

Evaluating Credit Cooperative Performance Through PEARLS Standards: Implications for Financial Management (2021–2023)

Evaluating Credit
Cooperative
Performance

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ABSTRACT

The increasing role of credit cooperatives in supporting community-based financial inclusion requires continuous performance evaluation to ensure sustainability and competitiveness. Utilizing PEARLS performance standards, this study aims to comparatively analyze the performance of the Adiguna and Sami Jaya Credit Cooperatives for the years 2021 – 2023, and to identify factors that differentiate the performance levels of the two credit cooperatives. This study employs a descriptive quantitative research method by analyzing financial ratio data based on the PEARLS framework. The results show that in terms of protection, financial structure, and growth prospects, the Sami Jaya credit cooperative is found to have better performance compared to Adiguna. Meanwhile, regarding asset quality, return, costs, and liquidity, the two cooperatives are about at the same level in their performances. However, the Sami Jaya credit cooperative has slightly better performance than Adiguna. The average growth of Sami Jaya cooperatives was faster and more efficient. Both cooperatives need to improve their performances, specifically, the Adiguna credit cooperative needs to improve its protection ratio, financial structure, and the rate of return value.

Keywords: Cooperative Performance Analysis, Credit Cooperatives, Financial Performance, PEARLS Performance Standards.

INTRODUCTION

Cooperatives play an important role as community-based economic institutions that emphasize collective effort and mutual benefit. According to Chaniago (1994), a cooperative is an association of individuals who work together in a familial spirit to manage a business with the primary objective of improving the welfare of its members. In a broader sense, a cooperative is also viewed as an organization based on mutual assistance, where members collectively manage economic and business activities to enhance their overall economic conditions (Ribas et al., 2022; Hilario, 2022; Nembhard, 2024). In line with this perspective, credit cooperatives are defined as business entities that focus on mobilizing funds from members in the form of savings, which are then redistributed to members who require capital support (Rudianto, 2015; Getu, 2022; Ahasyweros et al., 2024).

Assessing cooperative performance plays a crucial role in providing an accurate picture of the cooperative's actual condition to various stakeholders, particularly members, customers, and management (Mamdouh & Ahrouch, 2022; Mamdouh & Chentoufi, 2023; Khadka et al., 2024). Performance evaluation also serves as an important managerial tool, as it supports cooperative leaders in making strategic and operational decisions that are aligned with the objectives and sustainability of the cooperative (Chawviang & Kiattisin, 2022; Attolba & Castañeda, 2025).

Adiguna and Sami Jaya Credit Cooperatives are among several credit cooperatives operating in Kupang City, with core business activities centered on savings and loan

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services. Evaluating the performance levels of these two cooperatives is essential to understand their real financial and managerial conditions, as well as to assess how effectively they manage member funds. The development of the performance of Adiguna and Sami Jaya Credit Cooperatives for the period 2021–2023 can be analyzed through their financial statements, which are presented in Table 1.

Table 1. Performance Development of Adiguna and Sami Jaya Credit Cooperatives in 2021-2023

Description	Adiguna			Sami Jaya		
	Year			Year		
	2021	2022	2023	2021	2022	2023
Member	3,100	3,911	4,577	2,680	2,842	3,148
Asset	54,885,817,687	67,673,453,353	78,746,586,458	34,408,498,000	35,501,054,000	38,272,939,000
Share saving	41,938,516,320	52,067,921,148	61,806,715,662	17,649,603,000	19,124,225,000	20,976,769,000
Non share saving	3,589,970,150	4,240,713,402	5,205,765,002	9,276,749,000	10,168,675,000	11,223,422,000
Outstanding loans	41,910,347,036	56,604,754,575	71,932,554,813	22,056,535,000	26,628,333,000	29,038,388,000
Loans disbursed	47,167,470,000	57,016,480,000	63,681,920,000	15,568,800,000	20,571,775,000	18,000,000,000
Income	6,898,568,478	7,987,397,330	9,317,544,658	112,777,114,000	133,348,879,000	151,349,759,000
Expenses	5,399,798,475	6,440,336,736	7,735,938,779	1,820,666,000	1,968,958,000	1,921,917,000
Remaining Proceeds (SHU)	1,223,626,485	1,166,624,015	1,170,352,474	3,707,892,000	4,455,767,000	4,437,000,000

As shown in Table 1, the performance development of the Adiguna and Sami Jaya Credit Cooperatives during the period 2021–2023 exhibits fluctuations across various performance aspects, indicating inconsistency in their financial and managerial conditions. These fluctuations suggest that the cooperatives may face internal and external challenges that affect their stability and sustainability. Therefore, a comprehensive performance assessment of the two credit cooperatives is necessary to evaluate whether their overall condition can be categorized as healthy or unhealthy and to identify areas requiring improvement. Several previous studies have examined the performance of credit unions using the PEARLS indicators and reported varying results. Research conducted by Bella (2018) found that credit unions demonstrated mixed performance outcomes when evaluated using the PEARLS framework.

