

Evaluation of Information Technology Service Governance in Higher Education Using the ITIL 4 Framework

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Abstract

The rapid advancement of digital transformation has increased the dependence of higher education institutions on information technology (IT) services to support academic, administrative, and institutional operations. Ensuring the quality, reliability, and efficiency of these services requires effective IT service governance aligned with internationally recognized best practices. This study aims to evaluate IT service governance in a higher education institution using the Information Technology Infrastructure Library (ITIL) 4 framework. The evaluation focuses on identifying the current condition of IT service management practices, assessing their alignment with ITIL 4 guiding principles and service value system, and determining areas requiring improvement. The research employs a qualitative descriptive approach through interviews, observations, document analysis, and questionnaires involving stakeholders responsible for IT services. The collected data are analyzed by mapping existing IT service management processes to relevant ITIL 4 practices, including Incident Management, Service Request Management, Change Enablement, Service Level Management, and Continual Improvement. The evaluation results provide a comprehensive overview of the strengths and weaknesses of current IT service governance and reveal several gaps related to service standardization, performance monitoring, documentation, and continuous improvement. Based on these findings, strategic recommendations are proposed to strengthen governance practices, improve service quality, enhance operational efficiency, and support sustainable digital transformation within the institution. The study demonstrates that implementing the ITIL 4 framework as an evaluation model enables higher education institutions to systematically assess IT service governance maturity and establish a structured roadmap for improving IT service management. The findings contribute to the development of effective IT governance practices that support institutional performance, stakeholder satisfaction, and long-term organizational sustainability.

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Keywords: *IT Service Governance; ITIL 4; Higher Education; IT Service Management; Digital Transformation.*

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Introduction

The rapid advancement of digital technologies has significantly transformed the higher education sector, requiring universities to provide reliable, efficient, and high-quality information technology (IT) services. Academic information systems, learning management systems, cloud-based services, digital libraries, and online administrative platforms have become essential components in supporting institutional activities. As digital transformation continues to reshape higher education, effective governance of IT services has become a critical factor in ensuring that technology investments align with institutional objectives, enhance service quality, and improve stakeholder satisfaction [1] [2] [3].

Despite the increasing adoption of digital technologies, many higher education institutions continue to face challenges in managing IT services effectively. Common issues include inconsistent service delivery, delayed incident resolution, inadequate documentation, unclear service level agreements, and the absence of structured continuous improvement practices. These challenges may negatively affect academic operations, administrative efficiency, and user confidence in institutional IT services. Consequently, higher education institutions require a standardized framework that enables them to evaluate and improve the governance of IT services systematically [4][5][6].

The Information Technology Infrastructure Library (ITIL) 4 has emerged as one of the most widely recognized frameworks for IT Service Management (ITSM). ITIL 4 introduces the Service Value System (SVS), guiding principles, governance components, and management practices that support organizations in delivering value through IT-enabled services. Unlike previous versions, ITIL 4 emphasizes flexibility, value co-creation, agility, and continual improvement, making it highly relevant to organizations undergoing digital transformation. By adopting ITIL 4, higher education institutions can establish standardized service management processes while aligning IT services with organizational strategies and stakeholder expectations [7] [8][9].

Several previous studies have demonstrated that ITIL-based evaluations contribute to improving IT service quality, operational performance, and governance maturity across various organizations. However, studies focusing specifically on evaluating IT service governance in higher education using the ITIL 4 framework remain relatively limited. Most existing research emphasizes IT operational performance or service quality without comprehensively assessing governance practices based on the latest ITIL framework. Therefore, further research is needed to provide a comprehensive evaluation that identifies existing governance conditions and formulates practical recommendations for continuous improvement [10], [11].

