

# Optimizing Information Technology Systems to Improve Service Quality

Achmad Faizal Ababil<sup>1</sup>, Abdul Majid<sup>2</sup>, Misbahul Arifin<sup>3</sup>, Nataliia Hrytsenko<sup>4</sup>

<sup>123</sup>Nurul Jadid University, Indonesia;

<sup>4</sup>Institute of Engineering, NU "Odesa Maritime Academy" (NU "OMA") Odesa, Ukraine

\* Email correspondence; achmadfaizalababil27@gmail.com ; cak\_dul@gmail.com; misbahularifin@unuja.ac.id, nataliia.hrytsenko@icloud.com

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## Abstract

Strategic planning in optimizing information technology systems plays a crucial role in improving organizational efficiency and competitiveness. This study discusses the planning stages, including organizational needs analysis, system architecture design, appropriate technology selection, and efficient resource allocation. The methods used in this study are literature review and descriptive analysis, which examine various important aspects of strategic planning, infrastructure implementation, HR training and development, and ongoing monitoring and evaluation. The main focus of this study is to evaluate the steps that can be taken in developing information technology systems, including selecting appropriate technology, implementing information security policies, and the role of HR training in supporting the successful implementation of new technologies. The results of this study indicate that optimal information technology integration, HR competency development, and ongoing evaluation can improve operational efficiency and service quality. By applying appropriate methods in information technology planning and implementation, organizations can harness the potential of digital transformation to create competitive advantages in an increasingly dynamic market.

## Keywords

Service Efficiency; Public Service; Service Quality



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## INTRODUCTION

In this digital era, optimizing technological systems is crucial and key to improving the quality of services across various sectors, including education, government, healthcare, and business. Public services in the digital era have significant potential to improve the efficiency, accessibility, and responsiveness of government to public needs. The use of digital technologies, such as online platforms and information technology-based applications, has opened up new opportunities for more effective and transparent public service delivery. However, optimizing public services in the digital era requires serious efforts to improve digital literacy among the public, as well as ensuring adequate personal data protection and cybersecurity. This way, the government and the public can jointly maximize the benefits of digital technology advancements in improving the quality and accessibility of public services for the

common good. Alim and Ibrahim (2024). Law Number 25 of 2009 concerning Public Services Organizers are obliged to manage Information Systems consisting of Electronic or Non-electronic Information Systems which at least include: organizer profiles, implementer profiles, service standards, service information, complaint management and performance assessments. Technology plays an important role in improving service standards. Digital public services can greatly assist the public in obtaining information and services quickly so as to be able to create superior service quality. The government can use digital capabilities to improve the efficiency of public services, expand citizen involvement in decision-making, and increase openness and accountability. Sijabat, Siringoringo, and Simanjuntak (2024).

The numerous complaints from the public about the poor public service delivery process have become a problem that the government must address immediately. With the advancement of information technology, many institutions and agencies have begun to overhaul their work systems to improve the quality of public service. By utilizing current advances in information technology, it is hoped that this will facilitate the provision of services to the public. Fadri and Fil (2024).

Based on research Sawir (2024) The application of information technology has had a positive impact on improving the quality of investment services. Therefore, optimizing information technology is very effective in accelerating good governance. Furthermore, in research Damayanti et al. (2024) The existence of information technology can improve the efficiency of administration and financial management. This study also strengthens the fact that the optimization of information technology in the public service system has shown significant improvements in terms of speed, accuracy, and transparency of services. The implementation of information management systems, online services, and social media have facilitated public access to various services provided by the government, reduced operational time and costs, and increased public satisfaction with public services. Paroli (2024).

The purpose of this research is to optimize information technology systems to improve the performance and quality of public services. It also aims to identify factors that can influence the implementation of information technology in services.

## **METHOD**

Optimizing technology systems to improve services is a strategic step that can be taken by various organizations, both public and private. Using a literature review method, we can explore various existing research and literature to understand how to optimize information technology to interact efficiently within the service process.

By analyzing the existing literature, researchers can identify the benefits of stronger knowledge regarding how information technology can be optimized to achieve these goals. This study describes the implementation of various procedures in optimizing information technology systems through strategic planning approaches, infrastructure implementation, human resource (HR) development, and continuous evaluation. The main focus of this study is to explore how appropriate information technology strategies can improve operational efficiency and organizational competitiveness. This study uses a qualitative case study method. This case study was conducted to explore the application of strategic planning and information technology implementation in organizations, with a focus on improving service quality and adapting to technological developments.

