

Implementation of Google Spreadsheet in Supporting Financial Management at West Java Population Office

Erika Astuti ^{1*}, Eka Wirajuang Daurrohmah ^{2*}

^{1,2} Universitas Terbuka, Pondok Cabe, Indonesia

corresponding author e-mail: ekawirajuang@ecampus.ut.ac.id

Article Info	Abstract
Keywords: - Effectiveness; - Google Spreadsheet; - Management Finance;	Purpose – This study aims to review the effectiveness of the implementation of the use of Google Spreadsheets in supporting financial management at the Population and Civil Registration Service of West Java Province. Design/methodology/approach – The method used is descriptive qualitative. Interview respondents were the Head of the Planning and Finance Sub-Division, the Expenditure Treasurer, and the Assistant Expenditure Treasurer. Findings – Implementation of the use of Google Spreadsheets to support financial management at the Population and Civil Registration Service Province Java West effectively helps the management of service finances to be more orderly, transparent, and accountable, improves team collaboration in managing service finances, helps the management of service finances to be more effective and efficient, and successfully improves the accuracy of financial data. Research limitations/implications – This study is limited to the context of the Population and Civil Registration Service of West Java Province. Further research is recommended to explore the application of similar tools in other regions or contexts to validate these findings.
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INTRODUCTION

Before implementing Google Spreadsheet, the financial manager at the Population and Civil Registration Service (Disdukcapil) of West Java Province used Microsoft Excel in the financial administration of the service. Although Microsoft Excel has advantages in terms of structured and systematic calculations, it still has several shortcomings, such as files are stored on each employee's computer so that if there is a change in data only the employee knows about it, this causes the data to be less accurate and data reconciliation takes time. long because the financial report preparer must manually combine the general cash book files for each sub-activity from each assistant expenditure treasurer. This causes financial management to be less effective and efficient.

Based on the reasons explained above, there are risks related to financial administration at the West Java Province Population and Civil Registry Office. One of the risks with the highest urgency is the realization of spending that exceeds the set budget, this risk can arise due to differences in data recorded between financial managers. This risk can cause new problems, such as the emergence of an entity's obligation to return money in the amount of excess

spending to the regional treasury. In addition, reconciliation problems can also occur due to differences in data figures between the financial reports of the Population and Civil Registry Office as the accounting entity and the data held by the Regional Financial and Asset Management Agency (BPKAD) as the reporting entity.

Regional financial management is very important to be considered properly because regional finance is the lifeblood of regional development. Regional financial management must be managed properly, orderly, and responsibly. Mardiasmo (2004) emphasized that there is a correlation between the financial accountability system and the financial management system, where if the financial management system is good, it will also produce good financial accountability. This explanation shows that regional financial management has a strategic position in supporting the realization of accountable government management.

Based on Government Regulation Number 12 of 2019 concerning Regional Financial Management, regional financial management is all activities that include planning, budgeting, implementation, administration, reporting, accountability, and supervision of regional finances. Based on the principles, principles, and general foundations stated in the regulation, it is expected that regional governments will be able to form procedures and mechanisms for financial management in accordance with local conditions and needs. The financial performance of regional governments is greatly influenced by the financial management mechanism, therefore the mechanism created must comply with applicable laws and regulations and be sustainable.

In today's digital era, the implementation of a good information system can facilitate operational activities in managing the finances of the service. The implementation of a good information system can minimize errors caused by work done manually. Krismiaji (2015) describes the accounting information system as a system that processes data and transactions with the aim of producing information, which is useful for planning, controlling and operating a business. Several previous researchers on the application of google spreadsheets in financial management, such as research conducted by Anne (2023) on the design of an accounting information system for cash receipts from room rentals using google spreadsheets, research conducted by Lenny (2023) on the application of accounting information systems to company business transactions, and research conducted by Latifa (2020) on the effectiveness of the application of computer-based accounting information systems in improving internal control of inventory and expenses. The results of these studies prove that the application of google spreadsheets increases the effectiveness of accounting information systems. Therefore, google spreadsheets were chosen as a supporting tool for accounting information systems in supporting financial management at the West Java Province Population and Civil Registry Office which was implemented starting in 2023.

