DETERMINANTS OF THE USE OF VILLAGE FINANCIAL SYSTEM (SISKEUDES) AND ITS IMPACT ON PERFORMANCE: A TECHNOLOGICAL ORGANIZATIONAL ENVIRONMENT (TOE) FRAMEWORK APPROACH (Case Study of Village Governance in Sragen Regency)

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***ABSTRAK**:* Siskeudes merupakan adopsi teknologi yang digunakan untuk menunjang tata kelola pemerintah desa. Siskeudes telah diterapkan di Pemerintahan Desa di Indonesia, namun penerapan Siskeudes sendiri masih terdapat beberapa kendala. Pada penelitian ini kerangka kerja *Technological Organizational Environment* (TOE) menjadi model konseptual yang menyoroti serangkaian faktor penentu terhadap penggunaan Siskeudes. Selain itu, penelitian ini juga bertujuan untuk mengetahui pengaruh dari penggunaan Siskeudes terhadap kinerja. Penelitian ini menggunakan teknik pengambilan sampel simpel acak sederhana (*simple random sampling*) untuk mengumpulkan data dari 97 pemerintahan desa melalui kuesioner dan menganalisis data menggunakan SmartPLS 3.0.

Hasil penelitian ini menunjukkan bahwa *compatibility* berpengaruh positif terhadap penggunaan Siskeudes. *Complexity* tidak berpengaruh terhadap penggunaan Siskeudes. *Top management support* berpengaruh positif terhadap penggunaan Siskeudes. *Government regulation* berpengaruh positif terhadap penggunaan Siskeudes. *Citizen demand* tidak berpengaruh terhadap penggunaan Siskeudes. Penggunaan Siskeudes berpengaruh positif terhadap kinerja. Penelitian ini memberikan wawasan tentang faktor-faktor yang mempengaruhi adopsi teknologi pada aplikasi Siskeudes yang penting untuk pengembangan sistem informasi pengelolaan keuangan yang mendukung kinerja pada pemerintahan desa.

Kata Kunci: *Compatibility*, *Complexity*, *Top Management Support*, *Government Regulation*, *Citizen Demand,* Penggunaan Siskeudes, Kinerja.

***ABSTRACT**: Siskeudes is the adoption of technology used to support village government governance. Siskeudes has been implemented in Village Governments in Indonesia, but the implementation of Siskeudes itself still has several obstacles. In this research, the Technological Organizational Environment (TOE) framework becomes a conceptual model that highlights a series of determining factors for the use of Siskeudes. Apart from that, this research also aims to determine the effect of using Siskeudes on performance. This research uses a simple random sampling technique to collect data from 97 village governments through questionnaires and analyze the data using SmartPLS 3.0.*

The results of this study show that compatibility has a positive effect on the use of Siskeudes. Complexity has no effect on the use of Siskeudes. Top management support has a positive effect on the use of Siskeudes. Government regulation has a positive effect on the use of Siskeudes. Citizen demand has no effect on the use of Siskeudes. The use of Siskeudes has a positive effect on performance. This research provides insight into the factors that influence technology adoption in the Siskeudes application which is important for developing financial management information systems that support performance in village government.

Keywords: Compatibility, Complexity, Top Management Support, Government Regulation, Citizen Demand, Use of Siskeudes, Performance.

1. INTRODUCTION

The development of information and communication technology has had a significant impact on various aspects of life, including the public sector. One important application of information technology in the context of village governance is the Village Financial System (Siskeudes). With the enactment of Law No. 6 of 2014 on Villages and the increasing allocation of village funds, which reached IDR 341.19 trillion between 2018 and 2022, the use of Siskeudes has become increasingly crucial to ensure transparent and accountable village financial management (Asih & Adiputra, 2022; Rivan & Maksum, 2019). This system is designed to support village financial management with principles of transparency, accountability, and efficiency, and to facilitate planning, implementation, and reporting of village finances (Ningsih et al., 2022).

