Analysis of IT Service Quality on Attendance Application with ITIL V.4 Approach: A Case Study on CV. Syntax Corporation Indonesia

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ABSTRACT

Keywords: IT service quality, application attendance, ITIL V.4, IT service management, service efficiency.

This study aims to analyze the quality of Information Technology (IT) services in attendance applications with the ITIL V.4 approach in CV. Syntax Corporation Indonesia. The case study is used as a research approach to explore information related to the implementation of ITIL V.4 in improving the quality of IT services in the company's attendance application. The results of the study show that the implementation of ITIL V.4 can make a positive contribution to improving the quality of IT services in attendance applications at CV. Syntax Corporation Indonesia, with improved efficiency, reliability, and responsiveness of services. By implementing the ITIL V.4 approach, companies can improve the overall IT service management process, so that it can have a positive impact on the productivity and operational effectiveness of the company.

Introduction

In the era of digitalization that continues to develop, Information Technology (IT) services have become an integral element in company operations. (Harto et al., 2023). One of the important applications is the attendance application, which plays a major role in human resource management. (Hudri, Yamin, & Khadafie, 2024). However, amid increasing expectations for IT services, there is often a gap between expectations and reality in the use of attendance applications. (Darsana & Koerniawaty, 2021). CV. Syntax Corporation Indonesia as a case study experienced technical obstacles and service quality problems that interfered with the employee attendance process. Issues such as delays in reporting attendance, data errors, and employee dissatisfaction are issues that need to be addressed. Therefore, this study approaches this problem by proposing an analysis of the quality of IT services in attendance applications with the Information Technology Infrastructure Library (ITIL V.4) approach. (Hanief & Jefriana, 2018).

CV. Syntax Corporation Indonesia is a private company based in Cirebon City with a Vision to become a leading company in Indonesia Based on Learning Organizations by

2025. By applying the ITIL v.4 approach, this study will identify aspects of IT service quality that need to be evaluated and improved (Setyaningsih, Prabowo, & Saintika, 2023). The results of this study are expected to provide valuable insights into CV. Syntax Corporation Indonesia on how to improve the effectiveness and efficiency of their IT services through attendance applications, so that it can provide greater benefits for the company and its users (Suban & Emanuel, 2020). IT service quality issues in attendance applications can disrupt the employee attendance process and affect the company's productivity (Novita, Supiandi, & Wintana, 2023). Delays in reporting attendance, data errors, and employee dissatisfaction can affect a company's efficiency and effectiveness (Sutomo, 2017).

Therefore, the impact that will affect employees is that the payroll process can be late, affecting the financial and financial stability of employees due to the slow payment of salaries, discomfort to employees will also begin to be felt because there is often uncertainty in the attendance data that is entered, therefore this study aims to analyze the quality of IT services provided through the attendance application in CV. Syntax Corporation Indonesia (Lubis & Mulyadi, 2024).

The ITIL v.4 approach is considered relevant because of its focus on end-to-end management from a service perspective, which can provide solutions to challenges in managing attendance applications. (Wijaya & Sutabri, 2023). This study will also consider the right method to handle the IT service quality problems faced by CVs. Syntax Corporation Indonesia. The decision to use the ITIL v.4 approach was considered the right choice because of its ability to identify, analyze, and solve problems with a systematic approach (Susanto, 2016). In addition, this approach allows companies to understand and manage various aspects of IT services ranging from needs management, planning, design, and implementation, to service improvement. (da Cruz Carvalho, Riana, & Soares, 2020).

The research conducted by (Kemas et al., 2024) is entitled "Analysis of Smart Library Services Using the ITIL V 4 Framework at the UIN Raden Fatah Palembang Library" (Safitri, Supriyadi, & Astiti, 2021). This study discusses the challenges faced by the Self Loan and Book Drop Service at the UIN Raden Fatah Palembang Library, including low user awareness, process errors, lack of integration with the library management system, and the risk of abuse or fraud. To overcome these problems, this study uses a systematic methodology and the ITIL V4 Framework. The main goal is to understand and improve library service procedures to ensure efficiency in information management. The conclusion of this study confirms that improved procedures and the use of the ITIL V4 framework can significantly improve IT services in the Library of UIN Raden Fatah Palembang. Thus, the recommendations produced from this analysis are expected to be an important guide in directing further improvement and development of library services.

