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The Moderating Role of Competitiveness on the Effects of University Governance, Information Technology, and Knowledge Management on Accreditation Performance: Evidence from Private Universities in LLDIKTI Region XVII, Indonesia

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ABSTRACT

This study examines how university governance, information technology, knowledge management, and competitiveness jointly influence accreditation performance in private higher education institutions under LLDIKTI Region XVII, Indonesia (Riau and Riau Islands). Grounded in Institutional Theory, Resource-Based View, Knowledge-Based View, and Contingency Theory, this research develops and tests a structural model positioning these variables as strategic capabilities and contextual factors. Using an explanatory quantitative design and Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from key institutional informants, including leaders, quality assurance heads, and program chairs. All constructs demonstrated adequate validity and reliability, and the model explains a substantial proportion of variance in accreditation performance. Findings indicate that governance, information technology, knowledge management, and competitiveness each have a positive and significant effect on accreditation performance, with knowledge management as the strongest predictor. Competitiveness moderates the effects of governance and information technology on accreditation performance, but does not moderate knowledge management. Knowledge management appears as a stable internal capability, while governance and technology become more effective under higher competitiveness conditions. The study contributes to higher education management literature by integrating multiple theoretical perspectives into a contingency-based model and offers practical implications for private universities aiming to improve accreditation outcomes. Policy and managerial recommendations are provided for strengthening governance systems, digital transformation, and knowledge sharing practices to achieve higher accreditation ratings. Future research may explore longitudinal effects and external environmental factors across different regions of Indonesia and similar higher education contexts studies.

Keywords: Accreditation performance; university governance; information technology; knowledge management; competitiveness; higher education; PLS-SEM

INTRODUCTION

Accreditation has become a central mechanism through which higher education institutions secure legitimacy, signal quality, and compete for students and external stakeholders.[1,2] In Indonesia, private higher education institutions under the Higher Education Service Institutions (LLDIKTI) are increasingly pressured by national standards, BAN-PT instruments, and competitive dynamics, yet many remain at the "Good" level and struggle to move toward "Very Good" and "Excellent" accreditation status.[3,4]

In LLDIKTI Region XVII (Riau and Riau Islands), most private academic institutions formally hold "Good" accreditation, while only a minority have achieved higher tiers, despite internal perceptions among leaders and quality managers that governance, information systems, and quality practices are already strong. This creates a notable gap between internal perceptions of organizational capability and externally validated accreditation outcomes.[1,2]

VALUE	Count of VALUE
Excellent	5
Good	82
Very good	11
Amount	**98**

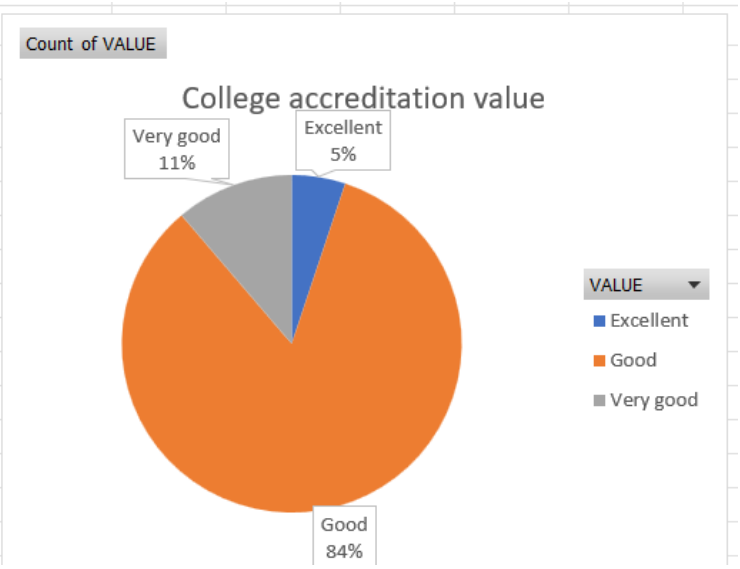

Figure 1. Accreditation profile of private academic HEIs under LLDIKTI Region XVII