Although Adiguna and Sami Jaya Credit Cooperatives show growth in membership, assets, and lending, their performance across financial indicators fluctuates, indicating potential weaknesses in protection, financial structure, liquidity, and cost efficiency. This phenomenon suggests that quantitative growth does not automatically reflect financial soundness or sustainability, highlighting the need for a comprehensive performance evaluation using standardized indicators (Alsaid & Ambilichu, 2024). The PEARLS framework captures interrelated performance dimensions: protection, financial structure, asset quality, returns and costs, liquidity, and growth that jointly determine cooperative sustainability. However, prior studies applying PEARLS largely focus on single-case assessments and rarely conduct comparative analyses between cooperatives operating in similar contexts. This study fills that gap by comparatively analyzing Adiguna and Sami Jaya Credit Cooperatives for the 2021–2023 period to identify key performance dimensions that differentiate their financial sustainability, thereby offering practical recommendations for improving cooperative management and governance.

Similarly, Silva et al. (2023) concluded that the performance of credit unions was generally below the established target standards based on PEARLS indicators.

Furthermore, a study by Maulana and Andrianingsih (2021) revealed that only a limited number of indicators achieved the ideal performance category in the Trisula Sejahtera Bersatu Women's Cooperative. This condition was largely attributed to several non-ideal indicators, including high operational costs, suboptimal member receivables, low net income (*Sisa Hasil Usaha*/SHU), and insufficient institutional capital. Based on the background described above, this study aims to comparatively analyze the performance of the Adiguna and Sami Jaya Credit Cooperatives for the period 2021–2023 and to identify the key factors that differentiate the performance levels of the two cooperatives.

LITERATURE REVIEW

Cooperative Concept

A cooperative can be defined as an association in which its members work together in a spirit of kinship to operate a business with the primary goal of improving members' welfare (Chaniago, 1994; Legi & Nilla, 2023). In the financial sector, a financial services cooperative refers to a financial institution that is owned, governed, and operated by its members, emphasizing democratic control and mutual benefit. Organizations of this type include credit unions or *caisses populaires*, as well as microfinance institutions that serve a wide range of community-based financial needs (Ngaiyaye, 2024).

Financial services cooperatives generally provide banking and insurance products that are comparable to those offered by non-cooperative financial institutions, such as savings facilities, credit services, and risk protection (Kumar et al., 2025). However, a key distinction between cooperative and non-cooperative financial institutions lies in their overarching objectives and value orientation. While banks and insurance companies primarily aim to create value for shareholders through profit maximization, credit unions seek to create value for their members, who simultaneously act as owners and customers, and for the wider community by redistributing their earnings and promoting inclusive and sustainable financial development (McKillop et al., 2020; Dia et al., 2024).

Credit Union Concept

A credit union is a form of savings and loan cooperative that primarily serves its members' financial needs. The Law of the Republic of Indonesia Number 17 of 2012 stipulates that credit cooperatives are cooperatives whose sole business activity is the provision of savings and loan services. This legal framework emphasizes the specialized role of credit cooperatives in mobilizing member savings and redistributing them through lending activities (Messabia et al., 2023; Mukhia & Ona, 2025).

According to Munaldus (2015), a credit union is a non-profit cooperative institution that is owned, supervised, and controlled by its members and operated in a democratic manner. The governance structure of a credit union is based on a strong sense of unity and mutual responsibility, where supervisors and administrators are elected voluntarily through members' meetings. This democratic process aims to ensure transparency, accountability, and the provision of fair and appropriate financial services that are aligned with the needs and welfare of the members (Efunniyi et al., 2024).

Credit Union Performance Level

According to Hasibuan (2019) and Armstrong and Taylor (2023), performance refers to the work results achieved by an individual in carrying out assigned tasks, which are influenced by factors such as skills, experience, sincerity, and the effective use of time. This definition emphasizes that performance is not only determined by outcomes, but also by the process and personal attributes involved in completing a task. Similarly, Kellner et al. (2019) and Iso (2024) define performance as a combination of ability, effort, and opportunity, which can be evaluated based on the results of one's work. This perspective highlights that optimal performance is achieved when individual competencies are supported by sufficient effort and favorable working conditions.

In an organizational context, Fahmi and Hadi (2010) describe performance as the results attained by both profit-oriented and non-profit-oriented organizations within a certain period of time. This definition suggests that organizational performance reflects the effectiveness and efficiency of an organization in achieving its objectives, whether economic or social in nature, and serves as an important indicator for evaluating organizational success and sustainability (Baloch et al., 2022; Jiang et al., 2024).

Pearls Concept

PEARLS is a standardized performance measurement system widely used to assess the financial performance of cooperatives, particularly credit unions (Claudia & Amin, 2023). The PEARLS framework represents six key dimensions, namely Protection, Effective Financial Structure, Asset Quality, Rates of Return and Cost, Liquidity, and Signs of Growth. These dimensions consist of a comprehensive set of financial ratios and indicators designed to provide an in-depth description of a credit union's financial condition and operational soundness (Ndumbe, 2025). PEARLS is a performance assessment method developed by the World Council of Credit Unions (WOCCU) and has been extensively applied in evaluating the performance level of credit unions across various countries (Silva et al., 2023; Anakpo et al., 2024). Due to its systematic structure and emphasis on both financial sustainability and growth, PEARLS is widely regarded as one of the most appropriate and reliable financial performance assessment systems for measuring and comparing the performance of credit unions (Lewar, 2025).