Google spreadsheet is a web-based spreadsheet program developed by Google. Google spreadsheet can be easily accessed from anywhere via any device and can be accessed by multiple people at once. The use of Google spreadsheet is expected to support the management of government finances in an orderly, effective, efficient, transparent manner, and can improve employee cooperation and collaboration, improve employee discipline in completing their tasks carefully and on time, create fast and accurate financial reports, and improve

accountability for government financial management. Therefore, the author would like to review the effectiveness of the implementation of the use of Google spreadsheets in supporting financial management at the West Java Province Population and Civil Registry Office.

RESEARCH METHOD

This study uses a qualitative descriptive method. According to Best (in Sukardi, 2009: 157) the descriptive method interprets objects according to reality and what they are. The descriptive method is defined by Arikunto (2010: 3) as a study that aims to investigate circumstances, conditions, and other things. This approach was chosen to assess the effectiveness of using Google Spreadsheets in supporting the management of government finances. The object of this study is the Population and Civil Registration Service of West Java Province. The data sources used in this study are primary data which are data obtained directly from respondents as research subjects. The data collection technique in this study is semi-structured interviews. Semi-structured interviews is an interview that refers to a series of open-ended and flexible questions. The subjects of this study were the Head of the Planning and Finance Sub-Division, the Expenditure Treasurer, and the Assistant Expenditure Treasurer. The subjects of this study were people who had a background and work experience in the financial sector. The consideration for selecting respondents was based on the position they currently hold. The Head of the Planning and Finance Sub-Division is the financial administration official of the regional work unit (PPK-SKPD) who carries out the financial administration function of the agency. The Expenditure Treasurer (BP) and the Assistant Expenditure Treasurer (BPP) are officials who have the task of receiving, storing, paying, administering, and accounting for money for regional spending needs in the context of implementing the APBD.

RESULTS

From the results of data collection obtained through interviews with several respondents, it was found that from their perspective, the implementation of Google Spreadsheet at the West Java Province Population and Civil Registry Office helped the management of the office's finances to be more orderly, transparent, and accountable. This was expressed by the Head of the Planning and Finance Sub-Section.

"I feel that the google spreadsheet that you created has successfully improved teamwork and collaboration and also reduced the risk of differences in recording financial transactions between financial managers, especially since the spreadsheet can be a medium for preventive and even corrective actions when there is a data mismatch. The spreadsheet is very helpful in the administration, reporting, and supervision of the department's finances to run more effectively, efficiently, transparently, and accountably.."

The Treasurer of Expenditures also expressed something similar.

"The integration of financial data from each assistant expenditure treasurer in each field makes financial data quickly obtainable when needed. Supervision can also be done easily because I can see the general cash book and the results of the SPJ verification of each BPP. The existence of transparency as a form of openness from the accountability of financial management also supports the fulfillment of the principle of accountability."

The implementation of google spreadsheet has improved team collaboration in managing the department's finances. This was expressed by the Head of the Planning and Finance Sub-Section.

"Some very helpful features of Google Spreadsheet are being able to collaborate with other users, accessible from any device, anytime, and anywhere. This greatly helps improve teamwork to coordinate and collaborate in managing office finances. Google Spreadsheet makes it easier for me as a leader, and other team members, such as financial verifiers, expenditure treasurers, assistant expenditure treasurers, planning teams, data managers, and financial report compilers to monitor financial management and access financial data."

The three respondents stated that the implementation of Google Spreadsheet helped the management of the department's finances to be more effective and efficient. This was stated by the Head of the Planning and Finance Sub-Section.

"Data integration between the general cash book, results of verification of expenditure accountability letters, and budget realization recapitulation helps me monitor the development of financial management in real time and makes it easier for me to make policies and report to management."

