

Implementation of SIPLah as a Digitalization Tool for Procurement and Financial Management in 099 Babakan Tarogong Elementary Schools Bandung

Suharyanto H. Soro¹, Destianti Wulansari², Esih Rusmiati³

¹ Universitas Islam Nusantara; suharyantosoro@gmail.com

² Universitas Islam Nusantara; fukayna.khalief@gmail.com

³ Universitas Islam Nusantara; esih.rusmiati12@gmail.com

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ABSTRACT

Implementation of the School Procurement Information System (SIPLah) at SDN 099 Babakan Tarogong, Bandung, as an effort to digitize the procurement process and management of School Operational Assistance funds (OS financing limits). Education financing activities have a negative impact if they are not carried out in accordance with previously prepared planning. This study aims to find and analyze the implementation of a digital school procurement information system. Researchers used a case study approach. Data were collected through observation, interviews, and documentation. The results of the study showed that: (1) the use of SIPLah helps schools become more efficient in the procurement process, more transparent in financial management, and easier in reporting; (2) Users feel helped because the transaction process is faster and the documentation is neater, thus supporting more responsible school governance; (3) Several obstacles, such as limited digital capabilities of some school staff, technical disruptions that sometimes occur, and the still limited choice of local providers on the platform. The conclusion of this study is that the implementation of SIPLah is a step forward in realizing more modern and digital school financial management.

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Corresponding Author:

Suharyanto H. Soro

Universitas Islam Nusantara; suharyantosoro@gmail.com

1. INTRODUCTION

Digital transformation has become an important part of the governance of educational institutions in Indonesia. One area that has undergone significant changes is financial management and procurement of goods/services in schools. The manual system previously used was considered inefficient and prone to administrative errors and non-transparent practices. Digitalization is the process of changing information, processes, services, or activities that were previously carried out manually or analogously into digital format. According to (Smith, 2018:98), digital can be defined as "a framework of understanding that examines the interaction between humans, digital technology, and their environment, and its implications for various areas of life". The main function of digital theory is

to provide an in-depth understanding of how digital technology plays a role in changing human behavior, communication, and interaction. The functions of digital theory include "analysis of the use of digital technology, predictions of technological developments, and the application of digital concepts in various contexts of life".

Digitalization aims to improve efficiency, transparency, and quality of services in various fields, including education. Through digitalization, processes that were previously carried out manually can be automated so that they are faster, more accurate, and more cost-effective. One of the goals is to facilitate access to information and services, which can be accessed anytime and anywhere through digital devices. In addition, digitalization also encourages transparency and accountability, because every activity and transaction is automatically documented and can be accounted for. In the context of schools, for example through the use of the SIPLah platform, digitalization helps reduce the risk of recording errors, accelerates the procurement process, and strengthens open supervision of the use of funds. In general, digitalization also encourages innovation, technology adaptation, and improving the quality of organizational governance in the modern era.

The government, in this case the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek), developed and launched the School Procurement Information System (SIPLah) as a means of digitalizing procurement and financial management at the education unit level. SIPLah is a digital platform that facilitates schools in procuring goods and services by utilizing BOS Funds in a more transparent, accountable, and efficient manner. This platform functions as an online market (*marketplace*) that brings together schools with official providers of goods/services. All transactions are carried out through a recorded and auditable system, thus minimizing the potential for irregularities in the management of education funds. Law Number 20 of 2003 concerning the National Education System emphasizes that education units have autonomy in managing resources, including finances, in order to improve the quality of service. However, this autonomy must be accompanied by high accountability responsibilities. Therefore, a system is needed that allows for easy supervision and systematic audits.

Not a few schools have difficulty in preparing manual financial reports due to limited human resources and supporting facilities. Financial management, especially the use of BOS Funds, makes the reporting system very important. This is where the role of digitalization, such as through SIPLah, becomes a strategic solution to overcome various weaknesses in the manual system. SIPLah basically functions as an online market platform (*marketplace*) that brings together schools with verified providers of goods and services. Through this platform, schools can plan, order, transact, and report procurement transparently and systematically documented. This system supports schools to carry out procurement in accordance with the principle of *value for money*, where every expenditure is based on efficiency, effectiveness, and accountability (Kemdikbudristek, 2021).