Figure 1 presents the distribution of private academic higher education institutions in LLDIKTI Region XVII by institutional accreditation level. Most institutions are still accredited at the "Good" level, while only a small number have achieved "Very Good" or "Excellent" status, indicating that internal improvements in governance, IT, and quality processes have not yet been fully translated into higher accreditation outcomes. The accreditation and higher education management literature frequently highlights four key factors related to institutional performance: (1) university governance (2) information technology (IT) capabilities, (3) knowledge management (KM), and (4) institutional competitiveness.[5,6] Prior studies have generally shown positive effects of governance, IT, and KM on institutional performance and competitive advantage, but results are not fully consistent and very few studies model these four constructs together with accreditation performance as the primary dependent variable in the specific context of Indonesian private institutions.[7,8]

From a theoretical perspective, Institutional Theory suggests that accreditation is a response to regulatory, normative, and mimetic pressures, requiring universities to adjust their governance, structures, and routines.[9] The Resource-Based View and Knowledge-Based View conceptualize governance, IT, and KM as internal capabilities that can underpin sustainable performance differences,[10] while

Contingency Theory implies that the effectiveness of these capabilities depends on contextual factors such as competitiveness.[11,12] Yet, little is known about whether competitiveness simply has a direct impact on accreditation outcomes or also acts as a moderator that amplifies (or weakens) the effects of governance, IT, and KM.

This study addresses these gaps by developing and empirically testing a structural model linking university governance, information technology, knowledge management, and competitiveness to accreditation performance, while examining competitiveness as a moderator on the relationships between governance, IT, KM, and accreditation performance. Focusing on private academic institutions under LLDIKTI Region XVII, the study aims to explain why accreditation improvement has been relatively slow and which internal capabilities and contextual conditions matter most.

The objectives of the study are: (1) to analyze the direct influence of university governance, information technology, and knowledge management on accreditation performance; (2) to examine the direct effect of competitiveness on accreditation performance; (3) to test the moderating role of competitiveness in the relationships between university governance, information technology, knowledge management, and accreditation performance; and (4) to interpret the gap between formal accreditation ranks and internal perceptions of organizational practices.

Accreditation Performance in Higher Education

Accreditation is widely recognized as a central mechanism for ensuring quality, securing institutional legitimacy, and signaling performance to stakeholders in higher education.[13] Studies by national and international quality assurance frameworks indicate that higher accreditation ratings tend to be associated with more efficient internal processes, stronger innovation capacity, and improved institutional performance and accountability outcomes.[2] Empirical work on quality assurance and higher education governance shows that curriculum design, outcome-based education, and learning process quality are among the most influential components in institutional accreditation systems, with teaching and learning dimensions often experiencing the largest improvements during accreditation cycles.[14,15] In contrast, student services and alumni management frequently lag behind, even though accreditation frameworks emphasize student support, employability, and graduate tracking as key indicators of institutional quality.[16–18] From an Institutional Theory perspective, accreditation criteria function as regulative and normative pressures that drive universities to align their internal systems with externally defined notions of quality.[9] This alignment requires coherence between strategic planning, academic processes, student support, and quality assurance mechanisms so that compliance with accreditation standards translates into sustainable improvements in institutional performance rather than merely formal fulfillment of requirements.

University Governance and Accreditation Performance

The governance literature positions transparency, accountability, responsibility, independence, and fairness as the core pillars of good university governance, with direct implications for institutional performance and reputation. Empirical evidence from recent studies indicates that accountability and transparency are critical determinants of organizational effectiveness and performance in higher education institutions.[19] Studies on good university governance in higher education contexts consistently find that governance positively affects institutional performance and reputation through improved internal

control, clearer role distribution, and stronger quality assurance systems.[20,21]

Recent evidence also links governance to institutional competitiveness and performance, suggesting that strong governance frameworks provide the foundation upon which competitive advantage and accreditation outcomes are built.[22] Institutional Theory explains these patterns by highlighting how universities respond to regulative pressures from accreditation bodies and government agencies through the establishment of internal quality assurance systems, standard operating procedures, and formal reporting mechanisms aimed at gaining legitimacy.[19]

Within the Resource-Based View, university governance is conceptualized as an organizational capability that enables the effective orchestration of critical resources such as academic staff, administrative personnel, finances, and information systems to meet accreditation standards.[22] In addition, Contingency Theory emphasizes that governance effectiveness depends on contextual fit with institutional culture, size, and environmental complexity, where adaptive governance structures are more likely to enhance accreditation outcomes.[20,21]

Information Technology in Quality Assurance and Accreditation

The global literature largely agrees that IT-based quality assurance systems improve efficiency, accuracy, transparency, and traceability of quality data in higher education. Recent studies show that digital quality assurance systems significantly accelerate accreditation processes by enabling integrated and real-time institutional data management across academic and administrative functions.[23]