The Treasurer of Expenditures also expressed something similar.

"With Google Spreadsheet I can monitor financial transactions carried out by financial managers in this case the assistant expenditure treasurer for each field so that if there is an error/discrepancy it can be immediately identified and followed up. I can also monitor the progress of the completeness, accuracy, and validity of the expenditure accountability letter managed by the assistant expenditure treasurer for each field easily. This greatly helps the management of the office's finances to be more orderly in financial administration, effective and efficient."

The Assistant Expenditure Treasurer also expressed the same opinion.

"Because Google spreadsheets can be opened from any device and anywhere as long as they have access to the link, this really helps me in managing financial data more quickly, easily, effectively and efficiently."

Respondents also revealed that the implementation of Google Spreadsheets has succeeded in increasing the efficiency and accuracy of financial data. This was expressed by the Head of the Planning and Finance Sub-Division.

"...Integrated and continuously updated financial data in real time has increased efficiency and accuracy. Better data accuracy is seen during quarterly financial reconciliation with the Regional Financial and Asset Management Agency (BPKAD) where the data we submit is the same as the data held by BPKAD or there is no data difference. Efficiency can be seen in terms of timely preparation of financial reports. Integrated and automated data helps financial report preparers so that they no longer need to combine one by one the general cash book files from the assistant expenditure treasurer for each field to obtain a recapitulation of the realization of the service budget."

The Treasurer of Expenditures also expressed something similar.

"...Functional SPJ reports are no longer delayed and when reconciling spending realization and tax reconciliation with the Regional Revenue and Asset Agency (BPKAD) there are no longer any data differences as in previous years. If there are any data differences, they can be traced quickly, making the reconciliation process much easier."

The Assistant Expenditure Treasurer also expressed the same opinion.

"...Since using Google Spreadsheet, I no longer need to do manual calculations to summarize spending realization. I only need to record daily spending transactions in the general cash book and the recap of spending realization will be automatically updated. In addition, because the general cash book is integrated with the verification results, I can quickly correct it if I make a mistake in transferring spending or recording the wrong amount of spending in the general cash book."

DISCUSSION

The West Java Province Population and Civil Registry Office began using Google Spreadsheets to support the management of department finances in 2023. Previously, financial managers used Microsoft Excel which was not integrated as a tool for recording and reporting spending between fields. The use of Microsoft Excel has several disadvantages, such as data becomes less accurate because files related to shopping transactions for each field are stored on each employee's computer so that if there is a change in data only the employee knows about it, leaders have difficulty when they want to know about the realization data of service spending up to a certain date, and the process of presenting reports takes a long time if there is a data request. Google spreadsheets have begun to be implemented to minimize data differences, spending errors, facilitate communication and collaboration between financial managers and leaders, and improve data accuracy and transparency, accountability, effectiveness and efficiency of service financial management.