Although various studies have assessed technology adoption in business and corporate contexts, there is a lack of research on the application of information systems in the public sector, particularly at the village level. Haneem *et al*., (2019) explain that evaluations typically focus on technology adoption in business environments using models such as the Technology Acceptance Model (TAM) or the Unified Theory of Acceptance and Use of Technology (UTAUT). However, studies on the use of Siskeudes and the evaluation of its system are still limited, especially within the Technological-Organizational-Environmental (TOE) framework that encompasses technology, organization, and environmental aspects specific to village financial management. This indicates a need to further explore how these factors influence the successful adoption of Siskeudes.

This study aims to evaluate the determinants of Siskeudes usage using the TOE framework and to analyze its impact on village government performance. The TOE framework is considered an organizational-level theory that explains how three different elements in a company context impact technology use. These elements are intended to influence technological innovation (Aligarh *et al*., 2023; Febriantika *et al*., 2020). The organization's relevant internal and external technologies are alluded to as technological factors. An organization's size, scope, managerial structure, and internal resources areexamples of organizational factors. Industry, rivals, and governmental regulations are examples ofenvironmental factors (Aligarh *et al*., 2023). By using the TOE approach, this study will identify technological factors such as compatibility and complexity, organizational factors such as top management support, and environmental factors such as government regulation and citizen demand, which affect the adoption and effectiveness of Siskeudes. Additionally, this study aims to assess how the implementation of Siskeudes impacts the performance of village government organizations in providing better and more efficient services to the community.

This research will demonstrate that adopting Siskeudes based on the TOE framework can significantly enhance the performance of village governments. By considering technological, organizational, and environmental factors, this study hopes to provide new insights into the effectiveness of village financial information systems and how these factors influence the adoption process and the outcomes of system use. The results of this study will enrich existing literature and offer practical recommendations for the development and implementation of similar information systems in the future.

2. METHOD

This study employs a quantitative approach to analyze the use of the village financial system (Siskeudes) concerning performance. Our respondents include village officials working in the Village Government of Sragen Regency. The research is conducted in Sragen Regency, Indonesia. This location was chosen for the study due to existing issues with using the Siskeudes application. The main problem identified with

the use of Siskeudes in Sragen Regency is the limited capacity of human resources (HR) among village government officials in managing village finances.

In practice, managing finances through Siskeudes relies on only 1 or 2 village officials who are proficient in IT. Additionally, there are limitations in budget for training, supervision, monitoring, and evaluation within the provincial and regency government (Hartono, 2021). The sample for this study comprises permanent village officials working at the Village Government Office in Sragen Regency. Simple random sampling is the method used for sampling in this research.

The Structural Equation Modeling (SEM) or Partial Least Squares (PLS) variant-based approach is considered most suitable because it can measure multiple variables. Furthermore, as the objective of this study is to develop theory, the variant-based SEM-PLS approach is more appropriate. In this study, a five-point Likert scale is used because it is deemed suitable for respondents and requires less time to complete. This research involves 6 structural paths: the use of Siskeudes adapted from (Defitri et al., 2020), *compatibility* (Huddin *et al*., 2021), complexity adapted from (Albar & Hoque, 2017), *top Management Support* adapted from (Haneem *et al*., 2019), *government regulation* (Ali *et al*., 2018), *citizen demand* (Wang & Feeney, 2016), and performance adapted from (Qalati *et al*., 2021). Below is the conceptual framework for this research:

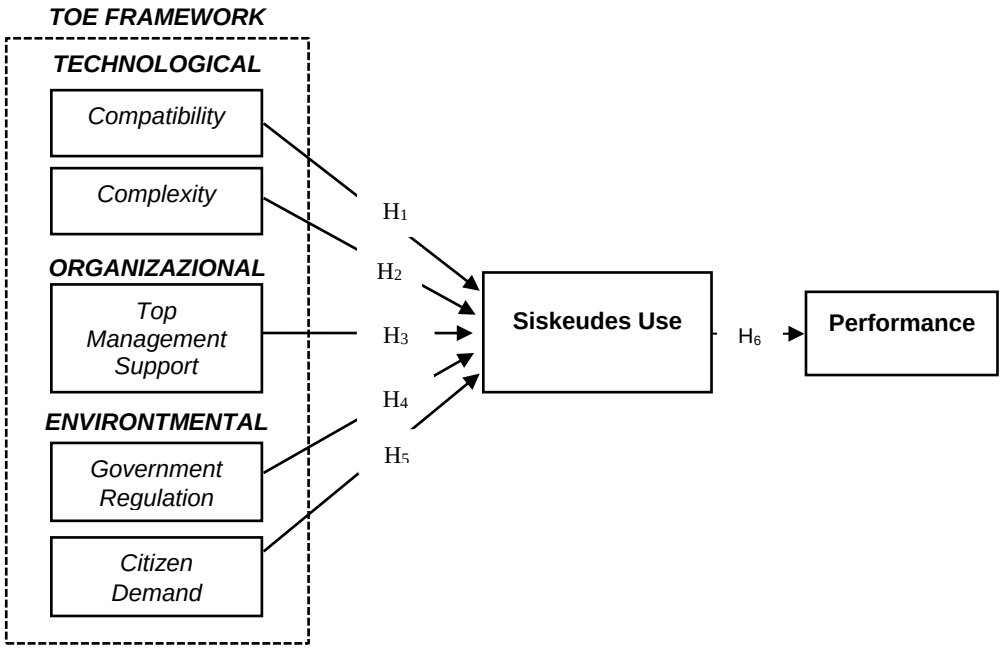

Figure 1: Conceptual Framework

3. RESULT AND DISCUSSION

3.1 Result

This study collected a total of 97 usable respondents. Table 1 shows that 72.16% of the village officials responding to the study are male, while 27.84% are female. Furthermore, 11.34% of the respondents are identified as village heads, followed by 37.11% as financial or planning officers, and the remaining 51.55% as village secretaries.

Table 1. Respondent Profile

Characteristic	Category	Number	Precentage (%)
Gender	Male	70	72,16%
	Female	27	27,84%
Age	20-29 years	14	14,43%
	30-39 years	34	35,05%
	40-49 years	25	25,77%
	50-59 years	23	23,71%
	>60 years	1	1,03%
Education	High School/Vocational School	37	38,14%
	Diploma	8	8,25%
	Bachelor's Degree	51	52,58%
	Master's Degree	1	1,03%
Structural Position	Village Head	11	11,34%
	Village Secretary	50	51,55%
	Financial or Planning Officer	36	37,11%
Work Experience	<1 year	5	5,15%
	1-5 years	42	43,30%
	>5 years	50	51,55%
IT Staff Availability	Yes	19	19,59%
	No	78	80,41%

3.2 Measurement Model

The measurement model was analyzed to assess discriminant validity and convergent validity. Convergent validity can be evaluated by calculating the loading factor, Cronbach's alpha, composite reliability (CR), and Average Variance Extracted (AVE), which should be greater than 0.5 (Ghozali & Latan, 2015). Table 2 shows that all factor loadings are above 0.6 as required. Meanwhile, the AVE values also meet the criterion of being greater than 0.5, and the composite reliability has also met the criterion at 0.70.

Table 2. Convergent Validity

Construct	**Indicator**	***Factor Loading***	***Cronbach's Alpha***	**Rho_A**	**CR**	**AVE**
Compatibility	CMP1	0,799	0,810	0,812	0,876	0,640
	CMP2	0,855				
	CMP3	0,843				
	CMP4	0,693				
Complexity	CX1	0,842	0,726	0,785	0,876	0,780
	CX4	0,923				
Top Management Support	TMS1	0,913	0,810	0,811	0,913	0,840
	TMS2	0,920				
Government Regulation	GVR1	0,763	0,748	0,759	0,856	0,665
	GVR2	0,858				
	GVR3	0,822				
Citizen Demand	CTD1	0,718	0,890	1,115	0,915	0,732
	CTD2	0,860				
	CTD3	0,906				
	CTD4	0,923				
Siskeudes Use	SA1	0,873	0,896	0,903	0,928	0,762
	SA2	0,808				
	SA4	0,907				
	SA5	0,901				
Performance	PRF1	0,784	0,782	0,856	0,823	0,600
	PRF2	0,685				
	PRF3	0,718				
	PRF4	0,894				

Furthermore, discriminant validity can be assessed by examining the Fornell-Larcker criterion. This measure indicates that the correlation of a variable with itself should be higher than its correlation with other variables (Ghozali & Latan, 2015). Table 3 shows that the square root of the AVE values is higher than the correlations with other constructs.

