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FACTORS THAT INFLUENCE THE EFFECTIVENESS OF BUREAUCRATIC REFORM MEDIATED BY DIGITAL LITERACY

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ABSTRACT

This study aims to analyze the factors influencing the effectiveness of bureaucratic reform with digital literacy as a mediating variable at the Communication, Informatics, Encryption, and Statistics Office of Indragiri Hilir Regency. The variables examined in this study include employe innovation and Dynamic Capabilities as independent variables, digital literacy as a mediating variable, and the effectiveness of bureaucratic reform as a dependent variable. The theoretical foundation of this research is built on the Dynamic Capabilities Theory developed by Teece, Pisano, and Shuen, as well as the organizational innovation theory formulated by Rogers thru the Diffusion of Innovations. This research uses a quantitative approach with a survey method. The research population includes all employes of the institution, with the sampling technique using the census method so that the entire population is made the research respondents. Data were collected thru questionnaires using a Likert scale and analyzed using the Partial Least Square-based Structural Equation Modeling (SEM-PLS) method with the help of SmartPls software. The research results show that employe innovation has a positive and significant impact on digital literacy as well as on the effectiveness of bureaucratic reform. Dynamic Capabilities have also been proven to have a positive and significant impact on digital literacy and the effectiveness of bureaucratic reform. Additionally, digital literacy has been shown to significantly affect the effectiveness of bureaucratic reform and to mediate the relationship between employe innovation and Dynamic Capabilities on the effectiveness of bureaucratic reform. These findings indicate that the enhancement of employe innovation capacity and organizational Dynamic Capabilities, supported by the strengthening of digital literacy, are determinant factors in achieving effective bureaucratic reform, particularly in the context of the digital transformation of local government

Kata Kunci
Inovasi Pegawai; Kemampuan Dinamis; Literasi Digital; Efektivitas Reformasi Birokrasi

ABSTRAK

Penelitian ini bertujuan untuk menganalisis faktor-faktor yang memengaruhi efektivitas reformasi birokrasi dengan literasi digital sebagai variabel mediasi pada Dinas Komunikasi, Informatika, Persandian, dan Statistik Kabupaten Indragiri Hilir. Variabel yang dikaji dalam penelitian ini meliputi inovasi pegawai dan kemampuan dinamis sebagai variabel independen, literasi digital sebagai variabel mediasi, serta efektivitas reformasi birokrasi sebagai variabel dependen. Landasan teoritis penelitian ini dibangun berdasarkan Teori Dynamic Capabilities yang dikembangkan oleh Teece, Pisano, dan Shuen, serta teori inovasi organisasi yang dirumuskan oleh Rogers melalui Diffusion of Innovations. Penelitian ini menggunakan pendekatan kuantitatif dengan metode survei. Populasi penelitian mencakup seluruh pegawai instansi tersebut, dengan teknik pengambilan sampel menggunakan

metode sensus sehingga seluruh populasi dijadikan responden penelitian. Data dikumpulkan melalui kuesioner dengan skala Likert dan dianalisis menggunakan metode Structural Equation Modeling berbasis Partial Least Square (SEM-PLS) dengan bantuan perangkat lunak SmartPls. Hasil penelitian menunjukkan bahwa inovasi pegawai berpengaruh positif dan signifikan terhadap literasi digital maupun terhadap efektivitas reformasi birokrasi. Kemampuan dinamis juga terbukti berpengaruh positif dan signifikan terhadap literasi digital dan efektivitas reformasi birokrasi. Selain itu, literasi digital terbukti berpengaruh signifikan terhadap efektivitas reformasi birokrasi serta mampu memediasi hubungan antara inovasi pegawai dan kemampuan dinamis terhadap efektivitas reformasi birokrasi. Temuan ini mengindikasikan bahwa peningkatan kapasitas inovasi pegawai dan kemampuan dinamis organisasi, yang didukung oleh penguatan literasi digital, merupakan faktor determinan dalam mewujudkan reformasi birokrasi yang efektif, khususnya dalam konteks transformasi digital pemerintahan daerah.

1. INTRODUCTION

Bureaucratic reform in Indonesia is currently at a crucial stage, with digital transformation a key focus in improving public services. The bureaucratic reform agenda, stipulated in Presidential Regulation Number 81 of 2010 concerning the Grand Design of Bureaucratic Reform 2010–2025, establishes a vision for a world-class government that is free from corruption, dignified, and capable of providing quality services to the publicb(Anggara, 2025). The main targets of bureaucratic reform encompass three dimensions: a clean and accountable bureaucracy, a capable bureaucracy, and excellent public servicesb(Al-Moaid, 2025).

Indragiri Hilir Regency is one of the regions in Riau Province that is strongly committed to realizing transparent, accountable, and information technology-based governance. The Communication, Informatics, Cryptography, and Statistics Agency (Diskominfopers) plays a central role in managing the region's public information and communication systemsb(Anggitasari et al., 2024). This agency is responsible for ensuring the rapid dissemination of government policy information and easy public access to public services. However, with the rapid development of technology, Diskominfopers still faces various challenges in aligning the readiness of its technological infrastructure with the quality of its human resources (Apanasovich et al., 2016).

The ineffectiveness of bureaucratic reform at the Communication and Information Technology Office (Diskominfopers) is evident in the persistent obstacles to data integration between Regional Apparatus Organizations (OPDs). Although various public service applications have been launched, their utilization by the public and internal officials has not yet reached the expected targets. Several managed information systems

often experience technical problems and delays in data updates, resulting in less responsive public services (Apriani & Ramadhany, 2025). This condition reflects a gap between the proposed digitalization policy and operational realities on the ground (Arnaud et al., 2025). Assessment of the achievement of bureaucratic reform at the Indragiri Hilir Regency Diskominfopers can be seen from the achievement of the Electronic-Based Government System Index (SPBE), as presented in the following table:

Table 1. Electronic-Based Government System (SPBE) Index of the Communication, Informatics, Cryptography, and Statistics Service of Indragiri Hilir Regency

Year	Assessment Results	Category
2022-2023	2.23	Pretty good
2023-2024	2.54	Pretty good
2024-2025	2.96	Good

Based on the data in Table 1.1, there is a quite encouraging upward trend in the SPBE Index value, from 2.23 (Fair) in the 2022–2023 period to 2.96 (Good) in the 2024–2025 period. This value reflects the progress in the implementation of digital governance and government services, particularly in the service domain, which reached 3.63. However, significant weaknesses remain in the SPBE management domain, with a value of only 1.64, particularly in the aspects of ICT audits and human resource management. Overall, this achievement indicates that digital-based bureaucratic reform has been quite effective, although it requires strengthening in the managerial aspects and the sustainability of SPBE policy implementation (Atobishi et al., 2024).

