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Information Systems Strategic Planning for Computer Science Faculty to Achieve LAM-INFOKOM Excellent Accreditation

Dicky Pratama[1]*, Muhammad Rachmadi[2], Novan Wijaya[3], Balqis Muthmainnah[4]
[1,2,3,4]Information System, Faculty of Computer Science and Engineering, MDP University, Palembang, South Sumatera, Indonesia
[1*]dqpratama@mdp.ac.id, [2]rachmadi@mdp.ac.id, [3]novan.wijaya@mdp.ac.id,
[4]balqismutmainnahtanjung_2327240115@mhs.mdp.ac.id

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***Corresponding Author**

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ABSTRACT

Rapid technological shifts and stringent accreditation standards require higher education institutions to align their information technology infrastructure with organizational goals strategically. This study addresses operational inefficiencies, data silos, and manual quality management processes within a Faculty of Computer Science in South Sumatra seeking to achieve LAM-INFOKOM Excellent Accreditation. This research aims to develop a comprehensive Information Systems and Information Technology (IS/IT) strategic plan that automates the Planning, Implementation, Evaluation, Control, and Improvement (PPEPP) quality cycle and optimizes academic tridharma data. Utilizing the Ward and Peppard framework, the methodology incorporates internal and external environment assessments through Value Chain, PESTEL, SWOT, and Critical Success Factors (CSF) analyses. The findings yield a prioritized future application portfolio categorized via the McFarlan Strategic Grid, featuring a Strategic Automated Accreditation Portal, an Outcome Based Education (OBE) Management Platform, and an integrated Academic Information System linked via an API Gateway. Furthermore, the resulting IT infrastructure strategy advocates for cloud-based Virtual Private Servers and enhanced cybersecurity frameworks in compliance with data privacy regulations. Practically, this research delivers an actionable five-year roadmap (2026–2030) that bridges the gap between technical execution and institutional quality assurance. In conclusion, the formulated strategic blueprint successfully aligns digital transformation with accreditation benchmarks, providing a sustainable roadmap for academic excellence and serving as a scalable reference for higher education institutions undergoing digital transformation.

INTRODUCTION

In the contemporary digital era, Information Systems and Information Technology (IS/IT) have transitioned from basic operational support tools into core strategic drivers essential for enhancing organizational agility and securing competitive advantage (Agustiono et al., 2021; Zidan & Pratama, 2026). In higher education, particularly within the Faculty of Computer Science in South Sumatra, the deployment of a strategic IS/IT ecosystem is paramount to supporting academic tridharma operations education, research, and community service—while fulfilling the rigorous standards mandated for LAM-INFOKOM Excellent Accreditation (Agustiono et al., 2021; LAM-INFOKOM, 2026). As the primary entity managing computer science and informatics programs, the faculty serves as a benchmark for technological maturity; consequently, aligning its digital capability with institutional vision is not merely an operational requirement, but a strategic imperative to drive digital transformation and sustain high educational quality across all study programs (Zidan & Pratama, 2026).

Despite the critical role of technology, many higher education institutions encounter significant operational bottlenecks that threaten their strategic goals (Agustiono et al., 2021; Furqon & Yusman, 2024). Existing digital platforms frequently operate independently, creating severe data silos between departments, manual and redundant data entry for accreditation reporting such as LKPS and LED, and an absence of real-time monitoring across the Planning, Implementation, Evaluation, Control, and Improvement (PPEPP) quality assurance cycle (LAM-INFOKOM, 2025; SEVIMA, 2025). Furthermore, technology investments are frequently executed without a formal, long-term IS/IT strategic plan (Renstra SI/TI), leading to misaligned infrastructure spending and fragmented application development (Agustiono et al., 2021; Furqon & Yusman, 2024). This research is vital because uncoordinated technology adoption impairs data accuracy, increases operational overhead, and risks non-compliance with updated accreditation metrics like LAM-INFOKOM Version 2.1 (LAM-INFOKOM, 2026). Without a structured digital roadmap, the faculty struggles to sustain the continuous quality culture required to achieve and maintain "Unggul" status (LAM-INFOKOM, 2021).

