

The Impact of IT Governance Implementation on Local Colleges and Universities in the National Capital Region: Towards an Improved Framework

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Abstract

Information Technology (IT) governance has become a strategic imperative for higher education institutions seeking to enhance institutional performance in increasingly digital and resource-constrained environments. While international studies affirm the value of IT governance, empirical evidence remains limited for Local Colleges and Universities (LCUs) in developing contexts such as the Philippines. This study examines the extent to which IT governance implementation influences institutional performance among selected LCUs in the National Capital Region (NCR). Using a quantitative, descriptive-correlational design, data were collected from 170 administrators, faculty members, IT leaders, and governance stakeholders across four ALCUOCA-accredited LCUs. IT governance was operationalized across three dimensions—accountability and decision-making, strategic management of IT assets, and alignment and adaptability to institutional goals—while institutional performance was measured using accreditation-based indicators. Descriptive statistics and multiple regression analysis were employed to determine predictive relationships. Results indicate that IT governance implementation is generally moderate to high, with alignment to institutional goals emerging as the strongest implemented dimension. Regression findings reveal that IT governance dimensions collectively exert a statistically significant positive effect on institutional performance, with accountability and decision-making serving as a consistent predictor across multiple domains. Based on these findings, the study proposes a context-responsive IT governance framework tailored to LCUs. The study contributes empirical evidence to IT governance literature in higher education and offers practical and policy-relevant insights for institutional leaders, accrediting bodies, and policymakers.

Keywords: IT governance, institutional performance, higher education governance, local colleges and universities, Philippines

1. Introduction

The increasing reliance on Information Technology (IT) has reshaped governance, instruction, and service delivery in higher education institutions. In the Philippine context, Local Colleges and Universities

(LCUs) play a crucial role in expanding access to higher education but operate under conditions marked by limited financial resources, evolving regulatory requirements, and varying levels of technological maturity. As a result, the absence of well-defined IT governance structures poses significant challenges to institutional effectiveness and accreditation readiness.

IT governance extends beyond technical management and focuses on accountability, decision-making authority, strategic alignment, and value realization from IT investments. Studies cited in this research emphasize that IT governance is most effective when it integrates accountability mechanisms, strategic resource management, and alignment with institutional goals. In LCUs, where IT resources are constrained, governance practices become critical determinants of whether technology investments translate into measurable institutional performance.

Anchored on the Resource-Based View, Agency Theory, and Contingency Theory, this study examined the extent to which IT governance implementation influences institutional performance in ALCUCOA-accredited LCUs in the National Capital Region (NCR). Specifically, it investigated three IT governance dimensions—accountability and decision-making, strategic management of IT assets, and alignment and adaptability to institutional goals—and analyzed their impact on accreditation-based institutional performance indicators.

The hypotheses of the study include the following:

H1: Accountability and decision-making in IT governance have a significant effect on the institutional performance of LCUs in the NCR.

H2: Strategic management of IT assets has a significant effect on the institutional performance of LCUs in the NCR.

H3: Alignment and adaptability of IT governance to institutional goals have a significant effect on the institutional performance of LCUs in the NCR.

2. Methods

2.1 Research Design

The study employed a descriptive quantitative, descriptive-correlational research design, appropriate for determining prevailing levels of IT governance implementation and examining relationships between governance practices and institutional performance without manipulating variables [4]. This design allowed for an objective assessment of governance maturity and performance outcomes among LCUs in the NCR.

2.2 Participants and Sampling

The respondents consisted of administrators, IT leaders, faculty members, and other governance-related stakeholders directly involved in IT decision-making and institutional operations. Stratified random sampling was used to ensure proportional representation of these stakeholder groups. Although seven ALCUCOA-accredited LCUs were identified in the NCR, only four formally consented to participate due to administrative constraints.

A total of 170 respondents were obtained, exceeding the minimum required sample size of 119 computed using G*Power with a medium effect size, $\alpha = 0.05$, and power = 0.95 [3]. This ensured adequate statistical power for multiple regression analysis.