These human resource issues are reflected in the lack of strong synchronization between infrastructure and work procedures. Furthermore, the results of a pre-survey conducted by researchers revealed several factual conditions:

(1) although there are digitalization efforts, their implementation is not yet evenly distributed and has not fully increased the efficiency and quality of public services; (2) several bureaucratic reform programs have experienced delays due to technical constraints, human resources, and coordination between work units (Bourke & Roper, 2017); (3) the reporting and performance monitoring system is not yet fully digital-based, thus hampering public transparency and accountability; and (4) the implementation of bureaucratic reform is still being carried out partially and has not been systematically integrated between sectors (Berisha & Pula, 2015). This phenomenon shows that digital technology alone is not enough without the support of effective change management and an effective implementation strategy (Bae, 2017).

The issue of the suboptimal effectiveness of bureaucratic reform requires regional government organizations to identify various factors influencing its success. In this context, the effectiveness of bureaucratic reform is not solely determined by the implementation of regulations and administrative procedures, but also by the organization's ability to adapt to environmental changes, develop innovation, and optimally utilize digital technology. Therefore, this study focuses on the influence of

innovation and dynamic capabilities on the effectiveness of bureaucratic reform, with digital literacy as a mediating variable (Chang et al., 2017).

The theoretical basis of this research is built on the *Dynamic Capabilities Theory* developed by David J. Teece, Gary Pisano, and Amy Shuen (1997). This theory emphasizes that organizational excellence no longer relies solely on the possession of static resources, but rather on the organization's ability to sense opportunities and challenges (*sensing*), utilize resources effectively (*seizing*), and carry out continuous organizational reconfiguration and transformation (*reconfiguring*). In the public sector, the concept of dynamic capabilities is becoming increasingly relevant because government organizations are required to be able to adapt to rapid environmental changes, especially in the era of digitalization of public services.

In line with this view, Al-Moaid (University, 2017) defines dynamic capabilities as an organization's capacity to perceive opportunities, utilize resources, and undertake organizational transformation to maintain performance and increase competitiveness amidst dynamic environmental changes (Dwiyanto, 2021). In the context of this research, the theory of dynamic capabilities is relevant to explain how the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency is required not only to carry out administrative functions, but also to be able to adapt, innovate, and carry out digital transformation continuously to realize effective bureaucratic reform (De Vries et al., 2020).

The integration of *Dynamic Capabilities theory* and organizational innovation theory forms a comprehensive conceptual framework in this study. These three theories explain that the effectiveness of bureaucratic reform depends not only on the availability of technology and administrative policies, but is also greatly influenced by the organization's ability to adapt, build innovation, and increase human resource capacity through strengthening digital literacy. Digital literacy in this study acts as a mediating variable that bridges the relationship between innovation and dynamic capabilities on the effectiveness of bureaucratic reform. With good digital literacy, employees will be better able to adopt technology, develop service innovations, and support sustainable bureaucratic transformation (Demircioglu & Audretsch, 2020).

Within the Indragiri Hilir Regency Communications and Information Technology Office (Diskominfopers), digital literacy still shows a gap in skills among employees. Empirically, some employees, especially senior employees, still experience difficulties using digital-based applications and electronic reporting systems. Sarjito and Djati (2025) stated that although millennial civil servants have an advantage in mastering technology, its utilization to support bureaucratic reform still requires an appropriate strategy (Dziallas & Blind, 2019). This condition often results in digital-based work being carried out only by certain employees, while others still use conventional work methods. This digital skills gap can hamper the organization's performance in providing fast and accurate services (Ferdinand, 2016). Therefore, systematic efforts are needed to improve and equalize digital literacy across all employees so that bureaucratic reform can be more effective. The results of the pre-survey indicate that (Eshet-Alkalai, 2022):

a. There is a disparity in digital skills among employees, particularly between younger and older generations. This leads to an imbalance in the execution of technology-based tasks.
b. Although various public service applications and information systems are available, their use is not yet optimal due to a lack of technical understanding among employees.
c. Digital capacity building programs are still sporadic and not structured in a sustainable manner, so that improvements in employee digital literacy are slow.
d. Employees do not fully understand the importance of data and information security, especially in the management of cryptographic systems and statistical data.
e. Employees still experience difficulties in sorting valid and relevant information, which impacts the quality of data-based decision-making.

The government needs to seriously address the issue of bureaucratic reform effectiveness and low digital literacy to ensure sustainable organizational improvement. Employee innovation is a key factor in the success of bureaucratic reform, as a culture of innovation can improve the quality of public services, strengthen regional competitiveness, and foster *good governance.* However, innovation within the bureaucracy has not yet developed optimally due to a work culture that tends to be administrative and rigid. Bian and Wang (Ghazali, 2016) state that employee innovative behavior is influenced by leadership and organizational support for new ideas. A similar situation is also seen in the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency, where employee innovation has not yet become a strong work culture and receives minimal internal appreciation. Anggitasari *et al.* (Ghozali, 2018) emphasize that employee innovation plays a crucial role in linking digital capabilities with organizational performance, making effective innovation management a crucial requirement in supporting bureaucratic adaptation to technological developments and societal needs (Gong et al., 2020). A pre-survey showed that the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency demonstrated (Giu, 2025):

a. Some employees still tend to carry out their duties procedurally without developing new ideas for digital-based services. This situation indicates a weak culture of innovation, preventing public services from undergoing significant transformation in line with the demands of digital-based bureaucratic reform.
b. Although some employees have innovative ideas, not all of them have been incorporated into structured policies or work programs. This is due to a lack of organizational support, such as innovation incubation mechanisms or internal forums for idea development.
c. Innovations tend to be individualistic and not integrated across sectors. This results in suboptimal innovations and a lack of broad impact on improving the quality of public services.
d. Some employees exhibit a tendency to resist the adoption of new technologies, particularly in the use of digital-based applications. This hinders the development of innovations that adapt to developments in information technology.

In addition to employee innovation, public organizations also require dynamic capabilities *to* face changes in the digital era. Al-Moaid (2025) defines dynamic capabilities as an organization's capacity to respond to opportunities, utilize resources, and transform to remain adaptive to environmental changes. In a bureaucratic context, this capability is crucial for adapting to technological developments, regulations, and societal demands. However, procedural rigidity often hinders the agility of public organizations. Atobishi *et al.* (Kariippanon, 2020) emphasized that the success of digital capabilities is significantly influenced by an organization's ability to reconfigure its business processes. This condition was also evident in the Communication and Information Technology Office of Indragiri Hilir Regency, particularly in adapting to the integration of national information systems and changes in digital platforms. Wirawan *et al.* (Hartiyanti & Kartika, 2025) stated that dynamic capabilities based on digital literacy are a crucial factor in supporting organizational innovation and performance. Therefore, strengthening dynamic capabilities is necessary for bureaucratic reform to be more effective, responsive, and sustainable.

