Manifestations of Bureaucratic Reform through the Electronic Service Manuscript System: A SWOT Analysis at the Directorate General of Vocational Education

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Article Info

Abstract: The Indonesian government continues to optimize information technology to implement electronic-based government (e-government). Developing electronic service scripts in various government agencies is one manifestation of bureaucratic reform. This study aims to evaluate the application of the Electronic Service Manuscript System (SINDE) at the Directorate General of Vocational Education, Ministry of Education, Culture, Research, and Technology using SWOT analysis. The study used a descriptive quantitative method by distributing questionnaires to 43 respondents from several work units within the Directorate General of Vocational Education. The analysis is based on the Internal Factors Strategic (IFAS) matrix, which describes the factors of strength and weakness, and the External Factors Strategic (EFAS) matrix, which represents the opportunities and threats factors. These results indicated that the weight of the strength dimension score was 1.97, the weight dimension of the weakness dimension was 1.63, the opportunity dimension score was 1.92, and the threat dimension score was 1.52. The average score on the IFAS matrix was 3.61, and the average score on the EFAS matrix was 3.44, which puts the application of SINDE in Quadrant I, where it had great strength and opportunity.

Keyword: *Bureaucratic reform, E-government, Electronic service script, SWOT analysis*

INTRODUCTION

Bureaucratic reform is essentially a fundamental reform and change of the government administration system, especially its institutions, management, and human resources Ashari. E. T, 2010). Following Presidential Regulation Number 81 of 2010 concerning the Grand Design of Bureaucratic Reform 2010-2025 states, "Bureaucracy reform aims to create a professional government bureaucracy with adaptive characteristics, integrity, high performance, clean and free of corruption, collusion and nepotism, capable of serving the public, neutral, prosperous, dedicated, and uphold the basic values and code of ethics of the state apparatus." There are eight areas of change in bureaucratic reform: change management, policy deregulation, organizational structuring, management structuring, apparatus human resource management, strengthening accountability, strengthening supervision, and improving the quality of public services, as presented in Table 1.

Table. 1 Areas of Change and Expected Results

| Area	Expected results
Regulatory Organization	The right organization function and the right size (*right sizing*)
Governance	Systems, processes, and work procedures that are clear, effective, efficient, measurable, and follow the principles of good governance
Legislation	More orderly, non-overlapping, and conducive regulations
Agency human resources	HR agency that possesses integrity, neutral, competence, capable, professional, high-performing, and prosperous
Supervision	Improve good governance and free from corruption, collusion, and nepotism
Accountability	Increased capacity and accountability of bureaucratic performance
Public service	Excellent service according to the needs and expectations of the community
Mindset and work culture of the agency	Bureaucracy with high integrity and performance

Source: Presidential Decree No. 81 of 2010

The characteristics of developed country governments are clean government and good governance, which are the success of bureaucratic reform (Prasojo & Kurniawan, 2008). In other words, bureaucratic reform is intended to realize good governance, a strategic step in carrying out government duties and national development. The rapid advancement of information technology encourages electronic-based government bureaucracy to improve public services according to Presidential Instruction Number 3 of 2003 concerning National Policy and Strategy for developing e-Government. To meet the demands of industry 4.0, the government has also issued Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE), stating that technology provides opportunities to encourage and realize open, participatory, and innovative government administration, enhance cooperation between government agencies in carrying out tasks and functions to achieve common goals, improve the quality and reach of public services, and minimize abuse of authority such as KKN.

Electronic government (e-government) uses ICT in electronic-based government administration to improve government effectiveness, efficiency, transparency, and accountability (Dash & Pani, 2016; Napitupulu et al., 2020). E-government in Indonesia started after 2000 through regulations and policies that support empowering public key infrastructure as a security framework for securing information, communication, and transactions (Susanto & Bahaweres, 2013). ICT-based innovation can have an impact on the government providing services to the public (Kumar & Best, 2006). In principle, e-government is categorized into four criteria, namely Government to Citizen (G2C), Government to Business (G2B), Government to Government (G2G), and Government to Employee (G2E) (Yildiz, 2007 in Napitupulu et al., 2020).

G2E in government aims to improve performance and support Human Resources (HR), such as internal agency communication, increase employee productivity, and support employee career development. There are many needs of civil servants that must be considered by the government so that public services can be maximized. The Ministry of Education, Culture, Research, and Technology tries to manage G2E by innovating the management of correspondence administration that utilizes information technology following the Regulation of the Minister for Empowerment of State Apparatus and Bureaucratic Reform Number 6 of 2011 concerning General Guidelines for Electronic Service Manuscripts in Government Agencies. The Electronic Service Manuscript System App (SINDE) appears according to which is further regulated through the Minister of Education and Culture Regulation Number 2 of 2019 concerning Instructions for the Implementation of the Electronic Service Manuscripts System of the Ministry of Education and Culture, which states, "The Electronic Service Manuscript System is an application developed to manage Manuscripts Electronic Service within the Ministry of Education and Culture."

