

Improving Cooperative Performance and Sustainability through the Implementation of a Website-Based Accounting Information System

(Case Study at KPRI Pergu Kecamatan Singosari)

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Abstract— This study aims to analyze the information system applied to cooperatives and to design a web-based accounting information system. The object of this research is the savings and loan unit at the Indonesian Employee Cooperative (KPRI) Pergu Singosari District. This research employs the Research and Development (R&D) method, collecting primary and secondary data through interviews and documentation. The analysis and design process in this study uses the 4D development model, which consists of Define, Design, Develop, and Disseminate. The results of this study produced a website-based application of KPRI Pergu to enable more effective management, thereby supporting the goal of digital transformation for sustainability through the digitalization of KPRI Pergu. Through this application, data input will be processed in real-time, enhancing the efficiency of cooperative financial management.

Keywords: Sustainability; Performance; Cooperative; Accounting Information System; Website.

I. INTRODUCTION

Economic growth, as outlined within the Sustainable Development Goals (SDGs) of the 2030 Sustainable Development Agenda, is a key point in achieving the SDGs. Cooperatives, guided by their values and principles, play an essential role as a model for addressing economic, social, and environmental sustainability (WCM, 2023).

A country plays an important role in focusing and implementing the development of community welfare. This development can be pursued through various economic activities, one of which involves focusing on kinship-based communities. Cooperatives are one of the activities that can serve as a platform for promoting community welfare [1]. The volume of cooperative business in Indonesia has increased by 8.51% from Rp 182.35 trillion in 2023 to almost Rp 200 trillion at present [2].

Cooperatives are developed as community-centered entities that are democratically controlled by and for their members to realize common economic, social, and cultural needs and aspirations (ICA, 2024). It was mentioned in a national news report that, as of 2020, only 0.73% of the approximately 123,000 cooperatives in Indonesia had implemented digitized systems [3].

To support the development of a more competitive organization, the use of an Accounting Information System (AIS) is essential for providing the right information. Integrating all data and information for processing and reporting greatly facilitates effective governance [4]. This is supported by the application of AIS, which is a system for collecting, recording, storing, and processing data to generate information for decision-makers [5].

Web-based implementation refers to a collection of pages that contain or display information accessible via the internet by anyone, anywhere, and at any time, provided they are connected to the internet network [6]. Considering the prevalence of Internet use in daily life, the results of the National Socio-Economic Survey (Susenas) show that 62.10% of the Indonesian population accessed the internet in 2020, increasing to 66.48% in 2022 [7].

The use of web-based for cooperative financial management offers numerous benefits. The result of the design [8] indicates that the application of the website for managing cooperative savings and loans is more efficient and effective due to real-time data and a more responsive design. Other studies, as conducted by [9] and [10], also show that using a website for savings and loan cooperatives improves speed, as it utilizes a database to manage all cooperative activities.

Based on previous research described earlier, the financial management systems developed have generally only addressed the storage of deposit and loan data. The innovation in this study involves a more comprehensive approach to the financial management of savings and loan cooperatives, extending the discussion to the preparation of the cooperative's final financial statement.

Another achievement in integrating financial reports in cooperatives is the ability to produce real-time data, making it easier to visualize and reflect the conducted activities [11]. Therefore, the design of a web-based AIS for record management plays an important role in providing convenience for administrators or services at KPRI PERGU, Singosari District, with restrictions on their savings and loan units.

Based on the background described above regarding web-based Cooperative information systems, the purpose of this study is to analyze the current transactional processes to identify the obstacles faced by the cooperative and to design a web-based AIS according to the needs of the cooperative.

II. LITERATURE REVIEW

A. Cooperative Performance

Cooperative management remains overly simplistic and can be a weakness in ensuring the sustainability of the cooperative [13]. Digitalization of financial statements is one of the options to continue developing and improving competitiveness in today's business environment [14].

B. Web-Based Accounting Information System

The website can be developed using the PHP programming language, which allows for automation, thereby minimizing errors in inputting data for financial reports [15]. This aligns with the research objectives [16] to develop a website-based accounting information system that enhances the efficiency of an entity's operations and provides real-time insights into its financial condition.

C. Cooperative

Regulation of the Minister of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia (PERMENKOP-KUKM RI) Number 8 of 2023 defines a cooperative as follows: "Cooperatives are legal entities established by individuals or cooperative legal entities, which separate the wealth of their members as capital to run a business that fulfills common aspirations and needs in the economic, social, and cultural fields, in accordance with the values and principles of cooperatives". Winarko (2014) further explains that cooperatives are business entities that are more populist in nature, and cooperatives themselves are democratic, as they are founded by members and based on kinship.

