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Development of Integrated Service Innovation (myITS Services) at the Integrated Service Center of Institut Teknologi Sepuluh Nopember

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A B S T R A C T

This study aims to analyze the development of integrated service innovation through the myITS Services platform at the Integrated Service Center (ISC) of Institut Teknologi Sepuluh Nopember (ITS) in an effort to enhance the effectiveness and efficiency of public services in the academic environment. Using a qualitative descriptive approach, data were collected through document analysis, interviews, and observations. The findings were systematically analyzed using SWOT, IFAS, and EFAS matrices to map strategic positions and improvement priorities. The results show that the integration of myITS Services, supported by leadership commitment and an innovation-driven organizational culture, has significantly improved service quality and customer satisfaction at ITS. Internal strengths include advanced information technology utilization and strong cross-unit collaboration, while structural weaknesses persist, such as limited human resource capacity and data ownership egocentrism among units. External challenges involve regulatory changes and the need for robust data security management. This study concludes that digital service innovation, when supported by integrated governance and collaborative participation, is both feasible and impactful in the higher education sector. However, the research is limited to a single institution and qualitative scope, suggesting future studies adopt a comparative and quantitative approach to measure efficiency, cost savings, and user satisfaction, as well as explore opportunities for artificial intelligence-based service automation.

INTRODUCTION

Innovation is described as the introduction of new ideas, methods, or products. Innovation involves transforming creative potential into real solutions that create value, utilize new technologies, contribute to competitive advantage, and drive economic growth (Floyd, 2020; S. Singh & Aggarwal, 2022) . In general, innovation can be viewed as both a process and an end result. As a process, innovation includes the stages of idea generation and idea implementation (Anderson et al., 2014). In this perspective, innovation involves recognizing potential market needs (Damanpour & Aravind, 2012; Kariv, 2013), technical knowledge that is often the result of original research, and experimental and design development (Forbes, 2016).

On the other hand, innovation can also be viewed as an end result that leads to the improvement or development of new products, methods, markets, structures, organizations, and management (Bichurova & Yordanova-Dinova, 2018). In this definition, innovation includes different intensities, purposes, and styles, which can be categorized based on their needs and context (Krasadakis, 2020).

Previously only used to describe the development of new technologies in the manufacturing sector, innovation is now also increasingly applied to the service sector. Globalization and demographic changes have led to technological changes, making service innovation increasingly important and posing challenges not only for for-profit businesses, but also for non-profit organizations such as higher education institutions. A "*disruptive*" approach to innovation in the higher education sector is needed to reach new customer groups and improve service quality for satisfaction (Danjum & Rasli, 2012).

Marinela Mircea's 2011 research entitled "*Service-Oriented University: changes and opportunities towards innovation*" analyzes the evolution of universities towards service-oriented architecture (SOA) to increase flexibility and achieve innovation. The Horizon 2011 report identifies new technologies that are likely to have a major impact on learning-focused organizations in the next 5 years. A prioritization framework is proposed to evaluate service excellence based on criteria such as number of consumers, area covered, real-time requirements, and enforcement. Two main perspectives of change are considered: organizational (people, units, decisions, processes) and implementation (data, applications, infrastructure). The research describes the experience of the Bucuresti Academy of Economic Studies in implementing a service-oriented Integrated Information System for University Management (IISUM) and using cloud computing solutions (Mircea & Andreescu, 2012).

Universities that have a market share of *customers* (*customers*) and human resources who are mostly highly educated have better service expectations from their institutions. The study conducted by Yanjun Peng and Jiaxuan Li from Beijing Technology & Business University showed the results of the analysis that customer education has a significant effect on customer participation and service innovation satisfaction. Customer participation is shown to play a significant mediator role in the relationship between customer education and service innovation satisfaction. More specifically, knowledge education has more influence on information sharing, while skill education has more influence on cooperation behavior and person interaction (Peng & Li, 2021).