In public sector literature, dynamic capabilities are defined as an organization's ability to integrate, build, and reorganize internal and external competencies to respond to rapid environmental change (Lopes, 2022). Dynamic governance studies emphasize two key foundations: capable people and agile processes, which are realized through the ability to think ahead, rethink, and think across the board (Kumorotomo, 2020).

Without dynamic capabilities, public organizations will struggle to respond to the demands of digitalization, regulatory changes, and increasing service expectations. Based on the pre-survey results, it was found that:

a. Organizations have not yet fully responded to changes in the external environment, particularly the rapid development of information technology. This is evident in the slow adaptation of policies and work systems to the needs of digitalization.
b. There are obstacles in integrating various existing information systems, resulting in data fragmentation and suboptimal use of technology in decision-making.
c. Knowledge transfer between employees remains limited, both through formal training and knowledge sharing. As a result, the organization's ability to develop new competencies remains uneven.
d. Some work units still maintain traditional manual and administrative work patterns, thus hampering the transformation towards an adaptive and flexible digital bureaucracy.
e. The agency has not systematically updated its structure, processes, or technology to meet the demands of bureaucratic reform. This demonstrates its weak reconfiguration capabilities.
f. The educational backgrounds of employees, particularly those in structural positions, do not align with the work areas available at the Communications and Information Technology Office. Consequently, their skills do not match the demands of the tasks and work.

Therefore, this study aims to fill this gap by analyzing the role of digital literacy as a mediating variable at the Communication, Information, and Communications Office of

Indragiri Hilir Regency (Moussa et al., 2020). The urgency of this study is based on the need to increase regional competitiveness through strengthening the Electronic-Based Government System (SPBE), where failure to manage digital literacy and the dynamic capabilities of employees can hamper bureaucratic reform. Hartiyanti and Kartika (Luthans & Doh, 2021) also stated that weak management of digital services can reduce public trust, so this study is expected to provide strategic recommendations in improving ASN competence and the quality of public services. Based on this background, the study entitled —Factors Influencing the Effectiveness of Bureaucratic Reform Mediated by Digital Literacy at the Communication, Information, Cryptography, and Statistics Office of Indragiri Hilir Regency.

2. RESEARCH METHOD

This type of research is causal research. Causality research is research that seeks to compare the cause and effect *between* several concepts, variables, or strategies developed in management (Nguyen, 2023). The approach in this research is quantitative. The quantitative approach aims to help researchers evaluate the extent to which data generated through certain methods is valid and truly reflects existing reality. Quantitative research aims to measure objective facts by focusing on research variables (Nwankpa & Roumani, 2020). The method used is a survey. This method examines large or small populations by selecting and analyzing selected samples to find the incidence, distribution, and relative interrelationships of the variables (Mwanza & Dar, 2025). According to Tharenou, Donohue, and Cooper (Mulyadi, 2023) surveys generally require the measurement of each independent variable and one or more dependent variables, as well as control variables and other variables (mediators).

This research will be conducted at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency. To facilitate the distribution of the questionnaire, researchers will use *Google Forms* and a questionnaire to all employees. The research period will run from April 2026 until completion.

The data sources used in this study are as follows:

a. Primary Data. Primary data is data obtained directly from the field, including laboratories. The primary data in this study were obtained by distributing questionnaires to employees at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency. The questionnaires contained employee statements about the variables to be studied.
b. Secondary Data. Secondary data is data or sources obtained from reading materials. The secondary data for this study were obtained from organizations, as can be seen in organizational documentation, reference books, and other information related to the research variables.

The data collection method used by the author in this study is by using a questionnaire, which is a data collection tool used by the author in the study to obtain the required information from the sample by creating a list of questions in the form of a questionnaire sheet or questionnaire submitted and filled out by respondents who have been determined in advance, and will be processed by the author to be presented in

tabulated form. In this questionnaire, an ordinal scale is used consisting of strongly agree, agree, neutral, disagree and strongly disagree. In this questionnaire, an ordinal scale is used which is designed to allow respondents to answer various levels on each object to be measured (Rochani et al., 2025).

Population is a group of people or events or occurrences of something that has certain characteristics. In addition, population is an object or subject that has qualities and characteristics that are determined by researchers to be studied and then conclusions drawn (Pérez-Castillo, 2021).

The data in this study were analyzed using *the Structural Equation Modeling,* Partial Least Square (SEM PLS) analysis technique through *the SmartPls program.* PLS is an alternative technique in SEM analysis where the data used is not multivariate normal distribution. In SEM with PLS, the value of the latent variable is estimated according to a linear combination of the manifest variables related to the latent variable and is treated to replace the manifest variable (Monecke & Leisch, 2012).

In this study, researchers used the *SmartPls* Ver. program application. 4.0. The PLS program is very easy to operate, and its brief discussion makes it easy for researchers to process and interpret data. The ability to describe variables and relate them to other variables in the *SmartPls* Ver. 4.0 application greatly facilitates authors in processing data. There are two tests in PLS analysis according to (Ghozali, 2018b) and (Abdillah & Hartono., 2015): *the measurement model* (*Outer model)* and *the structural model* (*Inner model).*

3. RESULTS AND DISCUSSION

Respondent characteristics analysis is an important initial stage in research to provide an overview of the employee profiles who are the research subjects. Respondent characteristics can provide information about individual backgrounds that have the potential to influence their perceptions, understanding, and behavior towards the variables studied, namely the factors that influence the effectiveness of bureaucratic reform with digital literacy as a mediating variable. In this study, respondents were employees working at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency (Slavković et al., 2023). The characteristics analyzed included gender, age, education level, and length of service. These four characteristics were chosen because they are believed to be related to the level of experience, competence, ability to adapt to developments in information technology, and understanding in supporting the implementation of bureaucratic reform in the organizational environment (Sarjito & Djati, 2025).

