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Implementation of Regional Government Information Systems as Online Practices for Planning, Budgeting and Administration Processes

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Abstract

This study aims to find out how the implementation of planning, budgeting and administration in Anambas Islands Regency using the Sistem Informasi Pemerintahan Daerah (SIPD) and how the system model is more optimal in terms. The method used in this study is a qualitative method that describes a management information system that conceptually, structure and development are appropriate and the input, process, output and feedback. The data collection technique used in this study was by interviews, observation, documentation studies with respondents in Anambas Islands Regency who are directly related to SIPD in their daily work. The results of the research and data analysis describe that the implementation of SIPD in the planning, budgeting and administration processes in Anambas Islands Regency is not optimal yet. This can be seen from SIPD which is still difficult to access due to network constraints and human factors. Therefore, a strong commitment from all parties is needed to maximize the SIPD function which wants to integrate the implementation of planning, budgeting, and administration.

Keywords: *Local Government, Management Information System, Planning, Budgeting, Administration.*

Introduction

The administration of digital-based governance in Indonesia has increased. In 2020 it is in 88th position, while in 2022 Indonesia is ranked 77th according to the results of an e-government survey conducted by the United Nations in 2022. Currently, the generation that is currently active and productive is generation Y or the millennial generation born in 1981-1996 and generation Z (1997-2012). So that there has been a significant shift, from the previous government run by generation X (1965-1980) and baby boomers, namely fathers or mothers with a birth range of 1946-1964, will soon be replaced by generations Y and generations Z who are closer to gadgets in everyday life. Advanced technology can give birth to new innovations and replace old methods that are ineffective and efficient (Ma'arif, 2022).

Digitalization is an opportunity as well as a challenge that must be faced together, because digitalization originates from technological advances that are inevitable and are getting higher and higher so that they have changed people's conditions, lifestyles and even generations. There are demands for better public services, so the government and bureaucracy must adapt in order to adapt to this rapidly changing environment. Sulistyo (2021) explains that the dynamics in society ultimately demand the administration of digital-based government, therefore the State Civil Apparatus (which consists of PNS and PPPK) as well as non-permanent employees as cogs in government must have competence in the field of technology and information.

The directives of the President of the Republic of Indonesia regarding the acceleration of digital transformation eventually demanded changes in governance. The administration of government at the central and regional levels must increase the use of technology towards digital public services. To fulfill the mandate of Law Number 23 of 2014 concerning Regional Government, and referring to Government Regulation Number 12 of 2019 concerning Regional Financial Management, a Regional Government Information System was built which was emphasized through Minister of Home Affairs Regulation Number 70 of 2019 concerning Regional Government Information Systems. The Regional Government Information System (SIPD) is a general application and its use must be used in preparing the APBD for the 2021 Fiscal Year (starting in 2020) in all Provincial Governments and Regency/City Governments.

The central government has also developed the architecture of the National Electronic-Based Government System (SPBE) which is listed in Presidential Regulation Number 95 of 2018 concerning SPBE. With this regulation, the government has planned to improve public performance and services in an integrated manner. This regulation is also one of the legal bases that strengthens the government to change planning, budgeting and administration processes to be electronic-based.

Dissemination related to the implementation of electronic-based local government is still lacking acceptance. Many employees at the local government level have not received information, guidance or training regarding this matter, which ultimately has an impact on the implementation of SIPD in regions that is not yet optimal. So, what must be done next is massive outreach and assistance (Ekaputra, 2021). Planning, budgeting and administration are three of the seven series of regional financial management activities. These three activities can be carried out using the Regional Government Information System (SIPD) in an integrated manner.

The concept put forward by Gordon B. Davis describes a management information system in terms of input, process, output and feedback. SIPD as an information system that integrates planning, budgeting and administration processes in local government has an important role. Previously, government administration did not have regular data standards, processes that were difficult to monitor, outputs that were not yet appropriate, and feedback that was not real time resulted in the planning, budgeting and administration processes being not optimal.

The optimal implementation of SIPD in the process of planning, budgeting and administration is needed in order to improve the performance of local government employees, public services and as a database in regional development planning. Based on research conducted by Hanneke et al (2020), it was found that in improving the quality of public services, every public organization must be able to innovate both in policies, processes and technical services. Management information systems are innovations in public services that can be optimized to improve public service performance.