SINDE is part of the eight areas of bureaucratic reform, namely structuring the management of ICT-based mailing services for a faster administration process and not limited by space and time. Employees use SINDE within the Ministry of Education and Culture in an official communication to process incoming and outgoing letters, respond to dispositions and information, and draft letters until letters are approved and ready to be circulated. SINDE has a website at https://persuratan.kemdikbud.go.id/ and a mobile version based on Android and IOS. SINDE is carried out by all main units within the Ministry of Education and Culture, including the Directorate General of Vocational Education, which is the new main unit following Presidential Regulation Number 82 of 2019 concerning the Ministry of Education and Culture, has the task of organizing the formulation and implementation of policies in the vocational education sector. All main units and work units compete in their use. The SINDE app contains an evaluation of the assessment of both private (officials and staff) and work units through the percentage of statistical scores, as seen in Figure 1.
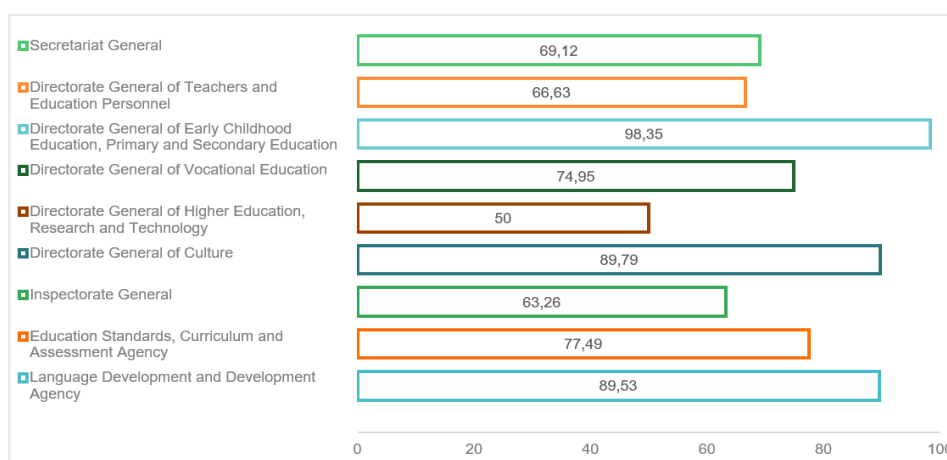
Figure. 1 Main Unit Statistical Score Percentage per October 2021
Source: Compiled by the Authors

Based on Figure 1, there are nine main units at the Ministry of Education and Technology, namely the Secretariat General (Sekjen), the Directorate General of Teachers and Education Personnel (Ditjen GTK), the Directorate General of Early Childhood Education, Primary and Secondary Education (Ditjen PAUD Dikdasmen), the Directorate General of Vocational Education (Ditjen Diksi), Directorate General of Higher Education, Research and Technology (Ditjen Diktiristek), Directorate General of Culture (Ditjen Kebudayaan*)*; The Inspectorate General (Itjen), the Education Standards, Curriculum and Assessment Agency (BSKAP) and the Language Development and Development Agency (Badan Bahasa) following Presidential Regulation Number 62 of 2021 concerning the Ministry of Education, Culture, Research, and Technology. The average percentage of statistical scores from the nine main units is 75.46 percent. In contrast, the statistical score percentage of the Directorate General of Vocational Education is still below the average of 74.95 percent.

According to (Sprague, 1995), Electronic Document Management (EDM) is the application of technology to accelerate communication, increase productivity, and save costs in implementing administrative management. The German government has successfully implemented e-government in the Document Management and Electronic Archiving (DOMEA) system to realize the goal of paperless government administration (Kunis et al., 2007). The Croatian government has also successfully implemented the Electronic Document Management System (EDMS), which connects all departments and employees to various information and facilitates efficient communication in document management (Volarevic et al., 2000 in Abdulkadhim et al., 2015). However, some countries have not succeeded in implementing EDMS. One is the Iraqi government, due to the lack of a good implementation framework for e-government (Abdulwahida et al., 2014 in Abdulkadhim et al., 2015). Official documents are more complex than

the Indonesian government, so electronic management is required. However, it has not been fully implemented in all government agencies because it requires a long process (Prajanti, 2010).

In the Ministry of Education and Culture, Research and Technology, SINDE continue yearly to support the transition from manual to electronic mailing services. Its evaluation has strengths, weaknesses, opportunities, and threats. According to (Gurel, 2017), the SWOT analysis method is appropriate to find problems from four different components, with measurements of 1) How strengths can take advantage of opportunities; 2) How to turn weaknesses into advantages; 3) How strengths can deal with threats, and 4) How to overcome weaknesses capable of making real threats. (Damian et al., 2014) used SWOT to identify strengths, weaknesses, threats, and opportunities in digital e-government services in Brazil. In line with this, (Namugenyi et al., 2019) stated that SWOT analysis has many advantages than disadvantages because it can analyze simple modeling and connectivity.