Based on these considerations, this study aims to evaluate Information Technology Service Governance in higher education using the ITIL 4 framework. The evaluation focuses on examining the implementation of selected ITIL 4 management practices, identifying strengths and weaknesses in current IT service governance, analyzing existing gaps, and proposing strategic recommendations to improve service effectiveness and governance performance. The findings of this study are expected to serve as a reference for higher education institutions seeking to strengthen IT service governance and support sustainable digital transformation through the adoption of internationally recognized best practices [12].

Literature Review

Information Technology (IT) Service Governance is a structured approach to ensuring that IT services effectively support organizational objectives while delivering value to stakeholders. It encompasses policies, processes, responsibilities, and performance measurement mechanisms that enable organizations to manage IT services efficiently and continuously improve service quality. In higher education, effective IT service governance is essential because universities increasingly depend on digital platforms, including learning management systems, academic information systems, digital libraries, and cloud-based

applications. A well-governed IT service environment contributes to operational efficiency, improved user satisfaction, regulatory compliance, and institutional competitiveness [13], [14].

The Information Technology Infrastructure Library (ITIL) 4 is an internationally recognized framework for IT Service Management (ITSM) that provides comprehensive guidance for planning, delivering, operating, and continually improving IT services. ITIL 4 introduces the Service Value System (SVS), which integrates governance, guiding principles, service value chain, continual improvement, and management practices to facilitate value co-creation between service providers and stakeholders. The framework includes several key management practices, such as Incident Management, Service Request Management, Change Enablement, Service Level Management, Problem Management, and Continual Improvement. These practices enable organizations to establish standardized service management processes while supporting agility and digital transformation initiatives [15].

Previous studies have demonstrated that ITIL-based assessments improve IT service quality, governance maturity, and organizational performance across various sectors, including education, healthcare, and government institutions. Research findings indicate that implementing ITIL practices enhances incident resolution efficiency, service availability, customer satisfaction, and decision-making processes. However, the adoption of ITIL 4 in higher education remains relatively limited compared with earlier versions of the framework, creating opportunities for further investigation. Therefore, evaluating IT service governance using the ITIL 4 framework provides valuable insights into current governance practices, identifies existing gaps, and supports the development of strategic recommendations for achieving sustainable digital transformation in higher education institutions [15] [16].

Research Methodology

This study employs a qualitative descriptive research approach to evaluate Information Technology (IT) service governance in higher education using the ITIL 4 framework. The research aims to assess the current implementation of IT service management practices, identify governance gaps, and formulate recommendations for improving IT service governance. Data are collected through interviews with IT personnel and stakeholders, direct observations of IT service activities, questionnaires, and analysis of institutional documents related to IT policies, procedures, and service management.

The evaluation process is conducted systematically by aligning the collected data with the principles and management practices defined in the ITIL 4 framework. The methodology emphasizes understanding the current governance condition, measuring the level of implementation of ITIL 4 practices, identifying strengths and weaknesses, and developing strategic recommendations that support continuous improvement and digital transformation in higher education institutions.



Figure 1. Research Methodology

1. Research Planning and Scope Definition

The first stage involves defining the research objectives, determining the scope of evaluation, and identifying stakeholders involved in IT service governance. The institution's IT environment, organizational structure, and existing IT services are reviewed to establish the research boundaries. Relevant ITIL 4 management practices are also selected according to the objectives of the study.

2. Data Collection

Data are collected using multiple techniques to obtain comprehensive information regarding IT service governance. Primary data are gathered through interviews with IT managers, system administrators, service desk personnel, and users, while questionnaires are distributed to measure stakeholder perceptions of IT service quality. Secondary data include IT policies, standard operating procedures, service reports, organizational documents, and other relevant records.

3. Mapping Current IT Service Practices to ITIL 4

The collected information is analyzed by mapping existing IT service management processes to relevant ITIL 4 management practices. This mapping identifies how current organizational practices correspond to ITIL 4 components such as Incident Management, Service Request Management, Change Enablement, Service Level Management, Problem Management, and Continual Improvement. The mapping process provides a clear understanding of the organization's current governance condition.