The analysis based on gender aims to determine the composition of male and female respondents as a description of the distribution of employees in the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency. Age analysis is conducted to identify the dominant age group, because age is related to the level of productivity, work experience, ability to adapt to organizational change, and the use of digital technology in supporting the implementation of bureaucratic reform (Stojanovic, 2020). Furthermore, the analysis of education level

aims to determine the academic background of respondents that can influence analytical thinking skills, mastery of information technology, and competence in carrying out digital-based government tasks (Sururi, 2021). The analysis of length of service is used to describe the level of employee experience in understanding organizational procedures, the implementation of bureaucratic reform, and the application of public service policies. By understanding the basic characteristics of the respondents, researchers can provide a more comprehensive and contextual interpretation of the research results according to the profile of the employees who are the research respondents (Sousa & Rocha, 2023).

Recapitulation of Respondents' Responses to Research Variables

The respondents' responses in this study provide a comprehensive overview of employee perceptions, understanding, and experiences regarding the variables studied: innovation, dynamic capabilities, digital literacy, and the effectiveness of bureaucratic reform. All respondents provided assessments based on their experience in carrying out their duties, functions, and responsibilities as civil servants at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency. Therefore, the data obtained not only reflects individual perceptions but also depicts the actual conditions regarding the organization's capabilities in

Respondents' responses to the innovation variable indicate the extent to which an organization is capable of creating and developing digital-based services, implementing new technologies, simplifying work processes, and building collaboration to improve the quality of public services. Meanwhile, responses to dynamic capabilities describe the organization's ability to identify opportunities and challenges, analyze the strategic environment, develop innovation, adapt to change, and sustainably manage knowledge and work processes (Teece, 2020). Respondents' perceptions of digital literacy reflect the level of employee digital competency mastery, ranging from technological operational skills, information evaluation, digital communication and collaboration, technology-based problem-solving, to the application of digital ethics and security in carrying out tasks.

Data analysis

PLS (*Partial Least Square*) is a *component analysis method* or *variance based Structural Equation Modeling* where the data processing is a *partial least square program* (*SmartPls* Ver. 4.0). PLS (*partial least square*) is an *alternative model to covariance-based SEM.* PLS is intended for *causal-predictive analysis* in situations of high complexity and low theoretical support (Ghozali 2018a). The goal of PLS is to find the optimal predictive linear relationship that exists in the data. Although PLS can also be used to confirm theory, it can also be used to explain the presence or absence of relationships between latent variables (Vial, 2021).

Based on the test results in the *Convergent Validity Table,* it is known that all indicators in the variables Innovation, Dynamic Ability, Digital Literacy, and Effectiveness of Bureaucratic Reform have *loading* factor values above the minimum

limit of 0.70. *The loading* factor values range from 0.707 to 0.895, so all indicators meet the *convergent validity criteria* and are declared valid. Thus, no indicators need to be eliminated because all indicators have been able to adequately represent the constructs being measured.

For the Innovation variable, all eight indicators showed excellent *loading factor values, ranging from 0.807 to 0.895. The indicator with the highest loading* factor value was Strengthening Collaboration and Organizational Learning at 0.895, indicating that this indicator is the strongest representation in shaping the innovation construct at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency. Meanwhile, the indicator with the lowest *loading* factor value was

In addition to being evaluated through *loading factor values, convergent validity* testing in the measurement model (*outer model*) is also carried out using *the Average Variance Extracted* (AVE) value. The AVE value indicates the proportion of indicator variance that can be explained by the latent construct compared to the variance caused by measurement error. According to Hair *et al.* (Wirawan et al., 2021)a construct is said to have good convergent validity if it has an *Average Variance Extracted* (AVE) value ≥ 0.50. This value indicates that the construct is able to explain more than 50% of the variance of its constituent indicators, so that the indicators used are able to adequately represent the measured variables (Warner & Wäger, 2020).

Table 1. *Average Variance Extracted (AVE)* Values of Research Variables

	Average Variance Extracted (AVE)
Effectiveness of Bureaucratic Reform	0.626
Innovation	0.719
Dynamic Capabilities	0.612
Digital Literacy	0.669

Based on the test results presented in the *Average Variance Extracted* (AVE) Table, it is known that all research variables have AVE values above the minimum required limit, which is greater than 0.50. The AVE value of each variable is Innovation of 0.719, Digital Literacy of 0.669, Bureaucratic Reform Effectiveness of 0.626, and Dynamic Ability of 0.612 (Zikri & Prasojo, 2026). These results indicate that all constructs have met the requirements of *convergent validity,* so that each variable is able to explain most of the variance of the indicators that form it. Thus, all constructs in this study are declared valid and suitable for use in the next analysis stage (Yusmanizar et al., 2023).

The Innovation variable obtained the highest AVE value, namely 0.719. This value indicates that 71.9% of the variance of all innovation indicators can be explained by the innovation construct, while the remaining 28.1% is influenced by other factors outside the construct or measurement error. The high AVE value indicates that innovation indicators, such as the creation of new digital services, the development of technology-based services, the implementation of new technologies, and the strengthening of organizational collaboration, have a very good level of consistency in representing the

innovation variable. Thus, the innovation construct is the variable with the strongest measurement quality in this research model (Yang et al., 2024).

***Reliability* Test**

Construct Reliability and Validity testing aims to ensure that each construct in the research model has a good level of reliability, so that it can measure latent variables consistently. In *Partial Least Squares Structural Equation Modeling* (PLS-SEM) analysis, construct reliability is generally evaluated using three measures, namely *Cronbach's Alpha, Composite reliability* (rho_a), and *Composite reliability* (rho_c). A construct is said to have good reliability if *the Cronbach's Alpha* and *Composite reliability values* are greater than 0.70. The higher the value obtained, the better the level of internal consistency of the indicators in measuring the intended construct.

The results of the reliability test calculations in this study are presented as follows:

Table 2. *Construct Reliability and Validity*

	Cronbach's Alpha	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**
Effectiveness Bureaucratic Reform	0.925	0.927	0.938
Innovation	0.944	0.945	0.953
Dynamic Capabilities	0.909	0.910	0.926
Digital Literacy	0.875	0.884	0.910

The Construct Reliability and Validity test, the Bureaucratic Reform Effectiveness variable obtained a *Cronbach's Alpha value* of 0.925, *Composite reliability* (rho_a) of 0.927, and *Composite reliability* (rho_c) of 0.938. All of these values are far above the minimum required limit, which is 0.70. These results indicate that the indicators used to measure the Bureaucratic Reform Effectiveness have a very good level of internal consistency, so they are able to provide stable and reliable measurement results.

The Innovation variable obtained a *Cronbach's Alpha value* of 0.944, *Composite reliability* (rho_a) of 0.945, and *Composite reliability* (rho_c) of 0.953. These values are the highest compared to other variables, indicating that all indicators making up the Innovation variable have a very high level of consistency in representing the construct being measured. Thus, the Innovation variable meets the construct reliability criteria with a very good category, making it suitable for use in further analysis.