III. METHOD

This research aims to design an Accounting Information System for Cooperatives, hereafter referred to as SI-KPRI (Sistem Informasi Koperasi Pegawai Republik Indonesia). The research employs the Research and Development (R&D) approach, which is applied to studies that produce or develop a product [17]. To develop a more detailed system, this research will adopt the 4D development model (Define, Design, Development, and Disseminate) as outlined by Thiagajaran (1947). The scope of this system's development will be focused on the Unit Simpan Pinjam (USP) of KPRI Pergu.

The stages of research in analyzing and developing a website-based accounting information system at KPRI Pergu are presented in the following figure.

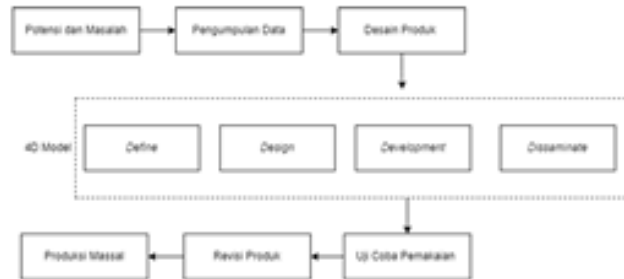


Fig. 1. Research Development Mechanism

IV. RESULT AND DISCUSSION

A. Evaluation Accounting Information System of KPRI Pergu

1) Strengthness

- Manual recording performed by the cashier serves as a physical backup in the event of errors or data loss in the computerized system.
- Manual recording provides flexibility in documenting and managing transactions that may not conform to the standardized formats of computer software.
- The manual system is easy to understand and use by all cashiers without requiring extensive specialized training

2) Weakness

- Increases the risk of human error in recording, such as writing mistakes, miscalculations, and loss of physical data.
- Lacks efficiency and accuracy in the recording and service process, and hinders the adoption of advanced technology.
- Slow service to members and increasing the cashiers' workload in managing and processing transactions due to manual procedures.
- Manual records are more difficult to manage and access compared to digital data.
- Increases the Treasurer's workload and may cause delays in financial reporting, while also creating a dependency on a single individual, as computerized recording is handled solely by the Treasurer.
- The manual system does not support real-time tracking of transactions and balances.

B. SI-KPRI

Login Page



Fig. 2. Login Page

The initial web display directs users to the login page. User access on this page is divided into three levels: cashier, treasurer, and chairman.

Registration Page



Fig. 3. Registration Page

This page is intended for users who do not yet have an account and wish to access the website; they can register and select the appropriate user type.

- 1) *Cashier User*
 - a) *Initial Display*



Fig. 4. Dashboard Cashier

The cashier dashboard will display the sidebar menu, the number of members, the total ongoing deposits, and total outgoing loans.

- b) *Registration Form*

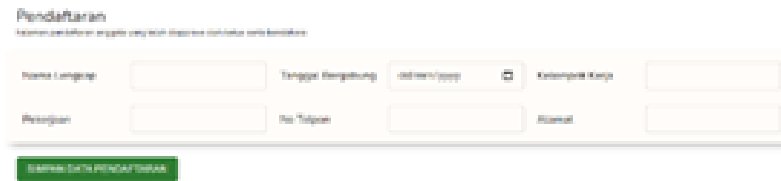


Fig. 5. New Member Registration

This form is intended for cashiers to input a list of new cooperative members based on the obtained data.

- c) *Saving Transaction Form*

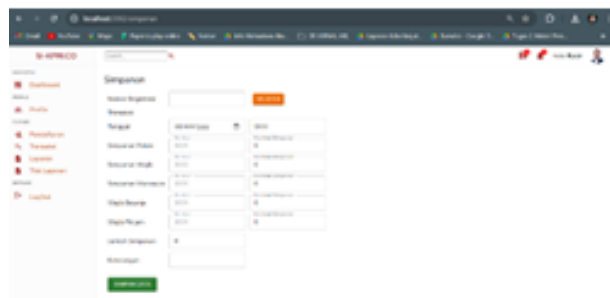


Fig. 6. Saving Transaction Form

This form is used to input deposit transactions from existing and new members, in compliance with the conditions set by the cooperative.

d) *Loans Transaction Form*

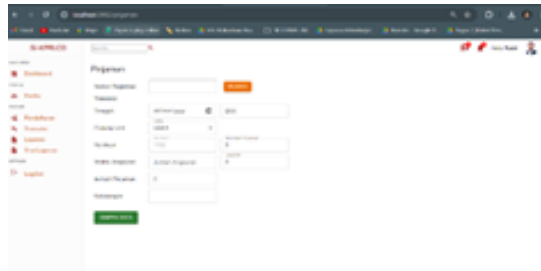


Fig. 7. Loans Transaction Form

This form is used to input loan transactions from members with predetermined conditions.