The researchers established a SWOT analysis as a strategic tool to measure the strengths and weaknesses that are internal factors as well as opportunities and threats that are external factors of the SINDE application, which is part of e-government, for planning and strategic management in the future. The selection of five significant factors from each SWOT component is considered to have represented the strategic findings that have occurred in applying SINDE so far. Thomas L. Wheelen and J. David Hunger (1998) developed Internal Factor Strategic (IFAS) and External Factor Strategic (EFAS), which are a summary of strategic factors by combining external factors from the EFAS table with internal factors from the IFAS Table. The resulting alternative strategy refers to the EFAS and IFAS Tables in generating a SWOT matrix. Based on the background above, this study uses SWOT analysis to evaluate the Electronic Service Manuscript System (SINDE) application at the Directorate General of Vocational Education, Ministry of Education, Culture, Research, and Technology.

RESEARCH METHOD

This study used the positivist paradigm with quantitative methods because the observation results are converted into numbers analyzed using statistics. The quantitative approach of measuring data objectively focuses on variables that are then analyzed statistically (Neuman, 2013). In quantitative research, theory plays an important role as a guide and knife for analysis, while the theory used was the SWOT analysis. This descriptive research aims to see the phenomenon in the field. Descriptive research describes a particular situation, social setting, or relationship (Neuman, 2013).

The population in this study were 417employees at the Directorate General of Vocational Education, Ministry of Education, Culture, Research, and Technology. Meanwhile, the sample came from representatives of the central work unit within the Directorate General of Vocational Education, including the Secretariat of the Directorate General of Vocational Education (Setditjen Diksi), the Directorate of Vocational High School (Dit. SMK), the Directorate of Courses, and Training (Dit. Suslat), the Directorate Academic of Vocational Higher Education (Dit. Akademik PTV), Directorate of Institutional and Vocational Higher Education Resources (Dit. KLSD PTV) and the Directorate of Partnership and Alignment of Business and Industry (Dit. Mitras DUDI). The sampling used random sampling techniques.

Random sampling is a procedure in quantitative research to select participants, where each individual has the same probability of being selected from the population (Creswell, 2017). Sample determination can be taken as much as 10-15% of the population if the population is greater than 100 people (Arikunto, 2013), so the sample in this study amounted to 43 respondents. The picture of respondents based on work units can be seen in figure 2 below. Most respondents came from the Secretariat of the Directorate General of Vocational Education (Setditjen Diksi), which amounted to 28 people (65.1%).
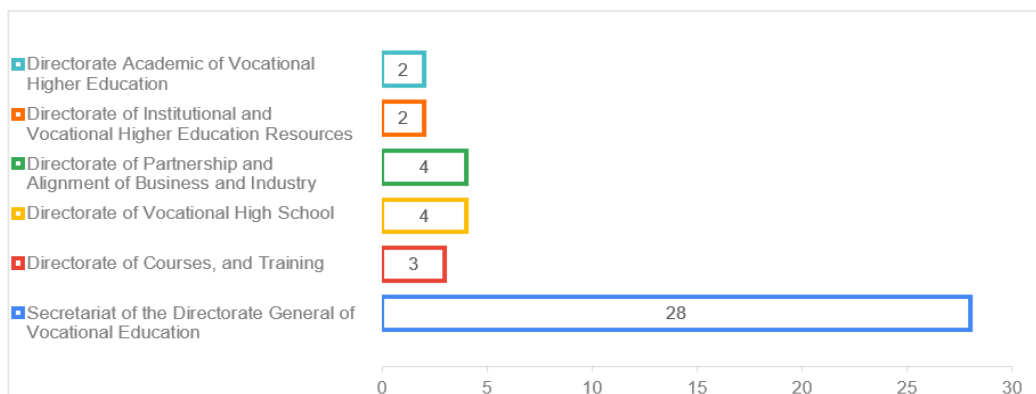
Figure. 2 Respondents by Work Unit
Source: Compiled by the Authors

Female respondents were 26 people (60.5%), while male respondents were 17 people (39.5%). Regarding education, D4/S1 tiered respondents amounted to 33 people (76.6%). In comparison, S2 amounted to 10 people (23.3%), based on the age range of 21-30 years amounted to 9 people (20.9%), ages 31-40 years amounted to 23 people (53.4%), ages 41-50 years amounted to 8 people (18.6%) and ages 51-60 years amounted to 3 people (6.9%) and based on the type of general functional positions there are 39 people (90.7%). Certain functional positions amount to 4 people (9.3%).

