Enhancing Educational Services Operations: A Literature Review and Analysis Using the ITIL V3 Framework

Daniel Lexandrosth Halim[1], Davidsen Cuaca[2], John Michael Chenardy[3], Owen Felix[4], Ade Maulana[5]

[1,2,3,4,5]Sistem Informasi, Universitas Pelita Harapan, Medan, Indonesia

Email: [1]03081220025@student.uph.edu, [2]03081220040@student.uph.edu, [3]03081220008@student.uph.edu, [4]03081220010@student.uph.edu, [5]ade.maulana@lecturer.uph.edu

Article Info

ABSTRACT

The integration of service operations, particularly within the framework of ITIL into educational services offers numerous benefits such as enhanced efficiency and optimized resource utilization. ITIL V3, a widely adopted framework, facilitates effective IT service management by aligning processes with customer needs. So by using a systematic and explicit method when reviewing articles or all existing sources will minimize bias, so that the data can be trusted and it can be used to draw a conclusion. This research investigates both the advantages and challenges of implementing service operations within educational institutions, aiming to improve efficiency and leverage technology for better learning experiences. Managing key service operation processes like event management, incident management, and access control, along with aligning IT strategies, pose additional hurdles. ITIL's structured approach helps education institution deliver better IT services. However, education institution might face challenges like limited staff, complicated ITIL processes, and aligning tech with education. Overall, the study shows that good IT service management is important for education institution to properly use technology for learning. Education institution should also keep improving their IT operations to make sure these services are always effective.

Corresponding Author:

Ade Maulana
Sistem Informasi
Universitas Pelita Harapan Medan, Indonesia
ade.maulana@lecturer.uph.edu

1. INTRODUCTION

This decade rapid development of technology has brought significant progress in human life, especially in the field of education. The development of technology has had positive impact on the advancement of educational science. Many problems in the field of education that could not be solved in the past can be easily resolved in this era. The development of technology is also utilized by various sectors, especially in the education sector. Educational institutions nowady can use technology, particularly information technology, to improve their services in the academic field [1][2]. The utilization of technology has a significant influence in realizing objectives of education implementation[3], thus the efficiency of resource use and risk

management must be considered [4][5]. Dependence on technology, especially information technology, to achieve strategic objectives and organizational needs becomes the main driver because it can increase productivity and make business processes efficient [6][7]. Educational services are services that support the implementation of education[8], achieve school goals, and to increase efficiency in the entire education system [9]. Generally benefits of educational services are they can create graduates with competencies that are in accordance with their disciplines [10]. Educational services can only be carried out properly if they are in line with the development of information technology [11]. The development of technology create more and more IT service frameworks that are a breakthrough in developing educational services[12], for example such as ITIL (IT Infrastructure Library), Cobit (Control Objectives for Information and related Technology), ITSM (Information Technology Service Management) and many more [13][14]. The IT framework that is currently growing rapidly and widely spread in the form of ITSM (Information Technology Service Management) [15][16][17]. ITSM is a collection of frameworks that are increasingly being adopted by IT service providers to assist organizations in effectively managing their services [18][19]. ITSM frameworks align the activities of IT operations, technical staff, and business processes with the needs of customers and service users[20][21]. ITSM will have a positive impact on the organization if utilized properly [18][22].

IT service management is a method of managing information technology systems centered on the consumer perspective in information technology services to the company's business[23]. There are 5 main processes that exist in ITSM [24][25], such as: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement [26].

The Service Operation is a phase in the ITIL framework where services are designed, tested, and transferred efficiently [27][28]. Main purpose of Service Operation is to carry out the necessary processes and provide and manage service approvals to customers and users[29]. Service Operation is also responsible for managing technology and technology infrastructure to support service delivery [30]. Service Operation has 5 (five) processes including event management, incident management, problem management, Request Fullfilment, also Access management [27].

Service Operation has a big responsibility in operating and keeping IT services running and is expected to work according to user or customer [31]. Main purpose of Service Operation is to coordinate and carry out the processes or activities needed to provide IT services to users and customers [32]. The existence of Service Operation provide a guide by which IT services can be managed efficiently and ensure agreed performance improvements [33].

So in this study the measurement will be carried out is in the service operation. the authors will conduct research on the implementation of service operations in educational services[34]. In this research, we aim to investigate the implementation of service operations in educational services. To achieve this, we have established three research questions to guide our study: The first research question, What are the benefits and challenges of implementing service operations in educational services? ; the second research question, What are the factors that influence the application of Service Operation in educational services?; and the last research question, How can ITIL service operation help improve user satisfaction in educational services?. The first research question focuses on the potential benefits and challenges of implementing service operations in education services. The second research question, explores the factors that influence the successful adoption of service operations in educational institutions. And the last research question, it investigates the role of ITIL service operations in improving user satisfaction in educational services. The results that we aim of this study are the benefits and challenges of implementing service operations[35].