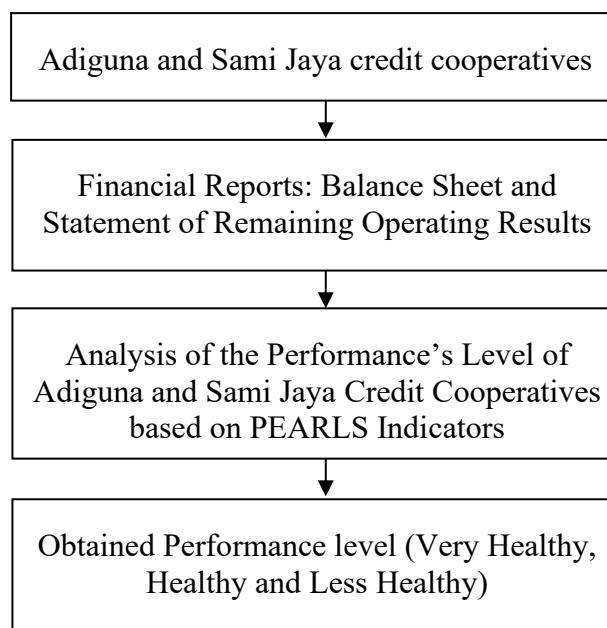


Figure 1. Conceptual Framework

Credit unions' performance needs to be evaluated regularly. The tool for assessing the performance level of credit unions is the PEARLS method. The indicators in the PEARLS analysis are protection, effective financial structure, asset quality, rate of return and cost, liquidity, and sign of growth. The study's conceptual framework is shown in Figure 1. The Adiguna and Sami Jaya credit cooperatives are the first subjects of the analysis. The balance sheets and statements of continuing operating performance of the cooperatives provide financial information. The performance level of each cooperative is then assessed by analyzing these financial reports using PEARLS performance indicators. The analysis's findings categorize the cooperatives' performance into three groups: very healthy, healthy, and less healthy.

RESEARCH METHODS

This study employs a descriptive quantitative approach to analyze the performance of two credit cooperatives in Kupang City, namely Adiguna and Sami Jaya, using annual financial reports from 2021–2023 (Bloomfield & Fisher, 2019). Financial data were manually collected from balance sheets and income statements and analyzed comparatively using the PEARLS performance framework, which consists of six dimensions: protection, effective financial structure, asset quality, rate of return and costs, liquidity, and signs of growth. Financial ratios were calculated based on PEARLS formulas and assessed against established benchmarks to identify performance differences and trends over the three-year period. Cooperative performance was then classified into poor, less than ideal, ideal, or excellent categories according to standard indicator thresholds.

P1 (Protection) measures the ability of a credit union to provide risk reserve funds for loans in default for more than 12 months. A P1 ratio below 50 percent indicates poor performance, a ratio between 50 percent and 100 percent or exceeding 100 percent is considered less than ideal, while a ratio of 100 percent reflects an ideal level of protection.

$$P1 = \frac{\text{Risk Reserve Fund}}{\text{Default Loans > 12 Months}} \times 100\%$$

P2 evaluates the credit union's ability to provide risk reserve funds for loans in default for less than 12 months. A P2 ratio below 18 percent is categorized as poor, a ratio between 18 percent and 34.9 percent or above 35 percent is regarded as less than ideal, and a ratio of 35 percent represents the ideal level of protection.

$$P2 = \frac{\text{Risk reserve fund} - \text{Default Loans > 12 months}}{\text{Default Loans > 12 Months}} \times 100\%$$

A protection ratio below the ideal level indicates that default loans exceed the risk reserve fund, signaling weak repayment performance, while a ratio above the ideal suggests excessive reserves that limit funds available for productive lending. Effective financial structure is a key determinant of credit union growth, profitability, and efficiency (Abebe & Ali, 2023; Mehzabin et al., 2023). In the PEARLS framework, E1 measures the proportion of assets in outstanding loans (ideal 70–80%), E2 liquid income-generating assets ($\leq 20\%$), E3 financial investments ($\leq 10\%$), and E4 non-financial assets such as property (ideally 0%). Indicators E5–E8 assess funding structure: non-share deposits (70–80%), third-party loans/BK3D ($\leq 5\%$), share deposits ($\leq 20\%$), and institutional capital ($\geq 10\%$) to ensure stability. Asset quality is captured by A1, which reflects the proportion of default receivables; values above 10% indicate poor quality, 5.01–10% less than ideal, 1–5% ideal, and 0% excellent performance.

$$A1 = \frac{\text{Total Delinquency of Receivables}}{\text{Total Loans Outstanding}} \times 100\%$$

A2 measures the percentage of total assets that do not generate income, indicating how effectively assets are utilized. An A2 ratio above 10 percent is categorized as poor, a ratio between 5.01 and 10 percent is regarded as less than ideal, a ratio between 1 and 5 percent is considered ideal, and a ratio of zero percent indicates excellent asset utilization.

