Journal of Artificial Intelligence and Engineering Applications

Website: https://ioinformatic.org/

June 2026. Vol. 5. No. 3; e-ISSN: 2808-4519

Influencing the Success of SPBE Jambi Provincial Government Using the SEM Method

Chandy Ophelia S[1], Lola Yorita Astri[2,*]

[1,2] *Information Systems , University of Dinamika Bangsa Jambi, Jambi*
Chandyophelia94@gmail.com[1], lolayoritaastri@unama.ac.id[2,]*

Abstract

The The Electronic-Based Government System (SPBE) is a strategic instrument for digital governance in Indonesia, but its success in local government remains uneven. The problem addressed in this study is the fluctuating SPBE performance of the Jambi Provincial Government, which is associated with network instability, changing application coordinators, overlapping data input, diverse user age groups, and uneven digital literacy among state civil apparatus (ASN) and service users. This study aims to identify the determinants of SPBE success from the ASN perspective and to explain how system quality and information quality shape perceived ease of use, perceived usefulness, user satisfaction, and net benefits. A quantitative explanatory survey was conducted with 385 ASN respondents who interact with SPBE services in the Jambi Provincial Government. The research model integrates constructs from technology acceptance and information system success perspectives and was tested using partial least squares structural equation modeling. The measurement results show that all indicators are valid, with outer loading values above 0.70, AVE values above 0.50, and Cronbach alpha values above 0.80. The structural results indicate that information quality has the strongest effect on perceived usefulness (beta = 0.861), followed by user satisfaction on net benefits (beta = 0.844) and system quality on perceived ease of use (beta = 0.834). Perceived usefulness also has a stronger effect on user satisfaction than perceived ease of use. These findings confirm that SPBE success in Jambi depends primarily on accurate, complete, timely, and relevant information that creates real work benefits and sustained user satisfaction.

Keywords: *Information System Success, E-Government,Jambi Provincial Government,SPBE,Technology Adoption*

1. Introduction

Digital government has become an important mechanism for improving public service delivery, administrative transparency, and citizen access. Recent studies on e-government emphasize that technology adoption is influenced by perceived usefulness, ease of use, trust, and user satisfaction [1], [2]. Empirical research also shows that the integration of UTAUT, TAM, and information system success constructs can explain the acceptance of digital public services across different institutional contexts [3], [4].

Studies on e-government success indicate that system quality, information quality, service quality, trust, system use, user satisfaction, and net benefits are interrelated dimensions in evaluating digital public service performance [5], [6]. In developing-country contexts, digital divide, public awareness, and the perceived value of online services have also been found to influence citizen satisfaction and the net benefits obtained from e-governance platforms [7], [8]. In addition, evidence from local government information systems and Indonesian e-government platforms highlights that employee experience, data reliability, and public value remain important factors in supporting successful digital transformation [9], [10].

In Indonesia, studies on local e-government intention and implementation issues show that technological readiness, organizational support, and user acceptance need to be addressed together to improve the continuity of digital services [11], [12]. Research using UTAUT and combined TAM–DeLone and McLean models further confirms that performance expectancy, effort expectancy, perceived usefulness, and user satisfaction are relevant factors for evaluating public-sector digital systems [13], [14]. Evaluations of SIMDA and LAPOR systems also show that system quality, service quality, and perceived usefulness can influence user satisfaction and net benefits, although the significance of information quality may vary depending on the context [15], [16].

Furthermore, studies on E-Samsat and SP4N-LAPOR services reveal that public digital services tend to receive positive acceptance when system quality, information quality, and service quality are supported by adequate user assistance and infrastructure [17], [18]. Research on village information systems and e-government services in Gunungkidul also demonstrates that SmartPLS and PLS-SEM are appropriate methods for explaining how perceived ease of use, facilitating conditions, and computer self-efficacy affect technology acceptance [19], [20]. Other Indonesian studies on SPBE risk management and electronic regional financial governance emphasize that infrastructure, human resource competence, regulation, and risk control are important determinants of effective e-government implementation [21], [22].