2. METHOD

This research uses a qualitative approach to gain an depth understanding of the implementation of Service Operation in educational services [36]. This research uses a systematic literature review method[37], Systematic literature review is a research method that collects, identifies, and critically assesses relevant research from existing research data [38] [39]. Literature review itself can be defined as a collection of data and information by exploring knowledge or knowledge from various sources such as books, papers, diktat, lecture notes, journals, and several other sources that have relevance to the object of research [40][41]. Literature review can be useful if the goal is to engage in theory development [42]. The goal is to identify all empirical evidence so as to generate new thoughts related to a topic or problem so as to answer a research question in a literature review that can form the basis of scientific writing [43]. So by using a systematic and explicit method when reviewing articles or all existing sources will minimize bias, so that the data can be trusted and it can be used to draw a conclusion [44]. The stages of the research conducted can be described as follows:
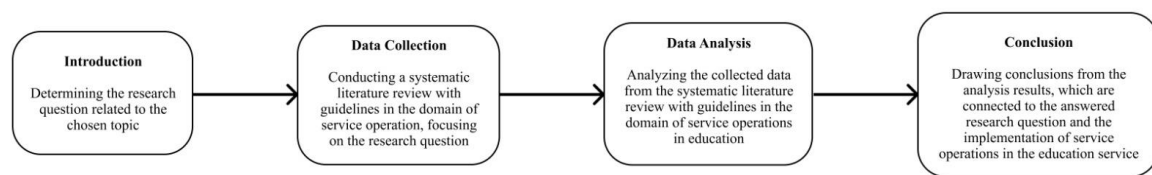
Figure 1. Stage of the research

In this research, we focus on the implementation of service operations in educational services. Our search process covers the chosen field of research, namely service operation, using keywords such as "service operation," "implementation service operation," "implementation service operation in educational field," and "implementation ITIL in educational field." We conducted searches in several existing academic databases, such as Google Scholar and Elsevier, and reviewed the search results based on the established keyword criteria. The inclusion criteria used in selecting articles or journals include journals related to service operation and its implementation in the field of education that can be accessed online. Non-research journals that are descriptive in nature and journals that do not meet the inclusion criteria were excluded. Data extraction involved taking information from each study, including the source (journal or article), authors and their institutions, research method, theoretical framework, and research questions. The data taken from each journal will be stored using a reference manager such as Mendeley to make it easier to categorize data with the available filters.

Finally, at the writing stage, we will analyze and synthesize the data obtained from the research conducted to help understand the implementation of service operations in educational services. This will enable us to answer our research questions and provide insights into the benefits, challenges, and influencing factors of implementing service operations in education.

3.   RESULTS AND DISCUSSION
3.1. Systematic literature Review Results

The results presented herein stem from a comprehensive analysis conducted on major academic journals, employing a systematic approach to reviewing the existing literature within the field.

Table 1. Analysis results

No	Main References	Analysis
1	Analysis of Information Technology-Based E-Learning Service Management Using the ITIL Version 3 Framework at SMK Muhammadiyah 1 Palembang [15]	This identified challenges in the current system and proposes a gap analysis to identify areas for improvement. It discusses the benefits of using ITIL V3 to manage e-learning services and provides a framework for measuring maturity levels. So the analysis results from the journal are as follows: 1. The existing e-learning system at SMK Muhammadiyah 1 Palembang is currently not maximally utilized.. 2. This research uses ITIL V3 as a framework for analyzing and improving e-learning systems. 3. This research identifies gaps in the current system and provides recommendations for improvement. 4. This paper aims to improve the quality of the e-learning system using the ITIL V3 framework. 5. The study used a combination of observation and interview methods to collect data. 6. The analysis includes an assessment of the maturity level of the e-learning system, which is compared with the expected maturity level to identify gaps.
2	ITIL V3 Framework Domain Service Operation in Blended Learning Technology Management Analysis [27]	This journal covers the analysis of the behavior and effectiveness of ITIL V3 framework in Service Operation domain in managing blended learning technology. This analysis is conducted to determine how ITIL V3 framework in Service Operation domain can be applied to the management of blended learning technology. The analysis results from the journal are as follows: 1. This journal uses a qualitative research method with an inductive approach, where this research uses several responses from students who study PTI lessons. 2. This research shows that ITIL V3 framework of Service Operation domain can be used as a tool to manage blended learning technology with high effectiveness. This framework helps blended learning technology users in managing and developing an effective and efficient technology system. 3. This journal also shows that the management of information technology and services from information systems / information technology is very important in improving service quality, minimizing obstacles, and achieving company goals.