Systematic studies also confirm that learning management systems, academic information systems, and digital repositories play a crucial role in supporting accreditation documentation and improving traceability of quality assurance evidence.[24] Furthermore, accreditation-driven digital transformation has been shown to improve institutional ICT infrastructure, data accessibility, and service quality perceived by students and academic staff.[25]

Recent systematic reviews emphasize that quality assurance systems in higher education are shifting from compliance-based approaches toward integrated, technology-supported, and continuous improvement systems.[26] From a technological perspective, studies highlight that system integration, data quality, and inter-departmental collaboration are key success factors in effective IT-based quality assurance implementation.[27] In Indonesia, research shows that integrated information systems significantly improve university management performance, especially in planning, monitoring, and accreditation reporting processes.[28]

From a Resource-Based View, IT infrastructure and digital competencies are strategic organizational resources that enhance institutional capability when embedded in quality management systems. Institutional Theory further explains that digital accreditation systems emerge as responses to regulatory pressures requiring electronic reporting, centralized databases, and evidence-based evaluation mechanisms.

Knowledge Management and Accreditation

The knowledge management literature consistently highlights a positive relationship between KM practices and organizational performance in higher education, both directly and through intermediate variables such as competitive advantage and organizational culture. Recent empirical studies confirm that knowledge creation, sharing, and utilization significantly enhance institutional performance and support organizational adaptability in higher education contexts.[29]

Knowledge management processes have been consistently shown to improve organizational performance in universities,

particularly through knowledge creation, storage, sharing, and application mechanisms.[30] Further empirical studies in higher education confirm that knowledge sharing significantly improves institutional outcomes such as research productivity and academic performance.[31] Systematic evidence also shows that knowledge sharing and transfer contribute to organizational learning, which strengthens institutional effectiveness and decision-making in universities.[32]

Recent literature further confirms that structured knowledge management practices including documentation, knowledge transfer, and knowledge utilization are essential for improving institutional performance in higher education.[30] At the global level, KM systems are widely recognized as strategic assets that enhance intellectual capital, organizational learning, and decision-making quality in universities.[30]

Specifically related to accreditation, recent studies indicate that knowledge management supports accreditation performance through systematic documentation, evidence management, and institutional memory preservation across accreditation cycles.[33] Theoretically, the Knowledge-Based View conceptualizes organizational knowledge as a strategic asset that drives competitive advantage, while Human Capital Theory emphasizes the role of individual competencies in knowledge creation and sharing. These perspectives collectively support the role of KM as a critical determinant of institutional accreditation performance in higher education.

Competitiveness of Higher Education Institutions

The competitiveness literature in higher education identifies graduate quality, university engagement in business and innovation processes, collaboration with industry, and recognition by quality standards as key determinants of institutional competitiveness. Recent literature shows that graduate employability, engagement in innovation ecosystems, and strong university–industry collaboration are key factors shaping universities' competitive positions in the knowledge economy.[34] These factors are widely recognized as drivers of human capital development and institutional competitiveness through closer alignment between higher education and labour market needs.[6,35] Accreditation in business schools is widely recognized as a powerful quality signal that enhances stakeholder trust, improves institutional reputation, attracts students and industry partners, and strengthens competitive advantage.[36]

Studies on higher education competitiveness indicate that competitiveness is constructed through a combination of academic excellence, strategic partnerships, practitioner engagement, and alignment with quality assurance and accreditation systems that function as mechanisms of institutional legitimacy and global competitiveness.[1,37,38] Studies indicate that competitiveness in higher education does not stand alone but is constructed through strong university governance and effective knowledge management systems that enhance institutional performance and competitive advantage.[8,39,40]

Within the Resource-Based View and Knowledge-Based View, competitiveness is understood as the outcome of orchestrating strategic resources—such as accreditation reputation, graduate outcomes, collaboration networks, and pedagogical innovations—into a coherent and distinctive value proposition. Contingency Theory underscores that strategies to enhance competitiveness must fit the external environment, including regional economic structures, student market characteristics, and the intensity of competition among institutions. In this sense, accreditation can function both as an input and an output of competitiveness: it reflects the internal quality attained and simultaneously

strengthens the institution's position in the higher education marketplace.