The data collection technique in this study used primary data and secondary data. Primary data collection used an online questionnaire survey via google form on December 20-21, 2021, to 43 respondents. The questionnaire used a Likert scale with four categories of responses that respondents quite quickly answered, namely 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. (Preston & Colman, 2000). The questionnaire was answered according to the conditions felt by the respondents without any coercion from any party so that the data obtained was a real picture. The secondary data in this study refers to scientific literature, books, government regulations, official government websites, application development reports, application manuals, and other archives.

The data processing technique in this study used a certain formula, where the data was processed by statistical data processing software. The stages of data processing of survey results included coding, entering, and cleaning data. The data analysis technique used was a descriptive analysis method of evaluating the SINDE application through SWOT analysis. The conclusions referred to the results of the Internal Factor Strategic (IFAS) and Internal Factor Strategic (EFAS) table scores, which are then translated into a quadrant diagram until the SWOT analysis matrix.

RESULT AND DISCUSSION
SWOT Analysis Result Description
From the secondary data collection of scientific literature, application development reports, and other related sources, the SWOT analysis description of the SINDE application can be seen in Table 2.

Strengths Analysis
Electronic document management systems help organizations to be more efficient, minimize errors and automate administrative processes (Alshibly et al., 2016). The SINDE application makes the correspondence process accessible anywhere and anytime. The drafting of letters is more efficient and effective because changes, approvals, and numbering can be done automatically by the system. Letters are easier to track (Ismael & Okumus, 2017). Checking document status is easier to do, so there is no need to keep asking if the letter has been signed or not. Files or archives become more neat and structured, which minimizes file loss because they are automatically saved. Users can also take advantage of the search feature in the application. Archives are recordings of various forms and media activities following ICT developments based

on Law Number 43 of 2009 concerning Archives. The archival service approach is expected to be available in an organizational environment that prioritizes the integrity, authenticity, and validity of electronic data that plays an important role in e-government (Jerman Blažič et al., 2007).

Table. 2 SWOT Analysis Results

(*Strengths*):	(*Weaknesses*):
1. The correspondence process can be accessed anywhere and anytime; 2. More efficient and effective letter drafting (changes, approvals, and automatic numbering); 3. Easier to track and recognize the status of letters; 4. More orderly and structured filing to minimize file loss; 5. There is a notification in the app on the arrival of a letter/disposition/information; 6. Electronic Signature (TTE) of the management as proof of letter authentication; 7. Accessible menu for the public as information disclosure.	1. Access to applications relies on an internet connection; 2. Limited knowledge of Human Resources in using an application; 3. The absence of integration with external parties outside the agency; 4. It takes time to arrange the draft letter format; 5. The current mobile version of the application features is not optimal.
(*Opportunities*):	(*Threats*):
1. Reducing paper usage and saving money; 2. Supporting bureaucratic reform in one of the areas of change, namely structuring governance; 3. Improving the performance of an organization; 4. There are regulations regarding the use of the application; 5. There is a commitment from the leadership to the application; 6. Availability of ICT team management; Management can see and monitor employee activity with the application.	1. Difficulty accessing an application when the server is down; 2. Application network security; 3. Application account abuse; 4. Manipulation of letters by irresponsible persons; 5. The need for a quite costly infrastructure equipment

Source: Compiled by the Authors

The notification if there is a letter/disposition/information that goes into each employee's account creates a marker for new information (Ismael & Okumus, 2017). The features are made according to the organization's needs. Based on Law Number 11 of 2008 concerning Information and Electronic Transactions, Electronic Signatures (TTE), even though they are only in codes, have been recognized as possessing legal force and legal consequences. SINDE now provides a management Electronic Signature feature as proof of letter authentication. According to (Maroye et al., 2017), Electronic Signatures can also be reviewed for their complexity, starting from the practice, creation procedure, and public acceptance. Per Law Number 14 of 2008 concerning Openness of Public Information, two menu features on the SINDE page can be accessed by the public, namely the mail check menu feature that can help the public or stakeholders with information on letters issued by the Ministry of Education and Culture and the letter trail menu feature which can monitor information on letters sent to the Ministry of Education and Culture without having to log in to the application, shortening the bureaucracy for the benefit of the community (Susanto & Bahaweres, 2013). E-government can turn manual services into electronic-based ones that can provide flexibility to the community (Iswahyudi & Pribadi, 2014).

Weaknesses Analysis

An internet connection is needed to access the electronic document management system (Ismael & Okumus, 2017). Like the SINDE app, every user relies heavily on a good and stable

internet connection to access it. The limited knowledge of human resources has made SINDE not maximally used for paperwork administration, guided by Presidential Regulation No. 81 of 2010, that the human resources of the apparatus are expected to be capable and professional. (Yusof et al., 2008) The system is closely related to the people who use it regarding their level of use, training, knowledge, expectations, and acceptance, where knowledge is related to literacy and computer skills. Training needs to be tailored to users' needs according to their roles because the benefits of this electronic system will not be realized unless the end-user knows how to use it properly (Alshibly et al., 2016). In addition, HR is one of the superstructures in the completeness of the electronic service script system following the Ministry of State Apparatus Utilization and Bureaucratic Reform Regulation Number 6 of 2011.