e) *Installment Transaction Form*



Fig. 8. Installment Transaction Form

This form is used to input installment transactions or loan payments made by members, based on the agreement established at the outset.

f) *Fund Withdrawal Transaction Form*

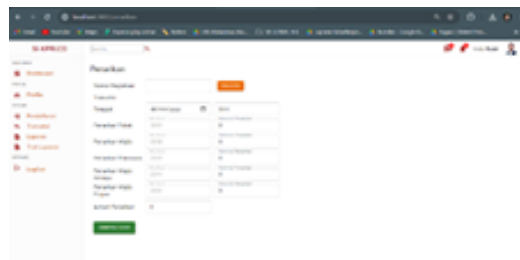


Fig. 9. Fund Withdrawal Transaction Form

This form is used to input deposit withdrawal transactions made by members, in accordance with an agreement established at the beginning.

g) *Operational Expenditure Transaction Form*



Fig. 10. Operational Expenditure Form

This form is used to input operational expenditure transactions made by cooperatives, including evidence from third parties.

2) *Treasurer Users*

a) *Treasure Dashboard*



Fig. 11. Dashboard Treasurer

The treasurer dashboard will display a sidebar menu containing several options accessible to the treasurer, the number of members, the total ongoing deposits, and the total outgoing loans.

b) *Temporary Deposit Report Form*

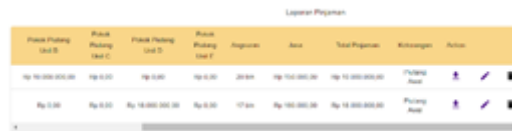


No. Reg	No. Anggota	Nama Anggota	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Total Saldo	Aksi
1	1	Anggota 1	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]
2	2	Anggota 2	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]

Fig. 12. Temporary Deposit Report Form

This form records deposit entries from previous members, displaying details of deposits per individual, with the option to edit or delete transactions.

c) *Temporary Loans Report Form*



No. Reg	No. Anggota	Nama Anggota	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Total Saldo	Aksi
1	1	Anggota 1	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]
2	2	Anggota 2	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]

Fig. 13. Temporary Deposit Report Form

This form records loans from previous members, displaying loan details per individual, with the option to edit or delete transactions.

d) *Temporary Installment Report Form*

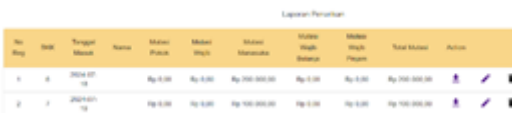


No. Reg	No. Anggota	Nama Anggota	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Total Saldo	Aksi
1	1	Anggota 1	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]
2	2	Anggota 2	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]

Fig. 14. Temporary Instalment Report Form

This form records ongoing installments or loan payments from previous members, displaying details of installments per individual, with the option to edit or delete transactions

e) *Temporary Fund Withdrawal Report Form*



No. Reg	No. Anggota	Nama Anggota	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Saldo Awal	Saldo Akhir	Total Saldo	Aksi
1	1	Anggota 1	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]
2	2	Anggota 2	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 500.000,00	Rp 2.000.000,00	[Edit] [Delete]

Fig. 15. Temporary fund withdrawal Report Form

This form records deposits withdrawal from previous members, displaying details of withdrawals per individual, with the option to edit or delete transactions.

f) *Temporary Expenditure Report Form*



No. Reg	Tanggal Masuk	No. Revisi	Status Revisi	Jumlah Pengeluaran	Revisi Revisi	Revisi Revisi	Aksi
1	2024-07-15	0000	Status Operasional	Rp 10.000,00	Pengeluaran	Saldo Awal	[Edit] [Delete]

Fig. 16. Temporary Expenditure Report Form

This form contains a financial report menu that can be accessed, allowing the cooperative's financial report to be displayed in Excel format and automatically downloaded to the user's device.

CONCLUSION

This website-based accounting information system design includes several user-friendly features that do not require specialized training. In addition, the system is developed using a secure programming language. The system allows for the input of new member lists, member deposits, member loans, member installments, member withdrawals, operational expenses, and other receipts related to the cooperative. All transaction records are fully integrated, ensuring that any entered data is immediately accessible to authorized management in real-time. In addition, each member transaction is automatically printed as proof, eliminating the need for manual receipt or return notes.