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To address these empirical gaps, this study adopts the Ward and Peppard methodology to establish a comprehensive IS/IT strategic plan (Agustiono et al., 2021; Furqon & Yusman, 2024). Unlike technical-only architecture frameworks or maturity-focused models, Ward and Peppard prioritizes the direct alignment between organizational strategy and technological capability (Agustiono et al., 2021). By diagnosing internal operations via Value Chain analysis and external macro-dynamics via PESTEL, the framework synthesizes strategic findings into a SWOT matrix and identifies Critical Success Factors (CSF) essential for academic excellence (Zidan & Pratama, 2026). The ultimate objective of this research is to formulate a cohesive IS/IT strategic blueprint—encompassing Business IS Strategy, IT Infrastructure Strategy, and IS/IT Management Strategy—alongside a McFarlan Strategic Grid portfolio and a structured five-year roadmap (2026–2030) (Zidan & Pratama, 2026). This study provides a practical, data-driven framework that eliminates data silos, automates quality assurance workflows, and guides the faculty toward sustainable institutional excellence.

LITERATURE REVIEW

Information Systems and Information Technology (IS/IT) strategic planning serves as a vital bridge for aligning technological infrastructure with overarching institutional objectives (Agustiono et al., 2021; Furqon & Yusman, 2024). A systematic evaluation of IT strategic planning across Indonesian higher education institutions reveals that the Ward and Peppard methodology is the most widely adopted framework, outperforming alternative models such as TOGAF ADM and COBIT (Agustiono et al., 2021). While TOGAF ADM focuses predominantly on technical enterprise architecture modeling and COBIT emphasizes governance maturity and risk control, the Ward and Peppard framework prioritizes business-IT strategic alignment by diagnosing internal processes through Value Chain Analysis and external dynamics through PESTEL analysis (Agustiono et al., 2021; Hidayatulloh et al., 2026; Lie & Pratama, 2025; Pesce & Neirotti, 2023). The insights synthesized through a SWOT matrix and Critical Success Factors (CSF) analysis allow organizations to derive an actionable future application portfolio categorized via the McFarlan Strategic Grid, thereby establishing a direct connection between high-level organizational goals and concrete technology roadmaps (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026).

In Indonesian higher education, national standards (SN-Dikti) govern quality management, which is implemented through specialized accreditation bodies such as LAM-INFOKOM (LAM-INFOKOM, 2021, 2026). The transition toward LAM-INFOKOM Version 2.0 and 2.1 marks a fundamental evolution toward Outcome-Based Education (OBE) and a continuous quality culture (LAM-INFOKOM, 2025; SEVIMA, 2025). Central to this quality framework is the internal quality assurance cycle known as PPEPP, which encompasses the stages of Establishment (Penetapan), Implementation (Pelaksanaan), Evaluation (Evaluasi), Control (Pengendalian), and Continuous Improvement (Peningkatan) (LAM-INFOKOM, 2021, 2026). Sustaining the PPEPP cycle manually presents severe operational inefficiencies and risks human error, whereas achieving top-tier "Unggul" Accreditation demands real-time data synchronization with national pangkalan data such as PDDikti and SISTER, alongside automated tracking of student learning outcomes (LAM-INFOKOM, 2026; SEVIMA, 2025).

Empirical studies examining academic IS/IT planning reveal persistent systemic vulnerabilities, including uncoordinated technology investments, disconnected data silos across departments, and manual borang collection for self-evaluation reports (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026). Critical synthesis of the literature identifies three distinct gaps: a lack of domain-specific strategic planning tailored specifically for Computer Science Faculties pursuing updated LAM-INFOKOM 2.1 metrics, the omission of the PPEPP quality cycle within proposed application portfolios, and a lack of architectural integration mechanisms like API Gateways to bridge local platforms with national databases (Agustiono et al., 2021; Owusu, 2024; SEVIMA, 2025; Zidan & Pratama, 2026). To address these gaps, this study integrates the Ward and Peppard framework directly with LAM-INFOKOM 2.1 criteria, proposing an Automated Accreditation and PPEPP Monitoring Portal as a Strategic asset, an OBE Management Platform, an API Gateway cloud architecture to eliminate data silos, and a cohesive five-year implementation roadmap (2026–2030) for sustainable institutional excellence.