Previous research related to the implementation of SIPD has mostly discussed SIPD from a public policy perspective. The theory of policy implementation from George C. Edward III is widely used to determine SIPD in terms of bureaucratic structure, resources, communication and disposition. Previous studies have concluded that the implementation of SIPD is related to operational constraints, accountability and community satisfaction. In contrast to this, the Gordon B. Davis model that will be used in this study will discuss SIPD in terms of management information systems in the planning, budgeting and administration processes, which can then result in a more optimal SIPD development model.

Methods

The approach used is qualitative with descriptive method because the research conducts in-depth exploration of primary and secondary data. Data collection techniques consist of three, namely direct observation to the field, interviews with respondents, and reviewing documents related to planning, budgeting and administration processes through SIPD. Creswell (2016), explains that qualitative research is a method that can explore a phenomenon through the views and understanding of different individuals.

The technique of selecting respondents using a purposive sampling technique is the selection of respondents based on the criteria of people who use SIPD in their work in planning, budgeting and administration. The key informant in this study was the Head of the Budget Division at the Regional Revenue and Financial Management Agency of Anambas Islands Regency. In this study, in-depth interviews were also conducted with supporting informants who in their daily work as civil servants in the Anambas Islands Regency Government were responsible for managing SIPD. The data that has been collected is then analyzed using reduction, presentation and conclusion techniques

Results and Discussion

The Regional Government Information System (SIPD) is mandatory for use in all local governments in Indonesia, including in Anambas Islands Regency. Anambas Islands Regency is the foremost regency in northern Indonesia which is surrounded by the Natuna Sea. This geographical condition resulted in inadequate internet network infrastructure in Anambas Islands Regency.

Until 2023, the Anambas Islands Regency Government consists of 25 regional apparatus organizations and 10 sub-districts. Namely the regional secretariat (9 sections), the DPRD secretariat, 23 Regional Apparatus Organizations (OPD), 10 sub-districts. The number of ASN is 1889 people, the number of non-permanent employees is 4266 people. Prior to the existence of the Regional Government Information System (SIPD), planning, budgeting and administration tasks were only assigned to a small number of employees. Whereas after the existence of the Regional Government Information System (SIPD), planning, budgeting and administration tasks were completely divided among all civil servants. At this time there has been a "culture shock" where there has been a change in user management, from previously planning was only done by one person, now civil servants in each field of a work unit are responsible for planning. Based on research conducted by Riau (2022), it is explained that organizational control in improving budget performance in Central Java Province uses the SMART application and *e-monev*. In this study, it was found that leadership commitment is a factor needed in filling out the application so that organizational goals can be achieved.

In general, the Regional Government Information System (SIPD) implemented in the Archipelago District has been implemented in accordance with the regulations. The planning, budgeting and administration processes that were previously carried out requiring large resources, using the Regional Government Information System (SIPD) are simpler in terms of time, human resources, the overall budget requirements are lower than the previous planning, budgeting and administration systems. using the Regional Government Information System (SIPD).

The planning business process for government administration which is facilitated through the Regional Government Information System (SIPD) has been prepared in accordance with applicable regulations so that it has a strict schedule that cannot be changed. The planning stage begins with planning meetings at the village level, these meetings produce development proposals both physical and non-physical from the village. Furthermore, the results of this agreement entered into the deliberations on development planning at the sub-district level. From this deliberation the proposals from the village were then discussed with all meeting participants to then select the proposals that were the priority of the sub-district. Only five priority proposals can be submitted by the sub-district. The role of the Regional Government Information System (SIPD) has started from this stage where each sub-district inputs its proposals into the Regional Government Information System (SIPD) application.

Furthermore, the proposal from the sub-district is verified by Bappeda as the Regional Apparatus Organization (OPD) partner to then be directed to the appropriate Regional Apparatus Organization (OPD). Likewise with the main idea. Main ideas originating from the DPRD are inputted into the Regional Government Information System (SIPD) by the DPRD members which are then verified by Bappeda to then be directed to the Regional Apparatus Organization (OPD) related to the proposal. At the Regional Apparatus Organization (OPD) level, the Program Subdivisions are given the responsibility to accept and/or reject the proposal in the form of an OPD recommendation.