In the current context, innovation has been accepted as an important element corporate business strategy, where innovation has become an important contributor to winning the competition. Thus it is natural that innovation management has become the main focus of academic, governmental and industrial research incentives in order to overcome the various business and

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service problems faced by organizations and companies to achieve sustainable competitive advantage in global competition (De Vries et al., 2016). Service innovation and organizational development both play an important role in the success and sustainability of service organizations. Service innovation drives operational efficiency, profitability, market share and customer loyalty, which are organizational development metrics. Organizational development involves strategies and processes to improve overall organizational effectiveness and performance. Both concepts emphasize the importance of continuous improvement, adaptation to market dynamics, and meeting customer needs to remain competitive. (Niyi & Oyebola, 2018).

Integrated services are an approach to public service delivery that combines various services into a cohesive whole to improve efficiency, effectiveness, and quality of service to the community. Service integration can lead to better resource management and infrastructure development, such as inter-regional cooperation, a strategy to improve local government service delivery by doing more with less (Morse & Abernathy, 2014; Whiting et al., 2016). According to Halligan, integrated services are defined as organizations that handle service provision in a welfare state (Halligan, 2015). Laitinen et al. also suggested that integrated services at the field level is the merging of various public services in one system that aims to reduce fragmentation and improve coordination between different service sectors. It involves users in the co-design and co-production of integrated services (Laitinen et al., 2018).

Based on the views of the experts above, it can be concluded that integrated services are an approach that combines various public services into one cohesive system to improve efficiency, effectiveness and quality of service to the community. This service integration can have an impact on various aspects of life, including political, economic, social, and governance, especially in the context of the integration of a country's territory. In addition, integrated services also involve users in co-design and co-production, so that they can be more responsive to community needs.

In this case, the Integrated Service Center, Institut Teknologi Sepuluh Nopember (PLT-ITS) was established in accordance with ITS Chancellor Regulation Number 26 of 2019 concerning Organization and Work Procedures for the Secretary of the Institute, Directorates, Bureaus, Offices, Libraries, and Units within ITS as a service management unit that has the authority to carry out bureaucratic reform in the service sector by integrating service processes in accordance with ITS Strategic Plan 2021-2025 from the perspective of *Organizational Capacity*, namely the realization of an effective and efficient organization and oriented towards excellent service and the realization of integrated information systems and *big data on* a single *platform*. The vision and mission of PLT-ITS as a one-stop service *front desk* is to provide excellent service and continuous innovation by annually developing service innovations based on an integrated information system between the processing unit and PLT-ITS.

The Integrated Service Center, Institut Teknologi Sepuluh Nopember has developed an integrated service application through the *myITS Services platform* to solve service problems when covid-19 which was originally conventional became *digital / online*. Technological advances have affected many things in the lives of modern people today, *stakeholders* expect to get the convenience of services independently as well as services in the *market place*. PLT-ITS has adjusted its services, especially to alumni, like shopping in a *market place*, starting from submission, payment, document processing history until the document is received through the integrated application *myITS Services* (https://myits-services.its.ac.id/). The results of the integrated service survey through *myITS Services* to users based on PLT-ITS data that the user satisfaction index reached 3.79 (levels 1-4) were satisfied-very satisfied but there were still 0.21 users who were not satisfied.

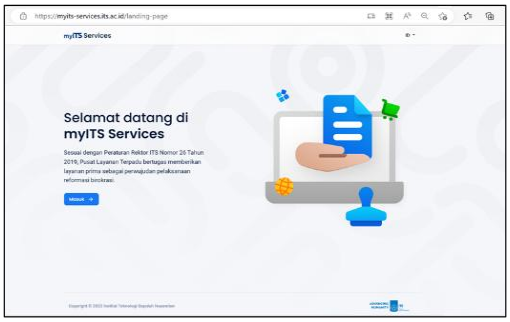

Figure 1. Application view of integrated services (*myITS Services*)

Here are some integrated services between PLT-ITS and service processing units in the ITS environment through *myITS Services.*

Table 1. Types of integrated services between PLT-ITS and service processing units