Framework

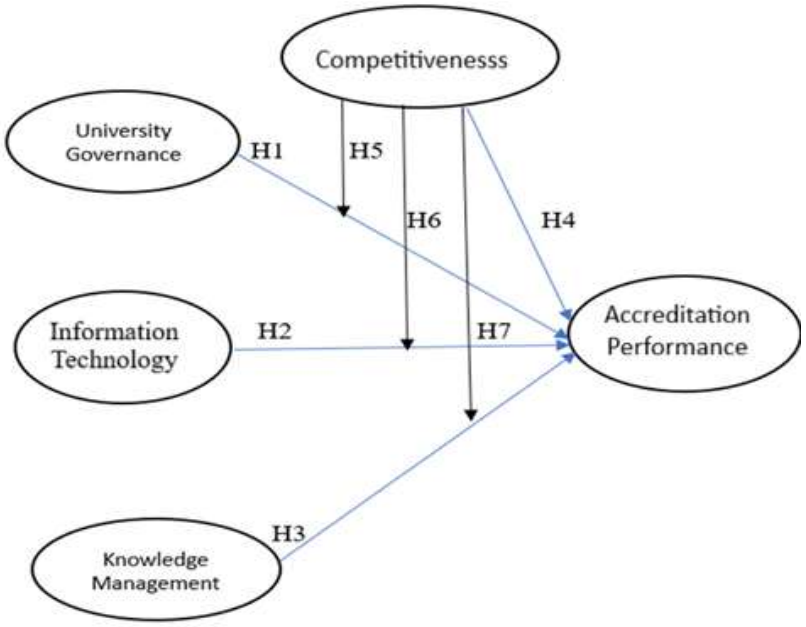

Figure 2. Conceptual Framework

H1: University Governance (X1) has a positive and significant impact on Higher Education Accreditation Performance (Y).

H2: Information Technology (X2) has a positive and significant impact on Higher Education Accreditation Performance (Y).

H3: Knowledge Management (X3) has a positive and significant impact on Higher Education Accreditation Performance (Y).

H4: Competitiveness (Z) has a positive and significant effect on Higher Education Accreditation Performance (Y).

H5: Competitiveness (Z) plays a moderating role in influencing university governance (X1) on the performance of higher education accreditation (Y).

H6: Competitiveness (Z) plays a moderating role in influencing information technology (X2) on the performance of higher education accreditation (Y).

H7: Competitiveness (Z) plays a moderating role in influencing knowledge management (X3) on the performance of higher education accreditation (Y).

RESEARCH METHOD

Study Design

This research adopts a quantitative explanatory design aimed at testing causal relationships among latent constructs and evaluating the moderating role of competitiveness. Partial Least Squares Structural Equation Modeling (PLS-SEM) is employed because the model is relatively complex, includes multiple latent variables and interaction terms, and the sample size and distributional characteristics are more compatible with variance-based SEM.[41]

Population and Sample

The population consists of private academic higher education institutions under LLDIKTI Region XVII (Riau and Riau Islands, Indonesia). The unit of analysis is the institution, while the unit of observation comprises key informants who are directly

involved in quality assurance and accreditation processes, such as rectors or vice-rectors, heads of internal quality assurance units (SPMI), and heads of study programs. A non-probability judgment sampling approach was used to select respondents who possess sufficient knowledge of governance, IT utilization, KM practices, competitiveness, and accreditation outcomes in their institutions, while considering representation of different private academic institutions in the region.[42]

Instrument Development

1. Data were collected using a structured questionnaire based on established theoretical dimensions and prior empirical studies.
2. Accreditation Performance was operationalized using indicators derived from the nine BAN-PT criteria (vision-mission, governance, students, human resources, finance and facilities, education, research, community service, and outputs).
3. University Governance was measured by five dimensions: transparency, accountability, responsibility, independence, and fairness.
4. Information Technology covered information flow, decision support, data management, data communication, group support, and executive support.
5. Knowledge Management followed the SECI model, covering socialization, externalization, combination, and internalization of knowledge related to accreditation.
6. Competitiveness included indicators of graduate employability, students' off-campus experience, faculty engagement outside campus, practitioner involvement, utilization of faculty outputs, international collaboration, collaborative classes, and international accreditation or certification.

Items used Likert-type scales, and content validity was ensured through expert judgment involving supervisors and practitioners familiar with accreditation and quality assurance.

