

Analysis of Employee Readiness in the Transition to Regional Financial Digitalization: A Case Study of the Implementation of SIPD at the North Sumatra Provincial Department of Industry and Trade

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Abstract

The transition from manual systems or previous applications to the Regional Government Information System (Sistem Informasi Pemerintahan Daerah/SIPD) represents a strategic step toward a more integrated, accountable, and transparent digitalization of regional financial governance. The implementation of SIPD requires adequate human resource readiness, particularly among financial management personnel, to ensure the system can be operated optimally and sustainably. This study aims to analyze employees' readiness to face the transition toward financial digitalization through the implementation of SIPD at the Department of Industry and Trade of North Sumatra Province. This research employs a qualitative, descriptive approach. Data were collected through direct observation, documentation, and in-depth interviews with SIPD operators and regional financial managers involved in financial planning and reporting processes. Data analysis was conducted thematically to describe the actual condition of employee readiness and to identify challenges encountered during the system implementation. The findings indicate that, from a functional perspective, the implementation of SIPD has improved the speed and structure of financial planning document preparation, such as the Work and Budget Plan (RKA) and Budget Implementation Document (DPA). However, regarding employee readiness, several significant challenges remain. These include limited technical understanding of new system features and menus, relatively short duration of technical training sessions, and dependence on the stability of the central server, which often disrupts workflow. Although employees generally demonstrate adaptive attitudes toward digital transformation, strengthening human resource competencies through continuous training and ensuring a stable technological infrastructure are critical to the success of this transition. This study recommends more intensive technical assistance to minimize data input errors and enhance the efficiency of regional financial reporting.

Keywords: employee readiness; financial digitalization; SIPD; regional financial management; local government.

I. INTRODUCTION

The wave of disruption brought by the Industrial Revolution 4.0 and Society 5.0 era has not only changed the business landscape, but has also been a powerful catalyst that urges the public sector to fundamentally reform governance. In this context, digital transformation can no longer be seen as a mere modernization option, but an absolute imperative for the sustainability of an adaptive bureaucracy. This demand is in line with efforts to realize the principles of Good Governance, where transparency, accountability, and efficiency are the main pillars that cannot be negotiated (Budi Santoso et al., 2024). Responding to these global dynamics, the Government of Indonesia through the Ministry of

Home Affairs took a strategic step by launching the Regional Government Information System (SIPD). The platform is designed as a super app (*super-app*) that revolutionizes, integrating the entire regional financial management architecture from the planning, budgeting, administration, to reporting stages into one centralized data ecosystem and *real-time* (Arif & Firmansyah, 2024).

The legal basis for the implementation of this system is very solid and binding, as stated in Permendagri Number 70 of 2019 and Number 77 of 2020. This regulation expressly mandates all local governments to abandon the old partial and fragmented system (such as SIMDA) in favor of a single, integrated system. This step is a concrete

manifestation of the national vision of "One Data Indonesia", which aims to eliminate information overlap between sectors (Erlambang, 2023) ; (Alfani & Nasution, 2022). Theoretically and conceptually, SIPD promises a significant leap in bureaucratic efficiency through the alignment of more valid development planning and financial data, as well as minimizing data redundancy that has been a chronic disease in manual systems. Empirical evidence in the field also confirms that the automation feature in SIPD is able to drastically cut administrative work time, especially in the preparation of crucial documents such as Budget Implementation Documents (DPA) and Work Plans and Budgets (RKA) (Alfani & Nasution, 2022).

However, a radical transition from conventional work patterns to centralized web-based systems (*web-based centralized system*) it doesn't run without friction. The implementation of SIPD faces complex multidimensional challenges. On the one hand, there are technical infrastructure constraints (*technoware*) in the form of connectivity instability and central servers that often hinder the data input process (Chinda Aqhni Adisi & Abdul Sadad, 2022). However, on the other hand, a much more crucial and often overlooked challenge is the human resources or manware aspect. A phenomenon occurs *cultural lag*, where the speed of regulatory change and technological sophistication is much faster than the adaptability of employees who use it (Laoli et al., 2022). Without the readiness of human resources, technological sophistication has the potential to become a new administrative burden.