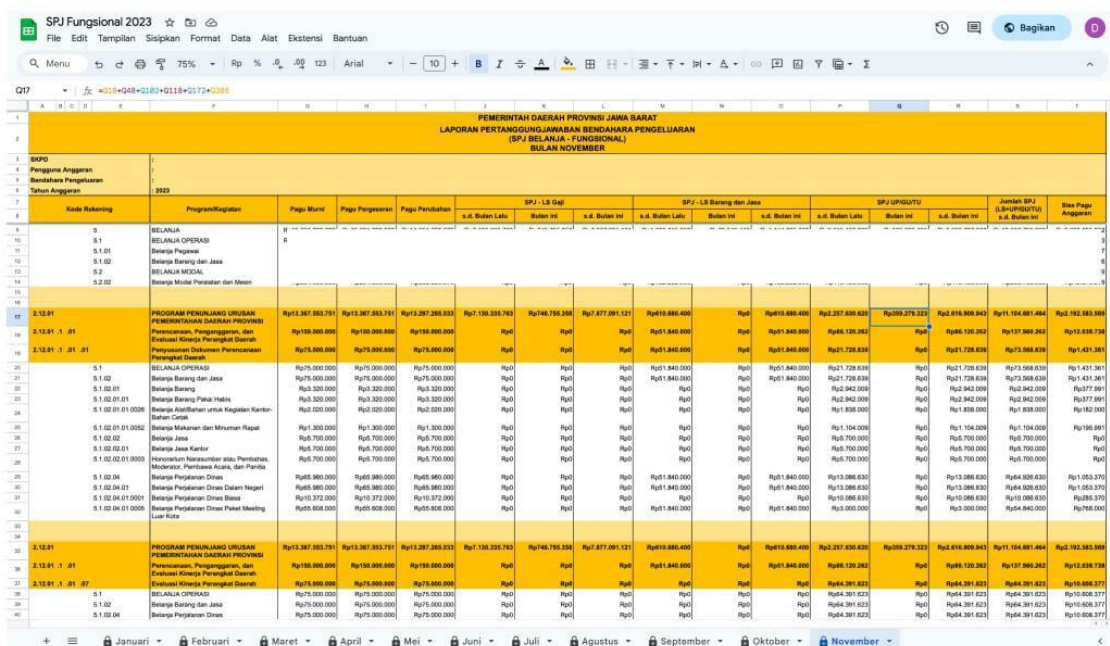
Google spreadsheet is a web-based spreadsheet program developed by Google. Users can create and edit spreadsheets in a web browser without the need for special software. Cloud-based architecture allows Google spreadsheets to be easily accessed from anywhere via any device. With Google spreadsheets, multiple people can work at the same time, see changes as

others edit and each change will be saved automatically. Some access options on Google spreadsheets include:

1. Can edit, anyone with the link can edit or modify the shared file.
2. Can comment, anyone with the link can comment on the shared file.
3. Can view, anyone with the link can view the shared file but cannot edit or comment.

Users who are given access to the Google Spreadsheet are the head of the planning and finance sub-section, expenditure treasurer, assistant expenditure treasurer, salary manager, verifier, application data processor, financial report preparer, and planning, evaluation, and reporting analyst. Each employee is given different access rights according to their job duties. The files contained in the Google Spreadsheet are as follows: The use of Google Spreadsheets to support financial management at the West Java Province Population and Civil Registry Service is as follows:

1. General Cash Book (BKU) BKU is a master book used by BPP in managing spending by recording all spending transactions in the context of implementing the Regional Revenue and Expenditure Budget (APBD). All transactions related to cash receipts, cash disbursements, and cash changes through BPP must be recorded in the general cash book. In addition, the general cash book file also contains the results of verification of the completeness, truth, and validity of expenditure documents.
2. Functional Accountability Letter of Expenditure Treasurer (SPJ Functional) Functional Accountability Letter of Expenditure Treasurer (SPJ Functional) (see Figure 1) is an accountability report in the form of a consolidation of the accountability reports of assistant expenditure treasurers. This report includes information on the amount of budget, realization of spending, and the remaining budget ceiling cumulatively per sub-activity. The SPJ Functional is prepared by the expenditure treasurer and submitted to the Regional Financial Management Officer (PPKD) no later than the 10th of the following month.

