



## Effectiveness of SMART System in Managing Jakarta MRT Project Loans and Grants

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### ABSTRACT

This study examines the initial effectiveness of the Loan and Grant Withdrawal System implemented by the Regional Financial Management Agency of DKI Jakarta Province in managing loan and grant funds for the Jakarta Mass Rapid Transit project. This research is motivated by the previous manual financial management process which resulted in delayed verification, frequent document revisions, limited tracking access, and inefficiencies that potentially increased project risks and financial penalties. The objective of this study is to analyze the effectiveness of the digital system and identify supporting and inhibiting factors during its early implementation stage. This research uses a qualitative descriptive approach through in depth interviews, direct observations, and document analysis involving officers from the Regional Financial Management Agency and Jakarta Mass Rapid Transit Company. The research findings indicate that the implementation of the digital system has significantly improved processing speed, data accuracy, document management, and transparency in financial reporting. The system enables real time monitoring, reduces administrative errors, and strengthens accountability in public financial governance. Users also expressed higher satisfaction due to automated validation features and a more structured workflow process. However, technical constraints and limited user training were identified as challenges that need to be addressed for optimal system utilization. This study concludes that the digital withdrawal system is effective in improving the management of loan and grant funds for large scale infrastructure projects. Further development and continuous evaluation are recommended to enhance system performance and sustainability in public financial management.

### INTRODUCTION

The transformation of urban governance in the digital era has shifted development priorities from purely physical infrastructure to institutional capacity, particularly in public financial management. Local governments are increasingly required to manage financial resources efficiently, transparently, and accountably to support sustainable development. Until 2022, DKI Jakarta served as the capital city of Indonesia based on Undang-Undang Nomor 3 Tahun 2022 tentang Ibu Kota Negara. Currently, Jakarta is repositioning itself as a global city, where effective governance and digital innovation are essential to support economic growth and infrastructure development. One of the strategic sectors in Jakarta's development agenda is urban transportation.

PT MRT Jakarta (Perseroda), a regional government owned enterprise established under Peraturan Daerah Provinsi DKI Jakarta Nomor 3 Tahun 2008 and amended by Peraturan Daerah Nomor 7 Tahun 2013, plays a key role in implementing the Proyek MRT Jakarta. This project, designated as a National Strategic Project, is financed through a combination of foreign loans and grants from Japan International Cooperation Agency (JICA). The complex financing structure requires strict administrative control and compliance with public financial regulations, including Peraturan Pemerintah Nomor 12 Tahun 2019 tentang Pengelolaan Keuangan Daerah and Permendagri Nomor 77 Tahun 2020 tentang Pedoman Teknis Pengelolaan Keuangan Daerah.

Prior to the implementation of a digital system, the management of loan and grant withdrawals was conducted manually by Badan Pengelolaan Keuangan Daerah (BPKD) Provinsi DKI Jakarta as the Bendahara Umum Daerah. The manual process involved multiple institutions and required physical document submission, such as Interim Payment Certificate and Letter of Acceptance of Work Programme. This practice resulted in frequent delays, high revision rates, limited tracking access, and coordination problems between institutions. Similar challenges have been identified in previous studies on public financial management, which emphasize the need for digital transformation to improve efficiency and transparency. The effectiveness of digital public services is a crucial aspect of governance reform. (Hertati, 2020) states that service effectiveness can be measured through time efficiency, accuracy, and service delivery style. In addition, the Information System Success Model developed by Delone and McLean (Sarasi et al., 2023) explains that system effectiveness is influenced by system quality, information quality, service quality, system use, user satisfaction, and net benefits. These frameworks suggest that digital systems should not only function technically but also deliver measurable benefits to users.