Gaps (*Gap*) that is the sharp contrast between the sophistication of SIPD technology and the competence of users is vividly portrayed in the *Locus* research at the North Sumatra Provincial Department of Industry and Trade. There is a worrying paradox of implementation: although the SIPD system is designed to produce high data accuracy and fast processes, the humanities aspect of the agency is experiencing an adaptation crisis. Preliminary findings indicate that the main obstacle is no longer in the physical infrastructure, but in the cognitive and technical capacity of its users. Around 60-70% of employees were identified as not understanding the system's operational procedures independently and had a very high dependency on peer assistance or intensive supervision (Alfani & Nasution, 2022). This condition creates a risk *bottleneck* in the regional financial process. This

unpreparedness of human resources is allegedly not solely due to individual skill deficits, but structural failures in change management strategies (*change management*). The socialization pattern applied tends to be normative and unidirectional, without technical guidance (*technical guidance*) that is deep and sustainable. As a result, employees are forced to carry out the process *learning by doing* under the pressure of tight bureaucratic deadlines, which ultimately triggers psychological resistance to technological exhaustion (*tech fatigue*) (Zulkifli et al., 2023).

Departing from these problems, this research has a very high urgency. An in-depth analysis is needed not only to evaluate the success of the system from a purely technical perspective, but further to dissect the root of the problem in the aspects of human resource behavior, resistance, and competence in the North Sumatra Provincial Department of Industry and Trade. If ignored, this gap can hinder the achievement of regional financial accountability. Therefore, this research aims to formulate a precise mitigation strategy to ensure that the modernization of the regional financial system is not only successful as an artifact of advanced technology, but also operational, adaptive, and sustainable in the hands of its implementers.

II. LITERATURE REVIEW

2.1 Local Government Information System (SIPD)

The Regional Government Information System (SIPD) is a massive and integrated information technology breakthrough, formulated by the Central Government to manage development, financial, and other local government information data nationally (Tumija & Erlambang, 2023). In terms of regulations, the main basis for the implementation of this system is Permendagri Number 70 of 2019 concerning Regional Government Information Systems and Permendagri Number 77 of 2020 concerning Technical Guidelines for Regional Financial Management. SIPD is designed as an integration "bridge" to connect all stages of regional governance, from *e-planning*, to *e-budgeting*, to *e-reporting* in a single database (Alfani & Nasution, 2022).

The fundamental goal of SIPD is to realize *good governance* through improving the quality of data that is more accurate, transparent, and accountable. With the SIPD, the process of preparing budget documents

such as Budget Work Plans (RKA) and Budget Implementation Documents (DPA) can be carried out more systematically, thereby minimizing the risk of budget duplication or inconsistency with national development priorities. Entering the 2024 Fiscal Year, the government has updated the system to become SIPD RI. This version is mandatory for all local governments to replace previous applications such as SIMDA (Regional Management Information System) or FMIS developed by BPKP, as an effort to centralize real-time financial reporting to the central government (Arif & Firmansyah, 2024).

2.2 Digitization of Regional Finance

The digitalization of regional finance is not just a transition from paper media to digital media, but a fundamental transformation in the way local government agencies manage their fiscal resources. This process involves automating the entire financial cycle to improve time efficiency, public transparency, and managerial accountability (Nasution & Nurwani, 2021). Digitalization aims to eliminate bureaucratic obstacles that are manual and reduce the potential for human *error* in financial data input.

The success of regional financial digitalization is highly dependent on the synergy of three main interrelated components:

1. Software: The quality and reliability of the SIPD application in accommodating regulatory needs.
2. Hardware (Infrastructure): The availability of physical devices and a stable internet network at the regional level.
3. Humanware (Human Resources): The capacity and competence of employees in operating the system correctly. The measurement of the effectiveness of this digitalization program is seen from the extent to which the system is able to achieve timely output targets that can be understood operationally by its users (Adisi & Sadad, 2022).

2.3 Employee Readiness in Technology Adoption

Employee readiness is a determinant variable in the successful implementation of new information systems. This readiness includes not only technical abilities (*hard skills*), but also mental readiness and adaptive attitudes (*soft skills*) to changes in digital work patterns. In the context of implementing SIPD, employees are required to have high digital literacy in order to be able to understand the logic of the system's menu, which is often complex and dynamic.

The main challenge in employee readiness is the gap between the speed of system upgrades and the speed of HR adaptation. Many employees experience obstacles because the duration of technical guidance (*bimtek*) provided by the central and regional governments is considered too short and lacks technical depth (Nasution & Nurwani, 2021). As a result, there is a dependency on certain operators and the risk of delays in data input. The low capacity of human resources in mastering the technical aspects of information technology is often a weak point that hinders the budget planning process, even though the system is required by regulation (Tumija & Erlambang, 2023). Therefore, employee readiness requires continuous support in the form of technical assistance and the provision of adequate facilities from the organizational side.