Table 3. R^2 Results of Endogenous Variables

	R-square	***Adjusted R-square***
Effectiveness of Bureaucratic Reform	0.588	0.582
Digital Literacy	0.242	0.236

Based on the analysis results in the R^2 Results Table of Endogenous Variables, it is known that the Bureaucratic Reform Effectiveness variable obtained an *R-square value* of 0.588 and *an Adjusted R-square* of 0.582. These results indicate that 58.8% of the

variation or change in the effectiveness of bureaucratic reform at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency can be explained by all independent variables contained in the research model, including the mediating influence of Digital Literacy. Meanwhile, the remaining 41.2% is explained by other factors outside the research model that were not analyzed, such as organizational culture, organizational commitment, leadership quality, supervisory systems, government policies, and other factors (Sugiyono, 2019).

F^2 Test (*Effect Size*)

The Effect Size (F^2) test is conducted to determine the contribution or influence of each exogenous variable on the endogenous variable in a structural model. The F^2 value indicates the extent to which an independent variable contributes to an increase in the coefficient of determination (R^2) when the variable is included in the model. According to Hair *et al.* (2022), an F^2 value of 0.02 is categorized as a small effect, 0.15 as a medium effect, and 0.35 as a large effect. The higher the F^2 value, the greater the contribution of a variable in explaining changes in the endogenous variable.

Table 4. F Square Test Results

	Effectiveness of Reform Bureaucracy	Innovation	Ability Dynamic	Digital Literacy
Effectiveness of Reform Bureaucracy				
Innovation	0.038			0.050
Ability Dynamic	0.224			0.041
Digital Literacy	0.148			

Based on the results of the F^2 test, it is known that the Innovation variable has an F^2 value of 0.038 on the Effectiveness of Bureaucratic Reform. This value is in the small effect category, which indicates that innovation makes a relatively low contribution to increasing the effectiveness of bureaucratic reform. Nevertheless, the existence of innovation still has a role in supporting the implementation of bureaucratic reform, particularly through the development of new ideas, refinement of work processes, and improvement of the quality of public services. In addition, the Innovation variable also has an F^2 value of 0.050 on Digital Literacy, which is also included in the small effect category. This indicates that innovation makes a positive contribution to increasing the digital literacy of the apparatus, although the magnitude of the effect is still relatively limited.

Furthermore, the Dynamic Capability variable shows an F^2 value of 0.224 on the Effectiveness of Bureaucratic Reform. This value is included in the medium effect category, so it can be interpreted that dynamic capability is one of the factors that has a significant contribution in increasing the effectiveness of bureaucratic reform at the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir

Regency. The organization's ability to adapt to change, integrate resources, and respond to strategic environmental developments has been shown to have a stronger influence than other variables in the research model. Meanwhile, for Digital Literacy, the dynamic capability variable obtained an F^2 value of 0.041, which is in the small effect category, so its contribution to increasing digital literacy is still relatively limited.

Hypothesis Testing

Path coefficient testing is performed to examine direct and indirect relationships between variables in a structural model. This testing aims to determine the direction of influence (positive or negative), the magnitude of influence, and the level of significance of the relationship between constructs. In this study, testing was conducted using a bootstrapping procedure using the *Partial Least Squares Structural Equation Modeling* (PLS-SEM) method. A relationship is considered significant if it has a T- *statistic value* > 1.96 and *a P-value* < 0.05 at a 5% significance level (Hair *et al.,* 2022).Based on the table above, we can see the influence between the variables studied. Meanwhile, the relationship between the variables can be seen in the following figure:

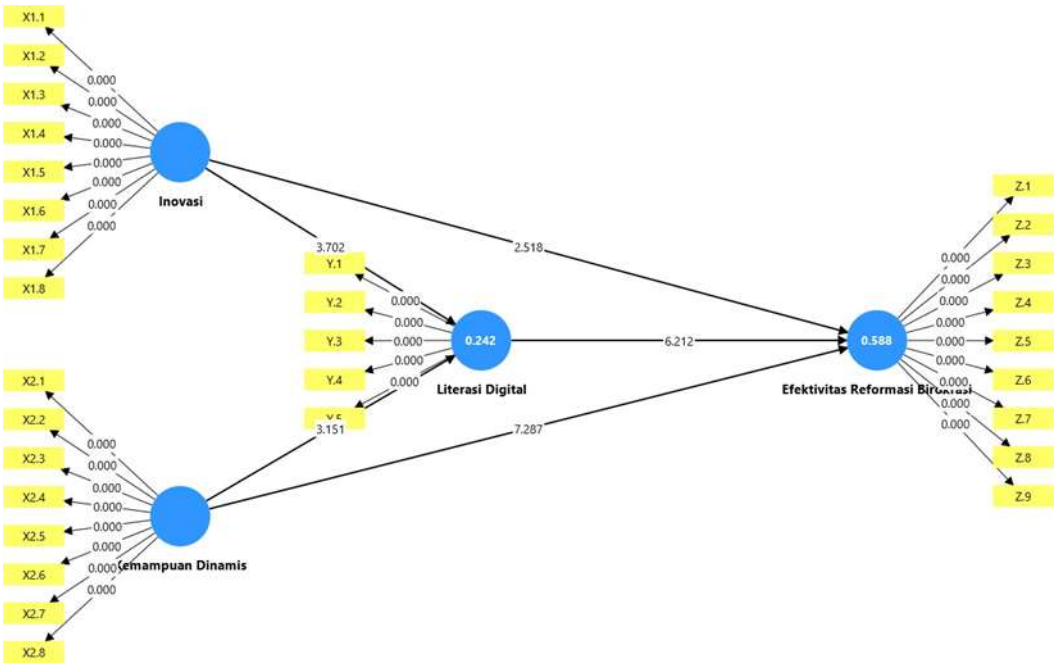

Figure 1. Hypothesis Testing Result Path

Based on the results of the path coefficient test, it is known that the relationship between Innovation and the Effectiveness of Bureaucratic Reform has a path coefficient value of

of 0.183, with T- *statistics* of 2.518 and *P-values* of 0.012. These values meet the significance criteria because T- *statistics* are greater than 1.96 and *P-values* are smaller than 0.05. The positive path coefficient indicates that the higher the level of innovation implemented in the organization, the higher the effectiveness of bureaucratic reform that can be achieved. Although the magnitude of the coefficient is still relatively low compared to other relationships, innovation still makes a real contribution in supporting the

success of bureaucratic reform through the development of work methods, public services, and the use of more effective technology.