Table 3. Discriminant Validity

Construct	CTD	CMP	CX	GVR	PRF	SA	TMS
CTD	**0,855**						
CMP	0,392	**0,800**					
CX	-0,127	-0,025	**0,883**				
GVR	0,397	0,501	-0,053	**0,815**			
PRF	0,329	0,580	-0,133	0,520	**0,774**		
SA	0,248	0,558	-0,187	0,400	0,734	**0,873**	
TMS	0,237	0,581	-0,176	0,310	0,644	0,684	**0,916**

3.3 Structural Model

The next step is to test the structural model to address the hypotheses by examining the path coefficients. This model includes several components used to assess the level of correlation among the variables involved. The proposed model consists of five independent variables (compatibility, complexity, top management support, government regulation, citizen demand) and two dependent variables (Siskeudes use and performance) connected through six pathways.

In this structural model, there are two crucial aspects: R-Squared and hypothesis testing. The R-Squared value is used to measure the extent to which changes in independent variables affect the dependent variables. According to the results of this study, the R-squared value for performance is 0.539, indicating that 53.9% of the variance in performance can be explained. Similarly, the R-squared value for Siskeudes use is 0.529, which shows that 52.9% of the variance in Siskeudes use can be explained.

Based on Table 4, the results indicate that the technology factor, compatibility, has a positive and significant impact on Siskeudes use: t-statistic = 1.978, $p < 0.05$. Meanwhile, complexity does not have an impact on Siskeudes use: t-statistic = 1.206, $p > 0.05$. For the organizational factor, top management support has a positive and significant impact on Siskeudes use: t-statistic = 5.286, $p < 0.05$. Additionally, the environmental factor, government regulation, has a positive and significant impact on Siskeudes use: t-statistic = 1.948, $p < 0.05$. Conversely, citizen demand does not have an impact on Siskeudes use: t-statistic = 0.228, $p > 0.05$. Furthermore, Siskeudes use has a positive and significant impact on performance: t-statistic = 13.294, $p < 0.05$.

Table 4. Structural Model

Hipothesis	Path	T-Statistik	P-Values	Result
H1	Compatibility -> Siskeudes Use (Siskeudes Use)	1,978	0,048	Accepted
H2	Complexity -> Siskeudes Use	1,206	0,228	Rejected
H3	Top management support -> Siskeudes Use	5,286	0,000	Accepted
H4	Government regulation -> Siskeudes Use	1,984	0,048	Accepted
H5	Citizen demand -> Siskeudes Use	0,228	0,820	Rejected
H6	Siskeudes Use -> Performance	13,294	0,000	Accepted

3.4 Discussion

The primary objective of this study is to examine the determinants of Siskeudes use and its consequences on performance. Compatibility, complexity, top management support, government regulation, and citizen demand are factors that can evaluate Siskeudes use, which in turn can influence performance. Specifically, the study found that compatibility significantly and positively affects Siskeudes use in village governance in Sragen Regency. This finding aligns with previous research (Abied & Ibrahim, 2021; Mahirah et al., 2022) in the context of technology adoption. The alignment between work styles, needs, value systems, and infrastructure of the village government with the adoption of the village financial system (Siskeudes) supports this. In contrast, complexity does not impact Siskeudes use. Complexity refers to the perception of an innovation as relatively difficult and complicated to understand and use (Chege & Wang, 2020; Chiu *et al*., 2017; Qalati *et al*., 2021; Ratnasari & Hasnawati, 2023).