Currently, the SINDE application cannot be integrated with external parties outside the Ministry of Education, Research, and Technology. System integration requires a loof effort and a time-consuming process because it is through synchronizing data and information from separate applications (Abdulkadhim et al., 2015). Drafting letters at SINDE still takes time to arrange the available letter formats. The mobile version of the SINDE feature has been developed but is not optimal and has not been used evenly by every employee. The benefits of implementing mobile government will be enormous if the information quality of this platform operates properly (ZamZami et al., 2014). Mobile applications are also a form of ICT development to help organizations get efficiency and effectiveness from business processes that run automatically in conducting transactions quickly only with smartphones (Firdaus et al., 2021).

Opportunities Analysis

SINDE can reduce paper usage and save costs on paper purchases and letters. According to (Alshibly et al., 2016) , implementing an electronic document management system can reduce transaction costs and labor requirements. The Ministry of Education and Culture has nine main units and 344 Technical Implementation Units (UPT) in all regions in Indonesia, with a total of 124,178 employees as of December 31, 2020 (Lakin Kemendikbud, 2020). SINDE is one of the tangible forms of the app that was developed to support bureaucratic reform in one area of change, namely structuring management according to the Regulation of the Minister for Administrative Reform and Bureaucratic Reform Number 25 of 2020 concerning the Road Map of Bureaucratic Reform 2020-2024, where one of the targets of bureaucratic reform is a capable bureaucracy, in which there is an Electronic-Based Government System (SPBE) index indicator. SINDE is included as one of the program performance indicators, namely the implementation of document digitization to realize quality governance of the Ministry of Education and Culture (Renstra Kemendikbud, 2020).

SINDE indirectly improves organizational performance because there is an evaluation of statistical scores that oversee the use of SINDE from the work units level to the staff level and is used as the basis for determining the priority scale of guidance and assistance following the Circular of the Secretary-General of the Ministry of Education and Culture number 113654/A.A6/TU/2019, October 10, 2019, regarding Notification on Evaluation of Electronic Service Manuscript System. Presence of regulations governing electronic service scripts, which are part of electronic-based government administration services following Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems. In managing SINDE, which is supported by an ICT team, according to (Abdulkadhim et al., 2015), the ICT team is responsible for developing and managing electronic services. Furthermore, adaptive leaders prioritize organizational goals so that subordinates are responsible for achieving results that have been set (Hoerudin, 2020). Therefore, ethical leadership is needed in an organization to produce excellent HR performance (Nalim et al., 2020). The management's commitment to using SINDE can improve the monitoring function of the performance and activity of each employee, as well as speed up the response to requests for service. At the same time, this application can facilitate management to integrate documents and control employees in organizational management (Ismael & Okumus, 2017).

Threats Analysis

Every app will have difficulty accessing when the server is experiencing problems, including SINDE. Network security against SINDE can be a threat from internal and external parties. According to (Yusof et al., 2008) , a comprehensive information system framework, namely the relationship between humans, organizations, and technology, can be seen in Figure 2.
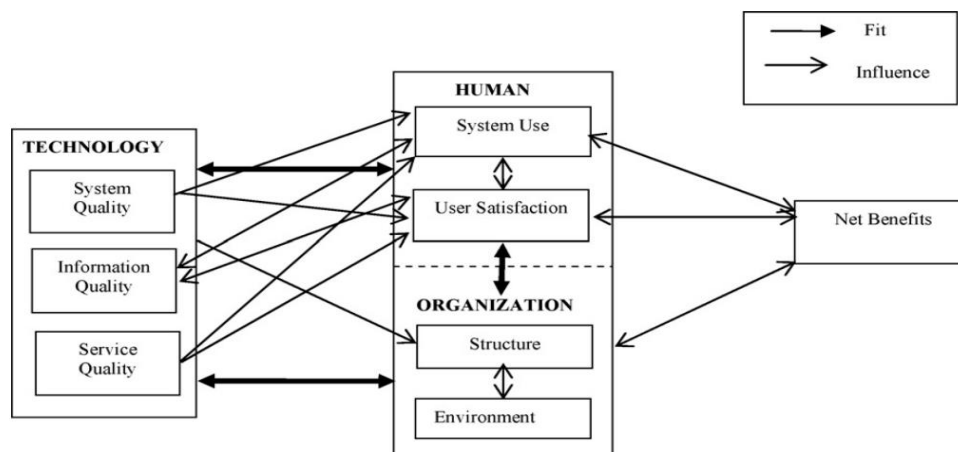
Figure. 3 Human Organization Technology fit (HOT-fit) Framework
Source: (Yusof et al., 2008)

The technology element in Figure 2 shows that server reliability and network security are included in the system's quality. Furthermore, misuse of SINDE accounts can occur if employees are indifferent to their SINDE accounts. It is not about the sophistication of the technology being developed but about how each employee uses and manages it(Haidera, 2015). Manipulation of letters on behalf of officials by irresponsible persons can occur to benefit only one party. The development of SINDE requires substantial infrastructure investment, both hardware and software. Infrastructure readiness is an important and significant variable determinant in e-government (Susanto & Bahaweres, 2013; Alshibly et al., 2016). One of the factors that influence the success of e-government is the availability of adequate resources and applications, as well as ICT that supports infrastructure and system security (Napitupulu, 2017).