3	Analysis of Information Technology Service Management Based on the Information Technology Infrastructure Library (ITIL) V3 Framework at SMA XYZ [25]	This journal discusses the implementation of ITIL V3 in High School (SMA XYZ) to manage IT services and improve their quality. where the research focuses on the ITIL V3 service operation domain, specifically in the Incident management and request fulfillment subdomains. the results found that SMA XYZ has a maturity level of 3.67 which is classified as "Managed and Measurable". The journal also highlighted the challenges faced by the school, such as human error and system error, and suggested improvements to address these issues.
4	Evaluation Of The Application Of Information Technology At STIE – AMIK Lembang Dempo Pagaralam Using Framework Information Technology Infrastructure Library (ITIL Version 3) [16]	This journal discusses the application of information technology at STIE - AMIK Lembah Dempo Pagaralam using the ITIL V3 framework. Where the evaluation focuses on the service operation domain, specifically on the sub-domains of event management, incident management, and monitoring and control. the results of the analysis from the journal are: 1. STIE -AMIK Lembah Dempo Pagaralam has a website, but the performance and quality of the website still needs to be improved and developed. 2. STIE - AMIK Lembah Dempo Pagaralam is currently at the "defined process" level, meaning that the process is standardized and documented. However, there is still room for improvement in areas such as incident management and monitoring and control. 3. The research was conducted to determine the condition, measure, and assess the use of information technology at STIE - AMIK Lembah Dempo Pagar Alam that is currently running, evaluate the maturity level, and provide solutions or recommendations for management actions as a reference for optimizing the STIE - AMIK Lembah Dempo website service process towards a better one. 4. The research also mentions the importance of ITIL as a framework for managing IT services, as it provides best practices for improving and maintaining the quality of IT services.
5	Analysis of IT Service Management (ITSM) Sisfo Services at Bina Darma University Palembang Using the ITIL V3 Framework [21]	This journal discusses the ITSM analysis of Bina Darma University Palembang SISFO services using the ITIL V3 framework. the purpose of the analysis is to evaluate the ITSM practices implemented in Bina Darma University Palembang SISFO services. The following are the results of the analysis from the journal: 1. Information System Services (Sisfo) at Bina Darma University Palembang is the main focus of this analysis. Sisfo is a system that supports various academic and administrative activities at the university, so it is important to ensure effectiveness and efficiency in its management. 2. This research uses the ITIL V3 framework as the main framework. where this framework will help in evaluating and understanding the practices applied to Sisfo services.. 3. This research uses quantitative methods to conduct the research by measuring based on human behavior. where the data collection of this research is through interviews, questionnaires and observations. 4. The research was conducted to evaluate the maturity level of maturity levels that can help companies to continuously improve their level in information technology governance. through questionnaires from university students and lecturers as respondents to determine the level of maturity. 5. This research highlights the importance of the service operation domain in ensuring quality IT services. where through the results of the research shows that there is room for improvement in the university's ITIL service operation.
6	Information Technology Infrastructure Library Framework (Itil V3): Information Technology Audit of Higher Education Academic Information Systems (Siakad) [26]	This journal aims to provide assistance to University XYZ by determining the performance or quality of information technology services in the Academic Information System (SIAKAD) using ITIL V3. The analysis results are as follows: 1. This research conducts an audit to evaluate the current level of IT service maturity and compares it with the expected level of maturity. 2. The study utilizes data collection methods through direct observation, interviews with technology developers and users, and questionnaires. 3. In this study, it is found that the current level of maturity varies across different domains, with the highest level in the Continuous Service Improvement (CSI) domain and the lowest in the Service Strategy domain. 4. Through this journal, it is demonstrated that IT audit can provide valuable information to enhance the performance and quality of IT services.
7	Analysis Of ITSM Components In Higher Educational E-Learning In Palembang City Using ITILV.3 [20]	This journal aims to assess the management of IT services on e-learning at universities in Palembang using the ITIL V3 framework. the results of the analysis are as follows: 1. This research collects data using a questionnaire. The data obtained from the questionnaire results were analyzed to determine the condition of the running system.. 2. This journal also identifies the importance of IT service management in e-learning to support the implementation of university e-learning. 3. This study also uses a Likert scale measurement scale to measure individual attitudes in the same dimension and individuals place themselves towards a continuity of question items. and also conduct reliability tests with the Cronbach Alpha formula, and also conduct

maturity level analysis.

4. This journal highlights the role of ITSM in managing IT services in e-learning, which is very important for universities to assess the effectiveness and efficiency of their e-learning implementation. so through the research they emphasize the importance of managing IT services in e-learning to support university e-learning implementation based on the results of research that has been done with ITIL V3 processes.

8	Analysis of Academic Service Management Using the ITIL V3 Framework at the Faculty of Science and Technology, Pgri Silampari University [22]	This journal identifies academic service management using the ITIL V3 framework at PGRI Silampari University. The analysis results are as follows: 1. PGRI Silampari University has implemented the ITIL V3 Framework for academic service management in the Faculty of Science and Technology. 2. This research utilizes the ITIL V3 framework with the service operation domain as the best practice framework. 3. The use of the ITIL V3 Framework has developed well, but there are some challenges in its implementation, with the main obstacle being the lack of understanding among staff about the systems used. 4. The study was conducted through data surveys at the Faculty of Science and Technology at PGRI Silampari University and interviews with respondents. The data collected from interviews and observations were analyzed and processed using the ITIL V3 framework with the service operation domain as a reference to analyze the issues faced and the handling methods for each problem. 5. The research results indicate that the ITIL V3 Framework system has been functioning well and consistently, but there are still challenges such as human error and system errors. 6. The proposed solutions to the problems identified in the research include conducting periodic training on system usage by IT experts and measuring and monitoring existing procedures to facilitate troubleshooting if issues arise.
9	Analysis of the Maturity Level of the Academic Information System at STMIK Amik Riau Using ITIL V3 Domain Service Operation [28]	This journal identifies the academic information system of STMIK Amik Riau using ITIL V3 in order to provide more effective and efficient services. the results of the analysis are as follows: 1. STMIK Amik Riau uses an academic information system (SIASAR) to provide services to students and other academic activities.. 2. This system evaluation is carried out to find out the system can run well and optimally in providing more effective and efficient services. And IT Audit is used to measure the maturity level of SIASAR and provide recommendations for the system. 3. This research uses the Service Operation Domain of ITIL V3 as the main framework for analysis. The domain is the most appropriate domain to evaluate the system carried out by management in implementing the system at STMIK Amik Riau in terms of services. This domain also focuses on the day-to-day operations of IT services and ensures that IT services run efficiently and effectively. 4. This research uses the method of distributing questionnaires to users or those involved with the system directly to obtain data. 5. This study observes the object of research, determines RACI (Responsible, Accountable, Consulted, Informed), validates the questionnaire, assesses the maturity level, and provides recommendations for improving the level of SIASAR.
10	Analysis of IT Incident Management in the Universitas Negeri Manado Academic Information System [5]	This journal aims to analyze IT incident management in Universitas Negeri Manado's academic information system and provide recommendations for proper incident management using the ITIL V3 framework. The results of the analysis are as follows: 1. This study found that IT incident management is very important to ensure system continuity and provide optimal services. 2. This research uses a qualitative method and an inductive approach, which describes the problems that occur in the case study and looks for solutions to problems in the form of recommendations and conclusions. 3. This research also found that the ITIL V3 framework is a best practice for IT service management, which can be applied to manage incidents effectively. 4. This research identifies that incident management in academic information systems includes identification, incident recording, incident categorization, incident prioritization, initial diagnosis, incident escalation, investigation and diagnosis, resolution and recovery, incident closure, incident management reports, and incident management evaluation. Every incident encountered must be handled so that it does not become a problem. 5. The obstacles faced by Universitas Negeri Manado based on the ITIL V3 framework in managing incident management are people, process, and technology.
11	Analysis of IT Service Management Service Levels in the Implementation of Education Unit Exams Using the ITIL V3 Framework at SMK	The journal analyzes the level of ITSM services in the implementation of the education unit exam at SMK Negeri 8 Palembang using the ITIL V3 framework. The results of the analysis are as follows: 1. The use of the ITIL V3 framework in the framework of education unit exams at SMK Negeri 8 Palembang is very important to optimize IT services and improve the overall quality of education. 2. The method used is descriptive qualitative with data collection techniques through interviews and observations. 3. The results showed that there are three processes namely Event Management, Request