Research Methods

The Critical Success Factors (CSF) method has been widely used in various aspects of information technology to ensure the success of projects and operations. CSF assists organizations in identifying and focusing on the elements that are critical to their success. Here are some of the uses of the CSF method.

Results and Discussion

The data processing stage begins by collecting and processing data generated from questionnaires that have been distributed and filled out by respondents by the predetermined sample. The data processing process aims to obtain a clear understanding of the final results of the questionnaire that has been collected, based on the statements given by the respondents. This process involves calculating the questionnaire by adding up the weights of each answer score given by the respondent, which generally ranges from a scale of 1 to 5. From the results of this calculation, it is possible to identify the maturity level of the evaluated IT services, which will later be used as a basis for further analysis.

The formula used to calculate the maturity level of the questionnaire results generally involves certain methods that are by the assessment scale used. This formula is designed to convert the answer values from the questionnaire into a more standardized measure that can be interpreted more easily. Thus, through this data processing process, researchers can measure the maturity level of IT services based on the responses from respondents and gain a deeper understanding of the aspects that need to be improved or improved in the evaluated IT services. Agile Capability Maturity consists of level 1 to level 5. The value range is as follows:

Level 1: Range of 0 – 80
Level 2: Score range 81 – 160
Level 3: Value range 161 – 240
Level 4: Value range 241 – 320
Level 5: Range of values above (+++)

General Management Practice

Table 1
Results of the Recapitulation of the General Management Practice Questionnaire

No	*Practice/Sub-domain*	*Maturity Level*				Rata-Rata	Rata-Rata
Architecture Management							
1	What is the current architecture of the attendance application in CV? Syntax Corporation Indonesia	3	3	4	4	3.50	3.42

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
	complies with the latest standards and practices in IT architecture management.						
2	What are the key components that are part of the attendance application architecture managed by CV? Syntax Corporation Indonesia and the extent to which the interaction and integration between these components have been optimized?	3	4	3	4	3.50	
3	How is the process of managing architectural changes carried out in CV? Syntax Corporation Indonesia, including policies, procedures, and use of tools that support the development and maintenance of attendance application architectures?	3	4	3	3	3.25	
Continual Improvement							
1	How the Continual Improvement evaluation process is integrated into IT service management on CV attendance applications. Syntax Corporation Indonesia using the ITIL V4 approach?	4	3	4	4	3.75	3.58
2	What methods are used by CV. Syntax Corporation Indonesia in identifying and analyzing areas that require continuous improvement in their attendance application services by the principle of Continual Improvement.	3	4	4	4	3.75	

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
3	How is your CV? Syntax Corporation Indonesia implements effective and efficient improvement actions based on the results of the Continual Improvement evaluation to ensure that their attendance application services continue to evolve and improve by ITIL V4 standards.	3	4	3	3	3.25	
Knowledge Management							
1	How internal knowledge about the use of attendance applications is maintained and updated in CVs. Syntax Corporation Indonesia?	4	3	4	4	3.75	
2	Is there a clear procedure for storing and sharing knowledge about common problems and solutions in the use of attendance applications in the company?	3	4	4	4	3.75	3.58
3	How is your CV. Syntax Corporation Indonesia encourages collaboration between employees to share experience and knowledge in the use of attendance applications to increase efficiency and effectiveness.	3	4	3	3	3.25	
Measurement and Reporting							
1	How is the process of measuring the performance of attendance applications carried out in CV? Syntax Corporation Indonesia, and how the results are used as the basis for further improvement and development?	4	3	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
2	Are there clear and measurable metrics to evaluate the quality of service of attendance applications, and how are the results of these measurements presented to relevant stakeholders?	3	4	4	4	3.75	
3	How is your CV. Syntax Corporation Indonesia uses performance reports and measurement results to identify trends, improve processes, and improve user experience in using attendance applications.	3	4	3	3	3.25	
Organizational Change Management							
1	How is your CV. Syntax Corporation Indonesia manages organizational changes related to the implementation and use of attendance applications in the IT context, including efforts to facilitate seamless adoption and integration.	4	3	4	4	3.75	
2	What are the strategies used by CV. Syntax Corporation Indonesia to mitigate resistance to changes that may arise when implementing or changing attendance applications, and how effective is the strategy?	3	4	4	4	3.75	3.58
3	How is CV? Syntax Corporation Indonesia involves stakeholders in the process of changing the attendance application, and to what extent does their involvement affect the	3	4	3	3	3.25	