2.4 Previous research

This research builds on the foundation of several relevant previous studies to provide a broader perspective:

1. (Alfani & Nasution, 2022) : Conducted a study at the North Sumatra Provincial Department of Industry and Trade and found that the functional implementation of SIPD has been effective in accelerating the presentation of budget data (RKA/DPA), although in terms of use, employees are still in the adjustment stage (*adaptive*).
2. (Nasution et al., 2021) : Analyzing the implementation of SIPD in BPKAD Medan City which shows the results that the system has not run optimally. The causative factor was the quality of the system which was still under development at that time and the efficiency of technical training time which was very lacking for SKPD.
3. (Chinda Aqhni Adisi & Abdul Sadad, 2022) : Highlighting the technical infrastructure aspect in BPKAD Indragiri Hulu Regency, where central server instability is the main obstacle. This causes regions to be forced to continue using companion applications so that financial administration activities are not completely stopped.
4. (Arif & Firmansyah, 2024) : Explain the urgency of the urgent transition to SIPD RI. This study emphasizes that the closure of SIMDA/FMIS services by BPKP in 2024 requires local governments to accelerate the

readiness of human resources and infrastructure on a large scale.

5. (Erlambang, 2023) : Finding a phenomenon in Ogan Komering Ulu Regency that technical obstacles such as *Error* Servers and limited employee competency capacity are still persistent obstacles that hinder the quality of regional budget planning.

III. RESEARCH METHODOLOGY

This study uses a type of qualitative research with a descriptive approach to provide a systematic, factual, and accurate picture of the phenomenon of employee readiness in the transition to financial digitalization through the SIPD application (Alfani & Nasution, 2022). Through qualitative methods, researchers can explore in depth technical obstacles and adaptation of employee behavior that cannot be explained only through statistical numbers. The location of the research was determined at the North Sumatra Provincial Department of Industry and Trade which is located at Jl. Putri Hijau No.6, Medan. The selection of this location is based on the strategic role of the agency in the implementation of regional financial digitalization policies at the provincial level. This research was carried out within a period of 3 (three) months, covering the stage of data collection to report analysis. The focus of this research involves specific subjects and objects in order to obtain relevant data. The research subjects or informants consist of employees who interact directly with the system, including the Head of the Finance Sub-Division, the Expenditure Treasurer, the Financial Administration Officer (PPK), and the SIPD Operator. Meanwhile, the object of this research is the readiness of employees reviewed from the aspect of technical competence and their adaptability in the transition process of using the SIPD application. To support the depth of analysis, data sources are classified into two categories, namely primary data and secondary data. Primary data was obtained directly through in-depth interviews with key informants as well as field observations on the process of data input into the system. On the other hand, secondary data was obtained through documentation studies which included Permendagri Regulation No. 70/2019, RKA/DPA documents resulting from the system, and supporting scientific journal literature (Chinda Aqhni Adisi & Abdul Sadad, 2022) ; (Arif & Firmansyah, 2024). In

ensuring the validity of the findings, the researcher applied a data triangulation technique through three complementary data collection methods. First, structured interviews were conducted to explore employees' perceptions of the ease and obstacles of the system in depth. Second, participatory observation is used to directly observe employee performance when operating various menus in the SIPD application. Third, a documentation study was conducted by collecting physical evidence in the form of digital financial statements and employee training certificates (bimtek) as indicators of competence.

Table 1. Research Instruments and Matrices

Job Title/Role	Information Contribution
Head of Finance Subdivision	Provide data on transition policies and managerial support.
Production Treasurer	Provide data on technical constraints of daily transactions.
Operator SIPD	Provide data on server stability and application interface.
Financial Administration Officer (PPK)	Provide data on the accuracy and validation of digital data output.