Service Type	Service Processing Unit
Legalization Service	Faculty
Diploma and Cum laude Translation Service	Directorate of Education
Pass Certificate Service	Faculty and Directorate of Education
Alumni Verification Certificate Service	Directorate of Education and Directorate of Postgraduate Studies
Employee Work Certificate Service	Directorate of Human Resources and Organization
Employee Benefits Service	Finance Bureau
e-Gate Activation Service	Directorate of Technology and Information System Development
Lost and Found Service	Facilities and Infrastructure Bureau and Campus Security Unit
Official Academic Records Service	Directorate of Education

Source: author's processed data, 2024

Changes in the integration service process in PLT-ITS have an impact on changes in service policies, changes in work culture, business processes, standard operating procedures, resources, infrastructure and others that cause new service problems in the ITS environment. Based on observations and evaluation of services in the Integrated Service Center, there is egocentric ownership of data from a processing unit so that the estimated service time does not comply with the operational service standards (SOP) agreed between PLT-ITS and the processing unit which has an impact on service user dissatisfaction.

Research on the development of integrated service innovation (*myITS Services*) at the Integrated Service Center, Institut Teknologi Sepuluh Nopember uses the relevant integrated service organization innovation theory developed by Crossan & Apaydin, 2010 and Janssen & Estevez, 2013 which consists of

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aspects of leadership, organizational culture, organizational structure, resources, processes, information technology and collaboration as indicators of the success of integrated service innovation at PLT-ITS. By adopting this approach, PLT-ITS can improve the quality of services that meet user expectations by knowing the strengths and weaknesses and overcoming the opportunities and threats factors faced by PLT-ITS in the era of globalization to provide recommendations for future service and information system development to the leadership.

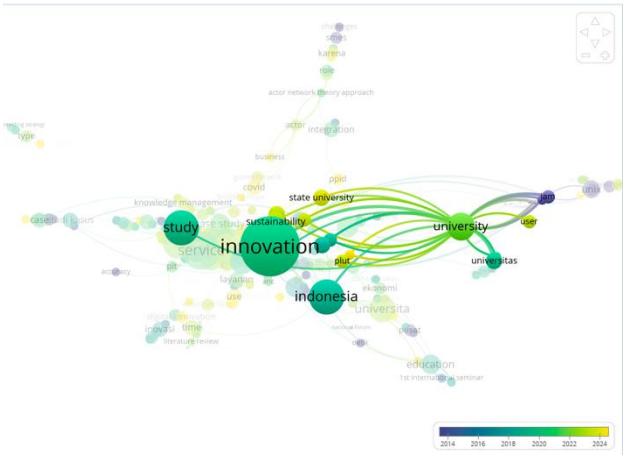

Figure 2. Vos Viewer Analysis
Source: author's processed data, 2024

To find the novelty of research, the author uses Vos Viewer by extracting 200 journals obtained from Google Scholar. Based on the results of Vos Viewer, it is known that research related to innovation, and innovation in the University environment has been carried out and the research was conducted within the period 2013-2022. Research in that year focused more on the study of *drive-thru* services in libraries (Brydia & Vázquez, 2018; Putra & Niswah, 2021), the application of Service Oriented Architecture (SOA) in e-government development (Hantana, 2013) and evaluation of web service quality in institutions (B. L. Cheng et al., 2019; Kesuma & Ekawati, 2019). However, this research will focus more on a holistic approach in the implementation of digital innovation through *myITS Services* by integrating all campus services both administrative, academic, and support into one integrated system.

METHOD

This research method uses a descriptive qualitative method. According to Bungin (2011) descriptive research aims to describe and summarize various conditions, situations and variables that arise in the research location. Meanwhile, according to Moleong, (2013) that qualitative research is research that intends to understand phenomena about what is experienced by research subjects, for example behavior, perceptions, motivations, actions, and others. Holistically, and by means of descriptions in the form of words and language, in a special natural context and by utilizing various natural methods.

Integrated service research location at the Integrated Service Center, Sepuluh Nopember Institute of Technology (ITS). The ITS leadership issued a policy stating that the development of *myITS Services* is a new innovation in integrating services in the ITS environment which previously more services came directly in each processing unit but now services are starting *online* where the service completion process is through the application.

