Empowering Community Partnerships in the Creation of Web-Based Financial Reporting for the Serdang Tirta Kencana Village-Owned Enterprise

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Abstract

Web-Based Financial Reports at Village-Owned Enterprise or Indonesian Badan Usaha Milik Desa (BUMDes) named Serdang Tirta Kencana (STK) is a web-based information system that functions to record financial transactions. The financial reporting system is used by BUMDes STK as a function of accountability for the use of funds, both to the village community and the Village Head. Building a Web-Based Financial Reporting Information System aims to (1) Administrative order. As a form of BUMDes STK's responsibility to the community in carrying out economic tasks. The capital that BUMDes STK has received must have a welfare impact on village communities. For this reason, every expenditure and income received by BUMDes STK must be recorded properly and correctly. (2) Prepare financial reports easily. The Web-Based Financial Report Information System was built in accordance with the needs of BUMDes STK. The involvement of BUMDes STK started from identifying problems in financial reports, analysis, to the information system design. BUMDes STK involvement aims to make the Web-based Financial Report Information System Application become easy to use. Users of the financial report application only need to input transactions; the application will automatically generate the resulting financial reports based on the entered transactions. The output targeted at community service was the Financial Report Information System Application for BUMDes.

Keywords: BUMDes, cloud computing, financial report, web-based application

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Introduction

The instrument of rural economic development is an institution called the *Badan Usaha Milik Desa* (village-owned enterprise) or BUMDes. BUMDes has the function and role as a forum for rural economic activities. The concept of BUMDes originated from Law Number 6 of 2014, which is about rural affairs. One of the goals mentioned in this law is to develop the rural economy and to overcome national development disparities (UUDesa No. 6, 2014).

BUMDes is established and developed using 20% of rural funds. Based on data from the Ministry of Finance of the Republic of Indonesia, rural funds that have been transferred and absorbed by villages from 2015 to 2022 amounted to Rp 468.9 trillion, with a distribution as shown in Figure 1 (Kemenkeu RI, 2022). Thus, the absorption of rural funds for the establishment and development of BUMDes amounted to Rp 93.8 trillion from 2015 to 2022. Based on data from bumdes.kemendes.go.id, there are 55,270 BUMDeses in Indonesia. With the enactment of Law No. 11 of 2020 on the Job Creation Law, a total of 16,733 BUMDeses have become legal entities (Data BUMDes, 2023). The implication of this legal entity is that BUMDes become more flexible in running their businesses. BUMDes gain several advantages, including the ability to form business units in the form of limited liability companies (*Perseroan Terbatas*, PT), access to capital, and so on.

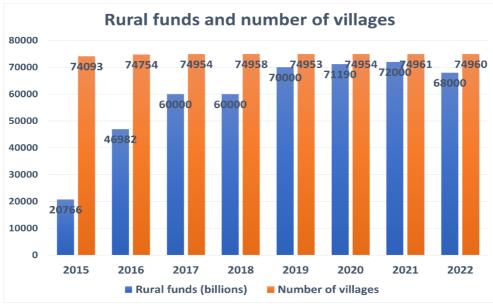


Fig. 1. Rural funds and number of villages in year 2015-2022

BUMDes Serdang Tirta Kencana (STK) is one of more than 74 thousand BUMDeses in Indonesia, which utilizes rural funds to establish and develop BUMDes. BUMDes STK was established based on the village forum on October 20, 2015 and operated in 2019.

BUMDes STK is located in Serdang Wetan Village, District of Legok, Tangerang Regency, Banten Province. The business units of BUMDes STK are the tourism business unit, the trade business unit, the service unit, and the public relations unit. Until the UKRIDA community service team conducted an initial survey, the only business unit that was still operational was the service unit. The service unit rents land to the community for fishing businesses and fish farming. The tourism unit is still under construction to build a reservoir (Figure 2). The trade unit is preparing to build stalls around the tourism reservoir.



Fig. 2. Reservoir of BUMDes STK

The community service team from UKRIDA conducted a survey at the location of BUMDes STK (Figure 3) and recorded several facts:

- 1. Financial reporting was last done in 2021 using the Microsoft EXCEL application. There had been a decline in the use of information technology, considering that at the beginning of its establishment, BUMDes SKT used ACCURATE application software as a tool for compiling financial reports. Research conducted (Puspitasari & Kristanto, 2021) mentions that BUMDes STK had utilized the ACCURATE application. ACCURATE application is accounting software that functions to compile financial statements (Safri, 2020).
- 2. BUMDes had no longer subscribed to the ACCURATE application. As mentioned above, because no BUMDes STK staff received training on ACCURATE application skills, the

application was no longer subscribed to. There is a necessity for customers to be prepared for using the ACCURATE application. The ACCURATE application is a Software as a Service (SaaS). The provider provides software facilities and storage of customer transaction data. Customers must customize the application to suit their work environment.