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
	successful implementation and adoption of the application?						
Relationship Management							
1	How is your CV. Syntax Corporation Indonesia ensures that the relationship with vendors or service providers related to attendance applications runs effectively and continuously.	4	3	4	4	3.75	
2	What strategies are used by CVs? Syntax Corporation Indonesia maintains good relationships with internal users regarding attendance applications, such as employees and management, to ensure user satisfaction and good acceptance of changes.	3	4	3	4	3.50	3.58
3	How is CV? Syntax Corporation Indonesia manages communication and expectations between related parties, including vendors, internal users, and management, in the context of implementation, maintenance, and development of attendance applications.	3	4	4	3	3.50	
Risk Management							
1	How is your CV? Syntax Corporation Indonesia proactively identifies, evaluates, and manages risks	4	3	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
	associated with attendance applications.						
2	What are the concrete steps taken by CV. Syntax Corporation Indonesia to reduce the risk of security vulnerabilities in the use of attendance applications, including implementing preventive and remedial measures.	3	4	4	4	3.75	
3	How is the risk mitigation process used in the day-to-day operational management of attendance applications to ensure service continuity and protection of sensitive employee data?	3	4	3	3	3.25	
Rata-Rata							3.56

*The maturity level value is rounded down (ex: 3.56 means level 3)

Table 1 shows the results of the recapitulation of the questionnaire related to General Management Practice. Each practice or sub-domain is evaluated using the ITIL V4 framework, which provides detailed insights into the maturity of IT management practices. In the Architecture Management sub-domain, companies assess the current architecture of attendance applications, identify key components, and evaluate the process of architectural change. Meanwhile, in Continuous Improvement Practices, evaluations are conducted against the integration of continuous improvement evaluations in IT service management, including methods of identifying problems and corrective actions taken. In Knowledge Management, the focus is on how internal knowledge is managed and shared, as well as how collaboration between employees is improved to advance efficiency. (Wiranti & Frinaldi, 2023). Measurement and Reporting practices highlight the measurement of attendance application performance, service quality metrics, and the use of reports to identify trends and improve processes. Furthermore, Organizational

Change Management reviews a company's strategy for managing change, engaging stakeholders, and maintaining relationships with vendors. Risk Management Practice evaluates a company's ability to identify, evaluate, and manage risks related to attendance applications, including mitigation measures taken. The average maturity level, reflecting the overall maturity level of IT practices, is determined based on the average score of all practices evaluated, with a value of 3.56 reflecting the overall maturity level of the company.

Service Management Practice

Table 2
Hasil Rekapitulasi Kuisioner Service Management Practice

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
Availability Management							
1	How is your CV? Syntax Corporation Indonesia ensures optimal availability of attendance applications for users, including actions taken to reduce downtime and increase operational time.	3	5	3	4	3.75	
2	What are the steps taken by CV. Syntax Corporation Indonesia to monitor and manage the availability of attendance applications, including backup and recovery strategies in emergencies.	3	3	3	3	3.00	3.33
3	How the repair and maintenance process is carried out by CV. Syntax Corporation Indonesia to ensure a high level of availability and continuity of attendance application services?	3	4	3	3	3.25	
Capacity and Performance Management							