In accordance with the Regulation of the Minister of Education and Culture Number 14 of 2020 concerning Guidelines for the Management of Regular BOS Funds, SIPLah is the official channel for the procurement of goods/services funded by Regular BOS. This aims to:

1. Make it easier for schools to carry out procurement according to regulations;
2. Accelerate reporting and accountability for the use of BOS funds;
3. Prevent corrupt and collusive practices in the procurement process;
4. Ensuring equal access to providers for all schools in Indonesia.

The implementation of SIPLah reflects the principles of e-procurement in the public sector. According to Neupane et al. (2012), *e-procurement* increases procurement efficiency, reduces administrative costs, and expands access to information for all related parties. Furthermore, the implementation of online systems such as SIPLah can also encourage the participation of local providers in the education ecosystem, while increasing public oversight of the use of the state budget. SIPLah is a strategic instrument in encouraging the digitalization of school financial governance, as well as a means to strengthen integrity and efficiency in the use of education funds.

Financial management is a crucial aspect in responsible school governance that is oriented towards improving the quality of education. According to Mardiasmo (2009), good public financial management requires accountability at every stage of the budget cycle: from planning, implementation, recording, to reporting. In the school environment, this accountability is realized through openness in the use of the budget, involvement of school committees and the community, and accountability that can be tested administratively and publicly. Schools are not only responsible to their direct superiors (for example, the Education Office), but also to the public as users of education services. In line with that, Law Number 20 of 2003 concerning the National Education System emphasizes that educational units have autonomy in managing resources, including finances, in order to improve the quality of services. However, this autonomy must be accompanied by high accountability responsibilities. Therefore, a system is needed that allows for easy supervision and systematic audits. Therefore, it is important to evaluate how prepared schools are in implementing SIPLah comprehensively.

The success of SIPLah implementation is not only determined by the availability of technology, but also by the extent to which users in schools—such as principals, treasurers, and operators—accept and are able to use the system optimally. In this case, the Technology Acceptance Model (TAM) is a relevant theoretical framework to explain technology adoption behavior in educational environments. TAM states that perceptions of the usefulness (perceived usefulness) and ease of use (perceived ease of use) of a system greatly influence the attitudes and intentions of users to accept and operate the technology (Davis, 1989; Venkatesh & Davis, 2000). Thus, the effectiveness of school financial management through SIPLah is greatly influenced by the extent to which users feel that this system is useful and easy to use, and is supported by adequate training and mentoring so that the implementation of digitalization truly has a positive impact on school financial governance. This is in line with the findings of Kurniawati (2022), which shows that obstacles in utilizing SIPLah do not only come from the technology, but also from the lack of readiness of human resources and minimal support for ongoing training.

SDN 099 Babakan Tarogong is one of the public elementary schools in Bandung City that has used SIPLah in procurement activities since 2022. This school's experience in adopting SIPLah reflects the dynamics of implementing digitalization at the grassroots level. On the one hand, the use of SIPLah simplifies the administration process and accelerates financial reporting; however, on the other hand, challenges are still found such as limited digital literacy of educators, dependence on internet connections, and technical difficulties in using the platform. The purpose of this study is to examine the implementation of SIPLah as a means of digitalizing procurement and financial management at SDN 099 Babakan Tarogong, and to assess its effectiveness based on the perspective of direct users in the field. This study also examines the extent to which SIPLah meets the principles of good financial governance and analyzes the obstacles faced in its implementation. This study is expected to be useful for schools in evaluating digital financial systems, for local governments in formulating digital-based education policies, and for researchers as a basis for developing further studies.

2. METHODS

The researcher used a case study approach. This approach was chosen because it is able to describe complex and dynamic social realities in a natural setting, as well as understand the experiences and views of the direct actors in the policy implementation process. So that researchers can gain a deep understanding of the implementation of the Electronic School Procurement Information System (SIPLah) as a form of digitalization in the procurement of goods and services and the management of BOS funds at SDN 099 Babakan Tarogong, Bandung.