Fig. 3. Team visit of LPPM UKRIDA to BUMDes

From the results of the survey conducted, the following problems faced by BUMDes STK were mapped:

1. The use of financial reporting applications was not proper.

The selection of ACCURATE as an application for financial reporting at the beginning of the formation of BUMDes was not the right choice. BUMDes STK needs assistance in determining a proper financial reporting application. The customization function in ACCURATE was replaced with assistance from the UKRIDA team to BUMDes STK, starting from identifying the problem to system design.

2. There was still a lack of understanding of financial reporting as a responsibility in the utilization of rural funds.

The latest financial report was compiled by BUMDes STK for the year 2021. The preparation of financial statements did not meet financial reporting standards. Financial reporting was done using the Excel application. As a result of the lack of financial statement standards and the financial statement preparation was still carried out manually, the financial statements of BUMDes STK did not employ a standard format. In addition, the work of preparing financial statements required a great deal of effort because the

transaction data was not entered each day. As a result, the work piled up at the end of the year when reporting was required for the village forum meet.

With the two identified problems, the following objectives of this community service were set, (1) To help the BUMDes treasurer compile financial reports using a financial reporting application, (2) To train the BUMDes treasurer to use a financial reporting application.

Methods

Extreme Programming (XP) is the method used to develop the financial reporting application of BUMDes STK (Figure 4). There are four stages of the XP process, namely Planning, Design, Coding, and Testing (Mancl & Fraser D. Steven, 2019). Planning is the process of identifying user needs. User needs were obtained by the Ukrida community service team through interviews with BUMDes STK administrators (figure 5). The output of the planning stage was the business process of the financial reporting of BUMDes STK. Design is the process of designing the application using technical tools. The output of the design stage was the roles or functions that perform activities. In this article, the planning and design stages are combined into one output by utilizing a technical tool called the activity diagram (la Hnatkowska & Cebinka, 2021). Coding was the process of programming to produce the Financial Reporting Application of BUMDes STK. The output at this stage was the Financial Reporting application. Testing is the stage of assess whether the application produced is correct according to the wishes of the user. There are two ways of testing applications known as black box and white box (Gustinov et al., 2023).

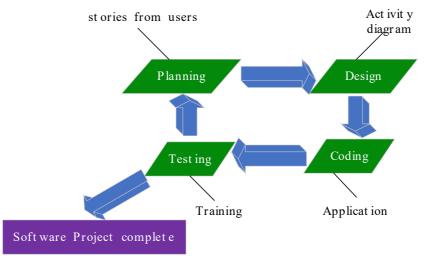


Fig. 4. Picture of XP stages

Black Box is application testing by providing input with extreme values (very large or very small). Meanwhile, White Box is application testing on the processes carried out (conditions/branching and repetition). Testing of the BUMDes financial report application uses a combination of Black Box and White Box with cases that occur in BUMDes STK transactions. The financial transaction value is entered (black box), then checked to see if there is a balance between the debit and credit values (white box).



Fig. 5. Identification of BUMDes reporting and financial needs

The BUMDes Financial Report application has a web base. The web design used as the basis for this application is due to scalability considerations. Scalability is the ability of an application to handle an increase in the number of users, data volume, or requests without experiencing a decrease in performance or reliability (Casteleyn et al., 2014). Considering the tens of thousands of existing BUMDes, this application is web-based.

Figure 6 shows the discussion carried out during the testing stage. This stage is carried out online, attended by the internal team and programmers. The internal team submitted a test request for the application and the programmer responded directly to make sufficient improvements. One example of an application testing request is whether there is a balance between the debit side and the credit side after the application carries out several transactions.