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No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
1	How is your CV? Syntax Corporation Indonesia manages the infrastructure capacity and performance of attendance applications to ensure that the system can handle the increased workload over time.	3	4	5	3	3.75	
2	What strategies are used by CVs? Syntax Corporation Indonesia in monitoring and measuring the performance of attendance applications, including steps taken to identify and address potential bottlenecks?	2	4	5	4	3.75	3.58
3	How is your CV? Syntax Corporation Indonesia identified projected future capacity needs and planned to ensure adequate scalability and availability of their attendance applications.	3	4	3	3	3.25	
Change Control							
1	How is your CV? Does Syntax Corporation Indonesia manage changes to their attendance applications, including the process for assessing, approving and implementing those changes to minimize the negative impact on existing services?	4	3	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
2	Is CV. Does Syntax Corporation Indonesia have formal procedures in place to manage changes to attendance applications, including documentation, testing, and reporting of changes to relevant stakeholders?	3	4	4	4	3.75	
3	Bagaimana CV. Syntax Corporation Indonesia mengukur efektivitas proses Change Control mereka dalam mengelola risiko, memastikan keandalan sistem, dan memenuhi kebutuhan bisnis secara keseluruhan?	3	4	3	3	3.25	
Incident Management							
1	How is your CV? Syntax Corporation Indonesia manages incidents that occur on their attendance applications, including reporting, handling, and remediation processes to minimize the impact on users and businesses.	4	3	4	4	3.75	
2	Is CV. Syntax Corporation Indonesia has a mechanism to classify and prioritize incidents based on their level of importance and impact on operations and services.	3	4	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
3	How is your CV? Syntax Corporation Indonesia analyzes incidents that occur to identify root causes, take corrective action, and prevent similar incidents in the future.	3	4	3	3	3.25	
IT Asset Management							
1	How is your CV? Syntax Corporation Indonesia tracks, manages, and maintains its IT assets, including software, hardware, and other resources necessary to support its attendance application operations.	4	3	4	4	3.75	
2	Is CV. Syntax Corporation Indonesia has a documented process for acquiring, allocating, and managing IT assets, as well as ensuring that they are used efficiently and for business needs.	3	4	4	4	3.75	3.58
3	How is your CV? Syntax Corporation Indonesia manages the lifecycle of their IT assets, including updates, upgrades, and removals, as well as how they anticipate future needs for updates and replacements.	3	4	3	3	3.25	
Monitoring and Event Management							

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
1	How is your CV? Syntax Corporation Indonesia monitors the performance and reliability of their attendance applications, as well as the IT infrastructure that supports them, to identify events or changes that affect services.	4	3	4	4	3.75	
2	Is CV. Does Syntax Corporation Indonesia have systems or tools to detect, record, and respond to events or changes in their IT environment efficiently and quickly?	3	4	3	4	3.50	3.58
3	How is your CV? Syntax Corporation Indonesia ensures that its Monitoring and Event Management processes are integrated with business needs and that the information generated is used to improve service quality and reduce the risk of disruption.	3	4	4	3	3.50	
Problem Management							
1	How is your CV? Syntax Corporation Indonesia identifies, analyzes, and manages problems that arise in their attendance applications, and what steps are taken to address the root cause?	4	3	4	4	3.75	3.58

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No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
2	Is CV. Does Syntax Corporation Indonesia have a structured process to track and handle issues reported by users or detected through proactive system monitoring?	3	4	4	4	3.75	
3	How is your CV? Syntax Corporation Indonesia measures the effectiveness of their Problem Management policies and procedures, and what efforts are being made to continuously improve these processes to reduce the impact of future problems?	3	4	3	3	3.25	
Service Continuity Management							
1	How is your CV? Syntax Corporation Indonesia plans and manages a service sustainability strategy to ensure the continuity of their attendance applications in the face of various risks and disasters.	4	3	4	4	3.75	
2	What are the steps taken by CV. Syntax Corporation Indonesia to identify potential risks that could affect the continuity of IT services, and how do companies manage and mitigate these risks?	3	4	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
3	How is your CV? Syntax Corporation Indonesia regularly tests and validates its service sustainability plans, as well as how companies are working to improve their ability to deal with disasters or service disruptions.	3	4	3	3	3.25	
Service Desk Management							
1	How is your CV? Syntax Corporation Indonesia identifies, analyzes, and manages problems that arise in their attendance applications, and what steps are taken to address the root cause?	4	3	4	4	3.75	
2	Is CV. Does Syntax Corporation Indonesia have a structured process to track and handle issues reported by users or detected through proactive system monitoring?	3	4	4	4	3.75	3.58
3	How is your CV? Syntax Corporation Indonesia measures the effectiveness of their Problem Management policies and procedures, and what efforts are being made to continuously improve these processes to reduce the impact of future problems?	3	4	3	3	3.25	
Service Level Management							

