Development of Website Service Governance at the Muhammadiyah University Palembang Using the ITIL V3 Method

Kemas Muhammad Wahyu Hidayat [1], Widya Cholil [1*], Tri Basuki Kurniawan [1]

[1]Magister Teknik Informatika, Universitas Bina Darma, Palembang, Sumatera Selatan

[*]**Email**: khidayat67@yahoo.co.id, widyacholil@binadarma.ac.id, tribasukikurniawan@binadarma.ac.id

Abstract

The problems in implementing an integrated information technology-based service are the need for data standards, the readiness of the system in sharing data, the availability of the system, the large usage load, and the reluctance of users to take advantage of the existing website system at the University of Muhammadiyah Palembang in utilizing an integrated website system. The research will propose an ITIL (Information Technology Infrastructure Library) framework to review service practices in IT Service Management from an integrated service system used in tertiary institutions and use the ITIL V3 Service Design and Service Operation framework. The results of this study are in the form of service processes that must be prioritized to solve problems, as well as based on the value of service management processes that must and need to be improved.

Keywords

ITIL, ITSM, Service Design, Service Operation, University, Website Service, User

Introduction

Information systems based on technology are now developing quickly with technology growth. The success of the information system itself, which is expressed in the pleasure of information system users, requires the assistance of several aspects that are anticipated to supply. If an information system is supported by a number of supporting variables, such as user participation, it will be successful.

Universities have a number of websites to improve services by incorporating all members of the academic community, including administrators, teachers, students, and staff at the Muhammadiyah University of Palembang. This website system can offer services of a higher caliber, which translates to improved performance, availability, and scalability.

The development of information systems based on technology is currently increasing quickly alongside the development of technology. The success of the information system itself, which is expressed in the pleasure of information system users, requires the support of several variables, all of which are expected to contribute to the development of the information system. If

there are several supporting components, including user participation, an information system will be successful.

By incorporating the entire academic community, including administrators, faculty, staff, and students at the Muhammadiyah University of Palembang, universities have created a number of websites to improve the quality of service. Higher performance, improved availability, and scalability are all benefits of using this website system to deliver higher-quality services.

The goal of this study is to describe how users at the Muhammadiyah University of Palembang use the current website system in practice. This study used a descriptive methodology with a qualitative approach. Observation, interviews, and documentation are utilized as data collection methods.

The researchers tested a sample of numerous websites at the Muhammadiyah University of Palembang using the ITIL V3 framework in response to the aforementioned issues surrounding how students utilize the website there.

Previous research findings suggest that there are a number of factors that have a significant impact on how students and lecturers use technology. This website employs an absolute online strategy that demands an internet network connection from a conceptual standpoint.

The purpose and usage of several websites at the Muhammadiyah University of Palembang are that the budget system is used to carry out financial budgeting at the level of the financial treasurer at the respective faculties as well as directly integrated with the financial treasurer at the university or rectorate level and can be seen directly through the vice-chancellor.

The CDC-UM Palembang website, also known as the career development center, is a website for Muhammadiyah University of Palembang graduates who are looking for employment opportunities with major corporations.

The E-Jurnal website is a website where you can upload all the works of lecturers' journals at the Muhammadiyah University of Palembang. The E-learning resource is a distance learning website designed for Muhammadiyah University of Palembang students who are enrolled and actively pursuing their studies there. The formal website is the KOMRE registration page, which is for students who have finished their study term and will continue the KOMRE trial. The library website is a website where students may post their thesis results and search for books for college-related reasons.

All lecturer journals are kept on a website, which serves as the seventh repository. The Klikad website, which is used by lecturers and students to input grades, monitor grades, and schedule lectures for Muhammadiyah University students, comes in at number eight. The ninth Simas website is an asset data file storage website for Muhammadiyah University's information management information system. The Simpeu website, which is used to keep track of Muhammadiyah University's faculty and institutional finances, comes in at number 10. The eleventh Simpeg website is an employee system website that has comprehensive data for all workers and lecturers, including both biodata and history of the conclusion of lectures.

All instructors desire to post all journals that will be added to the sister website to the twelfth Sister website, which is an integrated resource information system website. Website for distance learning designed for Muhammadiyah University of Palembang students that are enrolled and actively studying there. The fifth website is the KOMRE registration page, which is for students who have finished their study term and will continue the KOMRE trial. The sixth library website is a website where students may post their thesis results and search for books for college-related reasons.

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An IT governance framework with an emphasis on establishing IT governance, particularly in terms of services, is used by the author in this study (IT Service). Additionally, because it is best practice and contains a comprehensive library for creating process stages, the ITIL framework is ideally suited to be utilized as a guide in constructing management.