The organizational factor, top management support, has a positive and significant impact on Siskeudes use. Top management support plays a crucial role in providing strong backing from senior management for organizational information systems, determining the success of all related activities. In this study, top management support is represented by the involvement of central and local governments in implementing Siskeudes. This finding is consistent with research by (Haneem *et al*., 2019; Sony *et al*., 2020; Stjepic *et al*., 2021).

Additionally, the environmental factor, government regulation, has a positive and significant impact on Siskeudes use in village governance in Sragen Regency. Stronger regulations lead to greater pressure on village governments to mandate the use of Siskeudes within their organizations. Such pressure can serve as an impetus for village governments to comply with existing regulations. This finding aligns with (Abied & Ibrahim, 2021; Ali *et al*., 2020). However, citizen demand does not impact Siskeudes use. In this context, citizen demand is the correlation between public demand and technology adoption. Yet, in practice, village governments are able to meet community needs without direct requests from the public. This finding contradicts research by (Adnan *et al*., 2021; Haneem *et al*., 2019; Wang & Feeney, 2016).

Furthermore, Siskeudes use has a positive and significant impact on performance in village governance in Sragen Regency. The concept of performance here refers to work capability or achievement resulting from the use of resources to improve organizational performance. The utilization of Siskeudes is seen as enhancing the accuracy of financial management and reducing operational costs. Additionally, Siskeudes use provides more efficient time management, leading to faster budget absorption. This finding supports and aligns with studies examining the consequences of technology adoption (Felisitas *et al*., 2023; Khayer *et al*., 2019; Mahakittikun *et al*., 2020; Morilda *et al*., 2022; Qalati *et al*., 2021).

Thus, four out of six hypotheses testing the determinants of Siskeudes use are able to affect Siskeudes use. This study also demonstrates that the adoption of technology in an organizational context cannot be evaluated solely by operators; it must also involve technological, organizational, and environmental factors.

4. CONCLUSION

Based on the data analysis of the determinants of the Village Financial System (Siskeudes) use and its impact on organizational performance using the Technological-Organizational-Environmental (TOE) framework, it can be concluded that three main factors compatibility, top management support, and government regulation positively influence the adoption and use of Siskeudes in the village governments of Sragen Regency. The compatibility factor indicates an alignment between the needs and values

of the village government and the Siskeudes technology, which facilitates the acceptance of this system. Top management support and strong government regulation also play crucial roles in supporting the implementation and use of Siskeudes by providing necessary training and resources. Although complexity and citizen demand did not show significant effects, these findings underscore the importance of a multi-factor approach in evaluating technology adoption, considering technological, organizational, and environmental aspects.

However, this study also faces several limitations, such as the limited amount of data collected and the study's scope being restricted to only half of the villages in Sragen Regency. For further development, it is recommended that village governments provide ongoing training to village officials to help them overcome difficulties in using Siskeudes and maximize the benefits of this system. Future research could expand the sample size and explore other aspects that may affect the adoption and effectiveness of technology in a broader context.

5. REFERENCES

Abied, O., & Ibrahim, O. (2021). Cloud service adoption model in the Libyan e-government implementation. *International Congress of Advanced Technology and Engineering (ICOTEN)*. https://doi.org/10.1109/ICOTEN52080.2021.9493534

Adnan, H. R., Hidayanto, A. N., & Kurnia, S. (2021). Citizens' or Government's Will? Exploration of Why Indonesia's Local Governments Adopt Technologies for Open Government Citizens' or Government's Will? Exploration of Why Indonesia's Local Governments Adopt Technologies for Open Government. *Sustainability*, Vol. 13, No. 20, 1–27. https://doi.org/https://doi.org/10.3390/su132011197

Albar, A. M., & Hoque, R. (2017). Information Technology for Development Factors Affecting The Adoption of Information and Communication Technology in Small and Medium Enterprises : a Perspective from Rural Saudi Arabia. *Information Technology for Development*, Vol. 25, No. 4, 715-738. https://doi.org/10.1080/02681102.2017.1390437

Ali, O., Shrestha, A., & Muhammed, V. (2020). Cloud Computing Technology Adoption: an Evaluation of Key Factors in Local Governments. *Emerald Journal Information Technology & People*. Vol. 33, No. 2, 666-703. https://doi.org/10.1108/ITP-03-2019-0119