Data Collection Procedure

The questionnaire was distributed to target respondents in private academic institutions within LLDIKTI Region XVII, accompanied by an explanation of the study purpose and confidentiality assurances. The final dataset included responses from key leaders and quality managers judged to be knowledgeable about accreditation processes and institutional practices.

Statistical Analysis

PLS-SEM was applied in two main stages: assessment of the measurement model (outer model) and assessment of the structural model (inner model). For the measurement model, convergent validity was evaluated using outer loadings and Average Variance Extracted (AVE), with thresholds of outer loadings above conventional cut-offs and AVE values greater than 0.50. Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability, with values above 0.70 considered acceptable. Discriminant validity was examined using standard criteria (e.g., Fornell–Larcker and cross-loadings), ensuring each construct is distinct from others.

RESULTS

Descriptive Results

Descriptive analysis shows that accreditation performance in the sampled institutions is generally in the "high" category, indicating that most private academic higher education institutions under LLDIKTI Region XVII have developed reasonably strong internal practices across the nine BAN PT accreditation criteria, even though many still formally hold only a "Good" rating. The education dimension records the highest mean scores, reflecting very positive assessments of learning process innovation and the relevance of graduate competencies

to labor market needs, whereas the student dimension shows the lowest scores, particularly for student support services and alumni management. University governance is also rated high, with fairness (clarity of task distribution and leaders' concern for teams) emerging as the strongest dimension, while transparency, especially open communication of policies, appears as the weakest area. Information technology records the highest mean among all variables, driven by strong perceptions of information flow and data management, although executive support for IT still lags behind other dimensions. Knowledge management is rated high overall, with socialization and combination scoring highest, indicating strong informal knowledge sharing and integration of information, whereas externalization (documentation into written materials) is relatively weaker. Competitiveness is also high but has the lowest mean among the five variables, with strong scores for student and lecturer off campus experiences and weaker scores for decent graduate employment and international accreditation or certification.

Full Structural Model

The structural model specifies accreditation performance as the main endogenous construct predicted by four exogenous latent variables: university governance, information technology, knowledge management, and competitiveness. In addition to these direct paths (H1–H4), the model incorporates three interaction terms (UG×COM, IT×COM, KM×COM) to capture the moderating role of institutional competitiveness on the relationships between governance, IT, KM, and accreditation performance.

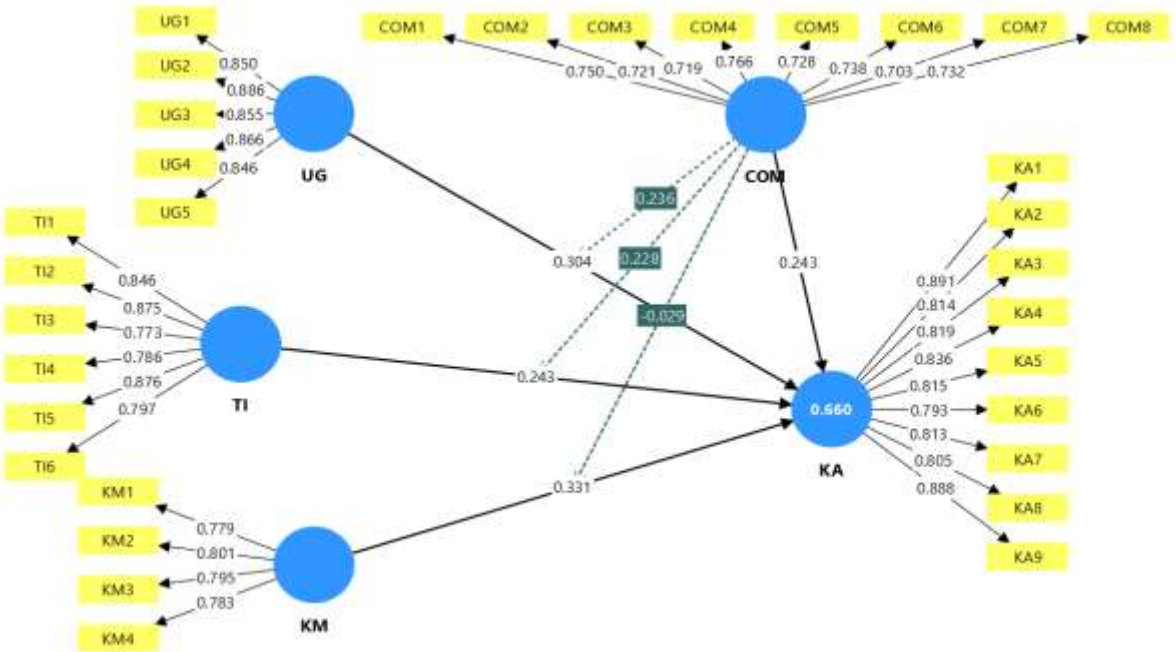

Figure 3. Research Path model

Measurement Model Analysis (Outer Model)