$$A2 = \frac{\text{Assets Do Not Produce}}{\text{Total Assets}} \times 100\%$$

R1 measures the proportion of costs related to asset management and reflects the efficiency of operational cost control. An R1 ratio below 5 percent accompanied by inadequate staffing conditions indicates poor performance, while a ratio below 5 percent

under normal conditions is considered less than ideal. An R1 ratio of 5 percent represents the ideal level, whereas a ratio above 5 percent with adequate staffing reflects excellent performance.

$$R1 = \frac{\text{Finance Cost}}{\text{Total Average Assets}} \times 100\%$$

R2 measures the credit union's ability to generate profits and strengthen its capital base. An R2 ratio above 10 percent indicates poor performance, a ratio between 5.1 and 10 percent is regarded as less than ideal, a ratio between 1 and 5 percent is considered ideal, and a ratio between 0 and 0.99 percent reflects excellent profitability and capital growth capacity.

$$R2 = \frac{\text{Income}}{\text{Total Average Assets}} \times 100\%$$

Signs of Growth reflect the ability of a credit union to expand its membership base and lending activities over time. S1 measures annual membership growth, where a growth rate below 5 percent indicates poor performance, 5–9.9 percent is considered less than ideal, 10 percent represents an ideal condition, and growth above 10 percent reflects excellent performance.

$$S1 = \frac{\text{Member of the Year} - \text{Member of the Year Before}}{\text{Member of the Year Before}} \times 100\%$$

S2 measures the growth of outstanding loans as an indicator of lending expansion and member participation. An S2 ratio below 5 percent is categorized as poor, a ratio between 5 and 9.9 percent is regarded as less than ideal, a ratio of 10 percent is considered ideal, and a ratio exceeding 10 percent indicates excellent growth performance.

$$S2 = \frac{\text{This Year Loan} - \text{Last Year Loan}}{\text{Last Year Loan}} \times 100\%$$

RESULTS

Financial Position and Operating Performance

Table 2 presents the comparative balance sheet of the Adiguna Credit Cooperative for the period ending December 31, 2021–2023. As shown in the table, total assets increased consistently from 2021 to 2023, indicating steady growth in the cooperative's financial capacity. This growth was mainly driven by a significant rise in member receivables, which reflects the expansion of lending activities to members. On the liabilities side, both short-term and long-term liabilities also showed an upward trend, suggesting increased funding mobilization to support asset growth.

Table 2. Adiguna Credit Cooperative Comparative Balance Sheet December 31, 2021 - 2023

Description	2021	2022	2023
Asset			
Current assets			
Cash and cash equivalents	10,866,037,450	8,844,577,823	4,725,031,857
Member Receivables	41,910,347,036	56,604,754,575	71,932,554,813
Prepaid expenses	-	-	30,000,000
Allowance for doubtful accounts	(578,306,067)	(833,306,067)	(1,083,306,067)
Amount of current assets	53,354,690,553	64,616,026,331	75,604,280,603
Non-current assets			
Inclusion	1,409,960,647	1,573,156,011	1,682,277,494
Fixed asset:			
Switching costs	2,081,881,200	2,444,791,600	2,569,321,258
Accumulated Depreciation	(804,102,579)	(960,520,589)	(1,109,292,897)
Book value of fixed asset	1,277,778,621	1,484,271,011	1,460,028,361

Description	2021	2022	2023
Other asset	-	-	3,142,305,855
Amount of non-current assets	2,687,739,268	3,057,427,022	3,142,305,855
Total Asset	56,042,429,821	67,673,453,353	78,746,586,458
Liabilities and Equity			
Short-term liabilities			
Trust Deposit	19,792,448,164	24,752,461,485	29,375,252,297
SHU Fund	581,683,551	691,631,876	604,769,069
Mandatory withdrawal deposit	1,896,796,007	1,621,094,137	2,324,409,162
Tax payable	-	25,000,000	58,065,394
Special debt	-	2,834,000,000	2,131,600,000
Deposit	2,322,310,807	2,173,304,248	3,179,652,825
Amount of short-term liabilities	23,716,842,522	30,476,397,609	35,349,339,585
Long-term liabilities	22,146,071,156	27,315,459,663	32,431,463,365
Amount of liability	45,862,913,678	57,791,857,272	67,780,802,950
Equity			
Principal savings	772,997,700	957,722,700	1,142,447,700
Mandatory savings	2,816,972,450	3,264,990,702	4,063,315,302
General reserves	2,695,794,008	2,911,800,240	3,027,209,608
Special reserve	70,804,477	119,749,535	119,749,535
Risk target reserve	1,442,708,889	1,442,708,889	1,442,708,889
SHU detained	-	-	-
Current year SHU	1,223,626,485	1,166,624,015	1,170,352,474
Equity amount	9,022,904,009	9,881,596,081	10,965,783,508
Total liabilities and equity	54,885,817,687	67,673,453,353	78,746,586,458

Meanwhile, equity experienced gradual growth over the three-year period, particularly in mandatory savings and general reserves, indicating an improvement in the cooperative's capital base. Table 2 demonstrates that Adiguna Credit Cooperative experienced positive financial growth during the observed period, although the increasing level of liabilities highlights the need for careful financial management to maintain long-term stability.