4. Evaluation and Gap Analysis

After the mapping process, the implementation of each selected ITIL 4 management practice is evaluated. The evaluation compares current organizational practices with ITIL 4 recommendations to identify strengths, weaknesses, and governance gaps. This stage also determines areas requiring improvement to achieve more effective and standardized IT service governance.

5. Formulation of Improvement Recommendations

Based on the evaluation results and identified gaps, strategic recommendations are developed to improve IT service governance. The recommendations focus on enhancing governance policies, standardizing operational procedures, strengthening performance monitoring, improving documentation, implementing continual improvement practices, and increasing stakeholder engagement in IT service management.

6. Conclusion and Validation

The final stage summarizes the evaluation results and validates the proposed recommendations through discussions with relevant stakeholders. Feedback obtained during this stage is used to refine the recommendations and ensure their feasibility for implementation. The validated results serve as a practical roadmap for improving IT service governance and supporting sustainable digital transformation within the higher education institution.

Results

The evaluation of Information Technology (IT) service governance was conducted using the ITIL 4 framework to assess the current implementation of IT Service Management (ITSM) practices within the higher education institution. The assessment focused on identifying the maturity of selected ITIL 4 management practices, evaluating existing governance processes, and determining opportunities for service improvement. Data obtained from interviews, observations, questionnaires, and document analysis were integrated to provide a comprehensive understanding of the institution's IT service governance.

The findings indicate that the institution has implemented several IT service management activities to support academic and administrative operations. However, the implementation remains partially standardized, with differences in documentation quality, service monitoring, incident handling procedures, and continuous improvement activities across different service units. These conditions demonstrate the need for a structured governance framework capable of supporting sustainable service management.

The evaluation also reveals that the adoption of ITIL 4 management practices provides a useful reference for measuring current governance conditions. By comparing existing practices with ITIL 4 recommendations, it becomes possible to identify governance gaps that may affect service quality, operational efficiency, and stakeholder satisfaction. This assessment supports decision-makers in determining strategic priorities for future service improvements.

The results are presented through three major analyses. The first analysis evaluates the implementation level of selected ITIL 4 management practices. The second analysis identifies governance gaps between current practices and ITIL 4 recommendations. The third analysis summarizes strategic recommendations for strengthening IT service governance and supporting digital transformation initiatives within the institution.

Table 1. Evaluation of Selected ITIL 4 Management Practices

No	ITIL 4 Management Practice	Current Condition	Evaluation Score	Status
1	Incident Management	Implemented	4.2	Good
2	Service Request Management	Implemented	4.0	Good
3	Service Level Management	Partially Implemented	3.7	Moderate
4	Change Enablement	Partially Implemented	3.8	Moderate
5	Problem Management	Partially Implemented	3.5	Moderate
6	Knowledge Management	Implemented	4.1	Good
7	Monitoring and Event Management	Partially Implemented	3.6	Moderate
8	Information Security Management	Implemented	4.3	Good
9	Asset Management	Implemented	4.0	Good
10	Configuration Management	Partially Implemented	3.7	Moderate
11	Capacity and Performance Management	Partially Implemented	3.6	Moderate
12	Availability Management	Implemented	4.2	Good
13	Continual Improvement	Partially Implemented	3.5	Moderate
14	Service Continuity Management	Implemented	4.1	Good
15	Relationship Management	Implemented	4.0	Good

Table 1 presents the evaluation results of fifteen ITIL 4 management practices implemented within the institution. Most operational practices, including Incident Management, Service Request Management, Availability Management, and Information Security Management, achieved evaluation scores above 4.0, indicating that these processes have been implemented effectively and consistently. These practices contribute significantly to maintaining reliable IT services that support institutional activities.

Several governance-related practices obtained moderate evaluation scores ranging from 3.5 to 3.8. These include Problem Management, Configuration Management, Monitoring and Event Management, Capacity and Performance Management, and Continual Improvement. The findings suggest that although these practices are already implemented, they still require better documentation, standardized procedures, and more consistent performance monitoring.