	Negeri 8 Palembang [13]	Fulfilment, and Problem Management that need to be improved. It is necessary to improve the needs of hardware, software, infrastructure, and improve the competence of human resources. 4. This research shows that the use of information technology in education is very important to support the objectives of organizing education.
12	Analysis of IT Service Management (ITSM) in STIPER Sriwigama Student Administration Services Using the ITIL V3 Framework [32]	This journal analyzes ITSM on STIPER Sriwigama student administration services using the ITIL V3 framework. The results of the analysis are as follows: 1. This research uses questionnaires distributed to students, the use of Likert scales and the process of assessing and measuring performance for research methods. 2. This research uses several sub-domains, such as event management, incident management, problem management, request fulfillment, and access management. Where it will produce a maturity level that can be assessed. 3. this research says that using the ITIL V3 framework can provide great benefits for the institution. where it can improve IT service management and increase student satisfaction. and also by using the ITIL V3 framework can identify and implement best practices in service management. where through the identification carried out, we can determine which areas need to be improved.
13	Analysis of Student Satisfaction Levels with Politeknik Negeri Sriwijaya E-Learning Using the ITIL V3 Framework [14]	This journal identifies student satisfaction in using e-learning at Politeknik Negeri Sriwijaya using the ITIL V3 Framework. the results of the analysis are as follows: 1. This research uses ITIL V3 domain service operations, which include event management, incident management, problem management, request fulfillment, and access management. 2. The research shows that the current maturity level of e-learning services at Politeknik Negeri Sriwijaya is lower than the expected maturity level, this indicates an opportunity to improve the quality of e-learning services. 3. Data collection methods used questionnaires, observations and literature studies. and determine the maturity level of IT management. 4. There are still many obstacles faced by Sriwijaya State Polytechnic towards e-learning services such as lack of maintenance, inadequate staff, etc.

3.2. Discussion

What are the benefits and challenges of implementing service operations in education services?
Benefits of Implementing Service Operation in Educational Institutions within the field:

Table 2. Benefits of Implementing Service Operation in Educational Institutions

Benefits	Journals
Increased Efficiency	[1], [6], [7], [9], [13], [14], [15], [16], [17]
Better Service Provision	[1], [4], [6], [7], [9], [10], [11], [13], [14], [15], [16], [17]
Enhanced Organizational Performance and User Satisfaction	[1], [6], [7], [9], [10], [11], [13], [15], [16], [17]

Based on the table above, it can be determined that through the results of the benefits that have been determined, better service provision is often mentioned in the journals studied. Increased Efficiency, is Implementing Service Operation so that can enhance efficiency in providing educational services by aligning IT operational activities, technical staff, and business processes with the needs of customers and service users. However, benefits such as increased efficiency and enhanced organizational performance and user satisfaction also often appear in the benefits of implementing service operations. Better Service Provision, With Service Operation in place, the provision of educational services can be better organized and managed. And can Enhanced Organizational Performance and user satisfaction, when Implementing Service Operation can improve the performance of educational organizations by providing guidance on how IT services can be efficiently managed, and ensuring performance improvements as agreed upon and can enhanced user satisfaction on how IT services perform.

Table 3. Challenges of Implementing Service Operation in Educational Institutions

Challenges	Journals
Limited Resources	[1], [4], [5], [6], [7], [11], [15], [17]
Alignment with Needs	[5], [6], [9], [13], [14], [15], [17]
Change Management	[13], [14], [15]

Based on the table above, it can be determined that through the results of the benefits that have been determined, limited resources is often mentioned in the journals studied. Limited Resources is One of the main challenges is the limitation of resources, both in terms of technology and human resources, which can affect the implementation of Service Operation in educational services. Because the implementation of existing recommendations requires more resources so that it becomes a challenge faced

by every educational institution. While challenges such as alignment with needs and change management are quite rare but are also a challenge in implementing service operations. Alignment with Needs is The importance of alignment between the implementation of Service Operation and specific needs in the educational context. Because each educational institution has different needs, careful adjustments are necessary for effective implementation. And Change Management is the Implementation of Service Operation often involves changes in operational processes and organizational culture. Therefore, effective change management is required to overcome resistance and ensure good acceptance from all parties involved. So from some of the challenges mentioned, it can be expected that addressing these challenges can be a benefit.