Moleong (2017), a qualitative approach allows researchers to understand the hidden meaning behind actions, decisions, and social interactions that occur. In line with that, Suharyanto H. Soro (2023) stated that qualitative research is a series of scientific activities carried out consciously and with the aim of finding solutions and describing phenomena, events, and social behavior that occur in natural

settings . In this context, a descriptive approach is used to answer questions about what actually happens in terms of behavior, interactions, or events that can be directly observed in the practice of implementing SIPLah in schools.

The case study approach was chosen because it allows researchers to focus in-depth studies on one particular unit, namely SDN 099 Babakan Tarogong, as a location that has implemented SIPLah since 2022. This approach allows for a comprehensive exploration of the processes, challenges, and impacts that arise in the implementation of SIPLah, both from technical, managerial, and social aspects. Yin (2014) emphasized that case studies are very appropriate when researchers want to understand "how" and "why" a process takes place in a real context, especially when the boundaries between the phenomenon being studied and its context cannot be clearly separated. Furthermore, Suharyanto H. Soro (2023) explained that a case study is a scientific activity that is carried out consciously on a problem, either singular or plural, using data collection methods such as observation, interviews, questionnaires, and documentation, to describe and explore findings comprehensively and in depth.

By combining a descriptive qualitative approach and a case study type, this study is expected to provide a real and complete picture of the implementation of SIPLah in public elementary schools and produce findings that can be used as references in the evaluation and development of digital-based education policies. The research subjects were determined using a purposive sampling technique , namely determining informants based on certain considerations related to the research objectives (Sugiyono, 2015). These subjects have direct experience and are actively involved in the implementation of SIPLah, so they are expected to be able to provide relevant and in-depth information. SDN 099 Babakan Tarogong as an active **user** of SIPLah makes this school representative as a case study for the implementation of a digital system in elementary school financial management. The research subjects include; The principal as a policy maker, the BOS Treasurer as a budget manager, the SIPLah Operator as a technical implementer, and the teacher representative as a user of the impact of the policy.

Data collection was conducted using three main techniques: (1) non-participatory observation. Meanwhile, the in-depth interview method aims to explore understanding, experience, and obstacles in the use of SIPLah (Kvale & Brinkmann, 2009); (2) participatory observation of procurement activities through SIPLah, including the administration and reporting processes (Spradley, 1980); and (3) documentation studies that include reports on the use of BOS Funds, transaction evidence, and platform technical documents as supporting data and validation. Data were analyzed using the interactive analysis model from Miles, Huberman, and Saldana (2014), which consists of three stages: data reduction , data presentation , and data extraction. conclusions and verification . This technique allows researchers to systematically organize data, find patterns, and construct valid narratives of findings. To maintain the validity of the data , this study uses triangulation of sources and methods to increase the internal validity and credibility of the findings (Lincoln & Guba, 1985).

In qualitative research, researchers act as the main instrument , playing a direct role in the process of collecting and interpreting data (Moleong, 2017). However, to support data consistency and reliability, auxiliary instruments such as interview guidelines, observation sheets, and document analysis formats are also used. The indicators used include: SIPLah effectiveness (accessibility, speed, accountability), the role of policy makers in schools, technical and non-technical constraints, and the extent to which SIPLah utilization is in line with BOS Fund management regulations. To facilitate understanding of the research process, the following is a research flowchart which describes the systematic steps from start to finish:

3. FINDINGS AND DISCUSSION

A. Implementation of SIPLah at SDN 099 Babakan Tarogong

The results of observations and interviews show that SDN 099 Babakan Tarogong has started using SIPLah since 2022, in accordance with the provisions of the Regulation of the Minister of Education and Culture Number 14 of 2020. The school procures goods and services funded by BOS Funds through the SIPLah platform according to established procedures. The procurement process begins with the planning of needs carried out by the BOS management team, then continues with ordering through the SIPLah marketplace. After the goods are received and verified, the procurement report is prepared through the system, and transaction data is automatically integrated into the BOS reporting system.