To address these issues, the Government of Indonesia issued Peraturan Pemerintah Nomor 1 Tahun 2024 tentang Harmonisasi Kebijakan Fiskal Nasional, which mandates the development of an integrated regional financial information system connected to Sistem Informasi Keuangan Daerah (SIKD) nasional. In response, BPKD Provinsi DKI Jakarta implemented Sistem Penarikan Pinjaman dan Hibah Proyek MRT Jakarta (SMART) in 2025. This system enables real time document submission, automated validation, and transparent monitoring of fund withdrawals. This template provides authors with most of the formatting specifications needed for preparing electronic versions of their papers for Brilliance: Research of Artificial Intelligence. The main sections (headings) include Introduction, Literature Review, Methods, Result, Discussion, and Conclusion. In the introduction, researchers are expected to be able to explain the existing phenomena or background information such as prior work, hypotheses, and problems to be discussed. This is followed by a statement of the purpose of the research issue or problem and/or set of questions you attempt to answer in your research.

## LITERATURE REVIEW

### Digital Public Financial Administration

Public financial administration plays a strategic role in ensuring that public resources are managed in accordance with governance principles. (Yanti, 2020) defines public administration as a process of controlling and managing governmental institutions to serve collective interests, emphasizing accountability, transparency, and institutional authority. In this perspective, public financial administration is not merely technical management but a governance instrument that supports policy implementation and public service delivery. Financial planning, budgeting, implementation, and accountability are interconnected processes that determine the quality of public financial governance. Strong institutional control and transparent procedures are essential to maintain fiscal discipline and public trust.

This theoretical framework is relevant to this study because the SMART system operates within the domain of public financial administration at BPKD. By digitalizing loan and grant management, SMART strengthens institutional control, improves administrative transparency, and supports monitoring and reporting functions. Therefore, the effectiveness of SMART can be assessed based on its ability to institutionalize governance principles proposed by (Yanti, 2020) in managing complex foreign loan and grant schemes for the Jakarta MRT project.

### Information Systems in Public Organizations

An information system is defined as a set of integrated components that collect, process, store, and present data to support decision making (Tim Penulis, 2024). (Abdillah, 2020) argues that system success is not solely determined by technological sophistication but also by organizational readiness and process compatibility. Meanwhile, Delone and McLean (Sarasi et al., 2023) propose a multidimensional framework to measure system effectiveness through system quality, information quality, service quality, system use, user satisfaction, and net benefits. These perspectives demonstrate that information systems are socio technical systems influenced by human, organizational, and technological factors.

In the context of this research, SMART is understood as a complex financial information system implemented at BPKD. Its effectiveness depends not only on technical features but also on user competence, workflow alignment, and organizational support. Applying Delone and McLean (Sarasi et al., 2023) model enables this study to evaluate SMART from multiple dimensions, such as system reliability, data accuracy, user satisfaction, and organizational benefits. This approach ensures a comprehensive assessment of how SMART improves loan and grant management processes.

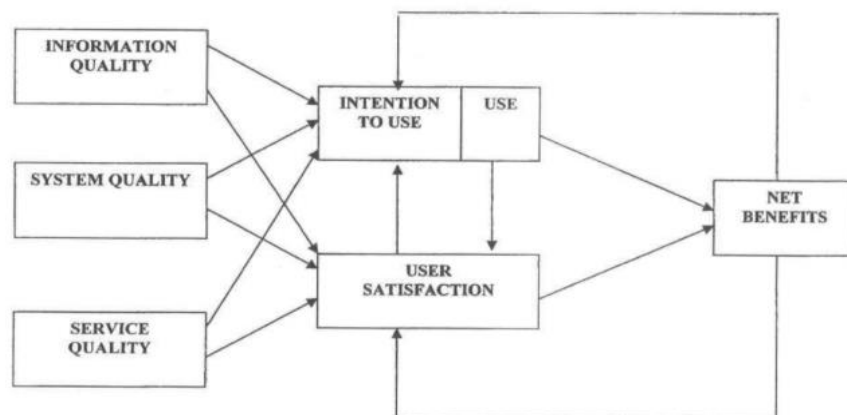


Figure 1. D&M IS Success Model





### **E-Government and Financial Digitalization**

E-government refers to the use of information and communication technology to transform governmental processes to improve public services and governance quality. (Malodia et al., 2021) define e-government as an integrated digital system designed to create efficient, transparent, and accountable public services. (Zou et al., 2023) expand this concept by emphasizing public value creation, indicating a shift from efficiency oriented digitalization toward governance improvement. These views suggest that e-government is not merely a technological tool but a strategic instrument for institutional reform.