What are the factors that influence the implementation of Service Operation in educational services? There are some factors influencing the implementation of Service Operation in educational institution services: The first, is Resource Availability which This includes human resources, technology, and budget needed to effectively run operational services; next, Stakeholder Engagement, this factor involves key stakeholders such as faculty, staff, and students in the planning and implementation process to ensure understanding, support, and acceptance of the change; next, Compliance and Regulations is Ensuring that the implementation of ITIL Service Operation complies with standards, regulations, and policies applicable in the educational context, such as student data privacy and other information security measures; next, Service Quality is Encompassing service performance measurements, user feedback, and efforts to continuously improve service quality; next, User Needs is Understanding and responding to the needs of educational service users is crucial in Service Operation implementation; and, Implementation Scale and Scope is Determining the appropriate scale and scope of implementation based on the institution's needs and priorities, either overall or focusing on critical areas requiring improvement. By considering the aforementioned factors and implementing ITIL Service Operation in a mature and strategic manner [45][46], it can enhance IT services in educational institutions and meet user needs more efficiently [47].

How can ITIL service operation help improve user satisfaction in educational services? Based on the presented research findings, ITIL Service Operation provides useful guidelines and advice for developing steps to achieve business goals [48], enabling financial savings by avoiding rework [49], and facilitating daily operational activities for organizations [50]. ITIL Service Operation can help improve user satisfaction [51] in educational institution services [52] through the following ways: first, Incident Management is managing and handling incidents or issues that arise in the provision of educational services quickly and efficiently, educational institutions can minimize disruptions in the user experience. Swift and accurate resolution will enhance user trust and satisfaction with IT services; Request Fulfillment is an Effective request management processes ensure that service requests from educational users are processed promptly and accurately. By providing responsive services tailored to user needs, educational institutions can enhance their satisfaction; Problem Management is analyzing the root causes of emerging problems and identifying preventive measures, educational institutions can reduce the likelihood of recurring issues in the future. This will increase user satisfaction by reducing disruptions they experience; Access Management is Ensuring that user access rights and permissions to IT systems and services are properly monitored and managed can help enhance security and compliance [53]. Users will feel more comfortable and confident using IT services if they are assured that their access is well-regulated and protected; Monitoring and Service Performance Measurement: ITIL Service Operation allows educational institutions to continuously monitor and measure the performance of IT services, enabling them to make necessary improvements to enhance user experience. So, from the service operation that provided, if it implemented with a good performance it will definitely increase the level of user satisfaction with these services.

4. CONCLUSION

After we review the paper using systematic literature we can conclude that the implementation of service operations within educational services yields numerous benefits while also presenting several challenges. Through the integration of information technology, educational institutions can enhance the efficiency of their systems, optimize resource utilization, and mitigate risks associated with training. Additionally, the utilization of IT frameworks like ITIL V3 facilitates effective IT service management, aligns organizational processes with customer needs, and ensures the continuity of IT services according to user requirements. However, challenges persist in various aspects of implementation. Limited resources, inadequate risk management, and difficulties in understanding and implementing IT service management processes hinder the seamless integration of technology into education services.

Furthermore, challenges extend to managing key service operation processes such as event management, incident management, problem management, request fulfillment, and access control. The complexities of aligning IT service strategy, planning, transition, operations, and service improvement pose additional hurdles, as does the task of coordinating and implementing IT service delivery processes effectively.

Moreover, challenges in maintaining IT services as required and integrating various key service processes within the educational context underscore the multifaceted nature of implementing service operations in education services.

In conclusion, while the integration of service operations into educational services offers significant benefits in terms of efficiency, resource optimization, and IT service management, it also presents formidable challenges. Overcoming these challenges requires a comprehensive understanding of IT frameworks, effective coordination, and strategic planning to ensure the seamless functioning of IT services and the continual improvement of educational processes. Through careful consideration of these factors, educational institutions can harness the full potential of technology to enhance learning experiences and drive positive outcomes in the education sector.

ACKNOWLEDGEMENTS

REFERENCES

[1] H. Agustina, A. N. Kamila, and S. Mukaromah, "Analisis Manajemen Layanan Teknologi Informasi Berbasis Framework Information Technology Infrastructure Library (ITIL) V3 Pada SMA XYZ," *ILKOMNIKA: Journal of Computer Science and Applied Informatics*, vol. 3, no. 3, pp. 323–329, Dec. 2021, doi: 10.28926/ilkomnika.v3i3.392.

[2] A. Mayasari, Y. Supriani, and O. Arifudin, "Implementasi Sistem Informasi Manajemen Akademik Berbasis Teknologi Informasi dalam Meningkatkan Mutu Pelayanan Pembelajaran di SMK," *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, vol. 4, no. 5, pp. 340–345, Sep. 2021, doi: 10.54371/jiip.v4i5.277.

[3] D. E. Subroto, Supriandi, R. Wirawan, and A. Y. Rukmana, "Implementasi Teknologi dalam Pembelajaran di Era Digital: Tantangan dan Peluang bagi Dunia Pendidikan di Indonesia," *Jurnal Pendidikan West Science*, vol. 1, no. 07, pp. 473–480, Jul. 2023, doi: 10.58812/jpdws.v1i07.542.

[4] S. Bahri, "IMPLEMENTASI MANAJEMEN SUMBER DAYA MANUSIA DALAM MENGHADAPI ERA BERCIRIKAN VUCA," *JURNAL HURRIAH: Jurnal Evaluasi Pendidikan dan Penelitian*, vol. 3, no. 2, pp. 37–51, Jun. 2022, doi: 10.56806/jh.v3i2.82.