METHOD

This study employs a qualitative descriptive research design guided by the Ward and Peppard framework to formulate a comprehensive IS/IT strategic plan for the Faculty of Computer Science in South Sumatra (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026). Recent systematic literature reviews emphasize that strategic business-IT alignment frameworks, such as Ward and Peppard, are essential for bridging high-level institutional goals with technical infrastructure execution and organizational digital transformation (Hidayatulloh et al., 2026). The research methodology is structured around a systematic data collection process comprising both primary and secondary sources. The study gathered primary data through structured interviews and observational assessments with key institutional stakeholders, including faculty leadership, heads of study programs, quality assurance officers, and IT support personnel. Secondary data were collected through rigorous document analysis of institutional artifacts, including the faculty's strategic plan (Renstra Fasilkom), academic operational guidelines, IT infrastructure inventories, and national accreditation benchmarks, specifically the Study Program Performance Report (LKPS) and Self-

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Evaluation Report (LED) guidelines under LAM-INFOKOM Version 2.1 regulations (LAM-INFOKOM, 2026; Zidan & Pratama, 2026).

The analytical execution follows a two-pronged environmental diagnosis pipeline to ensure comprehensive business-IT strategic alignment and optimize institutional performance (Agustiono et al., 2021; Furqon & Yusman, 2024; Pesce & Neirotti, 2023). The internal business environment was evaluated using Porter's Value Chain Analysis, categorizing faculty operations into primary activities such as student admission, academic delivery, research execution, community service, and graduation and support activities, including institutional infrastructure, human resource management, and technology development (Agustiono et al., 2021; Furqon & Yusman, 2024; Owusu, 2024; Zidan & Pratama, 2026). Concurrently, the external environment was examined using PESTEL Analysis to capture macro-environmental drivers specifically political educational mandates, economic resource constraints, social digital literacy shifts, emerging educational technologies, environmental sustainability, and legal compliance under the Personal Data Protection Law (UU PDP) complemented by Porter's Five Forces Analysis to evaluate academic competition, institutional positioning, and stakeholder dynamics (Lie & Pratama, 2025; Lynn & Emanuel, 2021; Zidan & Pratama, 2026). Furthermore, this multi-method analytical pipeline is adapted from established empirical frameworks applied in regional strategic IS/IT planning across public and institutional domains in South Sumatra (Akbar & Pratama, 2025; Fillipo & Pratama, 2025; Mughny & Pratama, 2025; Saputra & Pratama, 2025). Although this study primarily focuses on business-IT strategic alignment through the Ward and Peppard framework, systematic literature confirms that establishing a structured strategic foundation is a critical prerequisite before transitioning into detailed enterprise architecture and technical implementation (Hidayatulloh et al., 2026; Owusu, 2024).