No	*Practice/Sub-domain*	*Maturity Level*				Rata-Rata	Rata-Rata
1	How is your CV? Syntax Corporation Indonesia establishes and manages Service Level Agreements (SLAs) with users of their attendance applications to ensure that user expectations and needs are met effectively.	4	3	4	4	3.75	
2	What are the steps taken by CV. Syntax Corporation Indonesia to monitor and evaluate the performance of their services against the SLAs that have been set, as well as how they handle SLA violations that occur.	3	4	4	4	3.75	3.58
3	How is your CV? Syntax Corporation Indonesia collaborates with users and internal teams to continuously improve and adjust SLAs and ensure that the services provided are in line with evolving business and technology needs.	3	4	3	3	3.25	
Service Request Management							
1	How is your CV? Syntax Corporation Indonesia manages and processes service requests from users regarding their attendance applications, as well as what strategies are implemented to ensure a fast and efficient response.	4	3	4	4	3.75	3.58

No	Practice/Sub-domain	Maturity Level				Rata-Rata	Rata-Rata
2	What kind of services can be requested by users regarding attendance applications, and how to CV. Syntax Corporation Indonesia compiles and prioritizes these requests to ensure optimal fulfillment of user needs?	3	4	4	4	3.75	
3	How is CV. Syntax Corporation Indonesia ensures transparency and effective communication with users regarding the status and fulfillment of service requests, as well as how they engage users in the process of service improvement and development?	3	4	3	3	3.25	
Rata-Rata						3.55	

The maturity level value is rounded down (ex: 3.55 means level 3)

Table 2 is the result of the recapitulation of the questionnaire on Service Management Practice. Each practice or sub-domain is assessed based on the company's readiness or maturity in implementing those practices. In Availability Management, the company achieved a maturity level of 3.33. Meanwhile, in Capacity and Performance Management, Change Control Management, Incident Management, IT Asset Management, Monitoring and Event Management, Problem Management, Service Continuity Management, Help Desk Management, and Service Level Management, the company achieved an average maturity level of 3.58. These values reflect the company's level of success and readiness to implement these practices to ensure efficient and effective services and operations in their attendance applications.

Conclusion

Recapitulation of the General Management and Services Practice Questionnaire with ITIL V4: CV. Syntax Corporation Indonesia uses the ITIL V4 framework to evaluate various aspects of IT management through questionnaires. In General Management Practice, the assessment results show that Architectural Management has a maturity level of 3.42, which includes the architectural evaluation of the attendance application and the process of architectural change. Meanwhile, practices such as Continuous Improvement,

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Knowledge Management, Measurement and Reporting, Organizational Change Management, Relationship Management, and Risk Management achieved a uniform maturity level of 3.58. In Service Management Practice, companies achieve an average maturity level of 3.55. Consistency is seen in practices such as Availability Management, Capacity and Performance, Change Control, Incidents, IT Assets, Monitoring and Events, Issues, Service Continuity, Help Desk, and Service Level with a maturity level of 3.58, except for Availability Management which has a maturity level of 3.33. Evaluation of the readiness of IT service management in CV. Syntax Corporation Indonesia uses the ITIL V4 standard to show that each practice has a gap of 1 between the current conditions and the expected target. For example, Architecture Management shows gap 1, which indicates a need for improvement. All practices in Service Management Practice also have similar gaps. This indicates that in order to achieve the standards set by ITIL V4, companies need to make improvements to their entire IT service management practices. In evaluating the impact of disruptions or failures on the use of attendance applications, several improvement recommendations appear as a priority. Availability Management needs to be improved with a better monitoring system to detect downtime faster and speed up system recovery. Incident Management should be strengthened in terms of incident reporting, handling, and recovery processes to minimize impact. Service continuity plans need to be updated in Service Continuity Management, and improvements in Problem Management are also needed. The importance of an efficient change process in Change Control, investment in more effective Monitoring and Event Management, and improvements in Help Desk Management will significantly improve service response and reduce disruption in the use of attendance applications on CVs. Syntax Corporation Indonesia.

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