1. Convergent Validity Test

a. Loading factor

The results of the convergent validity test of the data in this study are presented in the following Table 1:

Table 1. Loading Factor

Variable	Indicator	Factor Loading
Accreditation Performance	KA1 - Vision, Mission, Goals, and Targets	0,891
	KA2- Governance and Collaboration	0,814
	KA3- Student Aspect	0,819
	KA4- Human Resource	0,836
	KA5- Facilities and Finances	0,815
	KA6- Education	0,793
	KA7- Research	0.813
	KA8- Community Service Program	0.805
	KA9- Outputs and Achievements	0.888
University Governance	UG1- Transparancy	0,850
	UG2- Accountability	0,886
	UG3- Responsibility	0,855
	UG4- Independence	0,866
	UG5- Fairness	0,846
Information Technology	TII- Information Flow	0,846
	TI2- Decision Support	0,875
	TI3- Data Management	0,773
	T14- Data Communication	0.786
	TI5- Workgroup Support	0.876
	T16- Executive Support	0.797
Knowledge Management	KM1- Socialization	0,779
	KM2- Externalization	0,801
	KM3- Combination	0,795
	KM4- Internalization	0,783
Competitiveness	COMI- Alumni	0.750
	COM2- Lecturers Active Off-Campus	0.721
	COM3- Lecturers with Doctoral Degrees	0.719
	COM4 Practitioners Teaching on Campus	0.766
	COM5 - Lecturers' Work Used by the Community	0.728
	COM6 PS Collaborates with World-Class Partners	0.738
	COM7 - Collaborative and Participatory Classes	0.703
	COM8 International Standard Study Programs	0.732

b. AVE (Averaged Variance Extracted)

The results of the averaged variance extracted of the data in this study are presented in the following Table 2:

Table 2. AVE

Variable	Average Variance Extracted (AVE)
Accreditation Performance	0.691
University Governance	0.741
Information Technology	0.683
Knowledge Management	0.623
Competitiveness	0.536

Based on the data in table 2, for each latent variable and interaction construct, it can be seen that all latent variables and interaction constructs have AVE values above 0.50. This means that more than 50% of the variance of the indicators can be explained by their latent constructs.

2. Discriminant Validity Test

a. Fornel-Lacker Criterion

The results of the Fornel-lacker Criterion of the data in this study are presented in the following Table 3.

Table 3. Fornel-lacker Criterion

Variable	Com	KA	KM	TI	UG
Com	0.732				
KA	0.466	0.831			
KM	0.215	0.527	0.790		
TI	0.077	0.458	0.224	0.827	
UG	0.350	0.531	0.266	0.449	0.861

Tabel 3. Fornel-lacker Criterion shows that the correlation of the constructs, the association is higher compared to other constructs, so it can be said that the model has good discriminant validity and can be tested further.

3. Reliability Test

a. Composite Reliability

The results of the composite reliability of the data in this study are presented in the following Table 4.

Table 4. Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability (rho_A)	Composite Reliability (rho_C)
Accreditation Performance	0.944	0.946	0.953
University Governance	0.913	0.915	0.935
Information Technology	0.911	0.933	0.928
Knowledge Management	0.802	0.810	0.869
Competitiveness	0.879	0.882	0.902

Table 4. shows that the Cronbach's alpha and composite reliability values for all variable constructs each have values greater than 0.70, thus the research model constructs consisting of Accreditation Performance, University Governance, Information Technology, Knowledge Management and Competitiveness are reliable.

Structure Model Analysis (Inner Model)

1. R^2 Square

The predictive power of the structural model in this study was evaluated primarily through the coefficient of determination (R^2) value of the endogenous variable Accreditation Performance (AC) generated by SmartPLS 4.0. Referring to the guidelines of Hair et al. (2019, 2022), R^2 values of around 0.25, 0.50, and 0.75 are generally interpreted as weak, moderate, and strong explanatory power in the context of PLS SEM, as can be seen in Table 5.