The function of the Regional Government Information System (SIPD) here is very useful in terms of recording proposals. Prior to the use of the Regional Government Information System (SIPD), proposals for Regional Development Planning Meetings (Musrenbang) were not properly recorded. However, after the existence of the Regional Government Information System (SIPD), the proposal through the Musrenbang was well documented according to the time specified. According to G.R Terry's theory regarding planning, planning is the process of estimating and organizing the activities needed to achieve the desired goals. The arrangement in question includes the process of recording community proposals in it which can keep government administration more transparent.

The preparation of the RKPD is an important stage in the planning process because the output produced is an annual work plan document within the local government environment. This document will later become a reference for each Regional Apparatus Organization (OPD) in preparing their respective annual work plans. Although as a reference, the preparation of the Regional Apparatus Organization (OPD) work plan is carried out simultaneously with the preparation of the RKPD. This is so that the RKPD and the Regional Apparatus Organizational Renja (OPD) mutually complement and harmonize with the RPJMD which is the medium-term regional government strategic planning.

In this planning, the thing that must be considered is how planners must be able to estimate spending in accordance with the general budget policies and budget ceilings. To minimize budget shortfalls, it would be better if the RKPD and Work Plan had been prepared taking into account budget conditions. What often happens is that the budget ceiling in the RKPD exceeds the budget ceiling limit in the KUA-PPAS. This will certainly complicate the planning process because the need is greater than income.

In the Regional Government Information System (SIPD) system, the preparation of Work Plans by Regional Apparatus Organizations (OPD) is carried out very systematically. The business process in the Regional Government Information System (SIPD) has divided the work with the Head of Service user, the Head of Field user who acts in inputting the program along with its indicators and budget ceiling, the user of the Head of Section/ Echelon IV/ Equal

functional position acts in inputting activities and sub-activities while the staff user acts in inputting up to the details of the shopping account.

All civil servants participate in the development planning process in government administration. while the program/planning sub-division is in charge of ensuring that the organization's annual work plan can run well. In this planning process, what also needs to be done is setting a standard unit price. This entry was carried out by the BPKPD, but each existing SHS proposal was from each Regional Apparatus Organization (OPD). SHS entry is also carried out in accordance with a predetermined time limit.

The budgeting process has also changed for the better. Prior to using the Regional Government Information System (SIPD), the budgeting process seemed to only be carried out once at the end of the year. The budget preparers from both the Regional Apparatus Organizations (OPD) and TAPD worked overtime until morning in working on the budgeting in just a few days and had to do it in the office because it used a VPN network which could only be used in the office. Whereas after using the Regional Government Information System (SIPD), budget preparation is carried out according to a predetermined schedule after the RKPD is established. Namely on KUAPPAS. However, to avoid internet networks being used in the early hours of the day, there are still Regional Government Information System (SIPD) operators who use the early hours of the morning for input.

With the Regional Government Information System (SIPD), input can be done at each other's homes or anywhere because the Regional Government Information System (SIPD) uses a public internet network that can be used anywhere. However, there are still deficiencies in preparing budgets using Information Systems Regional Government (SIPD) is related to SHS, SBU, HSPK, and ASB. The problem is that the Regional Apparatus Organization (OPD) cannot input if these four things are not or are not yet available in the Regional Government Information System (SIPD). As a rule, the SHS must be completed in June each year. Standard prices must be listed in the Regional Government Information System (SIPD) so that the input of expenditure details can be done correctly. However, when this SHS does not exist, it will hinder the input process. Until now, the Regional Government Information System (SIPD) has not been able to directly extract SHS, SBU, HSPK and ASB data from the previous year's APBD. So, every year a large number of new price standards must be proposed and inputted. This happened because the Regional Apparatus Organization (OPD) as the party proposing price standards could not propose the data on time because until the RKPD was completed, the Regional Apparatus Organization (OPD) had not been able to determine the details of expenditures to be carried out next year (n+ 1).

Starting from 2022, the Regional Government Information System (SIPD) has also been developed by including TKDN (Domestic Component Level) in the price standard table. Thus, the Regional Apparatus Organization (OPD) can include the TKDN for each expenditure item in the standard price proposal. The problem that occurs is that all Regional Apparatus Organizations (OPD) do not know how to calculate TKDN which causes the Regional Apparatus Organizations (OPD) not to fill in the TKDN column (blank).