IFAS and EFAS Scores

The grouping of strengths, weaknesses, opportunities, and threats in the application of SINDE from the results of the SWOT analysis is then analyzed into five significant factors by taking into account the existing factors. Respondents were asked to give weight and rating for the mapping results, the strengths and weaknesses as Internal Factor Strategic (IFAS), and opportunities and threats as External Factor Strategic (EFAS), as seen in Tables 3 and 4. The calculation of the value carried out in the sum column is the result of the sum of each factor in the questionnaire. What is listed in the weight column is the result of dividing the number per factor by the total IFAS or EFAS, in the rating column is the result of dividing the number per factor by the number of respondents, and the score is generated by multiplying the weight and rating.

Table 3 illustrates that the strength score is 1.97, and the weakness score is 1.63. The overall IFAS score is 3.61, which means that strengths are greater than weaknesses. Based on the highest strength score, the search for letters is easier to track, and their status is known in real-time. According to (Yusof et al., 2008) that technology plays a role in the system quality that makes it easy for users, the quality of information with timeliness, completeness, usability, and reliability, as well as quality services with fast responsiveness.

Table. 3- Strategic Analysis of Internal Factors

No	Internal Strategy Factors	Total	Weight	Rating	Score
	(*Strengths*):				
1	The correspondence process is faster and more flexible, unconstrained by time and place	160	0,10	3,72	0,39
2	Letter drafting is more efficient and effective	158	0,10	3,67	0,38
3	Easier to track and recognize the status of letters	165	0,11	3,84	0,41
4	More orderly and structured filing to minimize file loss;	164	0,11	3,81	0,40
5	Electronic Signature (TTE) of the management as proof of letter authentication;	163	0,11	3,79	0,40
	Strength Score	**810**	**0,52**	**18,84**	**1,97**
	(*Weaknesses*):				
1	Access to applications relies on an internet connection;	158	0,10	3,67	0,38
2	Limited knowledge of Human Resources in using an application;	136	0,09	3,16	0,28
3	The absence of integration with external parties outside the agency	148	0,10	3,44	0,33
4	It takes time to arrange the draft letter format;	147	0,10	3,42	0,33
5	Several application features are not supported on the mobile version	147	0,10	3,42	0,33
	Weakness Score	**736**	**0,48**	**17,12**	**1,63**
	IFAS Score	**1.546**	**1,00**	**35,95**	**3,61**

Source: Compiled by the Authors

Table 4 shows that the Opportunity score is 1.92 and the Threat score is 1.52. The EFAS score is 3.44, meaning the opportunities outweigh the threats. The highest opportunity score is reduced paper usage, which reduces the cost of paper purchases and shipping costs. Document handling techniques, where paper-based information is replaced by electronic information, ensure that information is available to many users when and wherever they need it, increasing the speed, quality, and effectiveness of document handling (Åborg & Billing, 2003).

Table. 4 Strategic External Factor Analysis

No	External Strategy Factors	Total	Weight	Rating	Score
	(*Opportunities*):				
1	There is a commitment from the leadership to the application	149	0,10	3,47	0,35
2	Reduced paper usage, which lowers paper purchase costs and shipping costs	163	0,11	3,79	0,42
3	SINDE is the evidence of a changing area of bureaucratic reform: strengthening governance	161	0,11	3,74	0,41
4	Availability of ICT team in SINDE management;	151	0,10	3,51	0,36
5	The issuance of Regulation	154	0,10	3,58	0,38
	Opportunity Score	**778**	**0,53**	**18,09**	**1,92**
	(*Threats*):				
1	Difficulty accessing the application when the server is down	155	0,11	3,60	0,38
2	Network security/cyber-attacks against the application	141	0,10	3,28	0,31
3	Application account abuse	132	0,09	3,07	0,28
4	Manipulation of letters by irresponsible persons	128	0,09	2,98	0,26
5	The need for a quite costly infrastructure equipment	136	0,09	3,16	0,29
	Threat Score	**692**	**0,47**	**16,09**	**1,52**
	EFAS Score	**1.470**	**1,00**	**34,19**	**3,44**

Source: Compiled by the Authors

The transformation of government services to optimize the internal processes of public administration must lead to a reduction in internal processing time, an increase in internal communication within the administration, and a reduction in costs (Norris, 2007). The benefits of e-government include reduced costs, increased transparency and accountability, improved administrative services, and facilitated e-society (Dash & Pani, 2016).