In this study, SMART is positioned as a concrete implementation of e-government in regional financial management. Through digital platforms, BPKD can automate verification processes, track submissions in real time, and improve transparency in loan and grant administration. This aligns with the e-government objective of improving governance quality. Therefore, SMART represents a form of digital governance innovation that supports accountability and efficiency in public financial management.

### **Measuring Effectiveness of Digital Public Services**

Effectiveness in digital public services can be assessed through multiple perspectives. (Hertati, 2020) proposes timeliness, accuracy, and service delivery style as key indicators of service effectiveness. Complementing this view, (Nurnovianti & Karniawati, 2024) argue that effectiveness should also be measured through service efficiency, transparency, and user satisfaction. These frameworks emphasize performance outcomes and user experiences as essential elements of digital service evaluation.

These indicators are highly relevant for evaluating SMART because the system aims to accelerate processing time, reduce data errors, and improve service quality for PT MRT Jakarta and other stakeholders. By applying these effectiveness indicators, this study examines whether SMART successfully improves timeliness, data accuracy, and user satisfaction compared to the previous manual system. This approach allows for a practical assessment of system performance from the user perspective.

### **Foreign Loans and Grants Management**

Foreign loans and grants constitute strategic financing instruments for large-scale infrastructure development, particularly in countries with limited fiscal capacity. (Khairunnisa, 2023) notes that foreign financing plays a complementary role in supporting national development when domestic resources are insufficient. However, the effectiveness of foreign-funded projects is not solely determined by the availability of funds, but is strongly influenced by governance quality throughout the project lifecycle. Policy-based empirical analysis in Indonesia demonstrates that weaknesses in project preparation, procurement procedures, administrative coordination, and monitoring mechanisms frequently lead to implementation delays and extended loan utilization periods, which ultimately reduce project effectiveness and accountability (Veranita et al., 2021). These findings indicate that inadequate governance structures can limit the developmental impact of foreign loans and grants, despite their strategic importance.

In addition, international development frameworks such as the Paris Declaration emphasize ownership, alignment, and mutual accountability as fundamental principles in foreign financing management. This implies that recipient governments must establish effective administrative and monitoring systems to ensure that foreign-funded projects are implemented in accordance with national priorities and agreed schedules. In the context of the Jakarta MRT project, where foreign loans and grants represent the primary funding source, accountability and transparency become critical governance requirements. The SMART system functions as a digital financial governance instrument that strengthens planning, monitoring, and administrative coordination through standardized workflows and real-time tracking. By addressing key governance challenges identified in national evaluations of PHLN utilization, SMART plays a strategic role in enhancing the effectiveness and credibility of foreign loan and grant management.

### **Regional Financial Management**

Regional financial management in Indonesia is governed by Peraturan Pemerintah (PP) Nomor 12 Tahun 2019 tentang Pengelolaan Keuangan Daerah, which establishes the principles of orderly, effective, efficient, transparent, and accountable financial governance. This regulation mandates that all stages of regional financial management, including planning, implementation, administration, reporting, and accountability, must be conducted in accordance with standardized procedures and clear control mechanisms. Within this framework, the management of foreign loans and grants is required to adhere to strict administrative, reporting, and verification standards to ensure compliance with national financial governance principles. As the Regional General Treasurer, Badan Pengelolaan Keuangan Daerah (BPKD) holds a central role in administering foreign loans and grants for the Jakarta MRT project. The implementation of the SMART system represents an institutional effort to operationalize the principles mandated by PP Nomor 12 Tahun 2019 through digitalization. By integrating documentation, verification, and reporting processes into a structured digital platform, SMART enhances administrative efficiency, strengthens financial control, and improves transparency. Consequently, digital financial management through SMART enables BPKD to more effectively fulfill its responsibilities in managing foreign financing while ensuring compliance with regional financial management





regulations.