2.3 Instrumentation

Primary data were collected using a validated structured questionnaire designed to measure the level of IT governance implementation across the three governance dimensions. The instrument utilized a semantic

differential bipolar scale to capture the degree of implementation, avoiding neutral responses. Content and construct validity were established through expert validation and pilot testing, while reliability was confirmed using Cronbach’s Alpha.

Secondary data consisted of official ALCUCOA accreditation results, which served as objective indicators of institutional performance in governance and administration, curriculum and instruction, student development and services, research, library, and laboratory functions.

2.4 Data Analysis

Descriptive statistics (mean and standard deviation) were used to assess the levels of IT governance implementation and institutional performance. Multiple linear regression analysis was employed to determine the individual and combined effects of the three IT governance dimensions on institutional performance. All inferential tests were conducted at the 0.05 level of significance.

3. Results

3.1 Level of IT Governance Implementation

Table 1: The Level of IT Governance Implementation among LCUs in NCR

IT Governance Indicators	N	Mean	Std. Deviation	Descriptive Rating
Accountability and Decision-Making	170	5.52	1.48	Fairly Implemented
Strategic Management of IT Assets	170	5.66	1.59	Fairly Implemented
Alignment and Adaptability to Institutional Goals	170	5.77	1.55	Implemented
Overall IT Governance Implementation	170	5.65	1.51	Fairly Implemented

Results indicate that the overall level of IT governance implementation among the participating Local Colleges and Universities (LCUs) was moderate, reflecting a state of partial institutionalization of governance practices. The composite mean score of 5.65 (SD = 1.51) suggests that while essential IT governance mechanisms are present across institutions, these practices have not yet been fully embedded as standardized, consistently enforced organizational systems.

Among the three governance dimensions, Alignment and Adaptability to Institutional Goals obtained the highest mean score (M = 5.77, SD = 1.55), corresponding to an “Implemented” rating. This finding indicates that LCUs demonstrate a relatively stronger capacity to align IT initiatives with institutional mission, vision, and strategic priorities. It further suggests that IT-related decisions are increasingly influenced by institutional development goals, accreditation requirements, and evolving operational demands, reflecting a growing recognition of IT as a strategic enabler rather than a purely technical function.

In contrast, Accountability and Decision-Making (M = 5.52, SD = 1.48) and Strategic Management of IT Assets (M = 5.66, SD = 1.59) were both rated as “Fairly Implemented.” These results imply that while governance structures such as defined roles, decision-making processes, and resource allocation mechanisms exist, their application remains uneven across institutions. Variations in these areas may be attributed to differences in organizational maturity, leadership engagement, and availability of technical and financial resources among LCUs. The relatively higher standard deviations across dimensions further suggest inconsistencies in how governance policies and monitoring mechanisms are operationalized at the institutional level.

Overall, the findings highlight that IT governance practices in NCR LCUs are emerging but not yet fully institutionalized, with stronger emphasis placed on strategic alignment than on formal accountability systems and long-term asset optimization. This pattern underscores the need for more structured governance frameworks that strengthen decision accountability, performance monitoring, and systematic management of IT resources to support sustained institutional performance and accreditation outcomes.

3.2 Level of Institutional Performance

Institutional performance across selected accreditation areas was assessed as moderate to high, particularly in domains where IT systems directly support operations, such as governance and administration, student development and services, library services, and laboratories. These findings suggest that IT-enabled processes play a significant role in sustaining accreditation performance among LCUs.

Table 2: The Level of Institutional Performance among LCUs in NCR

Institutional Performance Indicators	N	Mean	Std. Deviation	Descriptive Rating
Governance and Administration	170	3.65	0.68	High Performance
Curriculum and Instruction	170	3.50	0.73	High Performance
Student Development and Services	170	3.50	0.72	High Performance
Research	170	3.39	0.72	Moderate Performance
Library	170	3.42	0.64	High Performance
Laboratories	170	3.22	0.67	Moderate Performance
Overall Institutional Performance	170	3.45	0.66	High Performance

3.2 Impact of IT Governance on Institutional Performance

The results of the multiple regression analyses presented in Table 3 provide compelling empirical evidence that IT governance is a critical determinant of institutional performance among Local Colleges and Universities (LCUs) in the National Capital Region. Across all institutional performance areas examined, the regression models were statistically significant ($p < .001$), indicating that the collective influence of the IT governance dimensions meaningfully explains variations in accreditation-based performance outcomes.