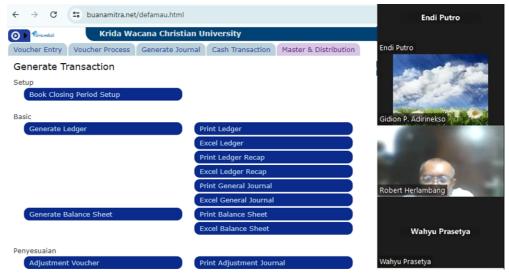


Fig. 6. BUMDes financial report application training

Results and Discussions

Financial statements are a source of information that is needed by users, in this case stakeholders, for decision-making purposes. The Financial Accounting Standards according to the Indonesian Institute of Accountants states that: "Financial statements are a structured presentation of the financial position and financial performance of an entity" (Ikatan Akuntan Indonesia, 2022). Another definition of financial statements as expressed by Warren (2009), states that Financial Statements are a Summary of all transactions that occur within a period. BUMDEs STK financial statements are compiled based on these two references:

- 1. **Balance sheet** is a systematic report that includes assets, which are the assets owned by the company, liabilities, which are the company's obligations to third parties that have not yet been fulfilled, and equity, which is the ownership or portion owned by the company's owners. which can show the company's financial position on a certain date.
- 2. **Income statement**, which is a report that shows the revenues and expenses of a business unit along with the profits and losses that are obtained by a company for a certain period.
- 3. **Statement of changes in financial position**, which is a report that is useful for summarizing the financing and investment activities carried out by the company, including the amount of funds generated from the company's business activities in the relevant financial year and completing the explanation of the changes in the financial position during the relevant financial year.
- 4. **Cash flow statement**, which aims to present relevant information about the receipts and payments of cash of a company for a certain period.

Result

Planning dan Design (Defining Business Process of Financial Reporting)

Based on the identification of accounting processes, the business process of the BUMDes STK financial reporting was built. To describe the business process of the BUMDes STK financial reporting, an activity diagram is utilized (Figure 7). The activity of compiling financial statements involves three roles, namely Admin, Treasurer, and Customer. Admin performs the function of identifying the Chart of Accounts (COA). COA is a list of codes on the financial transaction report of business activities that makes the recording process easier. The ease of financial transactions is because COA functions to classify the types of transactions that are compiled in the financial statements (Pantow et al., 2021). The Treasurer performs the function of inputting financial transactions in the compilation of financial statements. Meanwhile, the customer role performs the function of recording financial transactions that occur in the BUMDes STK business units.

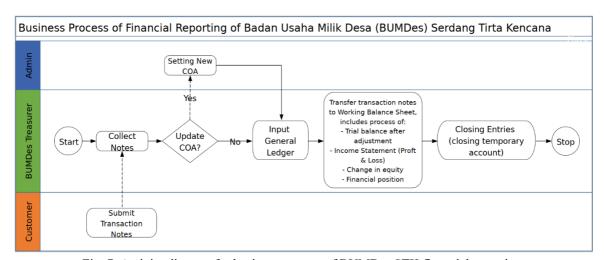


Fig. 7. Activity diagram for business process of BUMDes STK financial reporting

The business process of the BUMDes STK financial reporting begins with the data entry of financial transactions by the Treasurer. Each business unit is obliged to collect transaction notes that are used by the Treasurer as the basis for transaction input. Every transaction input is adjusted to the available COA. If the transaction input does not match the available COA, then the Admin is obliged to update the COA data. If the transaction is in accordance with the available COA, then the process is continued by conducting input data of the transaction into the General Ledger feature. It is highly recommended that transaction input be performed every day. After submitting the transactions into the General Ledger, the process of transferring records to the Working Balance Sheet is then continued. The transfer of records to the Working

Balance Sheet consists of four processes, namely, Trial Balance after adjustment, Income Statement (Profit & Loss), Change in Equity, and Financial Position. The Trial Balance process is the transfer of records from the General Ledger that is carried out at the end of each period, for example, at the end of each month.

The Working Balance Sheet is a tool used to assist in the preparation of financial statements, especially Income Statements (Profit & Loss), Changes in Equity, and Financial Position. The Working Balance Sheet contains a Trial Balance that helps if there are transaction input errors. The adjustment column is then used to adjust the account balances, which are only adjusted at the end of the period for practical purposes. Financial statements can then be prepared by grouping accounts that are included in the income statement, such as income and expenses, the change in equity report from the beginning balance of equity, added with capital contributions, and added or subtracted with net profit/loss. The balance sheet can then be prepared using accounts classified as assets, liabilities, and equity. For the equity listed in the balance sheet, the balance is determined by adding the initial balance, added or subtracted by deposits/withdrawals, and added or subtracted by profit/loss.