[5] C. V. M. Kaliu, A. Mewengkang, and J. R. Batmetan, "Analisis Manajemen Insiden IT pada Sistem Informasi Akademik Universitas Negeri Manado," *Edutik : Jurnal Pendidikan Teknologi Informasi dan Komunikasi*, vol. 2, no. 6, pp. 940–949, Dec. 2022, doi: 10.53682/edutik.v2i6.6463.

[6] S. N. Amalia, I. Ghoniyah, R. N. Widiyanti, D. Meisa Putri, R. Hidayat, and M. Ikaningtyas, "Menyusun Strategi Bisnis Berbasis Teknologi: Membangun Keunggulan Kompetitif di Era Digital," *Economics And Business Management Journal (EBMJ) Februari*, vol. 3, no. 1, 2024.

[7] R. Anggraeni and I. Elan Maulani, "Pengaruh Teknologi Informasi Terhadap Perkembangan Bisnis Modern," *Jurnal Sosial Teknologi*, vol. 3, no. 2, pp. 94–98, Feb. 2023, doi: 10.59188/jurnalsostech.v3i2.635.

[8] E. Kusumawati, "PELUANG DAN TANTANGAN LAYANAN BIMBINGAN DAN KONSELING DI ERA DISRUPSI," *Counsenesia Indonesian Journal Of Guidance and Counseling*, vol. 1, no. 02, pp. 64–71, Dec. 2020, doi: 10.36728/cijgc.v1i02.1184.

[9] A. Armiyanti, T. Sutrisna, L. Yulianti, N. R. Lova, and E. Komara, "Kepemimpinan Transformasional Dalam Meningkatkan Kinerja Layanan Pendidikan," *Jurnal Educatio FKIP UNMA*, vol. 9, no. 2, pp. 1061–1070, Jun. 2023, doi: 10.31949/educatio.v9i2.5104.

[10] I. Cintamulya, "Peranan Pendidikan dalam Memepersiapkan Sumber Daya Manusia di Era Informasi dan Pengetahuan," *Formatif: Jurnal Ilmiah Pendidikan MIPA*, vol. 2, no. 2, Aug. 2015, doi: 10.30998/formatif.v2i2.89.

[11] M. Suradji, "Pengembangan Teknologi Informasi Dan Komunikasi Di Bidang Kesiswaan, Kepegawaian Dan Keuangan Di Sma Muhammadiyah 1 Gresik," *TA'LIM : Jurnal Studi Pendidikan Islam*, vol. 1, no. 2, pp. 347–371, Jul. 2018, doi: 10.52166/talim.v1i2.957.

[12] M. S. Rumetna, T. N. Lina, A. B. Santoso, J. Karay, R. Komansilan, and B. G. Kaitelapatay, "Pengetahuan Serta Peran Auditor Secara Komprehensif Dalam Menghadapi Dampak Perkembangan Teknologi Informasi," *Jurnal Komtika (Komputasi dan Informatika)*, vol. 6, no. 1, pp. 26–38, Aug. 2022, doi: 10.31603/komtika.v6i1.6776.

[13] Y. Permata Sari and T. Sutabri, "Analisis Tingkat Pelayanan IT Service Management pada Penerapan Ujian Satuan Pendidikan Menggunakan Kerangka Framework ITIL V3 di SMK Negeri 8 Palembang," *Indonesian Journal of Innovation Multidisipliner Research*, vol. 369, 2023.

[14] N. T. Nafisah and T. Sutabri, "Analisis Tingkat Kepuasan Mahasiswa Terhadap E-Learning Politeknik Negeri Sriwijaya Menggunakan Framework ITIL V3," *Indonesian Journal of Multidisciplinary on Social and Technology*, vol. 1, no. 2, pp. 184–189, Jun. 2023, doi: 10.31004/ijmst.v1i2.147.

[15] A. M. Fiqri and T. Sutabri, "Analisis Manajemen Layanan E - Learning Berbasis Teknologi Informasi Menggunakan Framework ITIL Versi 3 Pada SMK Muhammadiyah 1 Palembang," *Indonesian Journal of Multidisciplinary on Social and Technology*, vol. 1, no. 2, pp. 74–80, Jun. 2023, doi: 10.31004/ijmst.v1i2.122.

[16] Y. Nurmala Sari, Mj. Effendi, A. H. Manajemen Informatika Dan Komputer Lembah Dempo Pagaralam Jln Sidik Adim No, and J. Beringin Pagaralam, "EVALUASI PENERAPAN TEKNOLOGI INFORMASI PADA STIE-AMIK LEMBAH DEMPO PAGARALAM MENGGUNAKAN FRAMEWORK INFORMATION TECHNOLOGY INFRASTRUCTURE LIBRARY (ITIL VERSI 3)," pp. 6–7, 2016, [Online]. Available: www.lembahdempo.ac.id

[17] R. Dwi Handayani and R. Abdul Aziz, "Framework Information Technology Infrastructure Library (Itil V3) : Audit Teknologi Informasi Sistem Informasi Akademik (Siakad) Perguruan Tinggi," vol. 11.

[18] J. Serrano, J. Faustino, D. Adriano, R. Pereira, and M. da Silva, "An IT Service Management Literature Review: Challenges, Benefits, Opportunities and Implementation Practices," *Information*, vol. 12, no. 3, p. 111, Mar. 2021, doi: 10.3390/info12030111.