Data collection techniques in this study were carried out through observation, interviews, review of official documents, reports and regulations relating to PLT-ITS. Meanwhile, observations were made directly by seeing, hearing, which were then recorded as objectively as possible. And the determination of informants is done through *purposive sampling*, namely choosing informants who are considered to understand and be directly involved with *myITS Service*. The interview informants in this study include the head of the service processing unit, *myITS Services* developer, service admin, and users. To get detailed information, the author uses indicators of organizational innovation theory.

The data analysis technique used in this research is the qualitative data analysis interactive model developed by Miles and Huberman. This model was chosen because it allows systematic and in-depth data analysis through a process that takes place continuously throughout the research (Desmarchelier et al., 2019). After the data is analyzed using the interactive model, the results of the analysis will be used to compile a SWOT, IFAS and EFAS matrix. IFAS-EFAS is determined by evaluating all aspects of SWOT (internal and external factors) and assigning weights between 0.00 and 1.00 with Positive variables (strengths and opportunities) very strong-very weak = 5 - 1 and Negative (weaknesses and threats) very strong-very weak = 1 - 5 (Nasution et al., 2020; M. Singh & Pant, 2021).

This matrix will help identify the strengths, weaknesses, opportunities, and threats of the development of integrated service innovation in PLT-ITS. Based on this matrix, development strategies will be formulated which include SO (*Strength-Opportunities*) strategy, WO (*Weakness-Opportunities*) strategy, ST (*Strength-Threats*) strategy, and WT (*Weakness-Threats*) strategy (Helms & Nixon, 2010).

RESULTS AND DISCUSSION

Crossan and Janssen's theory used in this study is considered appropriate to explain the existing conditions in improving the quality of PLT-ITS services consisting of leadership approaches, organizational culture, organizational structure, resources, processes, information technology and collaboration.

Leadership Approach

Effective, strong and visionary leadership values and behaviors can take advantage of existing strengths, overcome weaknesses, and significantly improve organizational performance and take advantage of opportunities to drive innovation (Abdullah et al., 2013; LEE et al., 2023; Mokhchy et al., 2025). PLT-ITS is under the Head of the Bureaucratic Reform Implementation Section, General Bureau and Bureaucratic Reform which has the vision and mission of organizing quality and excellent integrated information services by supporting the implementation of bureaucratic reform in the field of accountable and information technology-based public services. The following is the presentation of the head of the General Bureau and Bureaucratic Reform who revealed that:

> *"The leadership in principle is very supportive of changes in work culture towards a better direction, let alone changes in service process innovations needed by the organization in creating excellent service in ITS ... I hope that PLT as the entrance to services in ITS is able to create innovations to facilitate services quickly, easily, transparently, accountably and of course innovation is easily understood by both managers and users.*

Service innovations are made with clear guidelines and in the future the innovation of myITS Services services every year there is an increase in the number of services that use the application." *(interview with the head of BURB on June 24, 2024)*

From the explanation above, the PLT-ITS leadership supports service innovation and continuous improvement in service quality by increasing the number of application-based services so as to provide fast, easy, transparent and accountable service convenience. Faculty leaders also expressed support for integrated service innovation in accordance with the commitment of ITS leaders in providing excellent service in ITS. In this case it can be articulated that *stakeholders* are ready to support changes with their resources to be able to provide the best service (Alateeg & Alhammadi, 2024).

Organizational Culture Approach

A culture that supports collaboration, integration and rewards innovation is critical in driving organizational performance, creativity and technology adoption. Organizational culture should support risk-taking and continuous learning (Tang & Yeh, 2015).