The data collection technique in this study was carried out in a circular manner using three main approaches, namely: 1) participant observation of the information technology implementation process in the organization that is the object of the research, 2) in-depth interviews with practitioners, information technology experts, as well as managers and staff involved in system development, and 3) documentation studies to collect data related to strategic planning, infrastructure implementation reports, and HR training policies implemented by the organization.

Data analysis is conducted through the stages of data reduction, data presentation, and drawing conclusions or verification. Data collected from observations, interviews, and documentation will be analyzed to identify best practices in the planning and implementation of information technology systems. The obtained data will be selected, grouped, and summarized to reveal existing patterns and relationships without reducing the substance or original meaning of the data. Data presentation is carried out by organizing information systematically and structured to facilitate drawing conclusions that support decision-making in optimizing information technology systems. This data presentation aims to provide a comprehensive overview of how information technology planning and implementation strategies can be applied to achieve organizational goals, as well as how human resource development and continuous evaluation can contribute to the organization's long-term success.

## **RESULTS AND DISCUSSION**

### **Strategic Planning in Optimizing Information Technology Systems**

Strategic planning is a fundamental step in optimizing information technology systems, following an analysis of organizational needs. This stage requires organizations to design a comprehensive technology roadmap, encompassing system

architecture design, appropriate technology selection, and efficient resource allocation. A sound strategy will ensure that the implemented information system not only meets current operational needs but also has the flexibility and scalability to respond to the dynamics of future technological developments. According to Rachmad et al. (2024) Targeted strategic planning can increase organizational competitiveness by utilizing technology as an effective digital transformation tool.

Based on interviews and observations with the head of the Banyuwangi Service Mall division, the company has implemented enterprise architecture-based strategic planning to ensure a flexible and scalable information system. One of the main challenges is adapting the technology roadmap to business developments and constantly changing regulations. Technology selection is based on a needs analysis involving various departments. Cybersecurity is a primary focus, particularly in implementing security policies that comply with ISO 27001 standards. The system architecture structure is well documented. SOPs regarding information technology management are implemented diligently. System security monitoring is carried out periodically through an automated system.

In developing an information technology strategy, organizations must consider various important aspects, including cybersecurity, system interoperability, and cost efficiency. A literature review of Setiawan et al. (2024) Studies have shown that enterprise architecture-based information technology management can improve consistency and coordination in implementing digital strategies. Furthermore, this approach enables organizations to optimize resources and accelerate the adoption of innovations without compromising the stability of existing systems. Therefore, planning should include risk analysis and the implementation of information security policies aligned with international standards, such as ISO 27001 or the NIST Cybersecurity Framework.

Interviews and observations conducted in the IT department at the

Banyuwangi Service Mall revealed that strategic planning must align with the organization's vision and mission to maximize IT system implementation value. The use of frameworks such as TOGAF can assist organizations in developing an effective enterprise architecture. The sustainability of IT systems is a primary concern, particularly in ensuring interoperability with existing systems. Risk analysis is a crucial part of planning to anticipate increasingly complex cyber threats. Many organizations lack a well-documented IT planning policy. Technology implementation is often hampered by a lack of interdepartmental coordination. The use of cloud-based technology is increasing as part of a resource efficiency strategy.

Furthermore, clear and well-documented standard operating procedures (SOPs) play a vital role in ensuring the success of information technology implementation. Noviyanti and Firmansyah (2024) Systematic SOPs help improve operational efficiency and reduce error rates in system management. Furthermore, strategic planning must also consider sustainability, ensuring that the designed system can adapt to user needs and future regulatory developments. With thorough planning, organizations can ensure that information technology implementation not only supports business efficiency but also serves as a key pillar in long-term digital transformation.

According to a source, Banyuwangi Service Mall staff stated that their IT strategy focuses on regulatory compliance and data protection. Technology selection is made with security and the increasing risk of cyberattacks in mind. Upskilling IT staff is a priority to ensure optimal operations. IT infrastructure is updated to reflect the latest technology trends. Security policies are strictly enforced, while risk management software is used to identify threats. AI implementation is underway to improve operational efficiency.