In the current year, the Regional Government Information System (SIPD) can accommodate shifts before changing the APBD many times. What has been done in the Anambas Islands Regency Government in 2022 is that there were three shifts before the APBD changes, after the APBD changes there was one shift. This shift is very helpful in budgeting because the Regional Apparatus Organization (OPD) can make shifts in accordance with the applicable provisions, namely Minister of Home Affairs Regulation Number 77 of 2020

Concerning Technical Guidelines for Regional Financial Management and propose price standards that apply in that year.

The shift process carried out on the one hand assists the Regional Apparatus Organization (OPD) in improving or adjusting the budget. However, on the other hand, the implementation of the APBD is hampered due to the implementation of the procurement of goods and services that cannot be carried out because the budget contained in the DPA is not appropriate. The administration process is divided into two, namely revenue administration and expenditure administration. The website address for the administration of the Regional Government Information System (SIPD) is sipd.kemendagri.go.id/ready to enter the Administration Regional Government Information System (SIPD), you can go through the website address or enter through the red Regional Government Information System (SIPD) application. In the Regional Apparatus Organization (OPD), the administration process is the responsibility of the treasurer, the revenue treasurer in terms of revenue administration and the expenditure treasurer in the administration of expenses.

The following is a series of administration activities facilitated by the Regional Government Information System (SIPD) application. Setting, at this stage the settings are made on the BUD user (Regional General Treasurer) and PA (Budget User). BUD makes arrangements related to user management (determines and manages administration of Regional Government Information System (SIPD) operators), SPD periodization, document signing (SPD, UP amount determined by regional head, DPA), and administration schedule. Meanwhile, PA makes user management arrangements (treasurer of receipts, treasurer of expenses, heads of program subdivisions, PPTK).

The administration process above starts from making a cash budget (RAK) by the Head of Program Subdivision who can do it himself or make operator arrangements so that the cash budget can be filled in by operators in each respective field or section. After that, the budget user together with the BUD do the validation. After validation is carried out, the DPA can be printed by each Regional Apparatus Organization (OPD) by selecting a date first. It is not yet possible to print documents by printing them in pdf format but they still have to be physically printed for later to be signed manually by the Head of the Regional Apparatus Organization (OPD) and the Head of the BPKPD. This is of course still contrary to the function of the Regional Government Information System (SIPD) which wants to save resources because it still requires paper.

The BUD or Proxy of BUD then determines the SPD (Letter of Provision of Funds), the Treasurer and/or Assistant Spending Treasurer (BPP) then makes the SPP (Letter of Request for Payment), then the PA and/or KPA makes the SPTjM SPP (Statement of Absolute Responsibility), which then makes the SPM (Payment Order) by PA/KPA as PPK followed by SPTjM SPM from PA/KPA. Then the BUD Authority issues SP2D which will be followed up by the treasurer to become TBP (Proof of Payment) and STS (Deposit receipt), LPJ (Accountability Report), SPJ (Accountability Letter).

In the planning process through the Regional Government Information System (SIPD), the input is data on community needs related to next year's development planning which is submitted directly through the musrenbang and the main ideas of the DPRD. The data which is the input is in the form of activity nomenclature, quantity of proposals, budget ceiling, location, name of the proposer and the completeness of the supporting data owned. Inputs included in the Regional Government Information System (SIPD) must be complete and clear so that they can support the next subsystem (budgeting). From a process standpoint, the Regional Government Information System (SIPD) will process inputs that are already

available. The process is carried out by processing, calculating and other activities by machines or the Regional Government Information System (SIPD) because there is input to then produce output that comes out of the process.

The process carried out in the planning stage is input processing to align regional development planning in a bottom-up manner. The output produced in this planning process is the RKPD document which is worked on in parallel with the Regional Apparatus Organization Work Plan (OPD) document. The output of the Regional Government Information System (SIPD) is information that can be used as input for another subsystem, namely the budgeting process. To be able to make the output of this planning process into input in the next subsystem, an interface is needed as a system link. Feedback on the planning process through the Regional Government Information System (SIPD) already exists, namely when notifications appear when the amount of budget input entered does not match the predetermined budget ceiling. Feedback on the planning process is very helpful for checking and correcting inappropriate inputs.