Ali, O., Soar, J., & Shrestha, A. (2018). Perceived Potential for Value Creation from Cloud Computing: a Study of The Australian Regional Government Sector. *Behaviour & Information Technology*, Vol. 37, No. 12, 1157–1176. https://doi.org/10.1080/0144929X.2018.1488991

Aligarh, F., Falikhatun, & Nugroho, A. (2023). Zakat, Infaq, Shadaqah (ZIS) Digitalization: A Case Study Using Technology Organization Environment Framework. *EL DINAR: Jurnal Keuangan dan Perbankan Syariah*, Vol. 11, No. 1, 78-95.

Aligarh, F., Sutopo, B., & Widarjo, W. (2023). The Antecedents of Cloud Computing Adoption and Its Consequences for MSMEs' Performance: A Model Based on The Technology-Organization-Environment (TOE) Framework. *Cogent Business & Management*, Vol. 10, No. 2, 1-16. https://doi.org/10.1080/23311975.2023.2220190

Asih, K. G., & Adiputra, I. M. P. (2022). Analisis Penerapan Aplikasi Sistem Keuangan Desa (Siskeudes) Versi 2.0.3 dalam Meningkatkan Kualitas Akuntabilitas Keuangan Desa Pada Masa Pandemi Covid-19: Studi Pada Desa Kalibukbuk, Kec. Buleleng, Bali. *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi)*, Vol. 13, No. 01, 12–23..

Chege, S. M., & Wang, D. (2020). Technology in Society The influence of technology innovation on SME performance through environmental sustainability practices in Kenya. *Technology in Society*, Vol. 60, 101210. https://doi.org/10.1016/j.techsoc.2019.101210

Chiu, C., Chen, S., & Chen, C. (2017). An Integrated Perspective of TOE Framework and Innovation Diffusion in Broadband Mobile Applications Adoption by Enterprises An Integrated Perspective of TOE Framework and Innovation Diffusion in Broadband Mobile. *International Journal of Management, Economics and Social Sciences*, Vol. 6, No. 1, 14–39.

Defitri, S. Y., Bahari, A., Handra, H., & Febrianto, R. (2020). Determinant Factors of E-Government Implementation and Public Accountability : TOE Framework Approach. *Public Policy and Administration*, Vol. 6, No. 1, 14–39. https://doi.org/10.13165/VPA-20-19-4-03

Febriantika, A., Sari, R. P., & Hadining, A. F. (2020). Analisis Pengaruh Aspek Technology-Organization- Environment dalam Financial Technology terhadap Financial Inclusion UMKM Karawang. *Jurnal Teknik Industri*, Vol. 10, No. 2, 170–180.

Felisitas, L., Mitan, W., & Romario, F. D. (2023). Pengaruh Sistem Keuangan Desa (Siskeudes) Terhadap Kinerja Pemerintah Desa di Kecamatan Doreng Lastiana Felisitas Kinerja Instansi Pemerintahan menurut Lembaga Administrasi Negara Republik. *Jurnal Mutiara Ilmu Akuntansi (JUMIA)*, Vol. 1, No. 4, 276–291. https://doi.org/https://doi.org/10.55606/jumia.v1i4.2051

Ghozali, I., & Latan, H. (2015). *Partial Least Squares: Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0 (Untuk Penelitian Empiris*) (Ed. ke-2). Semarang: Badan Penerbit-Undip.

Haneem, F., Kama, N., Taskin, N., Pauleen, D., Azaliah, N., & Bakar, A. (2019). International Journal of Information Management Determinants of master data management adoption by local government organizations : An empirical study. *International Journal of Information Management*, Vol. 45, No. 3, 25–43. https://doi.org/10.1016/j.ijinfomgt.2018.10.007

Hartono, P. (2021). *Tantangan dan Masalah Implementasi Pengelolaan Keuangan Desa*. Pendampingdesa.com. https://pendampingdesa.com/tantangan-dan-masalah-implementasi-pengelolaan-keuangan-desa-2/

Huddin, M. N., Masitoh, M. R., & Ikhsan, K. (2021). Kemudahan penggunaan , facilitating condition , keamanan teknologi dan compatibility terhadap niat menggunakan pembayaran mobile di Indonesia. *Jurnal Inspirasi Bisnis dan Manajemen*, Vol. 5, No. 2, 131–148.