Some aspects that are indicators of SIPLah implementation in this school include:

1) Digitalization of Procurement of Goods and Services

a. Time efficiency

Through SIPLah, schools no longer need to conduct manual surveys to various stores or wait for physical offers, because all processes can be done through an online platform. The procurement process is faster compared to the previous manual system.

b. Transparency and Accountability

In SIPLah, every transaction is recorded digitally, from planning, selecting providers, to payments. This increases transparency and makes it easier to track funds, thus reducing the potential for irregularities.

c. Access to Multiple Providers

SIPLah allows schools to access a variety of registered and verified providers of goods and services. This provides schools with a wider choice to get the best price and quality.

d. Habituation of Technology Use

School staff are becoming accustomed to using digital platforms for procurement activities, which is a positive step towards digital literacy in the school environment.

2) More Structured Financial Management

a. Integrated Financial Recording: SIPLah is integrated with the financial reporting system, making it easier for treasurers to record and report every procurement-related expenditure transaction.

b. Ease of BOS Reporting: The process of reporting School Operational Assistance (BOS) funds related to procurement becomes easier and faster because all data is systematically recorded in SIPLah.

c. Minimizing Manual Errors: With a digital system, the potential for manual recording errors can be minimized, so that financial data becomes more accurate.

As supporting data, the following is the number of procurement transactions through SIPLah over the last three years:

Year	Number of Transactions	Total Procurement Value (Rp)
2022	17	142,000,000
2023	24	175,000,000
2024	30	198,000,000

These data show an increasing trend in terms of both frequency and value of procurement through SIPLah at SDN 099 Babakan Tarogong.

B. Obstacles in the Implementation of SIPLah

Although in general the implementation of SIPLah at SDN 099 Babakan Tarogong went well, several obstacles were still found, including:

- 1) Limited digital literacy, Some teachers and staff still need further training in operating the system.
- 2) Technical problems, Sometimes there are technical problems such as slow internet access or errors in the SIPLah system.
- 3) Limited local providers, Not all required goods/services are available in the SIPLah marketplace, especially for specific purposes.

These obstacles require special attention from the Education Office and SIPLah operators so that the system can be used optimally by all educational units.

C. Analysis Based on the Technology Acceptance Model (TAM) Framework

Based on interviews and distribution of questionnaires to school principals, BOS treasurers, and school operators, the following data were obtained:

1) *Perceived Usefulness (PU)*

Perception of usefulness is one of the main factors in the Technology Acceptance Model (TAM) that influences user acceptance of a technology. In the context of this study, the majority of respondents, consisting of the principal, BOS treasurer, and SIPLah operator at SDN 099 Babakan Tarogong, stated that the use of SIPLah has proven to be very helpful in increasing the efficiency and accuracy of the procurement process of goods and services in schools. This system allows the procurement process to be carried out faster because all stages—from searching for providers, ordering, to reporting—can be accessed on one digital platform without having to be done manually.

In addition, SIPLah provides a digital trace that is automatically recorded, making it easier to track transactions and prepare financial reports. Accuracy also increases because the system reduces the possibility of errors in recording and calculating budgets. These findings indicate that users view SIPLah as a tool that can improve school administrative performance, in accordance with the theory that perceptions of the benefits of a technology are a strong predictor of user intentions to continue using the technology sustainably.

2) *Perceived Ease of Use (PEOU)*

Perception of ease of use is an important aspect in determining the extent to which users are willing to accept and use a new technology. Based on the results of a study at SDN 099 Babakan Tarogong, around 70% of respondents stated that SIPLah was quite easy to use. They felt that the simple system interface, logical usage flow, and availability of structured menus made it easier for them to access and run the procurement process. This convenience was felt especially by users who were accustomed to using digital devices in school administrative activities.