Table 3: Summary Matrix of All Regression Models of the IT Governance Dimensions and the Institutional Performance Areas

Institutional Performance Area	Model R	R ²	Adj. R ²	Std. Error of Estimate	Model Significance (p)	Strongest Positive Predictor (β)	Significant Predictor(s) (p < .05)
Governance & Administration	0.717	0.514	0.505	0.48003	0.000	Accountability & Decision-Making (β = .398)	Accountability & Decision-Making (p = .030)
Curriculum & Instruction	0.609	0.371	0.36	0.58422	0.000	Alignment & Adaptability to Institutional Goals	None

						($\beta = .302$)	
Student Development & Services	0.624	0.39	0.379	0.56386	0.000	Accountability & Decision-Making ($\beta = .372$)	None
Research	0.611	0.373	0.361	0.57514	0.000	Accountability & Decision-Making ($\beta = .415$)	Accountability & Decision-Making ($p = .047$)
Library	0.669	0.447	0.437	0.48349	0.000	Accountability & Decision-Making ($\beta = .424$)	Accountability & Decision-Making ($p = .031$)
Laboratories	0.658	0.433	0.423	0.51178	0.000	Accountability & Decision-Making ($\beta = .349$)	None
Overall Institutional Performance	0.95	0.903	0.9	0.18483	0.000	Overall IT Governance ($\beta = .950$)	Overall IT Governance ($p = .000$)

At the overall institutional level, IT governance demonstrated an exceptionally strong predictive power ($R = .950$; $R^2 = .903$; Adj. $R^2 = .900$), explaining approximately 90% of the variance in overall institutional performance. This finding confirms that IT governance operates not merely as a supporting function but as an enterprise-level governance mechanism that substantially shapes institutional effectiveness. The large standardized beta coefficient ($\beta = .950$; $t = 19.045$; $p < .001$) and the relatively low standard error of estimate further indicate that improvements in IT governance maturity are strongly and consistently associated with improved institutional performance. The unstandardized coefficient ($B = .425$) reinforces this conclusion by demonstrating that incremental enhancements in IT governance practices result in substantial performance gains.

At the domain-specific level, the results reveal a consistent and theoretically meaningful pattern. Accountability and Decision-Making emerged as the strongest positive predictor in most institutional performance areas, including Governance and Administration, Research, Library, and Student Development and Services, with standardized beta coefficients ranging from $\beta = .349$ to $\beta = .424$. In Governance and Administration and Research, accountability and decision-making were not only dominant predictors but also statistically significant ($p < .05$), underscoring the importance of clearly defined roles, transparent decision structures, and performance monitoring mechanisms in governance-intensive domains. These findings suggest that when accountability structures are formalized and decision-making authority is well articulated, institutions are better positioned to achieve consistency, compliance, and quality outcomes across core academic and administrative functions.

In contrast, Curriculum and Instruction exhibited a different pattern, where Alignment and Adaptability to Institutional Goals registered the strongest positive influence ($\beta = .302$), although none of the individual

governance dimensions reached statistical significance at the .05 level. This outcome suggests that instructional quality and curriculum effectiveness may be influenced by broader strategic coherence rather than isolated governance mechanisms. Curriculum and instruction appear to benefit more from integrated and adaptive governance alignment, reflecting the complex, multi-stakeholder nature of academic delivery where governance effects are indirect and mediated through policy coherence, faculty engagement, and institutional strategy.