[19] M. Lubis, R. Cherthio Annisyah, and L. Lyvia Winiyanti, "ITSM Analysis using ITIL V3 in Service Operation in PT.Inovasi Tjaraka Buana," *IOP Conf Ser Mater Sci Eng*, vol. 847, no. 1, p. 012077, Apr. 2020, doi: 10.1088/1757-899X/847/1/012077.

[20] S. Hastini and W. Cholil, "Analisa Komponen ITSM Pada E-learning Perguruan Tinggi Di Kota Palembang Menggunakan ITIL V.3," *Jurnal Tekno Kompak*, vol. 15, no. 1, p. 79, Feb. 2021, doi: 10.33365/jtk.v15i1.955.

[21] M. Rizki and S. O. Kunang, "ANALISIS IT SERVICE MANAGEMENT (ITSM) LAYANAN SISFO UNIVERSITAS BINA DARMA PALEMBANG MENGGUNAKAN FRAMEWORK ITIL V3," *Bina Darma Conference on Computer Science*.

[22] T. Sutabri and D. Oetari, "Analisis Manajemen Layanan Akademik Menggunakan Framework ITIL V3 Pada Fakultas Sains dan Teknologi Universitas Pgri Silampari," *INTECOMS: Journal of Information Technology and Computer Science*, vol. 6, no. 2, pp. 1224–1228, Dec. 2023, doi: 10.31539/intecoms.v6i2.8149.

[23] S. Anshori, "'Civic-Culture: Jurnal Ilmu Pendidikan PKn dan Sosial Budaya' Pemanfaatan Teknologi Informasi Dan Komunikasi Sebagai Media Pembelajaran," 2018.

[24] D. Susanti and N. Nurdiana, "Pengaruh Pemanfaatan Teknologi Informasi Terhadap Kualitas Pelayanan Mahasiswa," *JSiI (Jurnal Sistem Informasi)*, vol. 5, no. 2, Oct. 2018, doi: 10.30656/jsii.v5i2.774.

[25] H. Agustina, A. N. Kamila, and S. Mukaromah, "Analisis Manajemen Layanan Teknologi Informasi Berbasis Framework Information Technology Infrastructure Library (ITIL) V3 Pada SMA XYZ," *ILKOMNIKA: Journal of Computer Science and Applied Informatics*, vol. 3, no. 3, pp. 323–329, Dec. 2021, doi: 10.28926/ilkomnika.v3i3.392.

[26] R. D. Handayani and R. A. Aziz, "Framework Information Technology Infrastructure Library (Itil V3) : Audit Teknologi Informasi Sistem Informasi Akademik (Siakad) Perguruan Tinggi," *Explore: Jurnal Sistem Informasi dan Telematika*, vol. 11, no. 1, p. 29, Jun. 2020, doi: 10.36448/jsit.v11i1.1456.

[27] S. Hanief and I. W. Jefriana, "FRAMEWORK ITIL V3 DOMAIN SERVICE OPERATION DALAM ANALISIS PENGELOLAAN TEKNOLOGI BLENDED LEARNING," *Jurnal Teknologi Informasi dan Komputer*, vol. 4, no. 1, Sep. 2018, doi: 10.36002/jutik.v4i1.395.

[28] M. K. Anam, N. Lizarti, and A. N. Ulfah, "Analisa Tingkat Kematangan Sistem Informasi Akademik STMIK Amik Riau Menggunakan ITIL V3 Domain Service Operation," *Fountain of Informatics Journal*, vol. 4, no. 1, p. 8, May 2019, doi: 10.21111/fij.v4i1.2810.

[29] H. L. Putra, E. Darwiyanto, G. Agung, A. Wisudiawan, and S. Kom, "Information Technology Infrastructure Audit Based on ITIL V.3 Service Operation Domain for FMS Engineering Department PT. Grand Indonesia," 2015.

[30] A. M. Arifin, M. Murahartawaty, and R. Hanafi, "ANALISIS TATA KELOLA DAN PERANCANGAN SOP SERVICE OPERATION PADA LAYANAN AKADEMIK INSTITUT PEMERINTAHAN DALAM NEGERI (IPDN) DENGAN MENGGUNAKAN FRAMEWORK ITIL VERSI 3," *Jurnal Rekayasa Sistem & Industri (JRSI)*, vol. 2, no. 04, p. 53, Oct. 2015, doi: 10.25124/jrsi.v2i04.52.

[31] G. B. Putri and T. Sutabri, "Analisis Manajemen Layanan Teknologi Informasi Menggunakan ITIL V3 Domain Service Operation Pada Perusahaan CV. Cemerlang Komputer Palembang," *Indonesian Journal of Multidisciplinary on Social and Technology*, vol. 1, no. 2, pp. 162–167, Jun. 2023, doi: 10.31004/ijmst.v1i2.144.

[32] D. Krismayanti and T. Sutabri, "Analisis IT Service Management (ITSM) Pada Layanan Administrasi Mahasiswa STIPER Sriwigama Menggunakan Framewok ITIL V3," *Indonesian Journal of Multidisciplinary on Social and Technology*, vol. 1, no. 3, pp. 190–195, May 2023, doi: 10.31004/ijmst.v1i3.149.

[33] C. Tjonadi, K. Viorensa W, V. Roselin, V. Natalie, A. Maulana, and S. Informasi, "Manajemen Layanan Teknologi Informasi Perusahaan Perseroan Menggunakan Information Technology Infrastructure Library Service Operation: Literature Review," *JDMIS: Journal of Data Mining and Information Systems*, vol. 1, no. 2, pp. 56–62, 2023, doi: 10.54259/jdmis.v1i2.1611.