Table 5. R^2 Square

Variable	R-Square
Accreditation Performance	0,660
University Governance	
Information Technology	
Knowledge Management	
Competitiveness	

Table 5.18 The estimation results show that the R^2 value for Accreditation Performance is 0.660, which means that approximately 66% of the variation in higher education Accreditation Performance can be explained simultaneously by University Governance, Information Technology, Knowledge Management, Competitiveness, and the three moderating interaction variables. This value is above the 0.50 threshold and approaches the “strong” category, so it can be concluded that the structural model has very adequate predictive power for higher education Accreditation Performance.

2. Hypothesis Analysis

Table 6. Hypothesis Analysis

Hypothesis	Original Sample	P-Values	Conclusion
H1	0,304	0,001	Accept
H2	0,243	0,004	Accept
H3	0,331	0,001	Accept
H4	0,243	0,019	Accept
H5	0,236	0,013	Accept
H6	0,228	0,036	Accept
H7	−0,029	0,788	Rejected

The structural model results supported all four direct-effect hypotheses (H1–H4).

a. University governance had a positive and significant effect on accreditation performance, indicating that better governance practices contribute to more systematic and documented fulfillment of accreditation criteria.
b. Information technology also had a positive and significant effect, confirming that effective IT-based information and data management systems facilitate the preparation and provision of accreditation evidence.
c. Knowledge management exhibited the strongest positive effect on accreditation performance among all predictors, highlighting the central role of socialization, documentation, integration, and internalization of accreditation-related knowledge in sustaining and improving accreditation outcomes.
d. Competitiveness had a positive and significant direct effect on accreditation performance, suggesting that institutions with stronger competitive profiles (graduates, networks, international recognition) tend to achieve better accreditation scores.

Regarding moderation, two of the three hypothesized interaction effects were significant.

a. Competitiveness significantly strengthened the relationship between university governance and accreditation performance (UG×COM path significant and positive), implying that good governance yields higher accreditation gains in more competitive institutions.
b. Competitiveness also significantly strengthened the effect of information technology on accreditation performance (IT×COM path significant and positive), meaning that IT capabilities translate into larger accreditation benefits when the institution is more competitive.
c. The interaction between knowledge management and competitiveness (KM×COM) was not significant (negative and non-significant coefficient), indicating that the positive effect of knowledge management on accreditation performance remains relatively stable regardless of competitiveness level.

Overall, the model accounted for 66% of the variance in accreditation performance, reflecting substantial explanatory power.

DISCUSSION

The findings demonstrate that university governance, information technology, knowledge management, and competitiveness jointly shape accreditation performance in private academic institutions in LLDIKTI Region XVII, with knowledge management emerging as the most influential factor. The strong effect of knowledge management reinforces the Knowledge-Based View, suggesting that the capacity to socialize, document, integrate, and internalize accreditation-related knowledge constitutes a critical, hard-to-imitate capability that directly supports accreditation quality. This finding is consistent with empirical evidence showing that knowledge management processes have a significant and often dominant effect on

organizational performance in higher education institutions, particularly when compared with other organizational enablers such as structure and technology.[43,44]

However, unlike studies that emphasize information technology as a key driver of digital transformation and organizational performance in higher education, recent literature suggests that digital transformation is not driven by technology alone, but by the integration of technological, organizational, and human capabilities, where knowledge-related processes often play a more decisive role in shaping institutional outcomes.[45,46]

The positive effects of university governance and information technology align with Institutional Theory and the Resource-Based View. Institutions that adopt transparent, accountable, responsible, independent, and fair governance structures are better able to organize resources and processes to meet accreditation standards consistently. Recent studies emphasize that good university governance significantly improves institutional performance and quality assurance outcomes in higher education through enhanced accountability, decision-making structures, and organizational effectiveness.[47] In addition, digital and information technology integration strengthens governance efficiency by improving system coordination, data management, and academic service delivery, which are critical in supporting accreditation performance in higher education institutions.[5]

Similarly, recent studies confirm that digital systems significantly improve institutional efficiency, data management, and decision-making processes in higher education institutions. Digital transformation initiatives enable universities to enhance administrative effectiveness, streamline academic operations, and improve data-driven governance, thereby increasing overall organizational performance.[48] However, the impact of information technology is not automatic; its effectiveness depends on the institution's ability to translate digital resources into adaptive organizational capabilities and strategic agility.[49] Compared to these studies, the present research confirms their findings but extends them by showing that IT alone is not sufficient unless reinforced by competitiveness pressures.