Table 3. Remaining Proceeds of Adiguna Credit Union December 31, 2021-2023

Description	2021	2022	2023
Operating Revenue			
Member loan services	5,368,593,498	6,587,191,422	7,984,018,121
Loan service administration	904,667,400	899,635,550	955,228,800
Loan application administration	107,884,273	119,799,238	93,441,061
Total Revenue	6,381,145,171	7,606,626,210	9,032,687,982
Operating Expenses			
Deposit service charge	3,036,088,178	3,206,307,237	4,345,718,023
Non-share savings service charges	-	-	-
SPD service charge	-	-	-
Interest expense on third-party debt	81,560,000	113,129,925	287,700,750
Special loan administration charges	-	-	-
Soft loan administration costs	-	-	-
Organizational expenses	664,247,057	1,124,135,400	1,014,980,600
Personnel expenses	756,786,094	1,130,398,932	1,309,152,525
Administrative and general expenses	689,717,456	705,973,400	615,090,250
Depreciation of fixed assets	156,845,556	156,418,010	157,685,650
Cost of funds	-	-	-
Building insurance expenses	-	3,195,500	3,966,000
Total Operating Expenses	5,385,244,341	6,439,558,404	7,734,293,798
Operating Surplus (SHU) before non-business items	995,900,830	1,167,067,806	1,298,394,184
Non-business income (expenses)	517,423,307	371,771,120	284,856,676
Non-business costs	14,554,134	778,332	1,644,981
Total Non-business Items	531,977,441	372,549,452	286,501,657
SHU before tax	1,498,770,003	1,538,060,594	1,581,605,879
Income tax	275,143,518	371,436,579	411,253,405
SHU after tax	1,223,626,485	1,166,624,015	1,170,352,474

The Adiguna Credit Cooperative's Statement of Remaining Operating Results (SHU) for the years 2021–2023 is shown in Table 3. The table illustrates the steady annual growth in overall operating revenue, which is indicative of increased loan activity and service revenue. During that time, operating costs increased as well, mostly due to increased deposit service fees, staff costs, and organizational expenditures.

The cooperative was able to sustain a positive operational surplus in spite of the rise in costs, which led to steady SHU before and after taxes (Indrawati et al., 2024; Abbas & Rabiyyah, 2025). Although cost-effectiveness is still a crucial issue for future development, Table 3 shows that Adiguna Credit Cooperative generally maintained steady profitability during the studied period.

Table 4. Sami Jaya Comparative Balance Sheet December 31, 2021 – 2023

Description	2021	2022	2023
Assets			
Current Assets			
Cash and cash equivalents	6,634,199,918	4,014,966,805	4,477,485,428
Member receivables	23,018,931,251	26,628,323,685	29,038,388,116
PPOB Inkopdit deposit	–	5,000,000	10,308,725
Printed goods	52,344,000	43,747,500	33,926,500
Prepaid expenses	153,749,600	158,408,400	141,384,700
Total Current Assets	29,859,064,769	30,850,446,390	33,701,493,469
Non-current Assets			
Inclusion	998,067,765	1,147,021,901	1,242,075,789
Fixed assets – switching costs	3,794,237,300	3,973,340,300	4,092,860,700
Accumulated depreciation	(528,234,448)	(755,116,889)	(1,091,453,179)
Book value of fixed assets	3,266,022,852	3,218,223,411	3,001,407,521
Other assets	285,363,000	285,363,000	327,963,000
Total Non-current Assets	4,549,433,617	4,650,608,312	4,571,446,310
Total Assets	34,408,498,386	35,501,054,702	38,272,939,279
Liabilities and Equity			
Short-term Liabilities			
Member savings	9,166,503,802	9,240,334,447	10,449,716,227
Tax payable	130,444,255	14,993,992	15,267,590
SHU fund	417,385,995	484,771,805	437,462,753
Member deposits	710,576,693	654,108,989	755,736,330
Accrued expenses	1,387,774,463	1,417,415,926	1,208,183,328
Puskopdit debt	1,000,000,000	–	–
Total Short-term Liabilities	12,812,886,208	11,812,625,159	12,867,826,236
Long-term Liabilities			
Long-term debt	660,596,866	927,340,572	773,706,655
Total Liabilities	13,473,483,074	12,739,965,731	13,640,732,891
Equity			
Principal savings	665,054,000	705,579,000	757,111,000
Mandatory savings	16,984,549,075	18,418,646,363	20,219,658,030
Donation	22,217,492	22,217,492	22,217,492
Risk objective reserve	1,102,691,699	1,311,235,297	1,384,004,975
General reserve	2,115,171,692	2,249,294,579	2,193,913,703
Current year SHU	45,331,354	54,116,240	55,301,688
Total Equity	20,935,015,312	22,761,088,971	24,632,206,888
Total Liabilities and Equity	34,408,498,386	35,501,054,702	38,272,939,279

The Sami Jaya Credit Cooperative's comparative balance statement for the years 2021–2023 is shown in Table 4. The table illustrates how total assets grew steadily over the course of the three years, primarily due to an increase in member receivables, which suggests a growth in lending activity. The cooperative's emphasis on core savings and loan operations is reflected in the asset structure's continued dominance of current assets. While equity consistently increased, especially in mandated savings and reserve accounts, overall liabilities were rather steady. Table 4 shows that Sami Jaya Credit Cooperative's operational sustainability was supported by strong financial growth and capital building during the studied period.