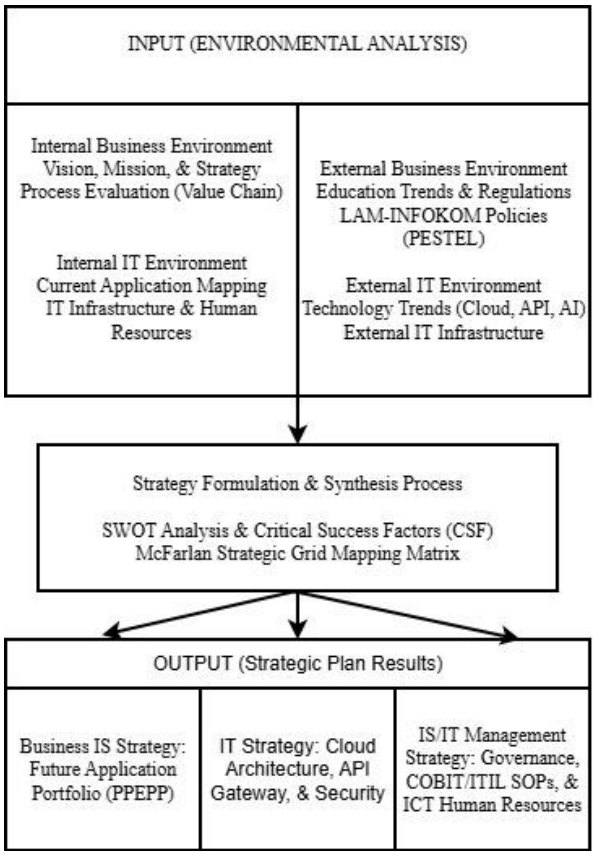


Figure1. Research Stage

As depicted in Figure 1, the IS/IT strategic planning framework adopts the Ward and Peppard methodology, structured around a systematic three-tier progression: Environmental Input Analysis, Strategy Formulation and Synthesis, and Strategic Plan Results (Output). The input tier conducts a two-pronged diagnostic assessment across both internal and external domains. Internally, it evaluates the faculty's vision, mission, and operational workflows using Value Chain analysis alongside a baseline mapping of existing application portfolios, IT infrastructure, and human resource capabilities. Externally, PESTEL analysis captures macro-environmental drivers, including higher education trends, regulatory mandates under LAM-INFOKOM policies, and emerging technology trends such as cloud computing, API gateways, and artificial intelligence. These diagnostic inputs are subsequently funneled into the strategy formulation phase to systematically synthesize environmental findings into actionable technological directives.

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During this synthesis phase, internal strengths and weaknesses are intersected with external opportunities and threats within a SWOT Matrix to formulate Strengths-Opportunities (SO), Weaknesses-Opportunities (WO), Strengths-Threats (ST), and Weaknesses-Threats (WT) strategies (Furqon & Yusman, 2024; Lie & Pratama, 2025). These strategic options are further refined through Critical Success Factors (CSF) analysis to identify the essential operational prerequisites needed to achieve institutional goals (Agustiono et al., 2021; Furqon & Yusman, 2024). Subsequently, the identified system requirements are categorized into the McFarlan Strategic Grid, mapping future applications across Strategic, High Potential, Key Operational, and Support quadrants to prioritize application development based on their strategic contribution (Agustiono et al., 2021; Zidan & Pratama, 2026).

This portfolio classification directly yields three core, interdependent strategy outputs culminating in a structured five-year implementation roadmap (2026–2030) aligned with the PPEPP quality cycle (LAM-INFOKOM, 2021, 2026; Zidan & Pratama, 2026). First, the Business Information Systems (IS) Strategy defines the future application portfolio designed to eliminate operational data silos, automate the continuous generation of LKPS and LED borang reporting, and track Outcome-Based Education (OBE) learning achievements alongside Tridharma activities. Second, the Information Technology (IT) Infrastructure Strategy establishes a scalable technical architecture by deploying cloud/VPS hosting environments, a high-speed fiber-optic network backbone, and an API Gateway middleware layer enabling real-time data synchronization with national databases (PDDikti/SISTER), while enforcing multi-factor authentication (MFA), encryption, and Disaster Recovery Plans (DRP) under the Personal Data Protection Law (UU PDP) (Lie & Pratama, 2025; Zidan & Pratama, 2026). Finally, the IS/IT Management Strategy structures institutional governance by formalizing an autonomous internal ICT unit, enacting COBIT/ITIL-aligned Standard Operating Procedures (SOPs), and establishing annual digital literacy and competency development programs for academic and administrative personnel (Furqon & Yusman, 2024; Zidan & Pratama, 2026).

RESULT

Input Analysis: Internal and External Environment Diagnosis

Following the Ward and Peppard methodology, the formulation of the strategic IS/IT plan begins with a systematic diagnosis of both the business and technology environments, encompassing internal capabilities and external pressures (Agustiono et al., 2021).

Internal Business Environment (Value Chain Analysis)

The internal business environment of the Faculty of Computer Science was evaluated using Porter's Value Chain Analysis, mapping organizational operations into primary and support activities (M. F. A. Pratama & D. Pratama, 2025).

Primary Activities:

Inbound Logistics & Student Admissions (SPMB): Processing new student intake, background data verification, and orientation. Current operations suffer from fragmented databases between study programs.

Academic Operations & Curriculum Execution: Delivering lectures, laboratory sessions, course registration (KRS), and exam grading. The primary challenge is the lack of an integrated platform to measure Outcome-Based Education (OBE) metrics, specifically Course Learning Outcomes (CPMK) and Program Learning Outcomes (CPL).

Outbound Logistics & Graduation: Managing thesis defenses, graduation clearance, and degree conferral. Verification remains largely manual, delaying student completion processing.