The direct effect of competitiveness on accreditation performance indicates that accreditation is not only an internal compliance exercise but is also closely linked to external outcomes such as graduate employability, external engagement, and international recognition. This finding aligns with recent higher education literature which emphasizes that global competitiveness plays a critical role in shaping institutional reputation and accreditation positioning. Accreditation is increasingly understood not only as a regulatory compliance mechanism but also as a strategic signaling tool that communicates institutional quality in competitive higher education markets. Empirical studies show that accreditation influences institutional reputation and stakeholder perception by signaling quality assurance, legitimacy, and performance standards to external audiences.[1,50] In contrast to studies that treat accreditation purely as a regulatory mechanism, this study demonstrates its dual role as both compliance and competitive signaling tool.

The moderation analysis provides important contingency insights. The finding that competitiveness strengthens the effects of university governance and information technology suggests that these capabilities become more effective under stronger external environmental pressure. Recent empirical studies in organizational and higher education contexts confirm that organizational performance depends on the alignment between internal capabilities (such as governance and digital systems) and external environmental conditions, including competitive intensity and uncertainty.[51] In addition, contingency-

based research on IT governance shows that technological effectiveness is highly dependent on contextual factors such as competition, strategy, and organizational fit.[51] However, this study extends prior findings by showing that competitiveness does not uniformly enhance all internal capabilities, particularly knowledge management, which operates as a more stable internal resource.

In contrast, the absence of a moderating effect of competitiveness on the knowledge management–accreditation relationship indicates that knowledge management functions as a relatively stable internal capability. Recent empirical studies in higher education confirm that knowledge management becomes institutionalized within organizational routines through processes such as knowledge creation, sharing, and application, making it less sensitive to external environmental conditions once embedded.[30,52] This suggests that knowledge management operates as a core organizational capability that continuously supports performance improvement regardless of competitive pressure.

These results suggest a nuanced configuration: knowledge management acts as a core capability, university governance and information technology operate as structural and systemic mechanisms, and competitiveness plays a selective enhancing role mainly on governance and IT pathways. Compared to previous studies that often treat these variables in isolation, this study integrates them into a contingency-based model that better explains accreditation performance in private higher education institutions.

CONCLUSION

This study provides empirical evidence that university governance, information technology, knowledge management, and competitiveness all have significant positive effects on accreditation performance in private academic institutions under LLDIKTI Region XVII, with knowledge management being the strongest predictor. Competitiveness not only affects accreditation performance directly but also strengthens the effects of governance and information technology, while leaving the strong positive effect of knowledge management essentially unchanged.

The findings substantiate Institutional Theory, Resource-Based View, Knowledge-Based View, and Contingency Theory in the higher education accreditation context, and highlight knowledge management as a foundational internal capability whose benefits are robust across different competitiveness levels. Practically, the results suggest that private institutions seeking to elevate their accreditation should prioritize systematic knowledge management for accreditation, strengthen governance and IT systems, and align competitiveness strategies, such as improving graduate outcomes and international engagement with accreditation goals.

Declaration by Authors

Ethical Approval: This study was approved by the Research Ethics Committee (Institutional Review Board/IRB) of Sekolah Tinggi Ilmu Ekonomi Indonesia (STIESIA), Surabaya, Indonesia. Informed consent was obtained from all participants through the questionnaire cover letter, which explained the study purpose, voluntary participation, anonymity, confidentiality, right to withdraw, and data use solely for research.

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respondents: rectors, vice-rectors, heads of quality assurance units, and study program chairs from 62 private academic higher education institutions across Riau and Riau Islands provinces, who generously contributed their time and insights by completing the questionnaire. The author also acknowledges STIESIA Surabaya for providing research facilities and infrastructure support, as well as doctoral program colleagues for their scholarly discussions and encouragement. The corresponding author entirely self-funded this research, receiving no external funding.

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Conflict of Interest: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. This research was conducted autonomously, devoid of participation from funding agencies, commercial enterprises, or organizations that could gain from or be influenced by the results. The corresponding author, Bayu Febriadi, affirms that all data collection, analysis, interpretation, and manuscript preparation were performed objectively and free from any external pressures or conflicts.

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