Table 5. Remaining Proceeds (SHU) of Sami Jaya Credit Cooperative December 31, 2021-2023

Description	2021	2022	2023
Operating Revenue			
Member loan services	3,339,742,985	4,068,360,617	4,072,805,551
Administration of loan services	155,688,100	205,717,750	180,008,800
Total Operating Income	3,495,431,085	4,274,078,367	4,252,814,351
Direct Service Charges			
Member savings interest expenses	1,792,466,462	1,912,558,463	1,921,917,061
Other layoff interest expenses	28,200,000	56,400,000	–
Total Direct Service Expenses	1,820,666,462	1,968,958,463	1,921,917,061
Gross Operating Income	1,674,764,623	2,305,119,904	2,330,897,290
Operating Expenses			
Organisational expenses	481,980,700	647,426,668	602,094,673
Personnel management expenses	777,051,173	907,313,181	1,069,750,104
Administrative and general expenses	302,168,181	304,440,276	349,997,270
Fixed asset depreciation expense	239,083,321	226,882,441	211,602,509
Total Operating Expenses	1,800,283,375	2,086,062,441	2,233,444,556
SHU before non-business income (expenses)	(125,518,752)	219,057,338	97,452,734
Non-business income (expenses)	(170,850,106)	164,941,098	(42,151,046)
SHU before tax	45,331,354	54,116,240	55,301,688
Income tax	–	–	–
SHU after tax	45,331,354	54,116,240	55,301,688

Table 5 presents the Statement of Remaining Operating Results (SHU) of the Sami Jaya Credit Cooperative for the period 2021–2023. As shown in the table, operating income increased overall, driven by growth in member loan services. Although operating expenses also rose, the cooperative was able to maintain positive SHU after tax each year. Table 5 indicates that Sami Jaya Credit Cooperative achieved stable profitability during the observed period.

PEARLS Performance Analysis

The comparative performance analysis of Adiguna and Sami Jaya Credit Cooperatives, as shown in Table 6, shows notable differences across financial dimensions during 2021–2023. In terms of protection ratios, Adiguna's P1 ratio improved from below the ideal level in 2021 to adequate levels in 2021–2023, although its performance fluctuated. Sami Jaya, in contrast, demonstrated more stable protection by achieving the ideal P1 ratio from 2022 onward. For the P2 ratio, Adiguna consistently remained below the minimum standard, while Sami Jaya showed a sharp improvement and exceeded the benchmark in 2021–2023, indicating stronger short-term loss protection. Sami Jaya exhibited better and more consistent protection performance.

Regarding effective financial structure, Adiguna's E1 ratio increased and exceeded the ideal range in 2023, suggesting aggressive lending and higher risk exposure, whereas Sami Jaya improved into the ideal range and remained stable. Adiguna maintained low reliance on share deposits (E7), while Sami Jaya showed excessive dependence on this funding source. In terms of institutional capital (E8), Adiguna declined below the minimum standard after 2021, while Sami Jaya gradually improved and met the minimum in 2023. These results indicate relatively safer financial structure management at Sami Jaya, while Adiguna faced higher structural risk.

Asset quality analysis reveals that Adiguna's delinquency ratio (A1) remained high and above the acceptable standard throughout the period, while Sami Jaya successfully reduced delinquency to below the benchmark by 2023. Adiguna maintained non-earning assets (A2) near the ideal level, whereas Sami Jaya consistently exceeded the threshold. For A3, Adiguna demonstrated a strong capacity to finance non-earning assets, while Sami Jaya underperformed. Thus, Sami Jaya performed better in credit quality, while Adiguna was stronger in managing non-earning assets. Profitability analysis shows that both cooperatives experienced improvements in gross income margins (R8), particularly Sami Jaya. However, operating efficiency (R9) was weak at Adiguna due to high

expenses, while Sami Jaya maintained better cost control. Net income performance (R12) remained poor for both cooperatives, indicating inefficiencies in translating income growth into profits. Both cooperatives exhibited weak performance in returns and cost efficiency.

Table 6. Comparative Performance Recapitulation of Adiguna and Sami Jaya Credit Cooperative