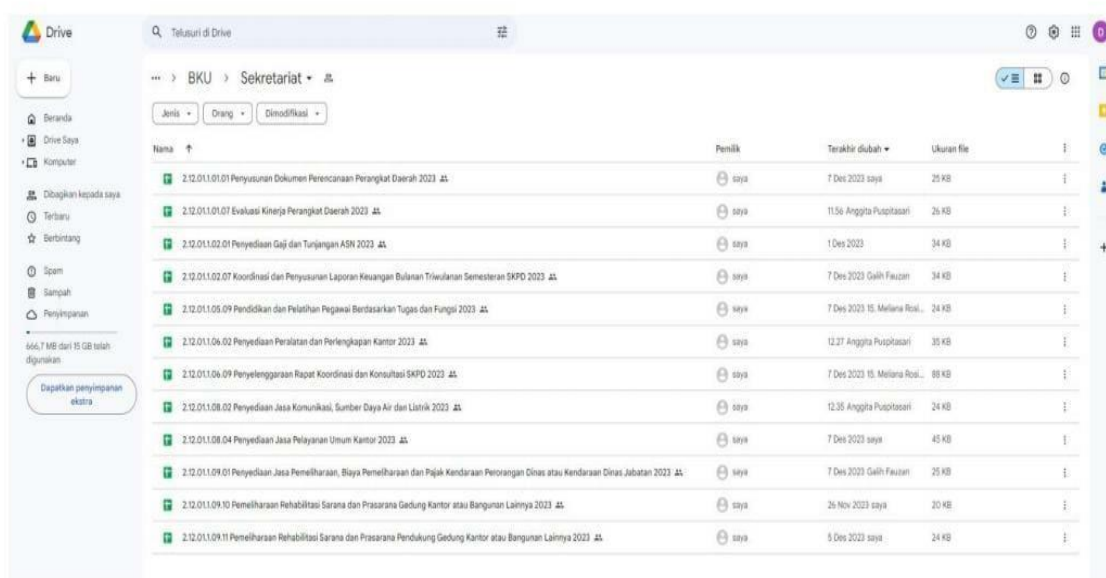


The screenshot displays a Google Spreadsheet titled "SPJ Fungsional 2023". The spreadsheet is organized into columns representing different budget items and spending categories. The rows are grouped by month, with a summary row for each month. The data is presented in a structured format, with columns for various budget items, spending, and remaining budget. The spreadsheet is used for financial management and reporting.

Figure 1. SPJ Fungsional

The use of Google Spreadsheets to support financial management at the West Java Province Population and Civil Registry Service is as follows:

1. Recording of Transactions in the General Cash Book (BKU) by the Assistant Expenditure Treasurer (BPP). The Assistant Expenditure Treasurer (BPP) in administering regional expenditure is required to carry out control over the implementation of expenditure that is under his authority, one of which is by recording expenditure transactions in the General Cash Book (BKU). BPP records the receipt of inventory money, replacement stock money, and additional stock money (UP/GU/TU) based on the disbursement order by recording it in the BKU in the receipt column. Payments made by the BPP are based on evidence of spending provided by the technical implementing officer (PPTK) and recorded in the BKU in the expenditure column. Meanwhile, related to payment of spending through direct payment (LS), the BPP carries out bookkeeping by recording it in the BKU in the receipt column and the expenditure column on the same date. The access link to the general cash book is given to the head of finance, expenditure treasurer, verifier, application data processor, and assistant expenditure treasurer for each field with different access rights. The head of finance and expenditure treasurer are only given access to view data. Verifiers, application data processors, and assistant expenditure treasurers are given access to edit data. However, the assistant expenditure treasurer is only given access to edit data in columns A to G (See Figure 3). General cash book files have been provided for all sub-activities (See Figure 2) from January to December so that the treasurer only needs to record shopping transactions in columns A to G in the format provided (See Figure 3). All data changes after editing are automatically saved, thus minimizing data loss that can occur, such as when using Microsoft Excel.