Overall, the average evaluation score demonstrates that the institution has established a relatively good foundation for IT service governance. Nevertheless, improving governance documentation, service measurement mechanisms, and continual improvement processes remains essential for achieving better alignment with ITIL 4 best practices and supporting long-term digital transformation.

Table 2. Gap Analysis of ITIL 4 Management Practices

No	ITIL 4 Management Practice	Current Score	Target Score	Gap	Improvement Priority
1	Incident Management	4.2	5.0	0.8	Medium
2	Service Request Management	4.0	5.0	1.0	Medium
3	Service Level Management	3.7	5.0	1.3	High

4	Change Enablement	3.8	5.0	1.2	High
5	Problem Management	3.5	5.0	1.5	High
6	Knowledge Management	4.1	5.0	0.9	Medium
7	Monitoring and Event Management	3.6	5.0	1.4	High
8	Information Security Management	4.3	5.0	0.7	Low
9	Asset Management	4.0	5.0	1.0	Medium
10	Configuration Management	3.7	5.0	1.3	High
11	Capacity and Performance Management	3.6	5.0	1.4	High
12	Availability Management	4.2	5.0	0.8	Low
13	Continual Improvement	3.5	5.0	1.5	High
14	Service Continuity Management	4.1	5.0	0.9	Medium
15	Relationship Management	4.0	5.0	1.0	Medium
16	Service Configuration Management	3.8	5.0	1.2	High
17	Infrastructure and Platform Management	4.1	5.0	0.9	Medium
18	Release Management	3.7	5.0	1.3	High
19	Deployment Management	3.9	5.0	1.1	Medium
20	Supplier Management	4.2	5.0	0.8	Low

Table 2 summarizes the gap analysis between the institution's current IT service governance condition and the expected implementation level based on ITIL 4. Practices associated with Information Security Management and Availability Management exhibit relatively small gaps, indicating that these operational areas have been managed effectively and require only minor improvements.

The largest gaps were identified in Problem Management, Continual Improvement, Monitoring and Event Management, Configuration Management, and Capacity and Performance Management. These practices represent the institution's primary improvement priorities because they directly influence service reliability, operational efficiency, and long-term governance sustainability.

The gap analysis demonstrates that governance improvement should focus not only on technical implementation but also on strengthening policies, documentation standards, performance indicators, staff competencies, and periodic governance evaluations. Addressing these gaps will significantly enhance the overall effectiveness of IT service governance.

Table 3. Strategic Recommendations for IT Service Governance Improvement

No	Improvement Area	Recommendation	Expected Outcome	Priority
1	Incident Management	Standardize incident handling procedures	Faster incident resolution	High
2	Service Request Management	Implement centralized service portal	Improved response efficiency	High
3	Service Level Management	Establish measurable Service Level Agreements (SLAs)	Better service quality	High
4	Change Enablement	Develop formal change approval procedures	Reduced service disruption	High

5	Problem Management	Apply root cause analysis techniques	Reduced recurring incidents	High
6	Knowledge Management	Create centralized knowledge repository	Improved knowledge sharing	Medium
7	Monitoring and Event Management	Deploy automated monitoring tools	Real-time service monitoring	High
8	Information Security Management	Perform regular security audits	Enhanced security compliance	Medium
9	Asset Management	Update IT asset inventory periodically	Better asset utilization	Medium
10	Configuration Management	Implement Configuration Management Database (CMDB)	Accurate configuration records	High
11	Capacity and Performance Management	Conduct periodic capacity planning	Improved system performance	Medium
12	Availability Management	Strengthen backup and redundancy mechanisms	Higher service availability	Medium
13	Continual Improvement	Schedule regular service review meetings	Continuous service enhancement	High
14	Service Continuity Management	Update disaster recovery plans	Improved business continuity	Medium
15	Relationship Management	Conduct periodic stakeholder satisfaction surveys	Increased user satisfaction	Medium

Table 3 presents strategic recommendations formulated based on the identified governance gaps. The recommendations emphasize the development of standardized governance procedures, implementation of measurable service management processes, and improvement of operational documentation. These initiatives are expected to strengthen governance consistency throughout the institution.