In the budgeting process through the Regional Government Information System (SIPD), the input obtained is the output of the planning process. Namely the work plan data that has been compiled in one RKPD document. This input is then processed by performing data processing. Inputs are calculated, compared and selected alternatives to readjust programs and activities according to priorities and budget. The output in the budgeting process is the APBD document in the form of DPA (Budget Implementation Document). DPA is a document containing useful information for governance. This document is input for the administration process which is also carried out in the Regional Government Information System (SIPD). The use of DPA as input in the Regional Government Information System (SIPD) can be done by using an interface as a system link. Feedback on the budgeting process is also available in the form of decision making. The available output in the form of DPA can show the Head of the Regional Apparatus Organization (OPD) as the budget user whether the budget that has been set is in accordance with the conditions of society at that time. It is possible that if there are still discrepancies, the decision maker can shift or change the DPA which is still in the budgeting process in the current year.

The results of research by Sutisna, et al (2022) found that the preparation of the regional expenditure budget using SIPD in the Bandung City Government was not optimal, which was indicated by competent human resources in preparing an uneven budget. This means that in the local government, there are still obstacles that can result in input, process, output and feedback not running smoothly. In the administration process, the input included in the Regional Government Information System (SIPD) is the output of the budgeting process, namely DPA. Apart from that, there are also other inputs in the form of accountability letter data and/or documents related to the procurement of goods and services such as receipts, contracts and others. In the administration process, budget disbursement occurs according to the input entered. The input is then processed which during this process will turn the input into output. Transaction data originating from the procurement of goods and services in a Regional Apparatus Organization (OPD) is then converted into financial reports containing important information related to finance.

Feedback on the administration process is also available in the form of notifications indicating that there is an error in the input or process. For example, feedback indicating that an error occurred when inputting tax data and please contact the relevant field. If there is no feedback in the system on SIPD, differences in financial realization data will appear which are difficult to find because the numbers are small.

There are problems in the implementation of the Regional Government Information System (SIPD) in Anambas Islands Regency, these problems are divided into three clusters as follows:

1. Technical problems

Technically, the Regional Government Information System (SIPD) requires hardware and software to operate. Processing core/central (central processor), storage (memory), input/output devices, and data communications. These four technologies affect the technical success of the Regional Government Information System (SIPD) in running. Even though the reliability of the central processor as a core processor has increased, the input/output equipment is also affordable, but the storage devices that are used nationally on-line are insufficient and the speed of the data communication network is not available, the Regional Government Information System (SIPD) cannot run properly.

The Regional Government Information System (SIPD) is expected to become an integrated system from upstream to downstream from planning to reporting and even later (in 2024) it will be tried up to the payment stage. However, this can be problematic because integrating the parts that each have their own complexity is difficult. What can be developed at this time is the concept of sub-systems. Namely the Regional Government Information System (SIPD) becomes a container for various sub-systems that can be managed at one time at the same time. The problem of securing systems and data so far has not caused any problems at the district level because there have been no reports related to the hack problem.

2. Coordinative improvement

At the district level, the policy for implementing the Regional Government Information System (SIPD) is one of the sudden regulatory changes. Even though the Central Government stated that the Regional Government Information System (SIPD) had been prepared long before 2020, at the district level the readiness for the implementation of the Regional Government Information System (SIPD) tended to be lacking (forced). This is due to a lack of coordination. The process of introducing, adapting, stabilizing and evaluating the Regional Government Information System (SIPD), which should have been carried out in stages, is now being carried out simultaneously. Thus, the results are not optimal. Good coordination between the central government (Ministry of Home Affairs) and district governments is needed so that each stage of the implementation of the Regional Government Information System (SIPD) can be carried out.

3. The role of human resources

The Regional Government Information System (SIPD) is not only related to computers with only working machines, but in the Regional Government Information System (SIPD) there are also humans as operators and managers who also work. Technology or computers can work quickly but still require humans, such as when describing something that a machine cannot do because of limited code or information. According to Davis (1999), in an organization a well-designed system can fail, while in other organizations the same system with a weaker design actually succeeds. The human factor is an important factor in the implementation of a system. Therefore, the right technology must be balanced with the right work environment for humans. In Jahidi and Budiati's research (2019), it is stated that e-administration in Indonesia can be improved through several strategies, namely: improving information technology infrastructure, human resource literacy, bureaucratic work culture, and leadership commitment.