Problem attribution

Taking into account the history mentioned above, the following issues are identified as being raised in this study:

1. User requirements for Muhammadiyah University of Palembang's website access for students
2. When logging into the student portal, access the Internet network.
3. Users can utilize the website's information system policy.
4. The findings of the evaluation of the Muhammadiyah University of Palembang online system's user satisfaction survey

Literature Review

IT Management

IT governance is the collection of management, planning, performance appraisal, policies, procedures, and implementations that are related to decisions and that establish authority, control, and performance measures over investment, planning, budgeting, service commitments, significant change, security, privacy, and business continuity while also complying with legal requirements and organizational policies. As stated in the book (Selig, 2008). The Information Technology Infrastructure Library (ITIL), Control Objectives for Information and Related Technology (COBIT), ISO/EIC 20000, and the Enhanced Telecom Operation Map are a few

frameworks that may be used as a guide for adopting IT governance (eTOM). The framework helps a company's business operations run more effectively and efficiently, with findings as the end result.

Information technology governance, according to the IT Governance Institute (ITGI), is a crucial component of corporate governance that consists of leadership, organizational structures, and procedures to guarantee that organizational information technology is maintained and improved. In the meanwhile, the definition of the connection between investment and IT goals closer to the company's business is provided by Dr. Gad J. Selig PMP COP (2008). Manage, assess, organize, budget, measure, and monitor the demand for IT services, as well as provide work and delivery, in a way that maximizes business.

Manage the owned resources and assets, and establish and communicate responsibility and authority (clearly define roles and authorities). Make sure that IT delivery follows the budget, the strategy, and the agreements that have already been made. Manage significant risks, threats, changes, and contingencies proactively. Enhance outsourcing efforts and corporate IT performance, adaptation, maturity, and staff development. Enhance overall and request management, customer response, and voice of the customer (VOC). Think and act globally while executing locally. Excellent innovation in alignment with business and IT activities.

It was also underlined that information technology governance is about identifying who consistently makes and contributes to those decisions rather than just making individual judgments. One of information technology's objectives is to influence the desired behavior of IT staff in order to accomplish effective and efficient corporate goals.

Typical tools/frameworks that are employed globally include the following:
1. COBIT (Control Objectives for Information and related Technology)
2. Internal Control-Integrated Framework of COSO (Committee of Sponsoring Organizations of the Treadway Commission)
3. ITIL (Information Technology Infrastructure Library) (Information Technology Infrastructure Library)
4. Fourth, ISO/IEC 17799
5. SOX
6. FIPS PUB 200, 6.
7. ISO/IEC TR 13335 7.
8. Common Criteria/ITSEC/ISO/IEC15408:2005
9. PRINCE2 9.
10. PMBOK
11. TickIT
12. CMMI
13. TOGAF IT Baseline Protection Manual, Section 8.1

Framework ITIL

A collection of ideas and methods for infrastructure management, development, and information technology (IT) operations is known as the Information Technology Infrastructure Library (ITIL).

The University of Muhammadiyah Palembang's UPT division designed IT incident management governance using the ITIL V3 framework, specifically on many websites. These designs are known as ITIL and IT Infrastructure Library. how to handle IT to accomplish corporate goals. With thorough checklists, tasks, and procedures that are adaptable to any kind of IT organization, ITIL gives full explanations of several key IT practices. The most recent version of ITIL, ITIL V3, contains five parts and is primarily concerned with overseeing the life cycle of services rendered by information technology. The ITIL V3 idea shown in Figure 1 below is as follows:
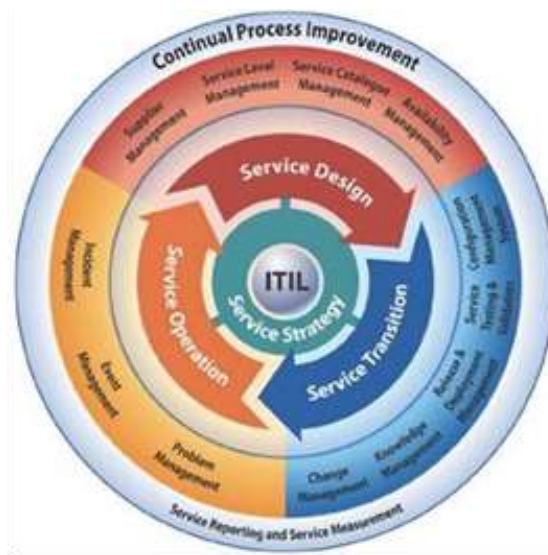

Figure 1. Concept Framework ITIL v3

Service Design

A crucial step in the total service lifecycle and a crucial component of business change is service design. "Designing new IT services, but also methods for modifications and improvements in service quality, service continuity, and service performance" is the definition of the function of service design in the business transformation process.

