], who reported that learning organizations positively affect employee performance through the mediation of job satisfaction in the Vietnamese context.

**Coefficient of Determination ( $R^2$ )**

Table 4.  $R^2$  Values

Endogenous Construct	$R^2$	$R^2$ Adjusted	Category
Knowledge Management Strategy	0.807	0.806	Substantial
University Performance	0.756	0.754	Substantial

An  $R^2$  value of 0.807 for Knowledge Management Strategy indicates that the learning organization explains 80.7% of its variance. Meanwhile, the  $R^2$  value of 0.756 for University Performance shows that the learning organization and knowledge management strategy jointly explain 75.6% of its variance. According to Hair et al. [18], both  $R^2$  values fall into the "substantial" category ( $R^2 \geq 0.75$ ), indicating very strong predictive power.

Table 5. Effect Size Values

<b>Jalur</b>	<b>f<sup>2</sup></b>	<b>Category</b>
<b>LO → KMS</b>	4.180	Large
<b>LO → UP</b>	0.284	Medium
<b>KMS → UP</b>	0.178	Medium

The effect size ( $f^2$ ) reflects the relative impact of each exogenous construct on the endogenous constructs. The effect of the learning organization on knowledge management strategy is very large ( $f^2 = 4.180$ ), indicating a highly substantial practical contribution. The effects of the learning organization and knowledge management strategy on university performance fall into the medium category ( $f^2 = 0.284$  and  $f^2 = 0.178$ ), which still indicates relevant practical contributions [8].

The Stone–Geisser  $Q^2$  values are 0.553 for Knowledge Management Strategy and 0.541 for University Performance, both well above zero. This confirms that the model has good predictive relevance [17], indicating that it not only explains relationships within the sample but also has predictive capability for out-of-sample data.

Table 6. Model Fit Indicators

<b>Indicator</b>	<b>Value</b>	<b>Criterion</b>	<b>Interpretation</b>
<b>SRMR</b>	0.076	< 0.10	Good
<b>d_ULS</b>	1.023	< 1.5	Good
<b>d_G</b>	0.584	< 1.0	Good
<b>NFI</b>	0.821	> 0.80	Acceptable

The SRMR (Standardized Root Mean Square Residual) value of 0.076 is below the 0.10 threshold, indicating good model fit [21], [22]. Other indicators, such as d\_ULS and d\_G, also fall within acceptable ranges according to PLS-SEM standards. Although the NFI (Normed Fit Index) value of 0.821 is only slightly above the minimum threshold of 0.80, it remains acceptable in the context of PLS-SEM [18]. Overall, the model exhibits adequate fit for further analysis.

### 3.2. DISCUSSION

This study offers important contributions to understanding the dynamics among the learning organization, knowledge management strategy, and university performance in Indonesian higher education. The key findings are discussed in detail below.

#### **The Learning Organization as the Foundation of Knowledge Management**

The finding that the learning organization exerts a very strong influence on knowledge management strategy ( $\beta = 0.899$ ) provides empirical validation for long-standing theoretical propositions. Senge [31] argues that learning organizations create conducive conditions for knowledge creation and sharing through five disciplines: personal mastery, mental models, shared vision, team learning, and systems thinking. In universities, these disciplines manifest in practices such as ongoing faculty development, productive academic dialogue, interdisciplinary collaboration, and visionary leadership.

Rad and Bocoş [29], in their comprehensive review of learning organizations, emphasize that organizations with high learning capacity are better able to identify, assimilate, and apply new knowledge. In the Eastern Priangan universities studied here, the findings indicate that institutions with strong learning cultures—characterized by encouragement of continuous learning, open dialogue, and member empowerment—are better positioned to develop effective knowledge management systems.

The practical implication is that efforts to enhance knowledge management effectiveness must begin by strengthening the organizational learning culture. Investments in faculty development programs, facilitation of communities of practice, and the creation of academic dialogue spaces can significantly improve an institution's capacity to manage knowledge.

### **Knowledge Management Strategy and University Performance**

The significant impact of knowledge management strategy on university performance ( $\beta = 0.412$ ) confirms the argument that effective knowledge management is a key determinant of institutional excellence. Zerafati and Hosseinpour [33] identify that successful knowledge management implementation in higher education institutions requires attention to several critical dimensions: technological infrastructure, knowledge management processes, and a culture of knowledge sharing.

In this study, knowledge management strategies—including knowledge acquisition, creation, storage, distribution, and application—were shown to enhance various aspects of university performance. Dovleac and Cărmădaru [12] found that in the Education 4.0 era, effective knowledge management enables personalized learning, better tracking of student progress, and more meaningful feedback for all stakeholders in the educational process. These findings carry significant practical implications. Universities need to develop systems and infrastructures that adequately support the full cycle of knowledge management. This includes investments in institutional repositories, learning management systems, collaboration platforms, and mechanisms for documenting best practices. Even more importantly, institutions must develop policies and incentives that encourage faculty and staff to share and use institutional knowledge actively.