An appropriate Regional Government Information System (SIPD) model is a Regional Government Information System (SIPD) that is ready in terms of policies, infrastructure and standardized management. The right policy is a policy that can support the use of the Regional Government Information System (SIPD) independently. Sectoral egos at the central government level must be eliminated, every Ministry/Agency/Institution is not competing to make applications that can make it difficult for users at the local government level to adapt.

The hardware required for the implementation of SIPD is a computer or laptop with a minimum specification of Core i5, 8 Giga Byte Random Access Memory is sufficient to support the use of the Regional Government Information System (SIPD) at the Regional Organizational Organization (OPD) level. In order to further maximize the use of the Regional Government Information System (SIPD) in Regional Apparatus Organizations (OPD), each operator or admin of the Regional Government Information System (SIPD) in the planning, budgeting and administration processes must use a computer or laptop and a printer device to print output. Technical problems related to servers and networks require a large amount of money to be resolved. Because it takes an even network and large-capacity servers can overcome these technical problems

Based on the results of the interviews, some respondents said that technical problems such as server errors were the most common problems. The server used for the Regional Government Information System (SIPD) is only available at the Ministry of Home Affairs. Through the results of interviews with Network and Server Administrator Experts on the Regional Government Information System (SIPD) application, the Data and Information Center of the Ministry of Home Affairs stated that, until now the Regional Government Information System (SIPD) server has not been allowed to be hosted, traceroute out for system security Regional Government Information (SIPD) itself. The Regional Government Information System (SIPD) often has errors caused by a very dense user network that cannot reach the Regional Government Information System (SIPD) server at the Ministry of Home Affairs.

In addition to the availability of internet devices and networks in the Regional Government, a Regional Government Information System (SIPD) development model is needed with additional features in the planning, budgeting and administration processes. In the planning process, the thing that still greatly hinders performance is the entry of expenditure details which cannot be carried out if the standard unit price (SHS) has not been uploaded into the Regional Government Information System (SIPD). Therefore, additional features are needed in the Regional Government Information System (SIPD) which can be used by Regional Government Information System (SIPD) operators in technical Regional Apparatus Organizations (OPD) to independently enter or upload SHS into the Regional Government Information System (SIPD). By continuing to go through verification and approval from TAPD BPKPD, SHS will still be supervised.

The schedule for proposing standard prices is open until July of the current year. After that, the proposal for a standard price can only be proposed again or improved in the following year. Meanwhile, the entry of expenditure details can only be done at the KUA-PPAS stage which usually only starts in July. So that if the entry or upload of price standards in the Regional Government Information System (SIPD) can be done independently at the Regional Apparatus Organization (OPD). It can also speed up work at the BPKPD.

Until now (June 2023), BPKPD is still directly proposing price standards. Technical Regional Apparatus Organizations (OPD) are asked to manually submit standard price proposals to be verified by the BPKPD if there are incomplete data, the BPKPD will write back

to the Regional Apparatus Organizations (OPD) asking for clarification. This is very inefficient in terms of time.

In terms of costs required, the addition of these features will not add too high a cost. Because the added features are not too different from the previous ones. Only activating the user operator of the Regional Government Information System (SIPD) in the Regional Apparatus Organization (OPD) to be able to propose price standards directly to the Regional Government Information System (SIPD) which can save time and improve the performance of all parties because APBD documents can be done on time.

The model for adding features to the budgeting process is adding a digital signature to the Budget Execution Document (DPA). Since it was used in 2020, the Regional Government Information System (SIPD) still requires manual signatures from the Head of the Regional Apparatus Organization (OPD) and the Head of the BPKPD as PPKD. This is not in accordance with the objectives of the Regional Government Information System (SIPD) which wants to minimize and save paper use.