The financial statements generated are a summary of transactions that occurred during a period, which can be monthly, quarterly, semi-annual, or annual. These financial statements are then signed by the management, in this case, the BUMDes Director. These financial statements are then distributed to stakeholders who need them. This includes the local government as the BUMDes supervisor and also for investors.

Coding (Developing Application for Financial Reporting of BUMDes STK)

The development of the BUMDes STK financial report application was built based on the design depicted in the financial reporting business process activity diagram (Figure 4). The computation method for the BUMDes STK financial report process uses cloud computing technology (Modisane & Jokonya, 2021). One of the benefits of using cloud computing technology in the context of the BUMDes STK financial report is the shared use of computing resources(Arfan & Somantri, 2018). BUMDes STK is the first to use a financial reporting system. In the future, financial reporting systems that use cloud computing technology can be used together for many BUMDes. Based on the type of service, the BUMDes financial reporting system uses Software as a Service (SaaS). SaaS services are applications that are used by many users and placed on cloud infrastructure (Fathoni & Kenali, 2014). Utilizing cloud

infrastructure for small-scale organizations such as BUMDes can reduce information technology costs. This cost reduction is due to the use of shared infrastructure by many BUMDes using SaaS technology (Modisane & Jokonya, 2021). The way to use the application on the cloud is by using the internet.

The financial reporting process begins with entering transactions into the General Ledger. Figure 8 shows the application service for entering transactions. In this service, one needs to set the period (month and year), and then by clicking the add button. Then, a display will appear as shown in Figure 9. The list of transactions that have been entered is shown in Figure 10.



Fig. 8. Voucher entry in GL (1)



Fig. 9. Voucher entry in GL (2)

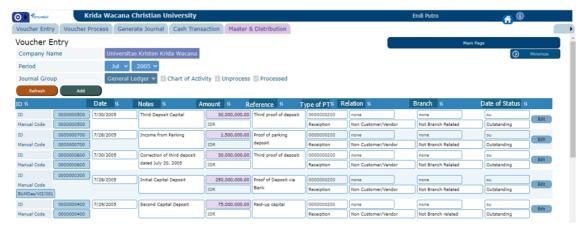


Fig. 10. Voucher entry in GL (3)

Next, the transaction records are transferred from the General Ledger to the Trial Balance contained in the Working Balance Sheet. The next step is to make adjustments to the Trial Balance (Figure 11 and Figure 12).

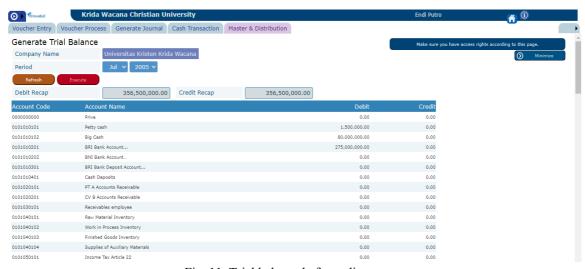


Fig. 11. Trial balance before adjustments

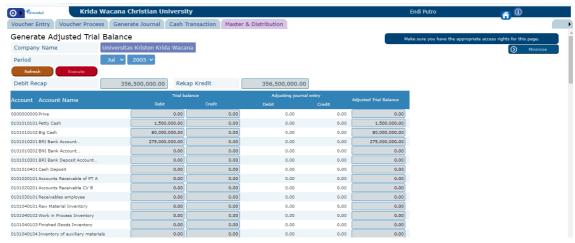


Fig. 12. Trial balance after adjustments

Figure 13 shows the Profit and Loss Statement, which is a summary of transactions related to Revenue and Expenses that occurred during a period. The format of the Profit and Loss Statement can be in Vertical or Horizontal form.

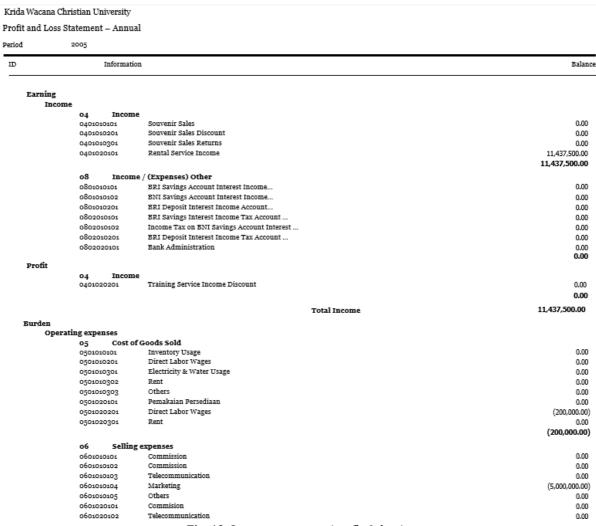


Fig. 13. Income statement (profit & loss)

The Change in Equity Statement is a summary of transactions that increase equity and reduce equity (Figure 14).