Recent national studies on user satisfaction, e-government sustainability, EMIS adoption, and digital archiving applications further show that the success of government information systems requires reliable data, clear procedures, and measurable organizational benefits [23], [24], [25]. In the context of the Jambi Provincial Government, various SPBE-related applications and websites have been implemented to support internal bureaucracy and public services. However, preliminary interviews indicate several operational problems, including unstable network access, frequent changes in application coordinators, overlapping data entry, and uneven digital literacy among ASN and public users [26].

These conditions indicate the need for empirical evidence to identify the factors that most strongly determine SPBE success in the Jambi Provincial Government. Such evidence is important so that improvement efforts can be directed toward the most influential aspects, rather than merely increasing the number of applications or expanding infrastructure. Therefore, this study aims to analyze the effects of system quality and information quality on perceived ease of use and perceived usefulness, as well as to examine how these perceptions influence user satisfaction and net benefits in the SPBE context of the Jambi Provincial Government.

The contribution of this study is threefold. First, it provides an empirical PLS-SEM model for evaluating SPBE success at the provincial government level. Second, it identifies the strongest determinants of user satisfaction and net benefits among ASN users. Third, it offers practical evidence that can support the improvement of digital governance services in Jambi. The novelty of this study lies in the integration of technology acceptance and information system success perspectives within a local Indonesian SPBE context, with a specific focus on ASN users who directly operate, respond to, and benefit from provincial digital government services.

2. Method

2.1. Research Framework

This This study used a quantitative explanatory design supported by preliminary qualitative problem identification. The research procedure consisted of observing SPBE implementation issues, identifying the research problem, developing the conceptual model, preparing questionnaire instruments, collecting survey data, and analyzing the measurement and structural models using PLS-SEM. The approach was selected because the study tests causal relationships among latent constructs that cannot be measured directly.

2.2. Research Model and Hypotheses

Figure 1 presents the research model used in this study. The ellipses represent latent variables, while arrows indicate hypothesized causal relationships. H1 and H2 connect system and information quality to user perceptions, H3 and H4 connect user perceptions to satisfaction, and H5 links satisfaction to the net benefits of SPBE.

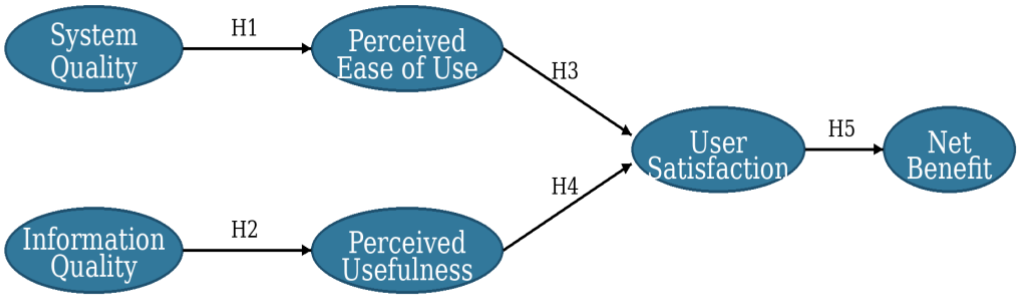

Fig.1: Research model and hypotheses

H1: System Quality has a positive effect on Perceived Ease of Use.
H2: Information Quality has a positive effect on Perceived Usefulness.
H3: Perceived Ease of Use has a positive effect on User Satisfaction.
H4: Perceived Usefulness has a positive effect on User Satisfaction.
H5: User Satisfaction has a positive effect on Net Benefit.

Table 1 defines the six variables used in the model. The table should be read from left to right: the first column gives the variable code, the second column names the construct, and the third column explains the operational meaning used to develop questionnaire indicators.

Table 1: Operational definition of research variables

Code	Variable	Operational Definition
SQ	System Quality	Technical performance of the SPBE system, including access speed, reliability, availability, security, and flexibility.
IQ	Information Quality	Quality of SPBE output, including accuracy, completeness, timeliness, relevance, and readability of information.
PEOU	Perceived Ease of Use	The extent to which ASN believe that the SPBE system is easy to learn, easy to control, and does not require excessive effort.

PU	Perceived Usefulness	The extent to which ASN believe that SPBE improves work effectiveness, productivity, performance, and bureaucratic speed.
US	User Satisfaction	A positive affective response after using SPBE because system performance meets user expectations and operational needs.
NB	Net Benefit	Positive individual and organizational impacts, including cost efficiency, service transparency, accountability, and institutional image.