Research and Community Service (Litabmas): Administering faculty research proposals, grants, publications, and intellectual property. Data collection for accreditation reporting is uncoordinated.

Marketing & Alumni Relations (Tracer Study): Tracking graduate employability and industry feedback. Response rates remain low due to the absence of an automated alumni engagement platform.

Support Activities:

Faculty Infrastructure & Governance: Institutional leadership, quality assurance (GPM/UPM), and administrative management. The internal quality assurance cycle (PPEPP) relies heavily on manual data gathering.

Human Resource Management: Faculty recruitment, functional rank promotions (JAFUNG), and administrative staff performance tracking.

Technology & Financial Management: Budgeting, tuition fee collection, and IT expenditure allocation, which historically suffered from ad-hoc, uncoordinated funding (investment tambal sulam) (Biantoro & Pratama, 2026).

External Business Environment (PESTEL and Porter's Five Forces)

The external macro-environment was assessed using PESTEL Analysis to capture broader institutional drivers (Lie & Pratama, 2025; Zidan & Pratama, 2026):

Political & Legal: Strict compliance mandates under national higher education standards (SN-Dikti) and LAM-INFOKOM Version 2.1 regulations, requiring verifiable data across Study Program Performance Reports (LKPS) and Self-Evaluation Reports (LED) (LAM-INFOKOM, 2026). Additionally, systems must comply with national data

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security regulations under the Personal Data Protection Law (UU PDP).

Economic: The necessity for cost-efficient technology adoption, favoring scalable Cloud or Virtual Private Server (VPS) subscription models over high-capital physical server acquisitions.

Social: Increasing expectations among digital-native students and faculty for mobile-accessible academic services, real-time feedback, and transparent academic administration.

Technological: Rapid adoption of Cloud computing, API Gateways, Microservices, and Business Intelligence (BI) platforms across competitor institutions (SEVIMA, 2025; Zidan & Pratama, 2026).

Environmental: Paperless academic administration initiatives to support institutional sustainability goals.

Complementing PESTEL, Porter's Five Forces Analysis revealed high competitive rivalry among computer science faculties in South Sumatra, driving the urgency to secure LAM-INFOKOM "Unggul" Accreditation as a primary market differentiator (LAM-INFOKOM, 2021; Lie & Pratama, 2025).

Internal and External IT Environment

Internal IT Environment:

The faculty currently operates a legacy Academic Information System (SIAKAD) alongside isolated departmental spreadsheets and sub-systems. This architecture creates severe data silos, forces redundant manual data entry during accreditation audits, and lacks real-time synchronization with national databases like PDDikti and SISTER (SEVIMA, 2025; Zidan & Pratama, 2026). Furthermore, IT staffing lacks an autonomous organizational unit with dedicated roles for cybersecurity, system development, and database administration (Biantoro & Pratama, 2026).

External IT Environment:

Emerging technology trends offer mature, enterprise-grade solutions, such as API Gateway middleware for seamless database integration, multi-factor authentication (MFA) frameworks for security, and specialized OBE curriculum management platforms (SEVIMA, 2025).

Strategy Formulation and Synthesis Process

The diagnostic findings from the input stage were funneled into a systematic synthesis process to formulate targeted strategies (Zidan & Pratama, 2026).

SWOT Matrix Analysis

By intersecting internal strengths and weaknesses with external opportunities and threats, four strategic vectors were generated (Lie & Pratama, 2025):

SO Strategies (Strengths–Opportunities):

Leverage existing academic accreditation momentum to build an Automated Accreditation & PPEPP Monitoring Portal that continuously extracts quantitative metrics for LKPS tables (LAM-INFOKOM, 2026; SEVIMA, 2025). Capitalize on strong faculty expertise to develop an integrated Outcome-Based Education (OBE) Management System for tracking CPL/CPMK alignment.

WO Strategies (Weaknesses–Opportunities):

Eliminate internal data silos by implementing an API Gateway integration layer that automates real-time data synchronization with national pangkalan data (PDDikti/SISTER) (SEVIMA, 2025; Zidan & Pratama, 2026). Formalize a Five-Year IS/IT Strategic Blueprint and establish an autonomous internal IT unit to overcome uncoordinated technology adoption (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026).