### Previous Studies and Research Gap

Several previous studies have examined financial system effectiveness in different contexts. (Marianus et al., 2023) analyzed internal control systems in cooperatives and found that strong control mechanisms improve financial accountability. (Nirwana & Aqwa, 2023) examined accounting information systems in private companies, emphasizing procedural compliance. (Pratiwi et al., 2022) studied loan management in village owned enterprises from a legal perspective. Although these studies provide valuable insights, they focus on private or small scale public institutions.

Comparatively, none of these studies examined digital systems managing foreign loans and grants within regional governments. This indicates a clear research gap regarding the effectiveness of digital financial governance systems in large scale infrastructure projects. Therefore, this study contributes to the literature by empirically analyzing the effectiveness of SMART in managing foreign loans and grants at BPKD Provinsi DKI Jakarta. This research extends previous findings by applying digital governance perspectives to public financial administration.

### METHOD

This study adopts an applied qualitative research design with a descriptive approach to examine the initial effectiveness of the SMART system in managing loan and grant withdrawals for the MRT Jakarta project at Badan Pengelolaan Keuangan Daerah (BPKD) Provinsi DKI Jakarta. This approach is selected to generate an in-depth understanding of organizational processes, user experiences, and system performance within a real institutional context. Unlike quantitative studies that emphasize numerical measurement, this research contributes by providing contextual and process-based insights into digital financial governance.

### Research Contribution and Analytical Framework

The main contribution of this study lies in evaluating a newly implemented digital financial system within a complex public funding environment. The analysis is guided by the Information System Success Model developed by DeLone and McLean, which examines system quality, information quality, service quality, system use, user satisfaction, and net benefits. This framework enables a comprehensive assessment of SMART not only from a technical perspective but also from organizational and user dimensions, providing a holistic evaluation of system effectiveness in public financial administration.

### Research Flowchart

To clarify the research process, a methodological flowchart is presented. The flowchart illustrates sequential stages starting from problem identification, research design selection, conceptual framework formulation, data collection, data analysis, system evaluation, and formulation of findings and recommendations.

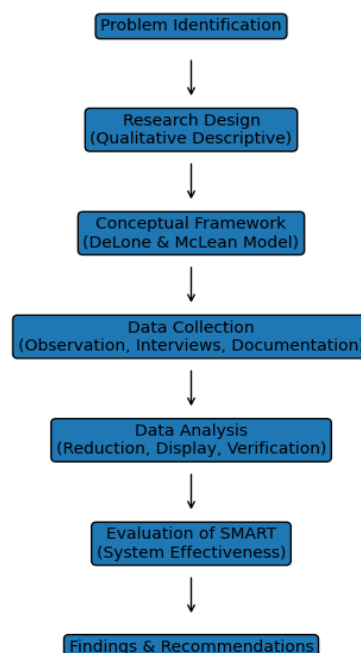


Figure 2. Research Method Flowchart





This visualization demonstrates how qualitative data are systematically collected and analyzed to ensure analytical rigor and transparency. The research framework illustrates a structured and sequential process for evaluating the effectiveness of the SMART system in managing foreign loans and grants for the Jakarta MRT project. The process begins with problem identification, which focuses on governance and administrative issues arising from the previous manual mechanisms of loan and grant management. Based on these identified issues, the study adopts a qualitative descriptive research design to capture institutional processes, system implementation practices, and user experiences.

The framework then incorporates a conceptual foundation based on the DeLone and McLean Information System Success Model, which serves as the analytical lens for assessing system effectiveness. This model guides the selection of evaluation dimensions and ensures that the analysis addresses both technical and organizational aspects of system implementation. Data are collected through observations, in-depth interviews, and documentation review, enabling data triangulation and enhancing the credibility of the findings. Subsequent stages involve qualitative data analysis through reduction, data display, and verification to systematically interpret the collected information. The results of this analysis are used to evaluate the effectiveness of the SMART system, particularly in terms of improving administrative efficiency, transparency, and accountability in foreign loan and grant management. The analytical process culminates in the formulation of findings and recommendations aimed at strengthening digital financial governance and supporting more effective management of foreign financing.