2.3. Population, Sample, and Data Collection

The population consisted of ASN who interact with, operate, or respond to SPBE services within the Jambi Provincial Government. Respondents were selected using criterion-based sampling because only users with relevant SPBE interaction experience were eligible. The final dataset consisted of 385 valid responses from ASN users across provincial government work units and related service interactions. Data were collected using a structured questionnaire. Table 2 shows the Likert scale used to score each item; respondents selected one score from 1 to 5, where a higher value indicates stronger agreement with the statement.

Table 2: Likert scale

Alternative Answer	Score
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

2.4. Data Analysis

The data were analyzed using SmartPLS with the PLS-SEM approach. The measurement model was evaluated through outer loading, Average Variance Extracted (AVE), and Cronbach alpha. The structural model was evaluated using R-square values and path coefficient bootstrapping. A hypothesis was considered supported when the direction of the coefficient was positive and the p-value was below 0.05.

3. Results and Discussion

3.1 Respondent Overview

Table 3 summarizes the profile of the 385 respondents. The table should be read by comparing the frequency and percentage columns for each category, which helps identify whether the sample represents diverse ASN users of SPBE in Jambi Province.

Table 3: Respondent profile

Category	Characteristic	Frequency (n)	Percentage (%)
Gender	Male	181	47
Gender	Female	204	53
Age	< 25 years	19	5
Age	26-35 years	127	33
Age	36-45 years	158	41
Age	> 45 years	81	21
Education	Diploma (D3)	38	10
Education	Bachelor (S1)	285	74
Education	Postgraduate (S2/S3)	62	16
Tenure	< 5 years	62	16
Tenure	6-15 years	196	51
Tenure	> 15 years	127	33
IT Capability	Beginner	46	12
IT Capability	Intermediate	262	68
IT Capability	Proficient	77	20
Total		385	100

The respondent profile indicates that the sample is balanced by gender and is dominated by productive and experienced ASN users. Most respondents are 36-45 years old (41%), have worked for 6-15 years (51%), hold a bachelor degree (74%), and report intermediate IT capability (68%). This composition supports the relevance of the responses because most respondents have sufficient work experience to compare SPBE with previous manual procedures and adequate digital competence to evaluate the system objectively.

3.2 Measurement Model Evaluation

Table 4 reports the outer loading values for all indicators. Each row shows one questionnaire indicator and its loading value on the intended construct; values above 0.70 indicate that the indicator represents its variable adequately.

Table 4: Outer loading values

Indicator	Loading	Indicator	Loading	Indicator	Loading
IQ1	0.751	IQ2	0.784	IQ3	0.781
IQ4	0.754	IQ5	0.776	NB1	0.759

NB2	0.764	NB3	0.809	NB4	0.757
NB5	0.783	PEOU1	0.764	PEOU2	0.758
PEOU3	0.783	PEOU4	0.788	PEOU5	0.753
PU1	0.760	PU2	0.827	PU3	0.798
PU4	0.809	PU5	0.793	SQ1	0.762
SQ2	0.808	SQ3	0.800	SQ4	0.784
SQ5	0.809	US1	0.775	US2	0.774
US3	0.810	US4	0.810	US5	0.814

All indicators have loading values above 0.70, ranging from 0.751 to 0.827. Therefore, the measurement model satisfies convergent validity, and no indicator needs to be removed. The highest loading appears on PU2 (0.827), showing that the productivity aspect is a strong representation of perceived usefulness in the SPBE context.

Table 5 presents Cronbach alpha and AVE values. Cronbach alpha measures internal consistency, while AVE measures the average amount of variance captured by each construct from its indicators.

Table 5. Reliability and convergent validity

Variable	Cronbach alpha	AVE
IQ	0.827	0.592
NB	0.833	0.600
PEOU	0.828	0.592
PU	0.857	0.636
SQ	0.852	0.629
US	0.856	0.635

The Cronbach alpha values range from 0.827 to 0.857, indicating strong internal consistency for all constructs. The AVE values range from 0.592 to 0.636, meaning that each construct explains more than half of the variance of its indicators. These results confirm that the research instrument is valid and reliable for testing the structural model.