"To provide a work environment that supports excellent service, in addition to the fulfillment of comfortable infrastructure, it is also important to continuously instill norms and behaviors to be able to prioritize the needs of others over themselves and provide assistance and support for others, both colleagues and service users. Activities to support a service culture can include gathering activities, outbound, training, and others." *(interview with the head of BURB on June 24, 2024)*

To improve staff competence in providing services, training is programmed for staff in PLT-ITS, and in related units. Increased competence in *soft skills* (polishing employees so that they can display *excellent* work results) and *hard skills* (*training* programs so that PLT-ITS staff are more *expert* in their work) are applied. Competency improvement is one part of organizational learning so that there is a better improvement in employee work results (ABDI et al., 2018).

Organizational Structure Approach

Flexible structures that support cross-unit collaboration allow teams to work cross-functionally and encourage effective communication. Modern organizational structures undergo dynamic changes and movement of resources (J.-H. Cheng et al., 2014). This is evident in every change of leadership there are new policies and regulations. In 2020, the Integrated Service Center began to actively provide integrated services where previously services were centralized in their respective faculties or processing units.

The flow of service SOPs at *myITS Services* has a bureaucratic process cut, where the applicant writes to the Integrated Service Center and can be directly processed by the Directorate while the Faculty as a copy without going through the department. Based on the results of interviews with the Head of the Faculty Section stated that:

"Integrated service processes in accordance with service procedures (SOP), serving the convenience of alumni in legalizing diplomas and transcripts and translations. Effective service monitoring and its PDCA process, by conducting effective Monev and PDCA accordingly and regular maintenance ". (interview with the Head of the Faculty / service processing unit on July 2, 2024)

Based on the organizational structure approach, integrated service coordination is carried out intensely between the Integrated Service Center and the Faculty so that service integration runs well and smoothly.

Resource Approach

Organizations should ensure proper resource allocation for innovative projects and support the development of HR capabilities (Wang & Tsai, 2014). Based on the interview the Faculty admin revealed that :

"With the support of innovation and integrated services, services are easier, faster, effectively efficient and not too many human resources are involved, cutting bureaucracy." *(interview with Faculty admin/processing unit on July 2, 2024)*

The results of this interview contradict the workload of PLT-ITS officers totaling 4 people, where there is an increase in applications through PLT-ITS. It is proven based on statistical data on the number of PLT-ITS applications that the ratio of the number of employees in the Integrated Service Center to the number of applicants each year is 1: 2200 (total applicants in 2023 of 8880 applications). PLT-ITS human resources in providing services not only validate data but process document equipment (printing, *packaging*, to the process of sending documents to alumni). Facilities and infrastructure resources are obtained from the operational and development fund budget of each unit.

Process Approach

Effective, efficient and standardized processes must be designed to support adaptation and rapid change where activities that convert inputs into outputs. And can encourage innovation and create value for customers through innovation (ABDI et al., 2018; Dachyar, 2015). The following interview with the Head of the Faculty Section states that:

"Integrated services are in accordance with service procedures, this cannot be separated from always involving the Heads of Section to be adjusted to the existing service procedures in the new faculty first, an integrated system is made, so that all myITS Services products are in accordance with the SOP in the Faculty. MyITS Services provides convenience in the process of integrated services with the faculty because what used to be done manually changed to an online system and was very simple, fast and timely so that it could cut the bureaucracy." *(Interview with Head of Faculty / processing unit on July 2, 2024)*

Furthermore, the author's interview with the DPTSI *myITS Services* development team stated that the team work mechanism starts with the division of responsibilities starting from the *Supervisor*, system analyst, *full-stack developer*, *ui/ux designer* and *quality assurance*. Then there is regular communication between the team and related parties, in order to create collaboration and more efficient problem solving steps. The team is also given HR training, the use of supporting management tools, as well as evaluation and monitoring in the performance achievements of each team member

The process of developing *myITS Services* is carried out by organizing a *myITS Services* development consignment which aims to make all types of services in PLT-ITS integrated based on information systems / applications. The development of *myITS*

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Services is not only carried out in academic services but in all fields of service in ITS.

Technology Approach

The flexibility of information technology infrastructure is essential to support dynamic capabilities and improve innovation performance (J.-H. Cheng et al., 2014). So far, *myITS Services* infrastructure is able to replicate when many *requests* enter the system so that there is no *down time*, when there is a feature *update* or current improvements do not cause disruption of *myITS Services* services, in terms of security *myITS Services* has implemented data encryption, stored file files to AWS storage, and performed regular database backups.