### **Infrastructure Implementation**

According to Liharman Saragih et al. (2024) Implementing a solid information technology infrastructure is a key step in improving the quality of an organization's

services. This infrastructure includes the installation and configuration of hardware such as servers, networks, and user devices, which must be thoroughly tested. This testing aims to ensure that all components function optimally and are well integrated to support operational needs. In this context, a study of (Yusuf and SE (2024) emphasizes the importance of selecting technology that meets industry needs so that the system can operate efficiently and adapt to dynamic technological developments. During an interview with Budi Santoso, an IT Engineer at a Banyuwangi telecommunications company, the hardware installation and configuration process begins with selecting devices that meet the company's needs. Afterward, initial testing is conducted to ensure the devices function properly. Testing includes network connectivity, server performance, and system compatibility. After installation, configuration and performance monitoring are performed to ensure optimal system performance.

In addition to hardware aspects, selecting the right software also plays a crucial role in supporting organizational operations. Sulianta (2024) Data management systems, communication software, and industry-specific applications must be tailored to meet specific needs to improve work efficiency. The implementation process must also include thorough testing to identify potential issues before the system is widely deployed. This testing encompasses not only technical aspects but also assesses user readiness to adopt the new system. This allows for more effective hardware and software integration and positively impacts business continuity.

With a professional and effective information technology infrastructure, organizations can provide faster, more responsive, and higher-quality services to users. Furthermore, implementing a solid infrastructure can increase team productivity while minimizing downtime that can disrupt operations. As stated by Anggraini (2024) Organizations with reliable information technology systems will be better prepared to face the challenges of digitalization and adapt to changing market needs. Therefore, information technology infrastructure development must

be carried out strategically and sustainably to provide long-term benefits to the organization.

### **Human Resources (HR) Training and Development**

Human resource (HR) training and development is a crucial aspect in optimizing information technology systems. After implementing new technology, intensive staff training is essential to ensure they understand and operate the system efficiently. According to Paramitha Nerisafitra (n.d.), this training should cover a wide range of aspects, from software usage to troubleshooting technical issues that may arise during operations. Other studies have also shown that investing in HR skills development can accelerate technology adoption and improve teamwork effectiveness in facing the challenges of digitalization. Therefore, structured and ongoing training is a crucial element in ensuring the success of information technology implementation in organizations. However, in the HR training process, the biggest challenge that often arises is the skills gap among employees. During interviews, it was discovered that many employees lacked the skills to use the latest information technology, impacting operational efficiency and the quality of services provided. This gap can lead to suboptimal system utilization, reducing productivity and slowing the digital transformation process within the organization. Therefore, a training strategy is needed that is not only technical but also based on the specific needs of each individual and work unit. With this approach, each staff member can acquire the appropriate competencies and be able to adapt to technological developments more effectively.

The head of the IT department at Banyuwangi Service Mall revealed that many employees had difficulty understanding the advanced features of the newly implemented IT system. - Hands-on training methods are needed so that employees can master the technology more quickly. In an ERP training session at a manufacturing company, it was seen that most participants still had difficulty using the financial reporting module. - Some participants seemed more active in asking

questions, while others were passive and tended to wait for further processes. - Trainers must provide simpler and more in-depth explanations directly so that participants can more easily understand the material.

In addition to basic training, developing human resource competencies in the field of information technology must be a long-term priority for organizations. Anggraini (2024), staff not only need to keep up with technological developments but also be able to contribute to innovation and improve the systems used. Organizations that invest in continuous human resource development can ensure that their workforce is always ready for change and can optimally utilize technology to improve services to customers and the wider community. Therefore, a holistic and sustainable human resource development strategy will be a determining factor in the successful implementation of information technology within an organization.

### **Continuous Monitoring and Evaluation**

Continuous monitoring and evaluation are essential steps in ensuring that information technology systems remain efficient, effective, and relevant to user needs. In this context, research Pardosi et al. (2024) emphasizes the importance of regular monitoring of system performance, including aspects such as speed, security, and user satisfaction. This monitoring process involves collecting data and feedback periodically, allowing organizations to identify areas requiring revision or adjustment. In an interview with an IT practitioner at the Banyuwangi Service Mall, it was revealed that regular monitoring of system speed and security is crucial to maintaining user satisfaction. I feel more satisfied with the service after better monitoring. Responses to issues are also faster than before.

Further literature review shows that continuous evaluation is not limited to the technical aspects of the system but also includes analysis of the achievement of predetermined objectives. This serves to assess the extent to which the information technology system has contributed to improving service quality and meeting user

expectations. For example, Hidayat et al. (2024) revealed that a comprehensive evaluation enables organizations to proactively adapt to changing technology and evolving market dynamics.