3.3 Structural Model Evaluation

Figure 2 illustrates the structural model results. The numbers on the arrows represent path coefficients, and the values inside the endogenous variables represent R-square values. A larger path coefficient indicates a stronger direct influence between variables.

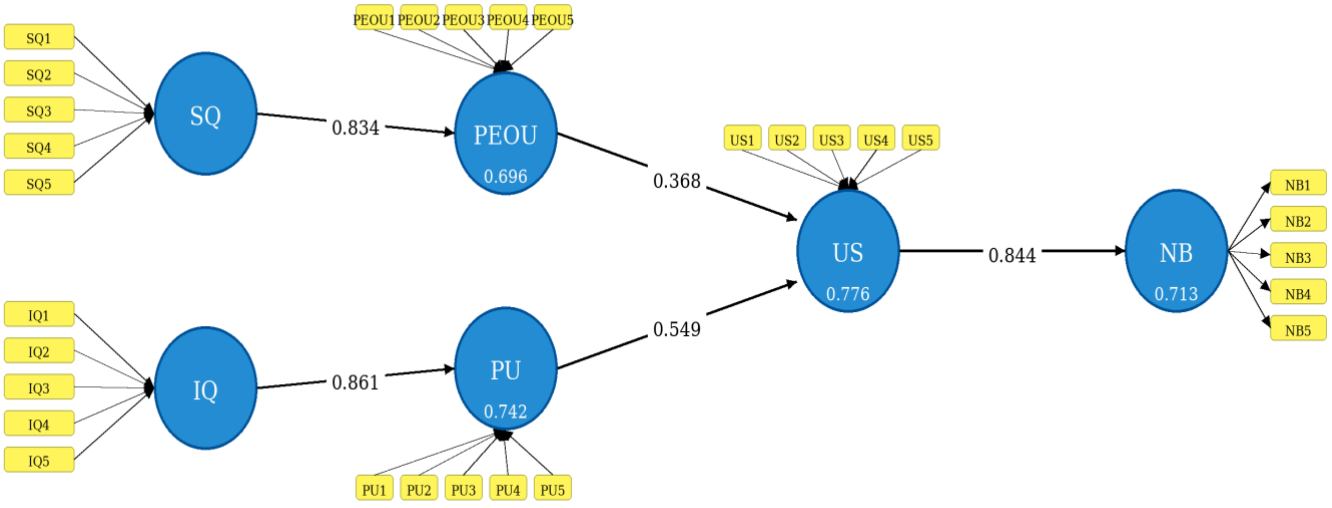

Fig.2: PLS-SEM structural model results

Table 6 presents the R-square values. The R-square column indicates how much variance in each dependent variable is explained by its predictor variables, while the adjusted R-square column corrects the estimate for model complexity.

Table 6. R-square values

Variable	R-square	Adjusted R-square
NB	0.713	0.712
PEOU	0.696	0.695
PU	0.742	0.741
US	0.776	0.775

The R-square values show that the model has strong explanatory power. User Satisfaction explains 71.3% of the variance in Net Benefit, System Quality explains 69.6% of Perceived Ease of Use, Information Quality explains 74.2% of Perceived Usefulness, and Perceived Ease of Use together with Perceived Usefulness explains 77.6% of User Satisfaction. The small differences between R-square and adjusted R-square values indicate that the model is stable.

Table 7 reports the hypothesis testing results. The Original Sample column shows the direction and strength of the relationship, the T-statistics column shows the bootstrapping test value, and the p-value column indicates statistical significance.

Table 7: Hypothesis testing results

Hypothesis	Path	Original sample	Sample mean	STDEV	T-statistics	p-value
H1	SQ -> PEOU	0.834	0.835	0.014	58.230	<0.001
H2	IQ -> PU	0.861	0.862	0.013	64.893	<0.001
H3	PEOU -> US	0.368	0.369	0.044	8.454	<0.001
H4	PU -> US	0.549	0.548	0.042	13.011	<0.001
H5	US -> NB	0.844	0.845	0.015	57.755	<0.001

All hypotheses are supported because all path coefficients are positive and all p-values are below 0.001. The strongest path is Information Quality to Perceived Usefulness (0.861), followed by User Satisfaction to Net Benefit (0.844) and System Quality to Perceived Ease of Use (0.834). These results indicate that SPBE success in Jambi is strongly driven by data quality, system reliability, and user satisfaction.