### Research Setting and Object

The research object is the SMART system implemented by BPKD Provinsi DKI Jakarta. The study focuses on its initial implementation in managing foreign loans and grants for the MRT Jakarta project. Data collection was conducted at BPKD Provinsi DKI Jakarta and PT MRT Jakarta between May and October 2025.

### Data Collection

Data were collected using three complementary techniques:

1. **Observation**

Non-participant structured observation was conducted to examine digital workflows, document submission processes, user interactions, and procedural compliance within the SMART system.

2. **In-depth Interviews**

Semi-structured interviews were conducted with selected officials and system users from BPKD and PT MRT Jakarta. This method enabled exploration of system usability, implementation challenges, perceived benefits, and institutional impacts.

3. **Documentation Review**

Relevant internal documents, including standard operating procedures and system manuals, as well as external regulatory documents, were analyzed to strengthen data triangulation.

### Data Analysis

Data analysis followed an interactive qualitative model consisting of data reduction, data display, and conclusion drawing. Data were coded and categorized according to the six dimensions of the DeLone and McLean model to identify patterns related to system effectiveness. In this section, each researcher is expected to be able to make the most recent contribution related to the solution to the existing problems. Researchers can also use images, diagrams, and flowcharts to explain the solutions to these problems.

## RESULT

This section presents the empirical findings obtained from observations, interviews, and document analysis regarding the initial implementation of the SMART system in managing loan and grant withdrawals for the MRT Jakarta project at Badan Pengelolaan Keuangan Daerah (BPKD) Provinsi DKI Jakarta. The results are organized according to the main dimensions assessed in this study.

### System Quality

The findings show that SMART has successfully digitalized the loan and grant withdrawal process, which was previously conducted manually using physical documents. All procedural stages involving PT MRT Jakarta, BPKD, and related institutions are now recorded electronically. This digital transformation has made workflow processes more structured, transparent, and traceable.

Users reported a significant improvement in administrative processing speed. Documents can be uploaded directly through the system, eliminating physical delivery and reducing processing time between stages. Automated document templates and system-generated verification values also contribute to efficiency and consistency. However, since SMART was newly implemented in 2025, several technical limitations remain, particularly in document upload integration and report display features. The system is still undergoing internal revisions to improve stability.





### Information Quality

The quality of information produced by SMART shows substantial improvement compared to the previous manual mechanism. Interview results indicate increased data accuracy due to system validation features that ensure document completeness before processing. Verification values are generated automatically, minimizing calculation errors and misinterpretation.

Timeliness is also a major strength. Users can upload documents immediately after preparation, allowing earlier verification and monitoring of payment deadlines. The system enables real-time tracking of withdrawal status, reducing risks of late submission. Information consistency is maintained through standardized formats, ensuring uniform reporting across periods and institutions.

### Service Quality

Service quality is reflected in the responsiveness of system managers, particularly from BPKD. Communication between PT MRT Jakarta and BPKD runs effectively, enabling quick clarification and resolution of technical issues. System revisions can be conducted promptly based on user feedback, which supports smooth operational processes.

Despite this responsiveness, findings reveal that formal technical support structures are not yet established. SMART currently lacks a dedicated helpdesk and documented service procedures. Support mainly relies on informal communication, which is effective during early implementation but may become less efficient as system usage increases.

### System Use

SMART has been officially designated as the main platform for loan and grant withdrawal processing. As a result, system usage is mandatory for all stakeholders. Interview data show that more than 100 withdrawal submissions are processed annually through SMART, indicating high usage intensity.

Users access the system regularly to submit, verify, and monitor document status. The system has become fully integrated into daily operational workflows. This indicates that SMART has been functionally adopted by its primary users despite being newly implemented.