Similarly, while Laboratories and Student Development and Services showed strong overall model significance (Adj. $R^2 = .423$ and $.379$, respectively), no single governance dimension reached statistical significance independently. This pattern implies that operationally intensive areas rely on the combined and interactive effects of governance practices rather than on a single dominant dimension. In such domains, performance improvements likely emerge from the synergy between accountability structures, resource management, and strategic alignment rather than from any standalone governance mechanism. Taken collectively, these findings demonstrate that IT governance effectiveness is context-dependent across institutional domains, yet consistently influential when viewed as an integrated governance system. The dominance of accountability and decision-making across several domains highlights the central role of governance structures that ensure oversight, participation, and transparency. At the same time, the varying significance patterns across domains reinforce the notion that institutional performance is not driven by uniform governance prescriptions but by how governance dimensions interact within specific functional contexts.

The consistent rejection of all null hypotheses across both domain-level and overall models confirms the pervasive and non-trivial influence of IT governance on institutional performance. These results empirically support the argument that LCUs must move beyond fragmented, project-based, or personality-driven IT initiatives toward institutionalized, coherent, and strategically aligned IT governance frameworks. Ultimately, the findings validate the study's proposition that IT governance functions as a foundational enabler of accreditation readiness, operational effectiveness, and long-term institutional sustainability in resource-constrained higher education environments.

4. Discussion

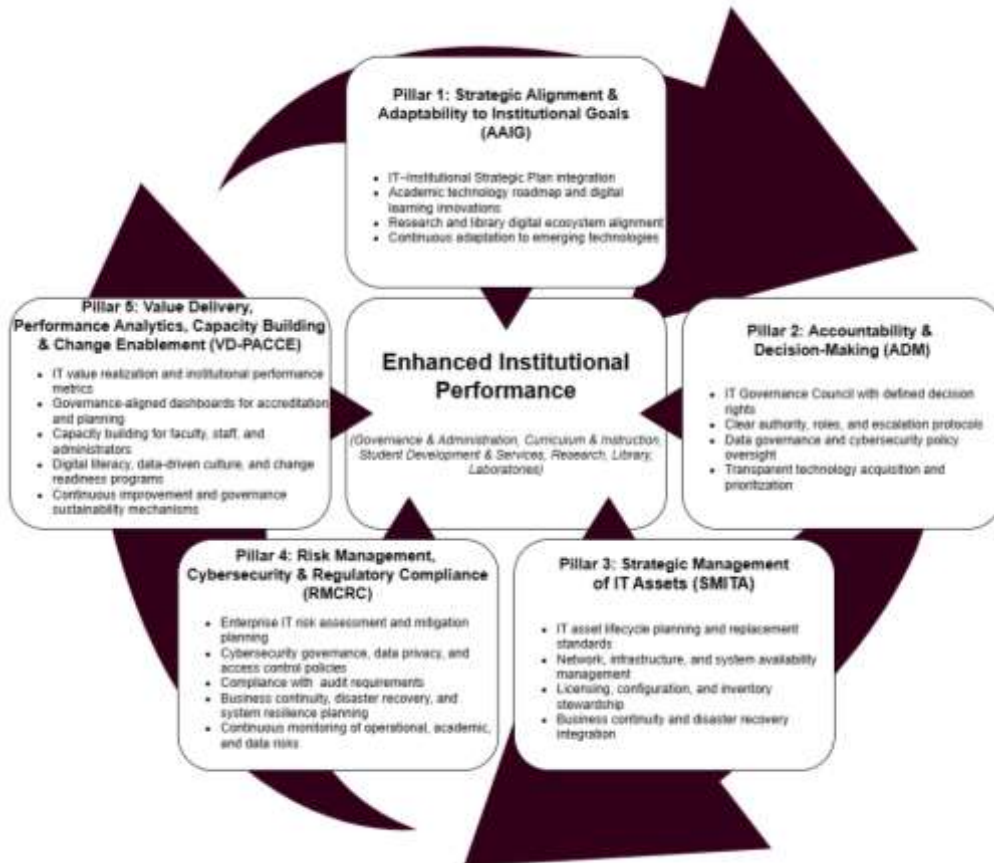
The findings demonstrate that IT governance functions as an enterprise-level enabler of institutional performance in Local Colleges and Universities. The strong explanatory power of the overall model supports governance literature cited in the study, which emphasizes that institutional outcomes are shaped not by isolated governance mechanisms but by the coherence and integration of governance practices [6],[7].