Aspect	inf	Formula	Standard	2021		2022		2023	
				Adiguna	Sami Jaya	Adiguna	Sami Jaya	Adiguna	Sami Jaya
Protection	P1	Allowance for Loan Losses/Allowances Required for Loans Delinquent >12 months	100%	80.024%	95.54%	135%	100%	100%	100%
	P2	Net Allowance for Loan Losses / Allowances Required for Loans Delinquent less than 12 months	35%	34.75%	0	11.4%	56.76%	3.16%	130.19%
E = Effective Financial Structure	E1	Net Loans/Total Assets	70-80%	76.36%	63.69%	80.28%	75.01%	88.39%	75.87%
	E5	Savings Deposits / Total Assets	70 – 80%	76.41%	28.56%	76.94%	28.64 5	78.49%	29.32%
	E7	Member Share Capital / Total Assets	Maks. 20%	6.54%	51.29	6.27%	53.87%	6.61%	54.81%
	E8	Institutional Capital/ Total Assets	Min. 10%	14.21%	9.55%	6.95%	10.24%	5.22%	9.55%
A=Asset Quality	A1	Total Loan Delinquency Gross Loan Portfolio	< 5%	13.75%	12.60%	12.05%	7.29%	11.98%	4.09%
	A2	Non-Earning Assets Total Aset	< 5%	3.04%	11.42%	5.26%	11.10%	3.07%	9.10%
	A3	NI + TC + NIBL Non-Earning Assets	>200%	287%	147.62%	359%	157.22%	612%	174%
R=Rates of Return on Cost	R8	Total gross income margin Average Total Assets	See (**) below	2.41%	5.31%	7.60%	6.42%	10.56%	14.11%
	R9	Total Operating Expenses Average Total Assets	< 10%	11%	4.92%	10.51%	5.97%	10.56%	6.05%
	R12	Net income (SHU) Average total assets	Min 10%	2.50%	0.14%	1.90%	0.15%	1.60%	0.15%
L=Liquidity	L1	S.T Investments + Liquid Assets - S.T. Payables / Savings Deposits	Min 15%	28.96%	44%	134.10%	16.33%	132.46%	36.03%
	L2	Liquidity Reserves / Savings Deposits	Min 10%	25.91%	67.51%	16.99%	39.48%	7.64%	56.17%
	L3	Non-Earning Liquid Assets / Total Assets	<1%	3.04%	0.50%	3.06%	0.74%	1.22%	0.03%
S=Signs of growth	S5	Total trust deposits this year – Trust deposit last year Last year, trust savings	12%	31.57%	0.03%	24.15%	3.48%	18.70%	10.37%

Aspect	inf	Formula	Standard	2021		2022		2023	
				Adiguna	Sami Jaya	Adiguna	Sami Jaya	Adiguna	Sami Jaya
S7		Total trust deposits this year – Last year's savings Last year's savings	>12%	17.37%	10.40%	18.13%	8.35%	22.76%	9.69%
S8		Total capital this year – Total capital last year Total capital last year	>11%	5.78%	3.98%	9.52%	10.70%	10.97%	0.51%
S10		Number of members this year – Number of member last year Number of member last year	>12%	24.24%	8.11%	26.16%	14.64%	17.03%	7.25%
S11		Total Assets this year – Total capital last year Total Assets last year	Above the inflation rate or 10%	27.09%	16.96%	20.75%	3.18%	16.36%	9.05%

Liquidity analysis indicates that both cooperatives maintained liquidity levels above recommended standards, reflecting inefficient fund utilization. While Sami Jaya managed non-earning liquid assets (L3) more effectively, both cooperatives' excessive liquidity potentially constrained profitability. Growth ratio analysis highlights stronger performance by Adiguna, which consistently exceeded standards for savings growth (S5), member share growth (S7), membership growth (S10), and total asset growth (S11). In contrast, Sami Jaya underperformed in most growth indicators. However, both cooperatives showed weak performance in institutional capital growth (S8), signaling limited internal capital strengthening. In summary, Sami Jaya demonstrated stronger performance in protection, credit quality, cost efficiency, and liquidity management, while Adiguna outperformed in growth-related indicators. Despite these differences, both cooperatives face common challenges in profitability, institutional capital growth, and efficient asset utilization, indicating the need for comprehensive financial management improvements.

Table 7. The Performance Differences of the Adiguna and Sami Jaya Credit Cooperatives in 2021- 2023

No	Indicators/Ratios	Adiguna	Sami Jaya
1	Protection	Poor/fluctuating	Stable increasing
2	Effective Financial Structure	Poor	fair
3	Asset Quality	risky	risky
4	Rates of Return and Cost	Poor/risky	Poor/risky
5	Liquidity	Poor (too high liquidity)	poor (too high liquidity)
6	Sign Growth	good	fair

Table 7 shows the summary of the performance of the Adiguna and Sami Jaya credit cooperatives as analyzed based on the PEARLS indicators. In terms of asset protection, the Sami Jaya had a better performance as compared to the Adiguna. The Sami Jaya's performance was more stable and increasing during the period of 2021-2023, while the Adiguna's performance was fluctuating and even decreasing. Regarding effective financial structure, the Sami Jaya performed slightly better than the Adiguna. While the Adiguna found itself in the riskiest position, the Sami Jaya was just in a fairly safe position. Regarding the asset quality, both cooperatives were in a risky position. Specifically, both cooperatives need to work harder to improve their performance regarding the loan delinquency rate. Both Adiguna and Sami Jaya performed poorly in terms of rate of return and costs. Both credit cooperatives need to utilize their assets efficiently and effectively to create higher income, which in turn can increase the net

income. Further, regarding the liquidity ratios, both Sami Jaya and Adiguna performed poorly. Both cooperatives had too high liquidity. In terms of signs of growth, Adiguna performed slightly better than Sami Jaya.

DISCUSSION

This discussion section interprets the findings by linking them to cooperative performance theory, prior empirical evidence, and the contextual realities of credit cooperatives in developing economies. This study analyzes the financial performance of Adiguna and Sami Jaya Credit Cooperatives during 2021–2023 using the PEARLS framework. The results indicate that while both cooperatives experienced asset growth and maintained operational continuity, they faced structural weaknesses in protection, asset quality, efficiency, liquidity, and returns. These findings are largely consistent with previous studies on credit cooperatives in developing economies (Paudel & Acharya, 2022).