Furthermore, the relationship between Innovation and Digital Literacy obtained a path coefficient value of 0.278, with a T- *statistic* of 3.702 and *a P-value* of 0.000. These results indicate that innovation has a positive and significant effect on employee digital literacy. The higher the culture of innovation in an organization, the greater the ability of the apparatus to understand, utilize, and develop digital technology in carrying out daily tasks. Thus, innovation is one of the important factors that encourages increased digital literacy within the Communication, Informatics, Cryptography, and Statistics Office of Indragiri Hilir Regency.

The relationship between Dynamic Capabilities and the Effectiveness of Bureaucratic Reform shows a path coefficient of 0.443, with a T- *statistic* of 7.287 and *a P-value* of 0.000. This coefficient is the largest among all direct influences in the research model. These results indicate that dynamic capabilities have a positive and highly significant influence on the effectiveness of bureaucratic reform. This means that the higher an organization's ability to adapt to environmental changes, integrate resources, and develop organizational capacity sustainably, the more effective the implementation of bureaucratic reform will be. This finding indicates that dynamic capabilities are the most dominant factor in increasing the effectiveness of bureaucratic reform.

The test results also show that Dynamic Ability has a positive and significant effect on Digital Literacy, with a path coefficient of 0.252, T- *statistics* of 3.151, and *P-values* of 0.002. H

Meanwhile, the relationship between Digital Literacy and the Effectiveness of Bureaucratic Reform obtained a path coefficient value of 0.284, with a T- *statistic* of 6.212 and *a P-value* of 0.000. These results indicate that digital literacy has a positive and significant influence on the effectiveness of bureaucratic reform. The higher the ability of the apparatus to access, understand, evaluate, and utilize digital technology, the more effective the implementation of bureaucratic reform. Digital literacy is an important factor in supporting technology-based bureaucratic transformation, improving the quality of public services, and accelerating the implementation of electronic-based government systems.

In addition to the direct effect, this study also tested the indirect effect through the mediating variable of Digital Literacy. The relationship between Innovation and the Effectiveness of Bureaucratic Reform through Digital Literacy has a path coefficient of 0.079, with a T- *statistic* of 3.224 and *a P-value* of 0.001. These results indicate that digital literacy is able to significantly mediate the relationship between innovation and the effectiveness of bureaucratic reform. Thus, innovation not only has a direct influence on the effectiveness of bureaucratic reform but also increases the effectiveness of reform through increasing the digital literacy of the apparatus. This finding indicates that the implementation of innovation will provide more optimal results if followed by an increase in employee digital capabilities.

Furthermore, the relationship between Dynamic Capabilities and the Effectiveness of Bureaucratic Reform through Digital Literacy obtained a path coefficient of 0.072, with

a T- *statistic* of 2.766 and *a P-value* of 0.006. These results prove that digital literacy is also able to significantly mediate the influence of dynamic capabilities on the effectiveness of bureaucratic reform. This means that an organization's ability to adapt to change will

Discussion

The Influence of Employee Innovation on Digital Literacy

The results of the study indicate that employee innovation has a positive and significant effect on digital literacy. This is indicated by a positive path coefficient value accompanied by T- *statistics* that exceed the significance limit and *P-values* that are below the specified significance level, thus the first hypothesis in this study can be accepted. This finding indicates that the stronger the culture of innovation developed within the organization, the greater the ability of the apparatus to understand, utilize, and develop digital technology in carrying out daily tasks.

This finding aligns with the views of Anggitasari *et al.* (2024), who assert that innovation arises from organizational demands to provide better services through simpler, digital-based processes. In the context of public organizations, innovative employees generally seek to find more effective ways of working, including utilizing technology to complete tasks. This process indirectly encourages employees to continuously learn and improve their digital skills to perform their work more efficiently.

Research by Nguyen *et al.* (2023) supports these findings by stating that innovative work behavior positively influences the improvement of employees' digital skills. In practice, when employees implement new ideas, they also learn to use various supporting technologies, thus developing digital literacy through hands-on experience. Eshet-Alkalai (2022) adds that digital literacy encompasses not only technical skills but also creativity and innovation, so the relationship between these two variables is reciprocal and mutually reinforcing.

Stojanovic *et al.* (2020) and Pérez-Castillo *et al.* (2021) also emphasized that the relationship between employee innovation and digital literacy is mutually influential and a crucial factor in the success of organizational transformation. Innovative employees tend to be more active in independently learning new technologies, reflecting higher levels of digital literacy. Furthermore, Sarjito and Djati (2025) highlighted that millennial civil servants have great potential to drive innovation due to their proximity to digital technology. However, the digital literacy gap remains a challenge in bureaucratic reform (Silitonga, 2023), so innovations emerging from employee initiatives can be a solution to improve digital capabilities while encouraging the creation of a more adaptive and effective bureaucracy.

The Influence of Dynamic Capabilities on Digital Literacy

The research results demonstrate that dynamic capabilities have a positive and significant impact on employee digital literacy. Positive path coefficients with significant T- *statistics and P-values* below the established threshold indicate that organizations with the ability to adapt to change tend to improve their employees' digital competencies. In

other words, an organization's dynamic capabilities support the creation of a work environment that encourages the optimal use of digital technology.

This finding aligns with the concept proposed by Teece (2020), who explains that dynamic capabilities are an organization's ability to manage, develop, and adapt competencies to respond quickly to change. In the context of bureaucracy, Sousa and Rocha (2023) state that digital literacy is an integral part of an organization's dynamic capabilities. This suggests that the more actively an organization follows technological developments, the greater the incentive for employees to learn and master these technologies. Al-Moaid (2025) asserts that without strong dynamic capabilities, improving digital literacy will be merely a formality and will not significantly impact bureaucratic change. The *sensing process* within dynamic capabilities, as explained by Zikri and Prasojo (2026), encourages employees to be more critical in searching for, assessing, and managing digital information, thereby contributing to a more comprehensive digital literacy improvement (Sarwono & Narimawati, 2015).

The Influence of Employee Innovation on the Effectiveness of Bureaucratic Reform

The results of the study indicate that employee innovation has a positive and significant effect on the effectiveness of bureaucratic reform. Positive path coefficients with T- *statistics* exceeding the critical value and *P-values* below the significance level prove that the higher the level of innovation implemented in the organization, the higher the effectiveness of bureaucratic reform that can be achieved. Although the coefficient is still relatively low compared to other variables in the model, innovation still makes a real contribution to supporting the success of bureaucratic reform through the development of work methods, public services, and the use of more effective technology (Silitonga, 2023).