The consistent influence of accountability and decision-making mechanisms aligns with Agency Theory, which underscores the importance of oversight and performance monitoring in ensuring that IT resources serve institutional objectives [5]. Similarly, the significance of strategic management of IT assets reinforces the Resource-Based View, highlighting that IT resources contribute to performance only when effectively governed and aligned with institutional priorities [1],[2].

The role of alignment and adaptability supports Contingency Theory, demonstrating that governance effectiveness depends on contextual responsiveness to regulatory requirements, accreditation standards, and institutional goals. These findings collectively validate the proposed context-based IT Governance Framework, which emphasizes accountability, strategic integration, and adaptability as pathways to improved institutional performance.

Figure 1 presents the Proposed IT Governance Framework for Local Colleges and Universities (LCUs) developed from the empirical findings of this study and conceptually aligned with COBIT 2019 as an internationally recognized IT governance reference model. The framework translates statistically significant relationships between IT governance dimensions and institutional performance into a contextualized, accreditation-oriented governance structure suitable for LCUs in the National Capital Region.

Figure 1: LCU IT Governance Framework



At its core, the framework is organized around five interrelated governance pillars, each reflecting both the quantitative results of the study and corresponding COBIT 2019 governance and management objectives.

The first pillar, Accountability and Decision-Making, represents the foundation of the framework and aligns with COBIT 2019 governance objectives under Evaluate, Direct, and Monitor (EDM)—particularly EDM01 (Ensure Governance Framework Setting and Maintenance) and EDM05 (Ensure Stakeholder Engagement). Empirical results showed that accountability mechanisms and participatory decision structures are the strongest predictors of institutional performance across accreditation areas. This pillar operationalizes COBIT’s emphasis on governance oversight by institutionalizing role clarity, transparent IT decision pathways, delegated authority, and performance monitoring of IT leadership within LCUs.

The second pillar, Strategic Management of IT Assets, corresponds closely with COBIT 2019 management objectives under Align, Plan, and Organize (APO) and Build, Acquire, and Implement (BAI). The study demonstrated that strategic allocation of IT resources, infrastructure planning, and human capital development significantly influence performance in curriculum delivery, research, library, and

laboratory services. This pillar reflects COBIT’s principle of optimizing value from IT-enabled investments while contextualizing it to the resource constraints of LCUs, emphasizing prioritization, lifecycle management, and institutional relevance over technological expansion.

The third pillar, Alignment and Adaptability to Institutional Goals, aligns with COBIT 2019’s focus on Strategic Alignment and Benefits Realization, particularly APO02 (Manage Strategy) and APO05 (Manage Portfolio). Empirical findings confirmed that institutional performance improves when IT initiatives are explicitly aligned with institutional mission, vision, strategic plans, and accreditation requirements. This pillar integrates adaptability mechanisms—such as environmental scanning and policy review—consistent with COBIT’s principle that governance systems must be tailored to organizational context rather than uniformly applied.

The fourth pillar, Risk Management, Cybersecurity, and Regulatory Compliance, reflects COBIT 2019 objectives under APO12 (Manage Risk), APO13 (Manage Security), and MEA (Monitor, Evaluate, and Assess). While not isolated as an independent variable in the regression model, this pillar emerged from the study’s discussion of accreditation-dependent vulnerabilities and institutional compliance requirements. It strengthens governance sustainability by embedding risk assessment, cybersecurity controls, data privacy safeguards, and compliance monitoring within IT governance structures, thereby protecting institutional integrity and continuity of IT-enabled services.

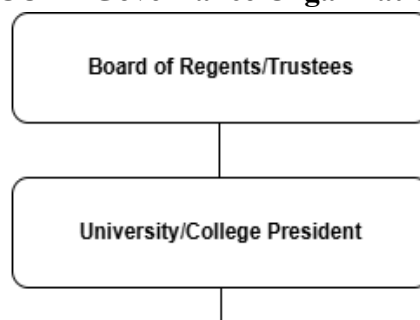
The fifth pillar, Value Delivery, Performance Analytics, and Capacity Building, corresponds to COBIT 2019 objectives on Benefits Realization, Performance Measurement, and Continuous Improvement, including MEA01 (Monitor, Evaluate, and Assess Performance and Conformance). This pillar ensures that IT governance translates into measurable institutional value through analytics, outcome monitoring, continuous improvement cycles, and systematic capacity building for administrators, IT personnel, and end-users. It operationalizes COBIT’s emphasis on value realization while reinforcing the study’s finding that sustained performance gains require institutional learning and human capital development.