3.4 Discussion

The positive effect of System Quality on Perceived Ease of Use indicates that ASN users judge SPBE as easier to operate when the system is stable, fast, secure, and accessible. This finding is consistent with previous e-government and local information system studies discussed in the introduction, where technical reliability reduces user effort and lowers the perception that digital procedures are burdensome. In the Jambi context, this result is important because preliminary interviews identified network interruptions and application access problems as practical obstacles.

The strongest relationship is Information Quality on Perceived Usefulness. This means that ASN users consider SPBE useful mainly when the information provided is accurate, complete, relevant, timely, and easy to read. Compared with studies of other public complaint and local government systems, where information quality is sometimes weaker or inconsistent, the Jambi result shows that information quality is the central determinant of perceived work benefits. This suggests that improving data integration, preventing duplicate data entry, and ensuring up-to-date information should be prioritized.

Perceived Ease of Use and Perceived Usefulness both affect User Satisfaction, but Perceived Usefulness has the larger coefficient. This pattern shows that ASN users value practical work benefits more than interface simplicity alone. In other words, a system may still be accepted even if it requires learning, as long as it helps users complete tasks faster, improves coordination, and reduces manual bureaucracy. This finding is similar to employee-based e-government studies in which mandatory or work-related systems are evaluated primarily by their contribution to performance.

User Satisfaction has a very strong effect on Net Benefit. This indicates that satisfaction is the mechanism that transforms technical and informational quality into organizational outcomes such as efficiency, transparency, accountability, and a better public-service image. When ASN users are satisfied, they are more likely to rely on SPBE in routine work, recommend it to colleagues, and support continuous use. Therefore, the net benefit of SPBE is not achieved merely by deploying applications; it requires a positive user experience supported by reliable systems and useful information.

Overall, the findings show that the successful implementation of SPBE in the Jambi Provincial Government depends on three connected priorities. First, system infrastructure must be reliable enough to make SPBE easy to use. Second, data governance must ensure high information quality so that users perceive the system as useful. Third, user satisfaction must be managed continuously because it is the direct bridge toward measurable net benefits. These priorities respond directly to the practical problems found in the preliminary interviews and provide evidence-based direction for SPBE improvement.

4. Conclusion

Based This study concludes that all five proposed hypotheses are supported in the SPBE context of the Jambi Provincial Government. System Quality significantly improves Perceived Ease of Use, Information Quality significantly improves Perceived Usefulness, Perceived Ease of Use and Perceived Usefulness significantly improve User Satisfaction, and User Satisfaction significantly improves Net Benefit.

Information Quality is the most dominant determinant in the model. The coefficient of 0.861 shows that accurate, complete, timely, relevant, and readable information is the main reason ASN users perceive SPBE as useful. Therefore, SPBE improvement should not only focus on adding applications, but also on strengthening data quality, integration, and updating mechanisms.

Perceived Usefulness has a stronger effect on User Satisfaction than Perceived Ease of Use. This means that ASN users primarily expect SPBE to improve productivity, speed up bureaucracy, and support better task completion. Ease of use remains important, but its impact is smaller than the functional benefits felt by users.

User Satisfaction strongly determines Net Benefit with a coefficient of 0.844. The practical implication is that organizational benefits such as efficiency, transparency, accountability, and improved service quality will be achieved when users are satisfied with SPBE performance and continue using it consistently.

Future studies should expand the respondent group to include citizens as external service users, compare several provinces, and include additional variables such as service quality, trust, digital literacy, and facilitating conditions to obtain a broader model of SPBE success

References

[1] T. T. U. Nguyen, P. V. Nguyen, H. T. N. Huynh, G. Q. Truong, and L. Do, "Unlocking e-government adoption: Exploring the role of perceived usefulness, ease of use, trust, and social media engagement in Vietnam," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 10, no. 2, p. 100291, 2024, doi: 10.1016/j.joitmc.2024.100291.