[34] D. Erce Sondakh *et al.*, "Pengantar Teknologi Digital."

[35] C. Tjonadi, K. Viorensa W, V. Roselin, V. Natalie, A. Maulana, and S. Informasi, "Manajemen Layanan Teknologi Informasi Perusahaan Perseroan Menggunakan Information Technology Infrastructure Library Service Operation: Literature Review," *JDMIS: Journal of Data Mining and Information Systems*, vol. 1, no. 2, pp. 56–62, 2023, doi: 10.54259/jdmis.v1i2.1611.

[36] M. Arwanto, "'Service and Operations Management': Literatur Review dengan Menggunakan Chat GPT."

[37] D. Moher, "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement," *Ann Intern Med*, vol. 151, no. 4, p. 264, Aug. 2009, doi: 10.7326/0003-4819-151-4-200908180-00135.

[38] "TATA KELOLA TEKNOLOGI INFORMASI DI LINGKUNGAN PERGURUAN TINGGI: HAMBATAN, TANTANGAN, DAN PELUANG," 2016.

[39] E. Triandini, S. Jayanatha, A. Indrawan, G. Werla Putra, and B. Iswara, "Metode Systematic Literature Review untuk Identifikasi Platform dan Metode Pengembangan Sistem Informasi di Indonesia," *Indonesian Journal of Information Systems*, vol. 1, no. 2, p. 63, Feb. 2019, doi: 10.24002/ijis.v1i2.1916.

[40] H. Snyder, "Literature review as a research methodology: An overview and guidelines," *J Bus Res*, vol. 104, pp. 333–339, Nov. 2019, doi: 10.1016/j.jbusres.2019.07.039.

[41] A. Liberati, "The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies That Evaluate Health Care Interventions: Explanation and Elaboration," *Ann Intern Med*, vol. 151, no. 4, p. W, Aug. 2009, doi: 10.7326/0003-4819-151-4-200908180-00136.

[42] R. F. Baumeister and M. R. Leary, "Writing Narrative Literature Reviews," *Review of General Psychology*, vol. 1, no. 3, pp. 311–320, Sep. 1997, doi: 10.1037/1089-2680.1.3.311.

[43] S. P. Handayani, R. P. Sari, and W. Wibisono, "LITERATURE REVIEW MANFAAT SENAM LANSIA TERHADAP KUALITAS HIDUP LANSIA," *BIMIKI (Berkala Ilmiah Mahasiswa Ilmu Keperawatan Indonesia)*, vol. 8, no. 2, pp. 48–55, Dec. 2020, doi: 10.53345/bimiki.v8i2.143.

[44] D. Moher, "Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement," *Ann Intern Med*, vol. 151, no. 4, p. 264, Aug. 2009, doi: 10.7326/0003-4819-151-4-200908180-00135.

[45] "PERENCANAAN STRATEGIS SISTEM INFORMASI PADA INSTITUSI PENDIDIKAN TINGGI MENGGUNAKAN ANALISIS CRITICAL SUCCESS FACTORS".

[46] H. Kurniawan, "Integrasi SWOT dan ITIL V3 untuk Strategi Layanan Teknologi Informasi di Laboratorium Perguruan Tinggi," *Respati*, vol. 13, no. 1, Mar. 2018, doi: 10.35842/jtir.v13i1.211.

[47] N. R. Sonia, "Implementasi Sistem Informasi Manajemen Pendidikan (Simdik) dalam Meningkatkan Mutu Pendidikan di Madrasah Aliyah Negeri 2 Ponorogo," *Southeast Asian Journal of Islamic Education Management*, vol. 1, no. 1, pp. 94–104, Jun. 2020, doi: 10.21154/sajiem.v1i1.18.

[48] Y. Pratama and T. Sutabri, "Service Operation ITIL V3 Pada Analisis dan Evaluasi Layanan Teknologi Informasi," vol. 17, pp. 2614–5405, 2023, doi: 10.25134/nuansa.

[49] D. N. Heitasari, "OPTIMALISASI WAREHOUSING OPERATION DENGAN METODE DISCRETE EVENT SIMULATION PADA THIRD PARTY LOGISTICS COMPANY," *Industri Inovatif : Jurnal Teknik Industri*, vol. 12, no. 1, pp. 21–29, Mar. 2022, doi: 10.36040/industri.v12i1.3713.

[50] M. N. Yunus and T. Sutabri, "ANALISIS LAYANAN APLIKASI SIM PKB MENGGUNAKAN FRAMEWORK ITIL V3 DOMAIN SERVICE OPERATION PADA SMK UNGGUL NEGERI 2 BANYUASIN III," 2023.

[51] Celvine Adi Putra and Tata Sutabri, "Analisis IT Service Management (ITSM) Layanan GoFood Menggunakan Framework ITIL V3," *Jurnal Ilmiah Binary STMIK Bina Nusantara Jaya Lubuklinggau*, vol. 5, no. 1, pp. 47–53, Apr. 2023, doi: 10.52303/jb.v5i1.96.

[52] M. Irdian Saputra, "Analisis Manajemen Layanan Kepegawaian Berbasis Teknologi Informasi Menggunakan Framework Itil Versi 3 Di STIK Bina Husada," *Jurnal Ilmiah Binary STMIK Bina Nusantara Jaya Lubuklinggau*, vol. 5, no. 1, pp. 71–77, May 2023, doi: 10.52303/jb.v5i1.99.

[53] A. Maulana *et al.*, *Manajemen Bisnis Digital dan E-Commerce*.