### **Direct Effect of the Learning Organization on Performance**

The finding that the learning organization has a strong direct effect on university performance ( $\beta = 0.521$ ) indicates that learning culture operates not only through knowledge management mechanisms but also directly influences various aspects of institutional performance. Cao et al. [5] showed that learning organizations affect employee performance both directly and indirectly through job satisfaction.

In the higher education context, this direct effect can be explained through several mechanisms. First, strong learning cultures foster environments that encourage innovation and experimentation, thereby improving the quality of teaching and research. Second, learning organizations adapt more quickly to external changes (e.g., regulatory shifts,

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technological advancements, and changing student preferences). Third, emphasis on team learning and shared vision fosters organizational cohesion and collective effectiveness.

Guthrie et al. [16] highlight that successful universities balance a focus on performance outcomes with learning and development processes. The present findings support this perspective by demonstrating that investment in organizational learning yields substantial returns, as reflected in improved institutional performance.

### **Integrating Learning Organization and Knowledge Management**

An integrated analysis of the three structural paths reveals that the learning organization and the knowledge management strategy operate synergistically to shape university performance. The total effect of the learning organization on university performance (direct effect plus indirect effect via knowledge management) reaches 0.890, indicating that this construct plays a highly dominant role in determining institutional success.

These findings align with the resource-based view, which posits that competitive advantage stems from unique, hard-to-imitate internal resources and capabilities [3]. In higher education, learning and knowledge management capabilities constitute strategic assets that can form the basis of sustainable advantage.

Strategically, universities should adopt a holistic approach to organizational development. Rather than viewing the learning organization and knowledge management as separate initiatives, institutions should integrate them into a comprehensive institutional development strategy. This requires visionary leadership, adequate resource allocation, and long-term commitment from all institutional stakeholders.

## **4. CONCLUSION**

This study investigated the structural relationships among the learning organization, knowledge management strategy, and university performance in the Eastern Priangan higher education context. The findings yield several important conclusions with theoretical, methodological, and practical significance.

### **1. Summary of Main Findings**

The measurement model demonstrated rigorous validity and reliability across all constructs, with outer loadings exceeding 0.70, AVEs above 0.50, composite reliabilities above 0.90, and HTMT ratios below 0.85 for all construct pairs [19]. Structurally, the learning organization exerts a very strong influence on knowledge management strategy ( $\beta = 0.899$ ,  $p < 0.001$ ), and both the learning organization ( $\beta = 0.521$ ) and knowledge management strategy ( $\beta = 0.412$ ) significantly improve university performance ( $p < 0.001$ ). These findings collectively confirm that organizational learning culture constitutes the primary antecedent of institutional effectiveness in Indonesian higher education.

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## 2. Theoretical and Practical Implications

Theoretically, this study contributes to the literature on learning organizations and knowledge management in higher education by providing empirical evidence from an Indonesian context, which has been significantly underrepresented in international scholarly discourse. The findings extend the resource-based view [3] by demonstrating that organizational learning capabilities and knowledge management systems constitute complementary strategic assets that jointly determine institutional performance. In practice, university leaders are advised to prioritize investments in an organizational learning culture—through faculty development programs, communities of practice, and collaborative governance structures—as the primary lever for enhancing both knowledge management effectiveness and institutional performance outcomes.

## 3. Research Limitations

This study is subject to several limitations that should be considered when interpreting its findings. First, the use of a cross-sectional survey design precludes causal inference and does not capture the dynamic evolution of organizational learning and knowledge management practices over time. Second, the reliance on self-reported data from a single geographic region—Eastern Priangan—may limit the generalizability of the findings to other Indonesian provinces or international higher education contexts. Third, the study did not account for potential moderating variables, such as university type (public vs. private), institutional size, or accreditation status, which may influence the strength of the observed structural relationships. Fourth, common method bias, an inherent risk in survey-based research, was not fully eliminated despite the use of established measurement instruments.

## 4. Directions for Future Research

Future research should address the limitations of this study in several ways. First, longitudinal designs are recommended to examine how learning organization culture and knowledge management strategies evolve and contribute to performance improvements over time. Second, comparative studies across different regions of Indonesia and across different institutional types (public, private, vocational) would enhance the external validity of these findings. Third, future studies should incorporate additional constructs—such as intellectual capital, digital readiness, or transformational leadership—to develop more comprehensive models of institutional performance. Fourth, qualitative or mixed-methods approaches could provide deeper insights into the mechanisms and processes by which organizational learning translates into effective knowledge management. Fifth, future research could extend the model to examine outcomes beyond institutional performance, including student satisfaction, graduate employability, and societal impact, thereby broadening the practical contributions of learning organization research in higher education.

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