REFERENCES

- [1] G. M. N. Kusuma, "The Role Of Cooperatives In The Economic Development Of Cooperative Members In Tuban District," Vol. 03, No. 01, Pp. 1–14, 2023, [Online]. Available: <https://www.ncbi.nlm.nih.gov/books/Nbk558907/>
- [2] F. L. Sari, "Volume Usaha Melesat, Koperasi Ri Sumbang 6,20% Pdb," Katadata.Co.Id, 2024. [Online]. Available: <https://katadata.co.id/finansial/makro/65c38aba19fa9/volume-usaha-melesat-koperasi-ri-sumbang-6-20-pdb>
- [3] R. Susanti And F. Assifa, "Digitalisasi Koperasi 0,73 Persen, Indonesia Terancam Diserbu Produk Luar," Kompas, 2020.
- [4] M. Ayu, Kuswarak, And Yudastio, "Pelatihan Penyusunan Dan Implementasi Sistem Informasi Akuntansi Penerimaan Dan Pengeluaran Kas Dalam Mewujudkan Tata Kelola Keuangan Yang Baik Di Ponpes Al-Firdaus," I-Com Indones. Community J., Vol. 3, No. 2, Pp. 496–507, 2023, Doi: 10.33379/Icom.V3i2.2501.
- [5] M. B. Romney And P. J. Steinbart, Accounting Information Systems 14e. 2018.
- [6] M. H. Romadhon, Y. Yudhistira, And M. Mukrodin, "Sistem Informasi Rental Mobil Berbasis Android Dan Website Menggunakan Framework Codeigniter 3 Studi Kasus : Cv Kopja Mandiri," J. Sist. Inf. Dan Teknol. Perad., Vol. 2, No. 1, Pp. 30–36, 2021.
- [7] Bps, Statistik Telekomunikasi Indonesia. 2022.
- [8] D. W. Firdaus And D. Widayastrena, "Perancangan Sistem Informasi Akuntansi Koperasi Dan Umkm Berbasis Technopreneur. Jurnal Riset Akuntansi Dan Keuangan Program Studi Akuntansi Fakultas Pendidikan Ekonomi Dan Bisnis Universitas Pendidikan Indonesia," J. Ris. Akunt. Dan Keuang., Vol. 5, No. 2, Pp. 1423–1440, 2017.
- [9] I. G. T. Isa And G. P. Hartawan, "Perancangan Aplikasi Koperasi Simpan Pinjam Berbasis Web (Studi Kasus Koperasi Mitra Setia)," J. Ilm. Ilmu Ekon., Vol. 5, No. 10, Pp. 139–151, 2017.
- [10] Agustiwati And H. Irawan, "Sistem Informasi Simpan Pinjam Pada Koperasi Serba Usaha Kotaraya Di Kabupaten Parigi Mautong," J. Elektron. Sist. Inf. Dan Komput., Vol. 2, No. 1, Pp. 53–63, 2016.
- [11] E. Wuryani, M. D. Yanthi, N. N. A. Triani, And Pujiono, "Pengembangan Sistem Terintegrasi Koperasi Simpan Pinjam Puskoppabri Dan Koperasi Serba Usaha Sarinah Jawa Timur," Abimanyu J. Community Engagem., Vol. 1, No. 2, Pp. 1–11, 2020, Doi: 10.26740/Abi.V1i2.6495.
- [12] [12] H. Nurjannah, E. Susanti, And I. Riau, "Pendampingan Tata Kelola Menuju Koperasi Yang Berkelanjutan Di Selat Panjang Good Corporate Governace Toward Sustainable Koperasi In Selat Panjang," Community Engagem. Emerg. J., Vol. 5, Pp. 174–178, 2024.
- [13] M. Shofiyuddin And M. S. Taruna, "Analisis Kinerja Keuangan Dan Strategi Keberlanjutan Pada Koperasi Kud 'X' Pekalongan," J. Ekon. Dan Bisnis, Vol. 23, No. 2, P. 36, 2020, Doi: 10.31941/Jebi.V23i2.1217.
- [14] A. T. Priandika And Setiawansyah, "Digitalisasi Aplikasi Keuangan Untuk Koperasi Pada Dinas Umkm Provinsi Lampung," J. Abdimas Teknol. Inf. Dan Digit., Vol. 1, No. 1, Pp. 17–23, 2023.
- [15] I. R. A. Putra And M. Megawati, "Rancang Bangun Sistem Informasi Akuntansi Berbasis Web (Studi Kasus: Pt. Kalber Reksa Abadi)," J. Sains, Teknol. Dan Ind., Vol. 15, No. 2, P. 98, 2018, Doi: 10.24014/Sitekin.V15i2.4673.
- [16] M. Z. Abdullah, M. Astiningrum, Y. Ariyanto, D. Puspitasari, And A. N. Asri, "Rancang Bangun Sistem Informasi Akuntansi Berbasis Website Menggunakan Framework Laravel," J. Pengabd. Polinema Kpd. Masy., Vol. 8, No. 1, Pp. 74–80, 2021, Doi: 10.33795/Jppkm.V8i1.64.
- [17] Sugiyono, Sugiyono Metode Penelitian Kuantitatif Kualitatif. 2018.