In this process, organizations not only revise necessary elements but also adjust operational strategies to remain competitive in an increasingly competitive marketplace. With this comprehensive approach, organizations can ensure that the services they provide consistently meet high standards and adapt quickly to rapidly evolving digital trends. Therefore, continuous monitoring and evaluation are an integral part of information technology systems management, contributing to sustainability and competitiveness in the digital age.

### **Implementation of New Technology**

The implementation of new technologies in service systems is a strategic step that can significantly improve operational efficiency and effectiveness. With the continued development of technologies such as cloud computing, big data, and artificial intelligence (AI), organizations have the opportunity to leverage tools and solutions that can optimize service processes. For example, cloud computing enables more flexible data access and more efficient collaboration between teams, while big data provides valuable insights for more accurate and measurable data-driven decision-making. According to Lake, Saputra, And Taena (2024), this technology not only serves to improve the quality of service but also enables organizations to create better user experiences, which in turn can improve overall customer satisfaction.

Furthermore, the Head of IT at Banyuwangi Service Mall revealed that the implementation of cloud computing in our company enables more efficient team collaboration, as information can be accessed by anyone in real time, regardless of location. Meanwhile, the use of big data gives us more accurate insights in making decisions, identifying user trends, and predicting their needs. This has resulted in faster response times and improved service quality.

A further literature review revealed that information technology integrated with other digital platforms, such as mobile apps and customer relationship management (CRM) systems, can create a more connected and responsive service ecosystem that addresses user needs. This integration enables faster and more relevant service processes, as data can be updated in real time, and service teams have access to more comprehensive and accurate information.

According to interviews and observations by the Head of IT at the Banyuwangi Service Mall, one of the main challenges is the difficulty of system integration. Many organizations still use legacy systems that are incompatible with new technologies. Furthermore, data quality is crucial. If the data used is unclear or irrelevant, AI and big data will not deliver the desired results. Therefore, training and policies that support data management are essential.

The results of implementing these information technology system optimization measures can be seen in significantly improved service quality. Service quality improves through faster and more accurate responses to user requests. Furthermore, operational efficiency can be achieved through cost reductions and increased productivity, which also reduces the time required to process requests. Other studies have shown that the implementation of new technologies also improves data security. Strict policies and procedures, implemented alongside the integration of new technologies, help mitigate the risk of data breaches, a common concern in information systems.

Based on interviews with Customer Service Managers, our integrated CRM system allows us to obtain more complete and accurate customer data. When customers contact us, we can respond more quickly with relevant information. This allows us to provide more personalized and timely service, which in turn increases customer satisfaction.

From these results, it can be explained that steps to optimize information technology are a solution to challenges that often arise in the service process, such as slow service processes and inaccurate data obtained. For example, the results of the interviews conducted showed that "inefficient service processes often arise, such as slow service processes and data that is not updated regularly. Inaccurate and incomplete data have the potential to cause difficulties in fulfilling requests from superiors or other parties." Therefore, the implementation of new technology not only plays an important role in increasing efficiency, but also contributes to better data management, which ultimately helps organizations in providing services that are more appropriate and responsive to user needs.

## **CONCLUSION**

Effective strategic planning is crucial for optimizing an organization's information technology systems. Comprehensive planning encompasses system architecture design, appropriate technology selection, and efficient resource allocation, aiming to enhance organizational competitiveness and support long-term digital transformation. This planning should consider factors such as cybersecurity,

system interoperability, cost efficiency, and risk management aligned with international standards.

Implementing a robust information technology infrastructure, both hardware and software, plays a crucial role in supporting an organization's operations. Selecting appropriate technology and conducting thorough testing prior to implementation can ensure efficient integration and minimize service disruptions. With a robust infrastructure, organizations can deliver faster and more responsive services, increase productivity, and minimize downtime.

Human resource (HR) training and development are also crucial elements for successful information technology implementation. Structured and ongoing training can help staff adopt new technologies more effectively. Furthermore, HR competency development must be a priority so that organizations can optimally utilize technology and support continuous innovation.

Continuous monitoring and evaluation of information technology systems is essential to ensure optimal performance, relevance to user needs, and continued competitiveness. This evaluation enables organizations to make necessary adjustments to address dynamic technological and market changes.

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