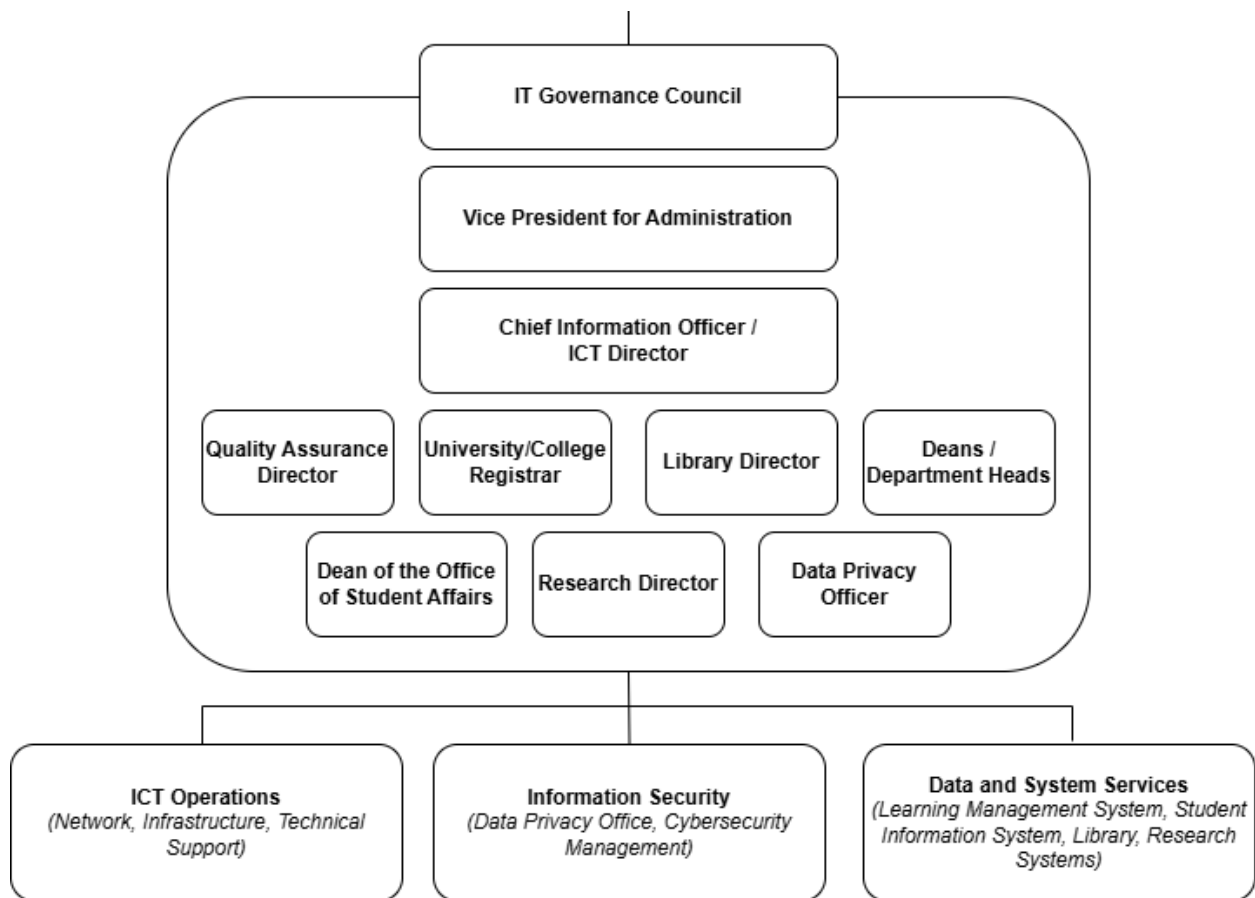
Collectively, the five pillars function as an integrated governance system, consistent with COBIT 2019’s holistic governance approach. Accountability enables effective resource stewardship; strategic asset management supports alignment; risk management safeguards value; and performance analytics and capacity building ensure sustainability. As illustrated in Figure X, the framework adapts COBIT 2019 principles to the governance realities of LCUs, directly linking IT governance practices to institutional performance outcomes and accreditation standards.