These findings support Sururi's (2021) view that innovation is at the heart of bureaucratic reform because it can transform employee mindsets and work cultures to become more responsive to change. In public organizations, innovation is no longer merely an option but a necessity to drive bureaucratic reform to be more rapid and adaptive. The role of innovation is also evident in driving government digitalization, where employee-led innovation can sustainably improve the quality of public services (Zikri and Prasojo, 2026).

Furthermore, these findings align with the research of De Vries *et al.* (2020), which states that innovation in the public sector can increase the value of public services, necessitating a work environment that supports employee creativity and innovation. Apriani and Ramadhany (2025) also explain that improving employee skills, particularly in technology, is crucial in supporting bureaucratic reform through the Electronic-Based Government System (SPBE) index. Therefore, employees who are given the space to innovate tend to be able to find more efficient ways of working, even under limited conditions.

The Influence of Dynamic Capabilities on the Effectiveness of Bureaucratic Reform

The results of the study prove that dynamic capabilities have a positive and highly significant influence on the effectiveness of bureaucratic reform. The path coefficient value in this study is the largest among all direct influences in the research model, with

T- *statistics* far exceeding the critical value and *P-values* that are below the significance level. This finding indicates that dynamic capabilities are the most dominant factor in increasing the effectiveness of bureaucratic reform, where the higher the organization's ability to adapt to environmental changes, integrate resources, and develop organizational capacity sustainably, the more effective the implementation of bureaucratic reform is.

These findings support the concept outlined by Teece (2020), who stated that organizations with strong dynamic capabilities are able to align internal resources with external opportunities, thereby creating sustainable excellence. The effectiveness of bureaucratic reform is greatly influenced by the organization's ability to understand community needs and transform work procedures to become more efficient through the use of information technology. Zikri and Prasojo (2026) also emphasized that the government's ability to recognize technological trends is a crucial factor in driving bureaucratic reform oriented towards improving the quality of public services.

The Influence of Digital Literacy on the Effectiveness of Bureaucratic Reform

The results of the study indicate that digital literacy has a positive and significant impact on the effectiveness of bureaucratic reform. This is evidenced by the positive path coefficient value, significant T- *statistics, and P-values* that are below the established significance level. These findings indicate that the greater the ability of civil servants to access, understand, evaluate, and utilize digital technology, the more effective the implementation of bureaucratic reform. Digital literacy is a crucial factor in supporting technology-based bureaucratic transformation, improving the quality of public services, and accelerating the implementation of electronic-based government systems.

In the context of public services, Hartiyanti and Kartika (2025) stated that the success of digital services is greatly influenced by employees' ability to operate and explain the system to the public. Digital literacy also encourages transparent and accountable services through better data management. Silitonga (2023) explained that the digital skills gap in the public sector is a serious challenge that can hinder bureaucratic reform, and digital literacy plays a crucial role in addressing this problem by helping employees become more confident in using technology.

Slavković *et al.* (2023) stated that digital citizenship is a crucial part of supporting organizational transformation, as employees are required to maintain data security and information integrity in work processes. Vial (2021) emphasized that digital transformation is not only related to technology, but also to changes in mindset and work culture that are more open, innovative, and oriented towards public service. Overall, digital literacy is a crucial factor in increasing the effectiveness of bureaucratic reform through increased competency, organizational adaptation, and strengthening more efficient and accountable work systems (Al-Moaid, 2025).

Digital Literacy Mediates the Influence of Employee Innovation on the Effectiveness of Bureaucratic Reform

The results of the study indicate that digital literacy significantly mediates the relationship between employee innovation and the effectiveness of bureaucratic reform. The positive indirect path coefficient value, accompanied by a T-value, aligns with the view of Anggitasari *et al.* (2024), who explained that employee innovation does not stop at ideas but needs to be supported by digital capabilities to have a real impact on organizational performance. However, in practice, innovative ideas are often hampered by employees' low technical understanding of the technology used. Therefore, digital literacy acts as an intermediary variable linking employee innovation with the effectiveness of bureaucratic reform. Silitonga (2023) stated that the digital skills gap in the public sector remains an obstacle to the implementation of reforms, especially top-down ones (Warner & Wäger, 2020).

Hartiyanti and Kartika (2025) emphasized that digital literacy is a crucial factor in the innovation adoption process, as it determines employees' ability to implement change broadly. Zikri and Prasojo (2026) also stated that digital government innovation requires digital literacy as a catalyst to improve efficiency and service quality. Thus, employee innovation acts as a trigger, digital literacy as a connector, and bureaucratic reform as the end result, characterized by more effective, transparent, and responsive public services to community needs.

Sarjito and Djati (2025) explain that millennial civil servants leverage the advantages of digital literacy to support workplace innovation, leading to digital bureaucratic transformation. Digital literacy serves as a bridge connecting individual creativity with the transforming bureaucratic system. Innovative employees who lack adequate digital skills will struggle to contribute optimally to information technology-based reforms. Conversely, a high level of digital literacy

Pérez-Castillo *et al.* (2021) demonstrated a reciprocal cycle between innovation and literacy that cumulatively increases organizational effectiveness in the long term. Employee innovation triggers the need for new digital literacy, and increased digital literacy opens up opportunities for more sophisticated innovation. Stojanovic *et al.* (2020) emphasized that innovation and digital literacy are two inseparable elements in creating superior organizational performance in the Industry 4.0 era. From a dynamic capabilities perspective, digital literacy is part of an organization's ability to learn and adapt to change (Al-Moaid, 2025). Therefore, employee innovation, as a driver of change, requires digital literacy as a key support for bureaucratic reform to be effective, safe, and sustainable.

Digital Literacy Mediates the Influence of Dynamic Capabilities on the Effectiveness of Bureaucratic Reform

The research results demonstrate that digital literacy significantly mediates the influence of dynamic capabilities on the effectiveness of bureaucratic reform. A positive indirect path coefficient with significant T- *statistics and P-values* below the threshold indicates that an organization's ability to adapt to change will further enhance the effectiveness of bureaucratic reform if accompanied by an increase in the digital literacy of its apparatus. Although the indirect coefficient is smaller than the direct coefficient,

the presence of digital literacy has been shown to strengthen the relationship between dynamic capabilities and the effectiveness of bureaucratic reform.

In the *seizing phase,* digital literacy serves as a means to effectively execute innovations without technical barriers. Hartiyanti and Kartika (2025) explain that the success of innovation diffusion in public services depends heavily on employee digital readiness and available infrastructure. Digital literacy helps employees adapt to new systems, reduces resistance to change, and optimizes the use of technology to increase transparency and accountability. Gong *et al.* (2020) add that in the context of digital collaboration, digital literacy also enables employees to work in an integrated manner and share information efficiently, which accelerates decision-making and improves the quality of public services (Yusmanizar et al., 2023).