The results of interviews with the DPTSI *myITS Srvices* development team stated that some of the technologies that can be adopted for service optimization in *myITS Services* are *Cloud*. *Cloud* technology will be developed with intelligence features such as text recognition on uploaded images (name, NRP, study program, department, faculty and graduation date) on diplomas / transcripts to facilitate the verification process.

Collaboration Approach

Collaboration is cooperation between two or more people to achieve a common goal. Collaborative efforts, especially in knowledge sharing, can significantly increase innovation (Mokhchy et al., 2025). Collaboration within and outside the organization is essential for innovation (Stincelli, 2016). In addition to collaborating with internal parties or service processing units within ITS, service integration also occurs with external parties, namely shipping service companies where ITS is the only university whose shipping receipt number uses the front code written "ITSxxxxxx". This collaboration provides satisfaction for alumni where fast delivery makes them like *myITS Service*.

> *"The process is very fast and only takes 3 days. For delivery, it is fast enough for delivery within the city (still in Surabaya) it takes 1 day. Keep up the spirit of the PLT ITS team! Always succeed and be victorious!" (user/alumni survey opinion results, on June 15, 2024)*

Based on an interview with the Head of Subdirectorate of Applications and Digital Platforms, Directorate of Technology Development and Information Systems on how *myITS Services* integrates systems and data from various service units in ITS revealed that:

> *"The integration process in myITS Services currently uses the kafka message bus, where the process is related systems produce data which will be consumed by myITS Services periodically so that existing data is always synchronized between systems." (Interview with DPTSI developer on July 4, 2024)*

Effective collaboration is a key element in integrated service theory. Strengths in clear SOPs and qualified HR with IT knowledge can support collaboration, but need to overcome weaknesses in HR distribution and policy support to achieve optimal collaboration. From the approach to developing integrated service innovations at the Integrated Service Center, Institut Teknologi Sepuluh Nopember, the following table of findings and analysis results from the author.

SWOT Analysis of Integrated Services in PLT - ITS

From the findings of interviews and other sources, the authors analyze in depth the development of integrated service innovations at the ITS Integrated Service Center based on SWOT analysis to know the condition of the dominant factors internally and externally in order to formulate strategic planning for an organization (Adityaji, 2018). The author maps the strengths, weaknesses, opportunities and threats from the results of the Crossan and Janssen theoretical approach indicators which will then be carried out IFAS and EFAS weighting to determine the position of integrated service development in PLT-ITS for service improvement, both short, medium and long term. After the weighting, a development strategy is prepared based on the SWOT matrix.

Table 2. SWOT analysis of PLT-ITS integrated service innovation

Internal Factors		External Factors	
Strength	*Weaknesses*	*Opportunity*	*Threat*
1. Leadership commitment support for integrated services (leadership)	1. ITS Public Service Standards are not yet entirely in accordance with Permenpan RB number 35 of 2012 (process)	1. Improved quality of effective, efficient and innovative public services (process)	1. Security of alumni data due to the increasingly sophisticated information technology carried out by irresponsible parties (organizationa l culture)
2. The quality of Service Standards is very good as a result of the Public Consultation Forum (process)	2. The number of PLT human resources is not balanced with the workload in PLT (resources)	2. Increased image of ITS services to the public is getting better (process)	2. User demands for convenience in services both from alumni and the general public (process)
3. All types of services have an SOP (process)	3. Egocentricity in data ownership (organizationa l culture) 4.	3. Establish an ideal service integration system (organizationa l structure) 4.	3. Competition of state universities with legal entities to propose WBK and WBBM titles in realizing excellent services that are accountable, open access and easy (process).
4.Availability of integrated service system *myITSServices platfom* (information technology)	4. Policy support that still requires further coordination (leadership) 4.	4. Increase ITS network in easy, fast and cheap service business processes (collaboration)	

Internal Factors		External Factors	
5. The quality of PLT-ITS human resources 75% have a bachelor's degree (resources)	5. Requires a large budget for the completeness of facilities and infrastructure in accordance with public service standards (resources)		
6. Completeness of facilities and infrastructure (resources)	6. Socialization of PLT online services has not been reached by alumni throughout Indonesia (collaboration)		
7. Legalization service fee as an organizational revenue generator (resource) 7.			