ST Strategies (Strengths–Threats):

Upgrade cybersecurity controls through Multi-Factor Authentication (MFA), end-to-end data encryption, and regular vulnerability assessments to comply with UU PDP standards. Implement a formal Disaster Recovery Plan (DRP) with automated multi-zone cloud backups to protect accreditation evidence against data loss.

WT Strategies (Weaknesses–Threats):

Conduct annual digital literacy workshops for academic faculty and administrative staff regarding OBE platforms and digital tridharma workflows. Migrate core legacy applications to scalable Virtual Private Server (VPS) infrastructure to ensure system stability during peak load periods (Lie & Pratama, 2025).

Critical Success Factors (CSF) Analysis

To prioritize these SWOT initiatives, a Critical Success Factors (CSF) Analysis was conducted to identify the essential operational prerequisites needed to achieve the faculty's strategic vision (Agustiono et al., 2021; Furqon & Yusman, 2024). The primary CSFs identified include:

Automated Quality Assurance Integration: The ability to continuously track and evaluate the PPEPP cycle (Penetapan, Pelaksanaan, Evaluasi, Pengendalian, Peningkatan) through automated software metrics rather than manual paper-based audits (LAM-INFOKOM, 2021, 2026).

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Real-Time National Data Alignment: Flawless, automated data flow between local databases and PDDikti/SISTER to ensure complete data validity during automated accreditation evaluations (IPEPA) (SEVIMA, 2025; Zidan & Pratama, 2026).

Institutional Governance Commitment: Leadership endorsement for establishing a dedicated TIK Unit, enforcing COBIT/ITIL-aligned SOPs, and securing structured funding for continuous digital transformation (Lie & Pratama, 2025; Zidan & Pratama, 2026).

Application Portfolio Mapping (McFarlan Strategic Grid)

The synthesized system requirements were classified into the McFarlan Strategic Grid based on their contribution to future strategic advantage and current operational necessity.

Table 1. Proposed Application Portfolio in McFarlan Strategic Grid

STRATEGIC (High Future Impact & Competitive Advantage)	HIGH POTENTIAL (Innovative Future Opportunities)
Automated Accreditation & PPEPP Portal: Real-time extraction of LKPS/LED data and continuous quality audit monitoring.	Executive Business Intelligence (BI) Dashboard: Visual analytics for leadership decision-making.
OBE Curriculum Management Platform: Automated tracking of CPL/CPMK curriculum mapping and student competency transcripts.	Knowledge Management System (KMS): Centralized repository for academic best practices and accreditation evidence.
KEY OPERATIONAL (Essential for Sustaining Daily Operations)	SUPPORT (Improving Administrative Efficiency)
Integrated SIAKAD & PDDikti Gateway: Core academic platform with automated national database synchronization.	HR & Asset Management System: Digital inventory and staff performance tracking.
nternal SIM-Litabmas: Centralized management of research, community service, and intellectual property.	Digital Helpdesk & E-Library Portal: Administrative support and digital learning repository.

Formulated IS/IT Strategies

The outputs of the Ward and Peppard framework are finalized into three core strategies (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026):

Business Information Systems (IS) Strategy: Defines the future portfolio required to eliminate data silos, automate LKPS/LED borang reporting, and track student learning outcomes via the Automated Accreditation Portal and OBE Management Platform (LAM-INFOKOM, 2025, 2026; SEVIMA, 2025; Zidan & Pratama, 2026).

Information Technology (IT) Infrastructure Strategy: Establishes the technical foundation, including an API Gateway middleware, cloud-based VPS hosting, a tiered star network topology with a Fiber Optic (FO) backbone (min. 100 Mbps), and robust cybersecurity protocols (MFA, encryption, DRP) complying with UU PDP (Lie & Pratama, 2025; Zidan & Pratama, 2026).

IS/IT Management Strategy: Defines governance structures through the establishment of an autonomous internal TIK Unit, formalization of COBIT/ITIL-based SOPs, execution of IT staff competency mapping, and annual digital literacy programs for faculty and administrative personnel (Furqon & Yusman, 2024; Lie & Pratama, 2025; Zidan & Pratama, 2026).