Suppose the IFAS score (3.61) and EFAS score (3.44) are compared. In that case, the results show that the internal factor of SINDE implementation is greater than the external factor of SINDE implementation, although the values are not much different. For this reason, the implementation of SINDE must carry out a strategy by considering the two existing internal and external factors. Based on the calculations in Table 2 and Table 3, the IFAS score shows 3.61, which means strength [S] > weakness [W], and the EFAS score shows 3.44, which means opportunity [O] > threat [T]. The formula for making decisions based on SWOT Analysis consists of four types: aggressive, diversification, turnaround, and defensive, as seen in Table 5.

Table. 5 Recap Value Scores of IFAS and EFAS

Strategy Choice	Internal Score Value	External Score Value
Aggressive	S > W	O > T
	1,97 > 1,63	1,92 > 1,52
Diversification	S > W	O < T
Turn Around	S < W	O > T
Defensive	S < W	O < T

Source: Compiled by the Authors

Furthermore, the results of the IFAS and EFAS matrix calculations place the role of SINDE in supporting the implementation of bureaucratic reform at the Directorate General of Vocational Education in Quadrant I explaining that SINDE's role is in an advantageous position because it has great strengths and opportunities so that it can take advantage of current opportunities. This result supports an expansionary growth policy by expanding access to the use of SINDE, as seen in Figure 4.
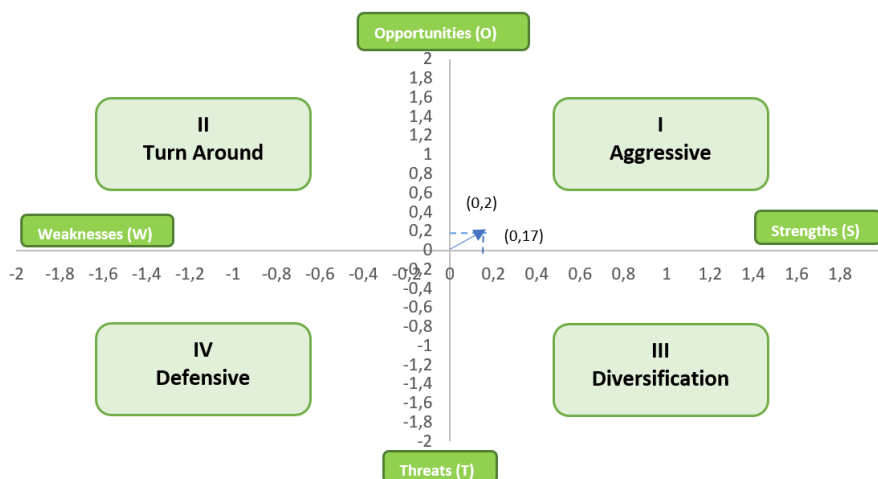
Figure. 4 Quadrant Diagram of SWOT Analysis
Source: Compiled by the Authors

Figure 4 shows a favorable situation in quadrant I (S-O) to take advantage of opportunities. The strategy adopted is to support an aggressive policy (Growth-Oriented Strategy). Although Quadrant II (W-O) has opportunities, the organization has internal weaknesses, while the strategy is to minimize internal problems. Although the organizations face threats, Quadrant III (S-T) still has internal strength, while the strategy implemented is to use strength to take advantage of long-term opportunities, called diversification. Quadrant IV (S-T) is the most unfavorable situation

where the organization faces internal threats and weaknesses (Rangkuti, 2006). The aggressive strategy (S-O) in implementing SINDE is:

1. The Ministry of Education and Culture's electronic mail application transformed in 2011, called e-office, to SINDE in 2019, supported by various system updates, features, and menus according to agency needs. Digital transformation refers to changes related to the application of digital technology in all aspects of life (Oberer & Erkollar, 2018), including SINDE, which is a form of change in the area of governance arrangements that must be utilized as much as possible. Bureaucracy is a structure aiming to increase efficiency in organizational practices and procedures (Cordella & Tempini, 2015). In the end, to realize bureaucratic reform, standard rules must be obeyed by all employees, both superiors and subordinates (Wicaksono & Ismail, 2015) in this case related to the SINDE application to clarify the hierarchical principle applied.

2. An electronic certificate contains an electronic signature and identity of legal subjects in electronic transactions issued by electronic certification providers following Law Number 11 of 2008 concerning Information and Electronic Transactions. Along with this, the Electronic Signature in SINDE has also been regulated in the Minister of Education and Culture Regulation Number 2 of 2019, which requires good collaboration with electronic certification providers realized by implementing the Cooperation Agreement (PKS). Number:13/II/PKS/2020, dated February 7, 2020, between the Secretary-General of the Ministry of Education and Culture with the Deputy for Protection for the National Cyber and Crypto Agency (BSSN), which is a manifestation of the implementation of the Presidential Regulation Number 95 of 2018 Electronic-Based Government System (SPBE) which states that SPBE security includes non-repudiation, namely the application of digital signatures and the existence of trusted guarantees with digital certificates that have been encrypted directly with the Electronic Signature system.