However, around 30% of respondents still face obstacles in using SIPLah optimally. This group consists of staff with limited digital literacy or who have not received adequate technical training. Some of them have difficulty navigating the system, understanding technical terms, or troubleshooting when technical errors occur. This condition indicates a gap in user readiness, as Heeks stated in the concept of design–reality gap, namely the difference between system design and reality in the field.

This gap underscores the importance of ongoing training and mentoring to ensure that all users, regardless of their ability level, can operate SIPLah effectively. In line with TAM, ease of use of a system

greatly influences positive user attitudes and encourages their intention to use it continuously. Therefore, support from the education office and system developers is needed to improve user experience and reduce barriers to technology adoption in the school environment. To strengthen this analysis, here are the questionnaire results data:

Assessment Aspects	Strongly agree	Agree	Don't agree	Total Respondents
SIPLah makes the process easier	1	5	0	15
SIPLah increases transparency	11	4	0	15
SIPLah is difficult to use	3	5	7	15

These results indicate that the perception of the ease and benefits of SIPLah is quite high, which supports the adoption of this system on an ongoing basis. This finding is in line with the TAM theory which states that user intentions and behavior in using technology are greatly influenced by their perceptions of the benefits and ease of use of the technology.

D. Implications of Research Results

From the results of this study, there are several important implications, including:

- 1) SIPLah has been proven to increase transparency and efficiency of procurement in schools.
- 2) Continuous training is needed for users to improve digital literacy.
- 3) Infrastructure support and technical assistance must continue to be provided so that the implementation of SIPLah is more optimal.

These implications can be the basis for policy recommendations both at the school level and at the education office level in order to strengthen digital-based financial governance.

4. CONCLUSION

Based on the results of the study on the implementation of the Electronic School Procurement Information System (SIPLah) as a means of digitalizing the procurement of goods/services and financial management at SDN 099 Babakan Tarogong, it can be concluded that the implementation of SIPLah has made a significant contribution to more modern, transparent, and accountable school financial governance. This has brought about major changes in managing BOS Funds, especially in terms of efficiency of implementation time, transaction recording, and internal and external supervision of the use of funds. One of the main positive impacts of using SIPLah is increased efficiency in the procurement of goods and services. Processes that were previously time-consuming because they were manual can now be done faster and documented digitally. SIPLah also facilitates automatic transaction recording, stores proof of purchase online, and provides reports that can be accessed by various parties, such as school treasurers, principals, supervisors, and audit teams. Thus, SIPLah has become an important instrument in strengthening public accountability and building trust in the management of education funds in schools.

the Technology Acceptance Model (TAM) perspective, the success of SIPLah implementation at SDN 099 Babakan Tarogong was driven by the high *perceived usefulness* or perception of benefits from users, such as the principal, treasurer, and school operators. They acknowledged that this system makes it easier to carry out tasks and helps ensure that procurement is carried out in accordance with applicable regulations. However, challenges are still found in the aspect of *perceived ease of use*, or perceptions of ease of use. Some users face difficulties due to the lack of adequate technical training and limited digital literacy, especially among education personnel who are not yet familiar with technology. In addition, external factors such as uneven and unstable internet connectivity are also obstacles to optimizing the use of SIPLah. Schools sometimes experience obstacles when accessing the platform, especially when uploading documents or completing transactions within a certain time.

The limited variety of products and service providers available in the SIPLah marketplace is also an important note, because not all school needs can be flexibly met through this system. Therefore, continuous improvement of the SIPLah system itself is needed as well as support from the government, both at the central and regional levels. Improvement efforts can include providing regular technical training for SIPLah users, improving information technology infrastructure such as internet networks in schools, and improving features in the SIPLah platform to be more user-friendly and responsive to the needs of educational units. The government also needs to encourage the participation of more local vendors or providers so that the products available are more varied and in accordance with the contextual needs of each school. So the implementation of SIPLah at SDN 099 Babakan Tarogong can be said to be successful in building the foundation for digitalizing school financial governance, although it still requires strengthening in terms of user capacity and its supporting ecosystem. With a collaborative and sustainable approach, SIPLah has the potential to become a main pillar in creating a more transparent, efficient, and adaptive education system to technological developments.

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