Five-Year Implementation Roadmap (2026–2030) and Discussion

Table 2. Five-Year IS/IT Implementation Roadmap (2026–2030)

Strategic Component / Initiative	2026	2027	2028	2029	2030
Governance: Establishment of Autonomous TIK Unit & SOPs	√				
Infrastructure: Fiber Optic Upgrade, VPS/Cloud & API Gateway	√	√			
Cybersecurity: MFA, End-to-End Encryption & DRP Implementation	√	√	√	√	√
Core Systems: Integrated SIAKAD & PDDikti/SISTER Sync	√				
Core Systems: Internal SIM-Litabmas & HR/Asset Systems		√			
Strategic Systems: Automated Accreditation & PPEPP Portal			√	√	
Strategic Systems: OBE Curriculum & Competency Management			√	√	
Advanced Analytics: Knowledge Management & Executive BI Dashboard				√	√
Human Capital: IT Certifications & Faculty Digital Literacy Workshops	√	√	√	√	√

DISCUSSION

The empirical findings of this study provide a direct solution to the systemic vulnerabilities highlighted in prior academic literature (Agustiono et al., 2021; Furqon & Yusman, 2024; Zidan & Pratama, 2026). Historically, higher education institutions have approached technology investments in a fragmented, uncoordinated manner (investment

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tambal sulam), creating isolated application islands that complicate accreditation preparation (Agustiono et al., 2021; Furqon & Yusman, 2024). By systematically executing the Input Stage (Value Chain, PESTEL, internal/external IT analysis) and the Formulation Stage (SWOT and CSF analysis), this study successfully embeds the PPEPP quality management cycle directly into the Strategic Application Portfolio (LAM-INFOKOM, 2021, 2026; SEVIMA, 2025).

Furthermore, the introduction of an API Gateway integration layer resolves persistent data silos, enabling seamless, real-time data flow between local academic platforms and national repositories (PDDikti and SISTER) (SEVIMA, 2025; Zidan & Pratama, 2026). The structured five-year roadmap (2026–2030) provides a realistic, phased progression—starting with governance and network stabilization in 2026, progressing to core automation in 2027–2028, and culminating in advanced analytics and continuous quality improvement by 2030. This ensures that the Faculty of Computer Science in South Sumatra can systematically fulfill all LAM-INFOKOM 2.1 metrics, elevate its digital maturity, and secure sustainable Unggul Accreditation (LAM-INFOKOM, 2026; Zidan & Pratama, 2026).

CONCLUSION

This study successfully formulates a comprehensive Information Systems and Information Technology (IS/IT) strategic plan for the Faculty of Computer Science in South Sumatra using the Ward and Peppard framework to achieve LAM-INFOKOM Excellent Accreditation. By systematically evaluating the internal business environment through Value Chain analysis and the external macro-environment through PESTEL analysis, the research bridges the historical disconnect between technological investments and institutional quality assurance. The strategic synthesis, executed through SWOT and Critical Success Factors analyses, yields a prioritized application portfolio categorized via the McFarlan Strategic Grid. The core strategic deliverable centers on an Automated Accreditation and PPEPP Monitoring Portal alongside an Outcome-Based Education (OBE) Curriculum Management System. Supported by an API Gateway integration architecture and cloud-based VPS hosting, this strategic blueprint eliminates persistent departmental data silos, automates Study Program Performance Report (LKPS) and Self-Evaluation Report (LED) data extraction, and establishes real-time synchronization with national databases such as PDDikti and SISTER.

The practical and theoretical contributions of this research provide a structured framework for higher education institutions undergoing digital transformation under evolving accreditation standards. Practically, the formulated five-year implementation roadmap (2026–2030) offers a phased execution plan that balances immediate infrastructure stabilization with long-term analytics capabilities, supported by an autonomous TIK governance unit and COBIT/ITIL-aligned operational procedures. Theoretically, this study demonstrates how strategic IS/IT alignment can be tailored specifically to computer science faculties to embed the PPEPP quality assurance cycle directly into software portfolio design. While this research focuses on a specific faculty in South Sumatra, its methodological approach serves as a scalable reference model for other academic institutions seeking digital maturity. Future research should focus on evaluating the post-implementation maturity of the proposed systems, assessing user adoption among faculty and students, and measuring the quantitative impact of automated data integration on long-term accreditation scoring.

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