### User Satisfaction

User satisfaction is reflected in positive responses regarding system efficiency and transparency. Users stated that SMART simplifies their work, reduces document revisions, and accelerates processing time. The ability to monitor submission status increases confidence and reduces uncertainty during administrative processes.

However, users also expressed expectations for further system refinement, particularly regarding interface simplicity and technical stability. These expectations indicate constructive feedback rather than dissatisfaction, demonstrating user engagement in system improvement.

### Net Benefits

The implementation of SMART has generated tangible organizational benefits. Digital processing reduces paper usage, shortens administrative cycles, and improves documentation accuracy. Users reported increased efficiency and better coordination between institutions.

SMART also enhances transparency and accountability in managing foreign loans and grants. All transactions are recorded digitally, making them easier to audit and monitor. These benefits demonstrate that SMART supports better governance practices within public financial management.

## DISCUSSION

The findings indicate that the implementation of SMART has successfully transformed the manual loan and grant withdrawal process into a digital system. This supports (Yanti, 2020) view that public financial administration requires structured governance mechanisms, as SMART strengthens institutional control through standardized digital procedures. However, the technical limitations identified confirm (Abdillah, 2020) argument that system effectiveness depends not only on technology but also on organizational readiness and system maturity. Regarding information quality, the accuracy, timeliness, and consistency of data produced by SMART reflect key indicators of digital service effectiveness proposed by (Hertati, 2020). This also supports the Delone and McLean (Sarasi et al., 2023) model, which highlights information quality as a determinant of system success. The standardized reporting format improves transparency, reinforcing the findings of (Nurnovianti & Karniawati, 2024) that effective e-government systems enhance information reliability and public accountability. In terms of service quality, the responsiveness of BPKD aligns with (Malodia et al., 2021), who emphasize institutional responsiveness as a core element of e-government. However, the absence of a formal helpdesk supports (Zou et al., 2023), who argue that digital governance must evolve toward more structured service innovation to ensure sustainability. The mandatory use of SMART demonstrates strong system adoption, supporting Delone and McLean (Sarasi et al., 2023) argument that system use reflects success. This finding also aligns with (Abdillah, 2020), who notes that user acceptance depends on system compatibility with existing





workflows. Positive user responses further confirm (Hertati, 2020) framework linking service effectiveness to user satisfaction. The organizational benefits of SMART, including efficiency, transparency, and accountability, support the e-government objectives outlined by (Malodia et al., 2021). These results also reinforce (Khairunnisa, 2023) argument that strong governance mechanisms are essential in managing foreign loans. Moreover, SMART supports compliance with regional financial regulations, as emphasized by (Latif, 2019), strengthening BPKD's role in financial governance.

## CONCLUSION

### Conclusion

This study examined the initial effectiveness of the SMART system implemented by Badan Pengelolaan Keuangan Daerah (BPKD) Provinsi DKI Jakarta in managing loan and grant withdrawals for the Jakarta MRT project. The findings demonstrate that SMART has successfully transformed the previously manual financial administration process into a structured digital system. The system significantly improves processing speed, data accuracy, document management, and transparency. Automated validation features reduce administrative errors, while real-time tracking enhances monitoring and accountability.

Based on the Information System Success Model, SMART shows positive performance across all dimensions. System quality is reflected in improved workflow integration and digital documentation, although technical limitations remain. Information quality has improved through standardized formats and automated calculations. Service quality is supported by responsive institutional communication, despite the absence of a formal technical support unit. System usage is high due to mandatory implementation, indicating strong organizational adoption. User satisfaction is generally positive, particularly regarding efficiency and transparency. Net benefits include increased efficiency, reduced administrative burden, and strengthened governance practices.

Overall, SMART is proven to be effective in supporting public financial administration, particularly in managing complex foreign loan and grant schemes for large-scale infrastructure projects. However, as this research focuses on the early implementation phase, continuous system development and evaluation are required to ensure long-term sustainability and optimal performance.