Nama	Pemilik	Terakhir diubah	Ukuran file
2.12.01.1.01.01 Penyusunan Dokumen Perencanaan Perangkat Daerah 2023 .xl	sayu	7 Des 2023 sayu	25 KB
2.12.01.1.01.07 Evaluasi Kinerja Perangkat Daerah 2023 .xl	sayu	11.06 Anggita Pusptasari	26 KB
2.12.01.1.02.01 Penyediaan Gaji dan Tunjangan ASN 2023 .xl	sayu	1 Des 2023	34 KB
2.12.01.1.02.07 Koordinasi dan Penyusunan Laporan Keuangan Bulanan Triwulanan Semesteran SKPD 2023 .xl	sayu	7 Des 2023 Galih Fauzan	34 KB
2.12.01.1.05.09 Pendidikan dan Pelatihan Pegawai Berdasarkan Tugas dan Fungsi 2023 .xl	sayu	7 Des 2023 15. Meliana Rosli	24 KB
2.12.01.1.04.02 Penyediaan Peralatan dan Perlengkapan Kantor 2023 .xl	sayu	12.27 Anggita Pusptasari	35 KB
2.12.01.1.04.09 Penyelenggaraan Rapat Koordinasi dan Konsultasi SKPD 2023 .xl	sayu	7 Des 2023 15. Meliana Rosli	88 KB
2.12.01.1.08.02 Penyediaan Jasa Komunikasi, Sumber Daya Air dan Listrik 2023 .xl	sayu	12.05 Anggita Pusptasari	24 KB
2.12.01.1.08.04 Penyediaan Jasa Pelayanan Umum Kantor 2023 .xl	sayu	7 Des 2023 sayu	45 KB
2.12.01.1.09.01 Penyediaan Jasa Pemeliharaan, Biaya Pemeliharaan dan Pajak Kendaraan Perorangan Dinas atau Kendaraan Dinas Jabatan 2023 .xl	sayu	7 Des 2023 Galih Fauzan	25 KB
2.12.01.1.09.10 Pemeliharaan Rehabilitasi Sarana dan Prasarana Gedung Kantor atau Bangunan Lainnya 2023 .xl	sayu	26 Nov 2023 sayu	20 KB
2.12.01.1.09.11 Pemeliharaan Rehabilitasi Sarana dan Prasarana Pendukung Gedung Kantor atau Bangunan Lainnya 2023 .xl	sayu	5 Des 2023 sayu	24 KB