Table 2. Digital Transition Readiness Indicator Matrix

Dimensions of Analysis	Key Indicators	Measurement Parameters	References
Technoware (Teknis)	Infrastructure	Stability of central server connectivity and minimal login errors.	(Chinda Aqhni Adisi & Abdul Sadad, 2022)

Dimensio ns of Analysis	Key Indicators	Measure ment Paramete rs	Referenc es
Humanwa re (SDM)	Competen cies	Ability to master the system menu and speed of post- Technical Guidance .	(Nasutio n et al., 2021)
Orgaware (Organizat ion)	Support	Availabili ty of hardware facilities (PC/Lapt op) and internal regulatio ns.	(Erlamb ang, 2023)
Infoware	Output Data	The accuracy and speed of presentati on of RKA and DPA reports.	(Alfani & Nasution , 2022)

Data Analysis Techniques The data analysis process follows an interactive model from Miles, Huberman, and Saldana (2014) which consists of:

1. Data Reduction: Filter the results of interviews and observations, focusing on key points regarding transition barriers.
2. Data Display: Presents findings in the form of descriptive narratives and table matrices for easy understanding.
3. Conclusion *Drawing*: Formulating the final results regarding the level of employee readiness and solutions to obstacles found in the North Sumatra Disperindag.

IV. RESULTS

The implementation of the Regional Government Information System (SIPD) at the North Sumatra Provincial Industry and Trade Office (Disperindag) has brought fundamental changes in regional financial governance. The results show that the transition from manual systems to integrated digital platforms significantly improves time efficiency, especially in the budget planning document preparation cycle. The use of SIPD allows the presentation of data in a *real-time*, where crucial documents such as Budget Work Plans (RKAs) and Budget Implementation Documents (DPAs) can be generated automatically with higher accuracy than previous conventional procedures. This is driven by the existence of an automatic validation feature in the system that minimizes errors in entering shopping account codes, so that the output of the financial information produced has better credibility for the interests of leadership policymaking (Alfani & Nasution, 2022).

However, from the aspect of technological infrastructure or *technoware*, it was found that the readiness of the system at the regional level is still highly dependent on the stability of the central server at the Ministry of Home Affairs. The results of the observation revealed persistent technical obstacles in the form of network instability and access slowdown (*Latency*) during busy hours of national data input. Frequent server issues *Error* or maintenance phase (*maintenance*) lack of periodic notification is the main inhibiting factor that reduces the work productivity of employees in the field. This phenomenon sometimes forces financial managers to do temporary manual recording or use companion applications to maintain data continuity before finally being uploaded back to the main system when connectivity has returned to stability (Chinda Aqhni Adisi & Abdul Sadad, 2022). Related to the dimension of human resources or *humanware*, the readiness of employees shows an adaptive profile but still faces challenges in the depth of technical competence. Although operators in the North Sumatra Disperindag have adequate basic digital literacy, the effectiveness of the Technical Guidance (Bimtek) that is held is often constrained by the duration of the training that is too short. Research data show that the very dense training materials are not commensurate with the complexity of the new features in the SIPD, so employees often have to adapt independently through the *trial and error*

(Nasution et al., 2021). This condition has become even more challenging with the transition instructions to SIPD RI in the latest fiscal year which requires an understanding of new workflows and readiness to use electronic certificates or digital signatures in full (Arif & Firmansyah, 2024). On the other hand, the dimension of organizational readiness or *orgaware* in the North Sumatra Provincial Disperindag was found to be at a very supportive level. Agency leaders show a strong commitment through the provision of adequate infrastructure facilities, such as hardware upgrades and strengthening office internet networks, as well as flexibility in the division of tasks for the financial management team. Overall, the results of the study confirm that the transition to regional financial digitalization in the agency has achieved functional success in terms of accuracy and speed of reporting, but still requires strengthening the stability of the central system infrastructure and the intensity of technical assistance for employees so that this digital transformation process is not only administrative, but also substantive in improving the quality of financial performance (Erlambang, 2023).

V. CONCLUSION

Based on the results of the analysis and discussion, it can be concluded that the implementation of the Regional Government Information System (SIPD) at the North Sumatra Provincial Industry and Trade Office functionally has achieved success in accelerating the regional budgeting cycle. This transition to digitalization has proven to provide significant convenience in the preparation of RKA and DPA documents that are more accurate and integrated than the previous system. However, the level of employee readiness is currently still in the adaptive-transitional phase, where high mental readiness to accept change has not been fully accompanied by a depth of technical competence. This is due to the limitation of the duration of technical guidance which is considered too short to master complex and dynamic system features. In addition, the main obstacle in this transition is external-technical, namely the instability of the central server which often experiences *errors* during crucial periods of data input. Although organizational support in terms of leadership and infrastructure is very adequate, the sustainability of this digital transition is highly dependent on increasing the intensity of technical assistance for

employees and improving the stability of system infrastructure at the national level to ensure that regional financial digitalization can run optimally and sustainably.

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