Overall, Figure 1 demonstrates how a globally recognized governance model such as COBIT 2019 can be contextualized through empirical evidence to produce a governance framework that is both theoretically grounded and practically applicable for Local Colleges and Universities in the NCR

Figure 2 shows the IT Governance Organizational Structure for LCUs.

Figure 2: LCU IT Governance Organizational Structure





The proposed IT Governance Organizational Structure positions information technology as a strategic institutional asset aligned with academic, administrative, research, and student service priorities. Oversight begins with the Board of Regents/Trustees, which provides policy direction and fiduciary authority, with executive responsibility delegated to the University/College President to ensure alignment with institutional mission and strategic goals. An IT Governance Council, chaired by the Vice President for Administration and supported by the Chief Information Officer/ICT Director, serves as the central body for IT policy formulation, prioritization, and performance oversight, with cross-functional representation from academic, administrative, quality assurance, research, student services, and data privacy offices. Operational execution is carried out through three core domains—ICT Operations, Information Security, and Data and System Services—ensuring reliable infrastructure, cybersecurity and regulatory compliance, and effective management of academic and administrative systems. Collectively, the structure reinforces transparency, accountability, and shared governance, emphasizing that IT governance is an institutional responsibility rather than a purely technical function.

Following the establishment of the IT Governance Organizational Structure, the study proposes a phased implementation approach to operationalize the framework in a systematic, realistic, and sustainable manner for Local Colleges and Universities (LCUs). This approach recognizes that IT governance maturity cannot be achieved instantaneously, particularly within resource-constrained institutional environments, and must instead be developed progressively based on institutional readiness and capacity. **Phase 1: Foundation and Policy Establishment (Months 1–6)** focuses on laying the governance groundwork necessary for effective implementation. During this phase, LCUs institutionalize formal IT governance policies, define roles and responsibilities within the governance structure, and establish

accountability and decision-making mechanisms through the IT Governance Council. Priority is given to policy formulation, baseline assessment of IT resources, clarification of authority, and alignment of IT governance with institutional mission, vision, and strategic plans. This phase directly supports the study's findings that accountability and decision-making serve as the strongest predictors of institutional performance.

Phase 2: Systems Integration and Capacity Building (Months 7–18) emphasizes the operationalization of governance policies through coordinated system implementation and human capital development. Key activities include the integration and optimization of academic and administrative information systems, strengthening ICT operations and information security controls, and conducting structured training programs for administrators, IT personnel, and end-users. This phase reflects the empirical evidence that strategic management of IT assets and institutional capacity building significantly influence performance in curriculum delivery, student services, research, library, and laboratory functions.

Phase 3: Optimization, Performance Analytics, and Continuous Improvement (Months 19–36) represents the maturity stage of IT governance implementation. In this phase, LCUs institutionalize performance analytics, benefits realization monitoring, risk and compliance audits, and continuous improvement mechanisms. Governance effectiveness is evaluated using measurable performance indicators linked to accreditation outcomes, enabling evidence-based refinement of IT strategies and investments. This phase reinforces long-term sustainability by ensuring that IT governance remains adaptive, value-driven, and responsive to evolving institutional and regulatory demands.

Taken together, these three phases provide LCUs with a practical implementation roadmap that aligns governance structures with institutional capacity and strategic priorities. The phased approach strengthens accountability, ensures efficient use of IT resources, mitigates implementation risks, and supports continuous quality improvement. By sequencing governance initiatives from foundation to optimization, the framework operationalizes the study's empirical findings into a realistic pathway for enhancing institutional performance through effective IT governance

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