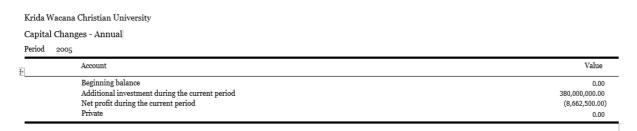


Fig. 14. Statement of changes in equity

Furthermore, the equity balance at the end of the period will be included in the Financial Position Statement as is shown in Figure 15.

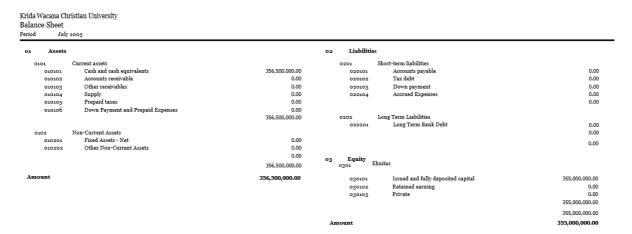


Fig. 15. Statement of financial position

Cash Flow Statement is a summary of cash inflows and outflows. The Cash Flow Statement provides information about the liquidity of BUMDes STK. It also shows the cash management carried out by the business unit. The Cash Flow Statement consists of components of Cash Flow from Operating Activities, Cash Flow from Investing Activities, and Cash Flow from Financing Activities. Cash Flow from Operating Activities provides information about the source of cash from increased sales, by looking at the decrease in inventory balance, and then the decrease in receivables which results in increased cash inflows from receivables collection. In addition, there is a source of cash from delayed payment of trade payables. Generally, trade payables do not have interest. More information related to cash flow can be seen in the Cash Flow Statement as shown in Figure 16.

Universitas Kristen Krida Wacana	
Laporan Arus Periode	Kas - Metode Tidak Langsung July 2005

Item	Nilai	
Laba/Rugi Periode Berjalan Laba/Rugi Periode Berjalan	1,500,000.00	
Daba/ Rugi Feriode Berjalan	1,500,000.00	
Total Aktivitas Kas	1,500,000.00	
Saldo Awal Kas	0.00	
Saldo Seharusnya	1,500,000.00	
Saldo Akhir	1,500,000.00	
Selisih	0.00	

Fig. 16. Statement of cash flow

Discussions

Utilizing SaaS technology in small-scale enterprises can optimize costs (Rojas et al., 2021). In this way, the BUMDes Financial Report application can be used jointly with all BUMDes in Indonesia by utilizing SaaS technology.

The emphasis of the discussion is directed at how the BUMDes STK financial reporting application performs the stages of the Balance Sheet in sequence, namely, the Profit and Loss Statement, the Statement of Changes in Equity, the Statement of Financial Position, and the Cash Flow Statement. The Profit and Loss Statement shows the performance of the management of BUMDes STK in carrying out its business activities. Information on net profit or net loss is used as the basis for preparing the Statement of Changes in Equity, where net profit will increase the equity of BUMDes STK and net loss will reduce equity. Examples of transactions that increase equity include additional investment deposits and also net profit generated. While transactions that reduce equity such as dividends or withdrawals by owners and net loss generated.

The Statement of Financial Position is obtained from the balance of the Changes in Equity. The Statement of Financial Position reports the position of Assets, Liabilities, and Equity at a specific point in time, in this case at the end of the reporting period. This financial position can also describe the liquidity and solvency of BUMDes STK.

Cash flow from investing activities describes the inflow of cash from the sale of fixed assets and expenses related to fixed assets. Cash flow from financing activities provides information related to inflows of cash from long-term liabilities, bonds, and stock share issuance. While outflows of cash are related to the repayment of long-term debt and capital withdrawal. For investors and creditors, information from operating cash flow can show the liquidity of the company. While information on inflows of cash from asset sales may indicate that the company is reducing its business scale and for information from financial activities, the search for funds from bond issuance shows the increasing risk faced by the company.