Khayer, A., Talukder, S., Bao, Y., & Hossain, N. (2019). Cloud computing adoption and

its impact on SMEs' performance for cloud supported operations: A dual-stage analytical approach. *Technology in Society*, Vol. 60, 101225. https://doi.org/10.1016/j.techsoc.2019.101225

Mahakittikun, T., Suntrayuth, S., & Bhatiasevi, V. (2020). The Impact of Technological-Organizational-Environmental (TOE) Factors on Firm Performance : Merchant's Perspective of Mobile Payment from Thailand's Retail and Service Firms. *Emerald Journal of Asia Business Studies*, *September*. Vol. 15, No. 2. 359-383. https://doi.org/10.1108/JABS-01-2020-0012

Mahirah, L. H., Sisilia, K., & Setyorini, R. (2022). Analisis TOE Mempengaruhi Adopsi Media Sosial untuk Produk UMKM di Sentra Kreasi Kabupaten Bandung. *JIMEA: Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi)*, Vol. 6, No. 3, 176–194.

Morilda, I., Bustami, E., & Khairi, A. (2022). Pengaruh Sistem Keuangan Desa (Siskeudes) Terhadap Kinerja Pemerintah Desa dengan Pengelolaan Keuangan Desa Sebagai Variabel Intervening di Kecamatan Hamparan Rawang. *JAN Maha*, Vol. 4, No. 1, 1–15.

Ningsih, A., Nurhaliza, S., & Priyanti, E. (2022). Implementasi sistem keuangan desa dalam transparansi pengelolaan Alokasi Dana Desa di Desa Bulak Kabupaten Indramayu. *Journal of Government Science (GovSci) : Jurnal Ilmu Pemerintahan*, Vol. 3, No. 1, 1–21. https://doi.org/https://doi.org/10.54144/govsci.v3i1.14 Implementasi

Qalati, S. A., Li, W., Ahmed, N., & Mirani, M. A. (2021). Examining the Factors Affecting SME Performance : The Mediating Role of Social Media Adoption. *Sustainability*, Vol. 13, No. 1. 1–24. https://doi.org/https://dx.doi.org/10.3390/su13010075

Ratnasari, M. A., & Hasnawati. (2023). Faktor Teknologi Terhadap Adopsi Big Data pada Era Treansformasi Digital. *Jurnal Informasi, Perpajakan, Akuntansi, dan Keuangan Publik*, Vol. 18, No. 2, 307–322. https://doi.org/http://dx.doi.org/10.25105/jipak.v18i2.17243

Rivan, A., & Maksum, I. R. (2019). Penerapan Sistem Keuangan Desa dalam Pengelolaan Keuangan Desa Application of Village Financial System in Village Financial Management. *Jurnal Administrasi Publik (Public Administration Journal)*, Vol. 9, No. 2, 92–100. https://doi.org/http://dx.doi.org/10.31289/jap.v9i2.2487

Sony, M., Antony, J., & Douglas, J. A. (2020). Essential ingredients for the implementation of Quality 4 . 0. *Emerald The TQM Journal*, Vol. 32, No. 4, 779–793. https://doi.org/10.1108/TQM-12-2019-0275

Stjepic, A., Bach, M. p, & Vuksic, V. B. (2021). Exploring Risks in the Adoption of Business Intelligence in SMEs Using the TOE Framework. *Journal of Risk and Financial Management*, Vol. 14, No. 2. https://doi.org/https://doi.org/ 10.3390/jrfm14020058

Wang, S., & Feeney, M. K. (2016). Determinants of Information and Communication Technology Adoption in Municipalities. *American Review of Public Administration*, Vol. 4, No. 3, 292–313. https://doi.org/10.1177/0275074014553462