3. Electronic archives must be cultivated. According to (Maroye et al., 2017) , it can be done by socializing the importance of proper archive management because electronic archives can increase accountability and transparency. The implementation of the socialization in question is the National Archives Order Awareness Movement (GNSTA) following the Regulation of the Head of the National Archives Number 7 of 2017. Electronic archives minimize file loss and reduce paper use, affecting environmental friendliness and cost savings (Haidera, 2015). In addition, with the existence of electronic archive management, there is a backup of data that can be recovered in the event of a disaster(Johnston & Bowen, 2005).

Although the strategy is aggressive in SO (Strengths-Opportunities), in the relationship ST (Strengths-Threats), WO (Weaknesses-Opportunities), and WT (Weaknesses-Threats), a strategy must still be formulated so that the organization can achieve maximum results. The strategies for (S-T) are 1) Issuance of TTE leadership has gone through a long process by testing the system by the Electronic Certification Center (BSrE), which is a unit under BSSN authorized to issue electronic certificates so that manipulation is difficult to do; 2) Regular use of SINDE can prevent misuse of the SINDE account itself because if employees log in to SINDE, they will automatically continue to maintain their respective accounts; 3) The correspondence process that has become more efficient, effective and flexible is a positive impact of SINDE's infrastructure development investment. Infrastructure development cannot be successfully developed without full support from the government. These challenges must be overcome to enhance the transition from conventional paper-based approaches to digital approaches (Sabani et al., 2019).

The strategy for (W-O) is 1) Increased leadership commitment is needed so that employees are encouraged to explore the use of SINDE, and dynamic digital leadership is needed to encourage digital transformation (Oberer & Erkollar, 2018). Dynamic leaders and innovations based on digital technology are very much needed in the current era (Hoerudin, 2020). In implementing proper leadership, bureaucracy is needed to ensure the organization runs effectively and efficiently (Ikfina & Mutiarin, 2016); 2) The ICT management team needs to pay attention to and follow up on deficiencies that still exist in SINDE. According to (Laudon, 2000) , three dimensions must be considered in the effort to implement ICT in government, namely the dimensions of information technology, human resources, and organization. Important factors that

have not received attention are the readiness of human resources and organizational flexibility; 3) Management arrangements, one of the eight areas of change in bureaucratic reform, with the use of ICT can speed up work, such as drafting letters to SINDE. Bureaucratic reform will not succeed without talented human resources in its implementation. The more precise and competent the implementation, the higher the success rate of bureaucratic reform (Angkasah et al., 2017).

The strategies for (W-T) are 1) The government is always committed to building a clean bureaucracy equipped with effective, efficient governance processes and quality human resources. The biggest challenge for bureaucracies is how they can carry out their duties properly (Cordella & Tempini, 2015). Improving HR knowledge of SINDE will avoid acts of misuse of SINDE accounts by irresponsible persons; 2) SINDE that has been integrated with external parties will minimize the potential for manipulation of letters by an individual, or an affirmation can be made such as a circular issued by the Director of Vocational High Schools (SMK) with letter number: 0135/D2/HM.02.01/2022 dated January 28, 2022, regarding notification to all heads of education offices related to the widespread indications of fraud in the name of assistance for the vocational revitalization program in several regions; 3) With the reliable mobile version of SINDE, it can indirectly reduce cyberattacks, but not only mobile features, the web version must also be considered because the website also has vulnerabilities (Symantec, 2017).

CONCLUSION

Based on the SWOT analysis of SINDE in supporting bureaucratic reform, the Directorate General of Vocational Education is in Quadrant I. Hence, a possible strategy is to use strength to take advantage of current opportunities. The leadership's commitment to the use of SINDE is a factor that is influential in encouraging employees to apply the use of SINDE, as for activities by carrying out regular socialization and routine appeals so that the statistics of the main units in SINDE, especially the Directorate General of Vocational Education, can continue to be in the above-average position among other main units.

A reward and punishment system can be considered by stakeholders to be implemented to trigger the enthusiasm of employees to use SINDE in their daily activities in carrying out tasks related to official electronic documents. The continuous application of SINDE will shift the manual mailing mechanism to electronics as a whole so that the use of ICT will make it more efficient, effective, and flexible, especially in mail services, in order to improve management compliance which will affect the implementation of bureaucratic reform within the Directorate General of Vocational Education of the Ministry of Education, Culture, Research, and Technology. This study has limitations on only one of the main units in one of the ministries that have implemented electronic service scripts to support bureaucratic reforms in Indonesia. For further research, a review of the analysis of the application of official scripts at the ministry or institution level, both in the central and regional scopes, can be carried out to realize a world-class bureaucracy with efficient and effective governance.

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