[2] G. Ilieva *et al.*, "Factors Influencing User Perception and Adoption of E-Government Services," *Administrative Sciences*, vol. 14, no. 3, p. 54, 2024, doi: 10.3390/admsci14030054.

[3] I. AlHadid *et al.*, "Predictors for E-Government Adoption of SANAD App Services Integrating UTAUT, TPB, TAM, Trust, and Perceived Risk," *International Journal of Environmental Research and Public Health*, vol. 19, no. 14, p. 8281, 2022, doi: 10.3390/ijerph19148281.

[4] W. M. Al-Rahmi *et al.*, "Validation of an Integrated IS Success Model in the Study of E-Government," *Mobile Information Systems*, vol. 2022, pp. 1–16, 2022, doi: 10.1155/2022/8909724.

[5] I. H. U. Rehman, J. A. Turi, J. Rosak-Szyrocka, M. N. Alam, and L. Pilař, "The role of awareness in appraising the success of E-government systems," *Cogent Business & Management*, vol. 10, no. 1, p. 2186739, 2023, doi: 10.1080/23311975.2023.2186739.

[6] S. B. G. C, S. K. Gurung, S. B. J. B. Rana, and B. R. Dhungana, "e-Governance, citizen satisfaction and net benefits: the moderating effect of digital divide," *Cogent Business & Management*, vol. 11, no. 1, p. 2402512, 2024, doi: 10.1080/23311975.2024.2402512.

[7] S. C. Viontita and E. R. Mahendrawathi, "Evaluation of Surabaya population administration & civil registration systems using DeLone & McLean information system success model," *Procedia Computer Science*, vol. 234, pp. 1154–1163, 2024, doi: 10.1016/j.procs.2024.03.111.

[8] J. M. Sausi, E. J. Kitali, and J. S. Mtebe, "Evaluation of local government revenue collection information system success in Tanzania," *Digital Policy, Regulation and Governance*, vol. 23, no. 5, pp. 437–455, 2021, doi: 10.1108/DPRG-04-2021-0055.

[9] A. K. Abdulkareem and R. M. Ramli, "Does trust in e-government influence the performance of e-government? An integration of information system success model and public value theory," *Transforming Government: People, Process and Policy*, vol. 16, no. 1, pp. 1–17, 2021, doi: 10.1108/TG-01-2021-0001.

[10] R. Rahmatullah *et al.*, "A study of user satisfaction and net benefits in Indonesia through the DeLone and McLean Model for E-Government success," *Discover Sustainability*, vol. 6, p. 710, 2025, doi: 10.1007/s43621-025-01645-4.

[11] H. Alfiani, S. K. Aditya, S. Lusa, D. I. Sensuse, P. A. W. Putro, and S. Indriasari, "E-Government Issues in Developing Countries Using TOE and UTAUT Frameworks: A Systematic Review," *Policy & Governance Review*, vol. 8, no. 2, pp. 169–191, 2024, doi: 10.30589/pgr.v8i2.932.

[12] D. Afrizal, A. Luthfi, M. B. Wallang, H. Hildawati, and K. Ekareesakul, "Citizens' Intention to Use E-Government Services in Local Government by Integrating UTAUT, TPB, and TAM Model," *Journal of Local Government Issues*, vol. 7, no. 2, pp. 129–143, 2024, doi: 10.22219/logos.v7i2.32437.

[13] A. S. Maznorbalia and M. A. Awalluddin, "Users Acceptance of E-Government System in Sintok, Malaysia: Applying the UTAUT Model," *Policy & Governance Review*, vol. 5, no. 1, pp. 66–81, 2021, doi: 10.30589/pgr.v5i1.348.

[14] A. Vatresia and T. Pasaribu, "Analisis Kesuksesan Sistem Informasi Manajemen Daerah (SIMDA) dengan Metode Delone dan Mclean Success Model dan Technology Acceptance Model (TAM)," *Jurnal Sistem Informasi Bisnis*, vol. 13, no. 1, pp. 70–77, 2023, doi: 10.21456/vol13iss1pp70-77.

[15] R. Rachman, "Analisa Kesuksesan E-Government Lapor dengan Model Delone-Mclean dan Metode PLS-SEM," *Sistemasi: Jurnal Sistem Informasi*, vol. 10, no. 2, pp. 357–368, 2021, doi: 10.32520/stmsi.v10i2.1236.