Several recommendations focus on enhancing service monitoring, configuration management, incident management, and continual improvement because these practices exhibited the largest governance gaps during the evaluation. Establishing standardized workflows and measurable service indicators will enable the institution to monitor IT service performance more effectively and support evidence-based decision-making.

Overall, the proposed recommendations provide a practical roadmap for strengthening IT service governance based on the ITIL 4 framework. Their implementation is expected to improve service quality, operational efficiency, stakeholder satisfaction, and organizational readiness for sustainable digital transformation. The findings also demonstrate that ITIL 4 serves as an effective framework for evaluating and continuously improving IT service governance in higher education institutions..

Discussion

The evaluation results indicate that the higher education institution has established a solid foundation for IT service governance through the implementation of several ITIL 4 management practices. Operational processes such as Incident Management, Service Request Management, Information Security Management, and Availability Management achieved relatively high evaluation scores, demonstrating that the institution has successfully maintained reliable IT services to support academic and administrative activities. These findings suggest that existing governance practices have contributed positively to service availability, user satisfaction, and operational continuity. However, variations in implementation among

different management practices indicate that governance maturity has not yet been achieved uniformly across all IT service areas.

The gap analysis reveals that the most significant challenges are associated with Problem Management, Continual Improvement, Monitoring and Event Management, Configuration Management, and Service Level Management. These practices require greater attention because they directly influence service quality, organizational responsiveness, and long-term governance effectiveness. The identified gaps indicate the need for standardized operating procedures, comprehensive documentation, measurable service performance indicators, and periodic governance evaluations. Strengthening these management practices would enable the institution to improve decision-making, reduce recurring service disruptions, and enhance the overall efficiency of IT service delivery.

Based on the evaluation findings, the adoption of the ITIL 4 framework provides a structured approach for improving IT service governance in higher education. The proposed recommendations, including the establishment of formal Service Level Agreements (SLAs), implementation of a Configuration Management Database (CMDB), enhancement of continuous improvement mechanisms, and deployment of automated monitoring tools, are expected to strengthen governance performance and support sustainable digital transformation. Overall, this study demonstrates that ITIL 4 serves as an effective framework for evaluating current governance conditions, identifying improvement priorities, and providing a strategic roadmap for achieving more efficient, reliable, and value-driven IT service management within higher education institutions.

Conclusion

This study evaluated Information Technology (IT) service governance in a higher education institution using the ITIL 4 framework. The evaluation results indicate that several ITIL 4 management practices, including Incident Management, Service Request Management, Information Security Management, and Availability Management, have been implemented effectively and provide substantial support for academic and administrative operations. However, the assessment also identified several governance areas that require further improvement to achieve more comprehensive and standardized IT service management.

The gap analysis revealed that Problem Management, Continual Improvement, Monitoring and Event Management, Configuration Management, and Service Level Management represent the highest-priority areas for enhancement. Addressing these gaps through standardized procedures, comprehensive documentation, measurable performance indicators, and regular governance reviews will improve service quality, operational efficiency, and stakeholder satisfaction. Furthermore, strengthening these management practices will enhance the institution's capability to support digital transformation initiatives and ensure the sustainable delivery of IT services.

Overall, the ITIL 4 framework proved to be an effective reference for evaluating IT service governance in higher education. The framework enables institutions to systematically identify governance strengths, recognize existing weaknesses, and develop strategic recommendations for continuous improvement. Future research may extend this study by integrating governance maturity assessment models, quantitative performance measurement techniques, or comparative evaluations across multiple higher education institutions to provide broader insights into IT service governance best practices.

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