Knowledge management, as part of dynamic capabilities, requires digital literacy support to ensure systematic and sustainable knowledge transfer. Bian and Wang (2024) state that knowledge management capabilities play a crucial role in supporting innovation in government institutions undergoing transformation. Digital literacy enables employees to document, access, and utilize organizational knowledge more effectively through digital systems. Vial (2021) emphasizes that digital transformation is a continuous process that requires a shift in organizational mindset. Digital literacy helps build employee confidence in using technology and creates an adaptive work culture, key to creating an agile and results-oriented bureaucracy. Therefore, digital literacy functions not only technically but also as a psychological foundation that strengthens the implementation of organizational change within a dynamic capabilities framework that supports the effectiveness of sustainable bureaucratic reform.

Managerial Implications

Innovation Variable

The indicator with the lowest average value in the innovation variable is Service Development with New Technology Specifications (3.90). Although still in the good category, this value indicates that the development of new technology-based services is not yet fully optimal compared to other innovation indicators. This condition indicates the need to increase organizational capacity in adopting, developing, and implementing technology that can improve the quality of public services. Therefore, several managerial implications that can be implemented are as follows.

a. Develop a service technology transformation roadmap that includes application development priorities, information system integration, and targets for the gradual implementation of new technologies so that each innovation has a clear and sustainable direction.
b. Improving the competence of civil servants in utilizing digital technology through training, workshops, certification, and *benchmarking* with agencies that have successfully developed digital services, so that employees are able to operate and develop technology that supports public services.
c. Encourage collaboration with universities, the private sector, and digital communities in developing innovative technology solutions so that organizations gain access to

knowledge, technology, and best practices that can accelerate the service innovation process.

Dynamic Capability Variable

The indicator with the lowest average value in the dynamic capability variable is the Ability to Manage and Standardize Work Processes (4.04). This value indicates that although the apparatus' ability to manage work processes is already in the good category, efforts are still needed to strengthen the consistency of the implementation of operational standards and the adaptation of work processes to changes in the organizational environment. Thus, improvements in this aspect are expected to strengthen the organization's ability to maintain service effectiveness amidst dynamic changes.

a. Regularly refine and update Standard Operating Procedures (SOPs) to ensure that all work processes are in line with regulatory developments, community needs, and the government's digital transformation.
b. Develop a monitoring and evaluation system based on performance indicators so that the implementation of each work process can be monitored in real time, evaluated periodically, and immediately corrected if any discrepancies are found.
c. Building a culture of *continuous improvement* through regular evaluation forums, sharing best practices, and awarding awards to work units that successfully increase the efficiency of work processes.

Digital Literacy Variables

The indicator with the lowest average value in the digital literacy variable was Strategic and Problem -*Solving Skills* (3.70). These results indicate that civil servants have basic skills in utilizing digital technology, but are not yet fully capable of optimizing technology as a means of decision-making, problem-solving, and developing organizational strategy. Therefore, improving digital-based strategic thinking skills is a priority in supporting bureaucratic reform.

a. Conducting case-based learning training that focuses on the use of digital technology for data analysis, decision-making, and solving public service problems.
b. Increase the use of data dashboards and analytical applications so that employees are accustomed to using digital data as a basis for formulating policies, evaluating programs, and determining strategic organizational steps.
c. Establish a digital learning community as a forum for sharing experiences, discussing problem-solving, and developing technology-based innovations so that the strategic thinking skills of civil servants continue to develop.

Bureaucratic Reform Effectiveness Variables

The indicator with the lowest average value in the bureaucratic reform effectiveness variable is the SPBE Human Resource Competency Maturity Level (3.65). Although still in the good category, this indicator has the lowest value compared to the other indicators, thus indicating that the quality of human resource competency in supporting the implementation of the Electronic-Based Government System (SPBE) still requires strengthening. Given that the success of bureaucratic reform is highly

dependent on the readiness of human resources, improving the competency of the apparatus is a top priority.

1) Develop a sustainable SPBE competency development program, including technical training, digital competency certification, coaching, and mentoring according to the needs of each position.
2) Implement a talent management system that considers digital competencies in the recruitment, promotion, transfer, and career development processes so that the organization has human resources that are adaptive to digital transformation.
3) Conducting periodic competency evaluations through digital capability assessments, competency gap mapping, and the preparation of Individual Development Plans (IDPs) so that HR capacity building can be carried out in a targeted and measurable manner.

4. CONCLUSION

Based on the research results and discussion of each hypothesis, several important points can be concluded from this research, namely: The research results show that innovation has a positive impact on digital literacy. A growing culture of innovation can encourage civil servants to better understand, utilize, and develop digital technology in carrying out their duties. Thus, innovation is a key driver of improving employee digital competence within an organization. The research results show that dynamic capabilities have a positive impact on digital literacy. An organization's ability to adapt to environmental developments encourages increased digital competency among civil servants. This supports the creation of a work environment that is more adaptive to the use of technology in carrying out tasks and providing public services. Research results show that innovation has a positive impact on the effectiveness of bureaucratic reform. The better the implementation of innovation within an organization, the more effective the implementation of bureaucratic reform. Developing work methods, public services, and utilizing technology are crucial factors in supporting the achievement of higher-quality and sustainable bureaucratic reform. The research results show that dynamic capabilities have a positive effect on the effectiveness of bureaucratic reform. Organizations that are able to adapt to change, manage resources optimally, and develop capacity sustainably will be more successful in realizing bureaucratic reform that is effective, adaptive, and oriented towards improving organizational performance. The research results show that digital literacy has a positive impact on the effectiveness of bureaucratic reform. The better the apparatus' ability to utilize digital technology, the more effective the implementation of bureaucratic reform. Digital literacy supports bureaucratic transformation, improves the quality of public services, and optimally implements e-government. The research results show that digital literacy can mediate the influence of innovation on the effectiveness of bureaucratic reform. The implementation of innovation will yield more optimal results if accompanied by improvements in the digital capabilities of civil servants. The synergy between innovation and digital literacy strengthens the successful implementation of bureaucratic reform within an organization. The research results show that digital literacy can mediate the influence of dynamic capabilities on the effectiveness of bureaucratic reform. An organization's ability to adapt to change will be more effective if supported by increased digital competency among its personnel, thus enabling more adaptive, efficient, and sustainable implementation of bureaucratic reform.

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