[16] D. K. M. Arsini, I. G. M. Darmawiguna, and I. G. L. A. R. Putra, "Tingkat Penerimaan Dan Kesuksesan Penerapan E-Samsat Melalui Teori Pendekatan UTAUT Dan Delone & Mclean," *INSERT: Information System and Emerging Technology Journal*, vol. 6, no. 1, 2025, doi: 10.23887/insert.v6i1.78622.

[17] M. Marzuki, M. I. Herdiansyah, E. S. Negara, and T. Sutabri, "Analisis Layanan Digital SP4N LAPOR E-Government pada Pemerintahan Kota Pagaralam Menggunakan Model Delone And Mclean," *Jurnal Teknologi Informatika dan Komputer*, vol. 9, no. 2, pp. 1189–1203, 2023, doi: 10.37012/jtik.v9i2.1787.

[18] R. F. Gunawan, E. Setiawan, A. Ratnasari, and T. Rochmadi, "Analisis Penerimaan Website Sistem Informasi Kalurahan Pleret Menggunakan Metode TAM," *Informatik: Jurnal Ilmu Komputer*, vol. 21, no. 2, 2025, doi: 10.52958/iftk.v21i2.11841.

[19] E. Setiawan, W. W. Winarno, and D. H. Fudholi, "Analisis Faktor Penerimaan Layanan e-Government dengan Menggunakan Model UTAUT2 dan GAM di Kabupaten Gunungkidul," *Jurnal Media Informatika Budidarma*, vol. 5, no. 1, p. 34, 2021, doi: 10.30865/mib.v5i1.2565.

[20] I. G. P. K. Juliharta, P. A. C. Dewi, and N. P. Widiari, "Analysis and Design of Risk Management System of Electronic Government (E-Government) (Study Case: XYZ Institutions)," *Jurnal TAM (Technology Acceptance Model)*, vol. 14, no. 2, pp. 145–151, 2023, doi: 10.56327/jurnaltam.v14i2.1557.

[21] N. A. Syarif, R. A. Damayanti, and M. I. U. Idris, "Faktor-faktor yang Memengaruhi Efektivitas Penerapan E-Government dalam Tata Kelola Keuangan Daerah berbasis Elektronik dengan Menggunakan Model TOE Framework," *Akrual: Jurnal Bisnis dan Akuntansi Kontemporer*, vol. 17, no. 2, 2024, doi: 10.26487/akrual.v17i2.33212.

[22] Y. Rahmana and M. Indriani, "SI APIK Application User Satisfaction with the TAM and DeLone and McLean Approach: An Empirical Study on Micro, Small and Medium Enterprises (MSME) in Banda Aceh," *Jurnal Akuntansi*, vol. 12, no. 1, pp. 23–36, 2022, doi: 10.33369/j.akuntansi.12.1.23-36.

[23] F. A. Sudirman and S. Saidin, "Pemerintahan Berbasis Elektronik (E-Government) dan Pembangunan Berkelanjutan: Reviu Literatur Sistematis," *Nakhoda: Jurnal Ilmu Pemerintahan*, vol. 21, no. 1, pp. 44–58, 2022, doi: 10.35967/njip.v21i1.269.

[24] Mardiyanto, Berlilana, and Purwadi, "Modeling EMIS Adoption with PLS-SEM: Integrating the Government Adoption Model and DeLone-McLean IS Success Model," *Journal of Information Systems and Informatics*, vol. 8, no. 1, 2026, doi: 10.63158/journalisi.v8i1.1445.

[25] D. Anggraini and E. I. Wahyuni, "Evaluasi Implementasi SRIKANDI di DPPKBPMD Kabupaten Belitung," *Jurnal Informatika dan Teknik Elektro Terapan*, vol. 14, no. 1, 2026, doi: 10.23960/jitet.v14i1.8530.

[26] S. Subhan and I. Sartika, "Tantangan dan Strategi Implementasi SPBE dalam Reformasi Birokrasi Pelayanan Publik di Indonesia," *Ranah Research : Journal of Multidisciplinary Research and Development*, vol. 7, no. 6, pp. 4648–4656, Sep. 2025, doi: 10.38035/rrj.v7i6.1809.