Differences in protection mechanisms between the two cooperatives indicate variations in their ability to manage credit risk and financial resilience. In terms of protection ratios (P1 and P2), the results show that Sami Jaya demonstrated more stable and improved performance compared to Adiguna. This aligns with the argument of Richardson (2002), who emphasizes that adequate loan loss provisioning is a key indicator of cooperative resilience. Adiguna's fluctuating protection ratios, particularly the sharp decline in P2, indicate vulnerability in managing short-term delinquent loans. Similar findings were reported by Abbas and Rabiya (2025), who found that inconsistent provisioning often reflects weak credit risk monitoring systems. The implication is that Adiguna needs to strengthen its loan supervision and provisioning policies to prevent future solvency risks.

Financial structure imbalances observed in both cooperatives reflect differing strategic approaches to growth and funding stability. Adiguna's E1 ratio exceeded the ideal threshold in 2023, confirming Ledgerwood (2013), who warns that aggressive lending without parallel capital strengthening increases systemic risk. Meanwhile, Sami Jaya's excessive reliance on member share capital (E7) supports findings by Brau and Woller (2004), which highlight that overdependence on internal deposits may limit financial flexibility. The implication is that both cooperatives must rebalance their funding composition to achieve a safer financial structure. Asset quality outcomes reveal a trade-off between credit discipline and asset utilization efficiency. Sami Jaya performed better in reducing loan delinquency (A1), consistent with studies by Chebet et al. (2024), which emphasize strict credit discipline as a determinant of sustainability. Conversely, Adiguna outperformed Sami Jaya in managing non-earning assets and financing them adequately (A2 and A3), confirming Richardson's (2002) assertion that strong institutional capital plays a crucial role in absorbing inefficiencies. The implication is that neither cooperative achieved optimal asset quality; both need to reduce delinquency while improving asset productivity.

Profitability constraints observed in both cooperatives highlight the challenge of translating income growth into sustainable financial returns. This supports findings by Indrawati et al. (2024), who argue that rising operating costs often erode cooperative profitability. Sami Jaya's superior cost control compared to Adiguna indicates better managerial efficiency, yet both fell far below the ideal net income benchmark. The implication is that income growth alone is insufficient without effective cost management. Liquidity management patterns suggest conservative risk behavior but weak income optimization. Confirming Richardson (2001), who states that surplus liquidity reduces income-generating capacity. Sami Jaya's better performance in L3 suggests more efficient allocation of liquid assets, but overall liquidity management remained weak. This implies a need for better liquidity planning to balance safety and profitability.

Finally, in growth indicators (S ratios), Adiguna consistently outperformed Sami Jaya, particularly in savings, membership, and asset growth. This aligns with findings by Cull et al. (2009), who link growth momentum to stronger market outreach. However, weak

institutional capital growth in both cooperatives suggests that expansion was not fully supported by internal capital strengthening. These findings extend prior PEARLS-based studies by demonstrating that cooperative growth alone does not guarantee financial sustainability when not accompanied by balanced protection, efficiency, and capital adequacy. The results highlight the interdependence among PEARLS dimensions, where weaknesses in one aspect can undermine performance. In conclusion, the findings confirm prior research that cooperative growth without balanced protection, efficiency, and capital adequacy increases financial risk. The main implication is that both Adiguna and Sami Jaya must prioritize strengthening credit risk management, cost efficiency, and capital formation to achieve sustainable long-term performance.

CONCLUSION

This study evaluates the financial performance of Adiguna and Sami Jaya Credit Cooperatives during 2021–2023 using the PEARLS framework. The findings show that both cooperatives experienced asset and membership growth, indicating operational continuity. However, several structural weaknesses were identified. Adiguna faced instability in asset protection and high loan delinquency, while Sami Jaya showed relatively better delinquency control but weaker growth performance. Both cooperatives exhibited inefficiencies in effective financial structure, asset quality, liquidity management, and rates of return. Although gross income margins improved, net income ratios remained far below ideal standards, suggesting that income generation was constrained by high operating costs and inefficient asset utilization. Adiguna performed slightly better in growth indicators, whereas Sami Jaya showed relative strength in asset quality, yet neither cooperative achieved optimal financial sustainability.

The results imply that credit cooperatives must balance growth with sound financial management. Strengthening loan monitoring and reducing delinquency rates should be a top priority for both cooperatives. In addition, improving cost efficiency and optimizing asset allocation are essential to enhance net income and long-term sustainability. For Sami Jaya, a greater emphasis on expanding member participation, sharing savings, and capital accumulation is necessary to support growth. For Adiguna, stabilizing asset protection and controlling credit risk are critical to reducing financial vulnerability.

This study is limited by its focus on only two credit cooperatives and a relatively short observation period (2021–2023), which restricts the generalizability and trend analysis of the findings. Furthermore, the analysis relies solely on internal financial indicators, excluding external factors such as governance quality, managerial competence, and member perceptions. Future research is recommended to include a larger number of cooperatives, extend the observation period, and incorporate qualitative variables to provide a more comprehensive assessment of cooperative performance and sustainability.

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