### Recommendations

Based on the research findings, several recommendations are proposed to enhance the effectiveness and sustainability of SMART:

1. **Technical System Enhancement:**  
BPKD is advised to continuously improve system stability, interface design, and reporting features to minimize technical disruptions and enhance user experience.
2. **Institutional Support Structure:**  
The establishment of a formal technical support unit or helpdesk is recommended to ensure systematic problem handling, user assistance, and service continuity.
3. **User Capacity Building**  
Regular training and technical workshops should be conducted to strengthen user competence, especially for new operators and validators, to maximize system utilization.
4. **System Integration Development**  
Further integration with other financial management systems, including national platforms such as SIKD, should be strengthened to support data interoperability and policy monitoring.
5. **Future Research Directions**  
Subsequent studies are encouraged to apply quantitative or mixed-method approaches to measure system effectiveness more comprehensively and to compare SMART with similar systems in other regional governments.

## REFERENCES

- Barang, I. P., Produksi, S. I., & Informasi, S. (2020). *Sistem Informasi*.
- Dari, D., Transparansi, A., Kantor, D. I., & Pudak, D. (n.d.). *JAPB : Volume 3 Nomor 1 , 2020 APPLICATION OF PUBLIC FINANCIAL ADMINISTRATION PRINCIPLES SEEN FROM TRANSPARENCY ASPECTS IN PUDAK SITEGAL VILLAGE OFFICE IN KELUA SUB-DISTRICT , TABALONG REGENCY JAPB : Volume 3 Nomor 1 , 2020. 3, 168–180.*
- Dendi, I. M., & Sanjaya, M. (2024). *Buku ajar pengantar sistem informasi* (Issue January).
- Hertati, D. (2020). *Buku Monograf Efektivitas. June, 35.*
- Jenderal, D., Keuangan, B., & Negeri, K. D. (2019). *Pengelolaan Keuangan Daerah*. <http://jurnal.unpad.ac.id/sosiohumaniora/article/view/6075>
- Khairunnisa, D. P. (2023). *Dinamika Pengelolaan Dana Hibah atau Pinjaman Luar Negeri dalam Mendukung Pembangunan Sistem Kesehatan Indonesia. December.*





- Veranita., Phln, N., & Indonesia, D. I. (2021). *Page. 6*, 1–4.
- Malodia, S., Dhir, A., Mishra, M., & Ahmed, Z. (2021). Technological Forecasting & Social Change Future of e-Government : An integrated conceptual framework. *Technological Forecasting & Social Change*, 173(July), 121102. <https://doi.org/10.1016/j.techfore.2021.121102>
- Nurnovianti, C., & Karniawati, N. (2024). Efektivitas Aplikasi E-Kelurahan di Kota Bandung. *Jurnal Politik Dan Pemerintahan Daerah*, 6(1), 166–176.
- Pada, K., Pd, P. T., & Pinang, P. (2023). *Analisis Prosedur Sistem Informasi Akuntansi Pembayaran Pinjaman. 1*(8), 376–384.
- Pratiwi, E. T., Ode, L., Abdullah, D., Nurhaliza, S., & Septya, I. (2022). *Analisis Sistem Pengelolaan Pinjaman Pada Badan Usaha Milik Desa ( BUMDes ) Berdasarkan Perspektif Hukum Perjanjian. 05*(01), 38–50.
- Sarasi, V., Chaerudin, I., & Sundoro, I. A. (2023). *The DeLone and McLean model for measuring success in online learning systems : Indonesian evidence. 17*(4), 566–574. <https://doi.org/10.11591/edulearn.v17i4.20839>
- Sistem, E., Kredit, P., Puskopdit, P., & Utama, S. (2023). *Strategi Strategi. 13*(1), 23–32.
- Zou, Q., Mao, Z., Yan, R., Liu, S., & Duan, Z. (2023). Technological Forecasting & Social Change Vision and reality of e-government for governance improvement : Evidence from global cross-country panel data. *Technological Forecasting & Social Change*, 194(February), 122667. <https://doi.org/10.1016/j.techfore.2023.122667>