Source: author's processed data, 2024

Furthermore, the IFAS-EFAS method was used to evaluate all aspects of SWOT (Table. 2) to illustrate the strategic direction that should be made. The results are as follows:

Table 3. *Internal Factors Analysis Summary (IFAS)*

Internal Factors	Weight	Rating	Score	Reason
Power				
1. Leadership commitment support for integrated services (leadership)	0,10	4	0,4	It's good, needs leadership consistency in supporting integrated services
2. The quality of Service Standards is very good as a result of the Public Consultation Forum (process)	0,07	4	0,28	It's good, but needs improvement in accordance with Permenpan.
3. All types of services have an SOP (process)	0,10	5	0,5	Very good, showing a clear operational system
4. Availability of integrated service system *myITSServices platfom* (information technology)	0,08	4	0,32	Good, need to improve integration with other units
5. The quality of PLT-ITS human resources 75% have a bachelor's degree (resources)	0,07	4	0,28	Good, need to increase competence and number of human resources
6. Completeness of facilities and infrastructure (resources)	0,08	3	0,24	Good enough, needs to be improved to meet standards and needs
7. Legalization service fee as an organizational revenue generator (resource) 7.	0,08	4	0,32	Already good, a significant financial strength of the organization
Total Strength	**0,58**		**2,34**	
Weaknesses				
1. ITS Public Service Standards are not yet entirely in accordance with Permenpan (process)	0,07	3	0,21	Need for adaptation and improvement of service standards
2. The number of PLT human resources is not balanced with the workload in PLT (resources)	0,07	2	0,14	Weaknesses that need to be overcome by recruitment or optimization of human resources
3. Egocentricity in data ownership (organizational culture) 4.	0,08	2	0,16	Data integration is essential for service efficiency and effectiveness
4. Regulatory policy support that still requires further coordination (leadership)	0,08	3	0,24	Need to strengthen coordination for smooth service
5. Requires a large budget for the completeness of facilities and infrastructure in accordance with public service standards (resources)	0,07	3	0,21	The need for adequate budget allocation to improve facilities and infrastructure
6.Socialization of PLT *online* services has not been reached by alumni throughout Indonesia (collaboration)	0,05	2	0,1	The need to expand the reach of socialization to increase service utilization
Total Weaknesses	**0,42**		**1,06**	
TOTAL (S+W)	**1,00**		**3,40**	

Source: author's processed data (2024)

Based on the IFAS analysis as presented in Table. 3, it is known that the total score for strengths and weaknesses is 3.40 so that the total strength score is greater than the total weakness score. With greater strength, the role of PLT-ITS has a positive impact on convenience in the service process for both the academic community and ITS *stakeholders*.

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Table 4. *External Factors Analysis Summary (EFAS)*

External Factors	Weight	Rating	Score	Reason
Opportunities				
1. Improved quality of effective, efficient and innovative public services (process)	0,15	5	0,75	PLT's big opportunity to be at the forefront of public services
2. Increased image of ITS services to the public is getting better (process)	0,10	4	0,4	Opportunities to build a positive image through service excellence
3. Establish an ideal service integration system (organizational structure) 4.	0,20	4	0,8	Opportunities for service optimization by leveraging technology
4. Increase ITS network in easy, fast and cheap service business processes (collaboration)	0,10	4	0,4	Opportunities to expand collaboration and service efficiency
Total Opportunity	**0,55**		**2,35**	
Threat				
1. Security of alumni data due to increasingly sophisticated information technology carried out by irresponsible parties (organizational culture)	0,25	2	0,5	Serious threats that need to be anticipated with strong security systems
2. User demands for convenience in services both from alumni and the general public (process)	0,10	3	0,3	The challenge continues to be to adapt and innovate in providing services
3. Competition of state universities with legal entities to propose WBK and WBBM predicates in realizing excellent services that are accountable, open access and easy (process).	0,10	4	0,4	The importance of improving service quality to stay competitive
Total Threat	**0,45**		**1,2**	
TOTAL (O+T)	**1,00**		**3,55**	