Figure 2. List of General Cash Book Files for Each Sub-Activity

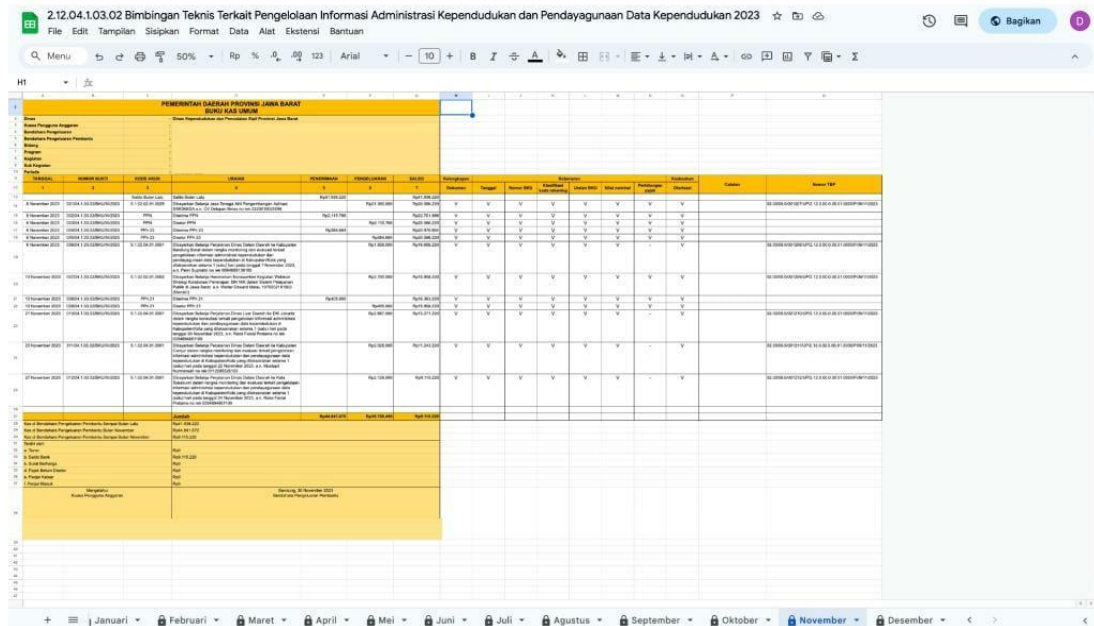


Figure 3. General Cash Book

2. Shopping Verification by Verifier Based on the accountability documents and recording of spending transactions in the general cash book, the verifier verifies the truth, completeness, and validity of the spending accountability documents and the results are entered in columns H to P which are the verification result columns located next to the general cash book (see Figure 3) to make it easier for the treasurer to find out the accountability documents that need to be corrected if there are deficiencies or errors. The verification result column cannot be edited or changed by the assistant expenditure treasurer and can only be edited or changed by the verifier to minimize the occurrence of data changes, either intentional or unintentional.

3. Inputting Proof of Expenditure into the Regional Government Information System (SIPD) by the Application Data Processor After the accountability document is verified and the actual spending figures are confirmed to be correct, the application data processor enters the spending transaction data into SIPD and the results in the form of a proof of payment number are entered into column O (See Figure 3). This makes it easier for financial managers to trace if there is a difference in data between the SIPD data held by BPKAD and the data held by Disdukcapil during quarterly spending reconciliation.

4. Supervision of Expenditure Realization by the Expenditure Treasurer and Head of Finance Subdivision. The calculation of the recapitulation of expenditure realization contained in the Functional SPJ file will be automatically Update assistant expenditure treasurer records his/her transactions in the general cash book. Based on the data, the expenditure treasurer and the head of the finance sub-section supervise the expenditures made by the assistant expenditure treasurer in each field. Each sheet in the Functional SPJ file is locked so that the expenditure treasurer and the head of the finance sub-section can only view and cannot edit to minimize data changes.

The use of Google Spreadsheets supports financial management at the West Java Province Population and Civil Registry Office by making general cash book data, verification results, and recapitulation of spending realization integrated and centralized in one database (database). Google spreadsheets make it easier for the Head of the Planning and Finance Subsection as the leader, financial verifier, expenditure treasurer, assistant expenditure treasurer, application data processor, financial report compiler and other parties to find out in detail real time to what extent the development of the accountability letter (SPJ) and general cash book (BKU) is made, verified, corrected if there are deficiencies or errors, and inputted into the Regional Government Information System (SIPD). In addition, the automation of the calculation of the recapitulation of spending realization in the functional SPJ file helps leaders, expenditure treasurers and financial report compilers to be able to easily find out the recapitulation of spending realization data quickly and accurately so that they can report accountability reports on time.

Effectiveness is the ability to choose the right goals or tools to achieve the set targets. In addition, effectiveness is a measure that shows the extent to which goals can be achieved both in terms of quality and time, with a focus on the output produced (Handoko, 2013). Kumorotomo (2018) defines effectiveness as a measurement of the completion of a particular job in an organization. Danumiharja (2014) defines effectiveness as a measure that shows the extent to which quantity, quality, and time have been achieved. Effectiveness is the achievement of organizational goals by using resources efficiently, seen from the aspects of input, process and output, which means resources include the availability of personnel, facilities and infrastructure and methods used. An activity is considered effective if it is carried out correctly and provides useful results.

Dandago and Rufai (2013) in the book Accounting Information Systems, define accounting information systems as a set of interconnected subsystems that work together to collect, process and store, change and distribute information that functions as planning, decision making, and control (Zamzami. F, 2021). A system can be said to be effective if the system can produce acceptable information and is able to meet information expectations in a timely, accurate, and reliable manner (Widjajanto, 2010). Google spreadsheets were chosen as a supporting tool for accounting information systems used to support financial management at the West Java Province Population and Civil Registry Office. The following is a comparison table of the use of Google spreadsheets with Microsoft Excel.