Apart from participants from BUMDes STK, the training was also attended by business units in STK village (Figure 17). These business units collaborate with BUMDes STK. Both participants from BUMDes and business units stated that this financial report application was necessary. It was proven that after completing the training, business units asked for accounts to record transactions to prepare financial reports.



Fig. 17. Financial report training

After completing training in using the financial reporting application, a short evaluation was carried out between UKRIDA and the STK BUMDes management. Some of the resulting agreements are:

- 1. BUMDes STK is preparing a new business unit in the field of community waste management. In the future, this new unit will be included in an integrated process with other units in BUMDes STK.
- 2. This Financial Report application will be introduced to BUMDes around BUMDes STK by the BUMDes STK administrators. According to the BUMDes STK management, this application is good and useful for BUMDes as a tool for financial reporting to related parties, such as the Regency Government and the Village Ministry.

Conclusion

The STK Financial Report application helps STK BUMDEs prepare financial reports properly. This Financial Report application can be used as a form of accountability for STK BUMDes management in carrying out its mission as a village economic tool. Apart from that, the Financial Report Application can also provide information regarding the performance and development of business activities of BUMDes STK. In summary, this Financial Report Application provides an overview of the economic conditions of the STK BUMDes business unit. The information from the resulting Financial Report Application becomes the basis and

can encourage management and stakeholders to improve their business activities and also provide support for the progress of BUMDes STK.

This financial reporting application does not include taxes as part of the business process. It is necessary to include a tax component in further application development.

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References

- Arfan, M., & Somantri, M. (2018). Optimalisasi cloud software as a service pada enterprise architecture. *Protek: Jurnal Ilmiah Teknik Elektro*, 5(1), 58-61.
- Casteleyn, S., Rossi, G., & Winckler, M. (2014). *LNCS 8541 Improving the calability of Web Applications with Runtime Transformations*. Springer International Publishing Switzerland, 8541, 430–439. https://doi.org/10.1007/978-3-319-08245-5 28
- Fathoni, H., & Kenali, E. W. (2014). Desain dan implementasi software as a service pada pengelolaan absensi kedisiplinan mahasiswa Politeknik Negeri Lampung. *Jurnal Informatika*, 14(1).
- Gustinov, M. D., Wahdiaz Azani, N., Al Ghani, R., Auliani, S. N., Maharani, S., Hamzah, M. L., Rizki, M., Islam, U., Sultan, N., & Kasim, S. (2023). Analysis of web-based ecommerce testing using black box and white box methods. *International Journal of Information System and Innovation Management*, *I*(1), 20-31.
- Ikatan Akuntan Indonesia. (2022). *Draf Eksposur Tata Nama/Nomenklatur Standar Akuntansi Keuangan*. www.iaiglobal.or.id
- la Hnatkowska, B., & Cebinka, M. (2021). Activity diagram generation based on use-case textual specification. *Computing and Informatics*, 40, 772–795. https://doi.org/10.31577/cai
- Mancl, D., & Fraser, S. D. (2019). XP 2019 Panel: Security and Privacy. In R. Hoda (Eds.), *Agile Processes in Software Engineering and Extreme Programming Workshops*. Springer International Publishing. https://doi.org/10.1007/978-3-030-30126-2

- Modisane, P., & Jokonya, O. (2021). Evaluating the benefits of cloud computing in small, medium and micro-sized enterprises (SMMEs). *Procedia Computer Science*, *181*, 784–792. https://doi.org/10.1016/j.procs.2021.01.231
- Pantow, A., Walukow I. M., Maradesa, C., & Limpeleh, E. A. N. (2021). Desain laporan keuangan UMKM berbasis Microsoft Excel pada Sunshine Laundry. *Jurnal Bisnis Terapan*, 5(2), 271–286. https://doi.org/10.24123/jbt.v5i2.4693
- Rojas, H., Arias, K. A., & Renteria, R. (2021). Service-oriented architecture design for small and medium enterprises with infrastructure and cost optimization. *Procedia Computer Science*, 179, 488–497. https://doi.org/10.1016/j.procs.2021.01.032
- Safri. (2020). *Aplikasi Komputer Accurate Accounting System*. Universitas Dirgantara Marsekal Suryadarma.
- UUDesa No. 6, T. 2014. (2014). *Undang-undang Desa No. 6 Tahun 2014 (Issue 1)*.
- Warren, C. S. (2009). The Basics 1. Accounting Equation. South-Western.