Source: Author's processed data, 2024

The EFAS analysis in Table. 4 shows that the total score for opportunities and threats is 3.55 so that the total opportunity score is greater than the total threat score. Positive variables support the improvement of quality excellent services and have the potential to gain the trust of the community and government as the best public university at the national level.

SWOT Analysis Strategy

From the results of the IFAS and EFAS analysis, the development strategy was determined through the SWOT method (combinations of S-O, W-O, S-T, and W-T) to develop the improvement program that must be carried out. Through this matrix, 12 strategies were generated, namely:

A. SO (*Strengths-Opportunities*)

SO strategies utilize internal strengths to take advantage of external opportunities.

1. Good quality service standards: utilizing existing service standards to expand integrated services that are more innovative and technology-based.
2. Comprehensive SOPs: using existing SOPs to introduce new technologies that support integrated services.
3. Existing integrated service system: improve the existing service system by adding new features that are more modern and in line with *stakeholder* needs.

B. ST (*Strengths-Threats*)

The ST strategy uses internal strengths to overcome external threats.

1. Good quality service standards: maintaining high service quality to counter competition from other institutions offering similar services.
2. Complete SOPs: use SOPs to deal with government regulations that may become stricter and more complex.
3. Existing integrated service systems: strengthen existing systems to prevent cyberattacks and protect student data.

C. WO (*Weaknesses-Opportunities*)

The WO strategy addresses internal weaknesses by capitalizing on external opportunities.

1. Not all services have ITS Public Service Standards: develop service standards for all existing services by utilizing new technology support.
2. Unbalanced number of human resources: Conduct placement of processing unit service agents and training of new human resources by utilizing cooperation programs with other educational institutions or technology companies.
3. Unintegrated student data management: using big data and AI technologies to integrate and manage student data more effectively.

D. WT (*Weaknesses-Threats*)

The WT strategy aims to minimize weaknesses and avoid threats.

1. Not all services have ITS Public Service Standards: develop contingency plans to address service unpreparedness in the face of regulatory changes.
2. Unbalanced headcount: optimize HR management and improve workload distribution to prevent burnout and maintain productivity.
3. Unintegrated student data management: improving data security and privacy to protect critical information from cyber threats.

CONCLUSION

This research reveals that the development of integrated service innovation through the *myITS Services* platform in PLT-ITS has had a significant impact on improving the quality of public services in the ITS environment. Leadership support, an organizational culture that encourages innovation, and the use of flexible information technology are the determining factors for the success of this digital service. The results of SWOT, IFAS, and EFAS analysis show that PLT-ITS is in a strategic position to optimize opportunities through its internal strengths, although it still faces a number of structural weaknesses such as limited human resources and data resistance between units. This

indicates that digital transformation in the higher education sector is not only possible, but also effective if supported by an integrated governance system and cross-unit participation.

However, this study has several limitations. First, the scope of the study is still limited to one higher education institution, so generalization to other institutions needs to be done carefully. Second, this research focuses on a qualitative approach and has not measured the quantitative impact of using *myITS Services* on time efficiency, costs, and overall user satisfaction retention rates. Third, not all users, such as active students or service users from outside Java, were specifically interviewed to capture variations in experience in using this service system.

For future research, it is recommended to conduct a comparative study between similar institutions that have developed similar digital services, to identify *best practices* in managing integrated services. A quantitative approach can also be applied to measure service effectiveness based on key performance indicators such as service speed, cost savings, and user satisfaction. Further research can also delve deeper into the aspects of system sustainability, data security, and the utilization of artificial intelligence for the automation of data-driven public services in higher education.

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