Tabel 1 Comparison Between Microsoft Excel and Google Spreadsheet in Financial Management

	Microsoft Excel	Google Spreadsheet
Tepat Waktu	Bendahara pengeluaran dalam menyusun SPJ Fungsional harus menggabungkan secara manual file-file BKU setiap sub kegiatan dari setiap BPP sehingga penyusunan laporan membutuhkan waktu yang lama dan pelaporan menjadi tidak tepat waktu.	Otomatisasi perhitungan rekapitulasi realisasi belanja yang terdapat pada file SPJ Fungsional memudahkan bendahara pengeluaran dalam menyampaikan laporan secara tepat waktu.
Akurat	Data kurang akurat karena file buku kas umum disimpan pada komputer masing-masing bendahara pengeluaran pembantu sehingga jika terdapat perubahan data hanya pegawai tersebut yang mengetahuinya. Jika terjadi perbedaan data penelusuran selisih membutuhkan waktu yang lama.	Data akurat karena setiap transaksi yang terdapat pada buku kas umum telah diverifikasi oleh verifikatur dan sesuai dengan rekening koran. Data yang terintegrasi memudahkan penelusuran apabila terjadi selisih saat rekonsiliasi.
Dapat dipercaya	Data kurang dapat dipercaya jika bendahara pengeluaran pembantu melakukan perubahan data pada buku kas umum dan tidak melaporkannya kepada verifikatur.	Data dapat dipercaya karena setiap transaksi yang terdapat pada buku kas umum telah diverifikasi oleh verifikatur.

Based on Government Regulation Number 12 of 2019 concerning Regional Financial Management, the three pillars of good regional financial management are transparency, accountability, and participation. The element of transparency in the administration of official finances is reflected in the Google Spreadsheet feature which allows many parties to access financial data in real time. The financial data in question includes the budget and spending realization packaged in the form of report documents, namely the General Cash Book (BKU) and Functional Accountability Letter. Data related to the budget and spending realization can be accessed by parties who need it, especially leaders who are useful as considerations in making policies or decisions.

The accountability element is fulfilled by having accountability for every expenditure that occurs. Expenditures must be accompanied by supporting documents. Some of them are like disbursement notes, receipts, and activity reports. The existence of a verification result column for every spending transaction recorded in the general cash book proves that every expenditure that occurs is true and can be accounted for. In addition, the automation of the calculation of the recapitulation of spending realization contained in the Functional SPJ file makes it easier for the expenditure treasurer to submit accountability reports in a timely

manner.

The participatory element is represented by the collaboration feature real time on google spreadsheets that make it easier for financial managers to work together. Verifiers can add comments to the general cash book related to spending errors made by assistant expenditure treasurers. In addition, the finance subsection head and expenditure treasurer can easily monitor spending transactions made by assistant expenditure treasurers in each field and follow up if there are errors or discrepancies. That way, improvements can be quickly made and completed by the treasurer.

CONCLUSION

Based on the results of research and discussion on the implementation of the use of Google Spreadsheets in supporting financial management at the Population and Civil Registration Service of West Java Province, it can be concluded that Google Spreadsheets can be an effective tool in helping to manage the financial services. Google Spreadsheets help the management of the financial services to be more orderly, transparent, and accountable as well as enhance team collaboration through cloud-based google spreadsheet architecture so that data can be easily accessed from anywhere via any device and can be accessed by multiple people at the same time. In addition, financial data that is integrated and continuously updated update in a way real time facilitates the financial sub-section head in monitoring the progress of spending realization and following up if there is a discrepancy. Google spreadsheets help the management of department finances to be more effective and efficient through automation of the calculation of the recapitulation of spending realization so that the expenditure treasurer does not need to calculate manually and can submit accountability reports quickly and on time. The use of Google spreadsheets has also succeeded in increasing the accuracy of financial data with the presence of a verification result column for each spending transaction recorded by the assistant expenditure treasurer in the general cash book.

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