IT services must first be created in accordance with the customer's business objectives and the actual ITSM deployment in order for them to help the business. Service Design covers the following procedures:

1. Management of the Service Catalog manages the company's list of available information technology services, such as customer/user communication and basic financial resource allocation.
2. Service level management is the procedure used to specify, implement, guarantee, and assess the quality goals for each current information technology service. For instance, by keeping an eye on internal firm business activity.

3. Supplier Administration Given that the company's whole information technology system is built by a large number of data, process, and technology supplier partners (Hardware and Software), suppliers are crucial.
4. Capacity Management works to make sure that information technology services keep up with emerging trends (successful businesses), which will eventually lead to a rise in transaction volume and frequency.
5. Management of Availability An internal procedure for making information technology services available when stakeholders need them (a person, group or community related to the interests of the company). Therefore, the focus of availability management is on the degree of service availability for information technology.
6. IT Support By eliminating interruptions (interruptions, terminations, and cuts) in the middle of its operations, continuity management is helpful for maintaining the presence of continuous and continuous information technology services.
7. Information security management is helpful for protecting a company's information and data assets.

Methodology

The method used in this study is shown in Figure 2 below:
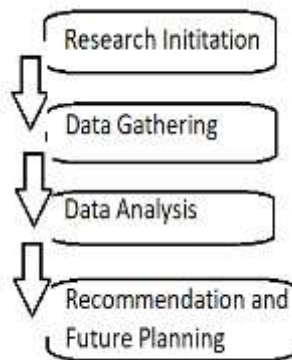

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Figure 2. Research methods

The stages of this study's execution included research conception, data gathering, data analysis, and recommendations, as well as follow-up plans. The explanation for each of these phases is as follows:

Research Initiation (Beginning)

An assessment tool in the form of a questionnaire sheet relevant to the ITIL Service Design Framework is created during this stage as part of study preparations. Service Catalog Management, Service Level Management, Supplier Management, Capacity Management, Availability Management, IT Service Continuity Management, and Information Security Management are the seven elements that make up the scope used to determine the questionnaire.

Students from the Muhammadiyah University of Palembang, as well as university administrators and staff members, are the parties involved in this assessment procedure.

Data Gathering

The distribution of the assessment questionnaire included a data-gathering process that took place in February 2020 with the participation of the parties mentioned in point A above. The data from the completed questionnaire is then summarized to get an average rating for each evaluated point.

Results and Discussion

This section covers the outcomes of the previous data gatherings that have been summarized. Given that the evaluation is conducted using a questionnaire sheet with a Likert scale of 1 to 5, the format for assessment is a questionnaire sheet.
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Completely Agree

According to the analysis, there are seven areas in the assessment, including the following lists, which contribute to the service procedures that need to be given priority in order to solve difficulties.
1. Service Catalog Management
2. Service Level Management
3. Supplier Management / Service Design Process
4. Service Design Technology Related Activities
5. Availability Management / Organizing for Service Design
6. IT Service Continuity Management / Service Design Technology Consideration
7. Information Security Management / Service Design Process Implementation Consideration

The service design stages for the Muhammadiyah University of Palembang's website include Service Catalogue Management, Service Level Management, Capacity Management, Availability Management, IT Service Continuity Management, Security Management, and Supplier Management. The results of this research include these stages as well as ITIL V3's Service Design stages that have been carried out.

1. The results of the IS/IT service design for the Blood Bank Information System Web-based information system service are supplied in the form of a Service Design Package document based on the application requirement specification document.
2. The governance documents, such as the Service Catalog, Service Level Requirements, Service Level Agreements, Operational Level Agreements, Service Improvement Plans, Capacity Plans, Availability Plans, Emergency Response Plans, Policies, Information Security Procedures, and Supplier Contract Documents, that make up the Service Design Package for the ITIL V3 stage of service design.

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3. Among the papers created in the service design package, the service catalog, service level agreement, operational level agreement, and service improvement plan serve as the main references in the design stage and are frequently used for later stages. These documents provide extensive and wide-ranging information that will be used during the post-service design phases.

Conclusion

A few frameworks that may be used as a reference for implementing IT governance include the Information Technology Infrastructure Library (ITIL), Control Objectives for Information and Related Technology (COBIT), ISO/EIC 20000, and the Enhanced Telecom Operation Map (eTOM). The framework makes it possible for businesses to operate more successfully and profitably, producing results in the process.

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