After the APBD has been approved, and each Regional Apparatus Organization (OPD) has entered the cash budget plan, the next step is validation from the Head of the Regional Apparatus Organization (OPD) and PPKD (Head of the BPKPD). After that, the DPA can be printed according to the agreed date. The DPA has not been formalized, because it has not been signed by the Head of the Regional Apparatus Organization (OPD) and PPKD. If the digital signature feature is added to it, then each Regional Apparatus Organization (OPD) does not need to send a printout of the DPA to the BPKPD. Because after being digitally signed, DPA can be directly used for goods and services procurement activities. This means that the implementation of the APBD can be faster.

From a cost standpoint, adding a digital signature feature is not a difficult thing today. So it doesn't cost a lot. So, it is very possible to do this by previously taking care of digital signature administration to the related Office (Diskominfotik). In terms of time, the addition of a digital signature feature in the DPA can improve performance because the implementation of the APBD can be carried out immediately. In the administration process, additional features are added to the Regional Government Information System (SIPD) which can show real-time financial realization data. This is intended so that the Head of the Regional Apparatus Organization (OPD) can know and understand related to the realization of the target and use this data for the next APBD implementation strategy, what work should be prioritized based on the financial realization data presented.

The following is the current condition in the Regional Government Information System (SIPD) to find out financial realization: The Head of the Regional Apparatus Organization (OPD) has not been able to see financial realization data in real time in an easy-to-read presentation such as a simple graph or table. However, the Head of the Regional Apparatus Organization (OPD) still has to print financial realization documents within a certain time. Therefore, the addition of a real time financial realization dashboard feature is needed so that the Heads of Regional Apparatus Organizations (OPD) can find out how far the work has been carried out. From a cost standpoint, the addition of this feature is not something that will overwhelm users, so it does not require too much cost compared to the effectiveness and time efficiency obtained by having a financial realization dashboard that can be seen clearly in real time through the Regional Government Information System (SIPD).). Based on research conducted by Dela and Nasution (2022), it was revealed that the implementation of SIPD in one of the offices in the North Sumatra Provincial Government has been effective. Respondents in the research conducted by Dela and Nasution (2022) argued that the job became easier,

although most respondents still did not clearly understand the input process, so supervision was needed in work using SIPD. The addition of a real time financial realization dashboard feature can facilitate the monitoring process.

Based on research by Putri et al (2022), who conducted research related to SIPD from a computer science perspective, explained that the development of SIPD by applying the concept of service-oriented architecture can connect large service modules such as planning, budgeting and administration in a microservices method. This is in accordance with the spirit of SIPD to be integrated from planning to administration even to accounting and reporting. This development can also bring SIPD to SPBE which can be used nationally properly.

Continuous development of the Regional Government Information System (SIPD) to produce a Regional Government Information System (SIPD) with a high level of interoperability. Apart from being integrated from upstream and downstream, the Regional Government Information System (SIPD) must also be easily accessible without being limited by space and time. Integration of the Regional Government Information System (SIPD), starting from planning, budgeting, administration to reporting requires a complex information system because planning, budgeting, administration and reporting have different characteristics but the data are interrelated.

In research conducted by Sudianing and Seputra (2019), explained that the development of SIPD must be carried out in four important aspects consisting of regulatory aspects, internet network technical equipment, SPBE supporting applications, and content infrastructure contained in SIPD. This is in accordance with the results of this study where the SIPD development carried out should not be too different or could shock users in the regions. SIPD development can be done by adding features and improving the network so that it can be well integrated and does not change regulations.

Conclusion

Planning, budgeting and administration in Anambas Islands Regency have been going well, where the input in the form of work plan data has been fulfilled, the process has been running well, the resulting output is informative and usable, and the feedback is appropriate. However, there are still obstacles in the implementation of the Regional Government Information System (SIPD) in Anambas Islands Regency from a technical, coordinative and human resource perspective. These obstacles can be overcome by adding an internet network, socialization related to the Regional Government Information System (SIPD) must be carried out massively both formally and informally, and increasing personal capacity by following technical guidance held online and free of charge from the Ministry of Home Affairs.

The optimal SIPD development model is the development of a minor system bit by bit in response to the constraints presented by users of the Regional Government Information System (SIPD). However, this development does not deviate from the main line that has been determined previously. Because the essence of the Regional Government Information System (SIPD) is a system that can meet the needs of more effective, efficient, transparent and accountable government administration.

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