



COSO Framework-Based Internal Control in University Cooperatives and Its Impact on Financial Statement Quality

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ABSTRACT

Purpose: This study investigates the influence of COSO-based internal control components on the quality of financial statements in higher education cooperatives and explores implementation practices through quantitative and qualitative approaches.

Methodology: A mixed-method design with a sequential explanatory strategy was employed. The quantitative phase applied SEM-PLS using SmartPLS 4.0 on 66 members of the STIE Mandala Cooperative. Exogenous variables included the control environment, risk assessment, control activities, information and communication, and monitoring, while the endogenous variable was financial statement quality. The qualitative phase involved in-depth interviews with supervisors, chairpersons, and treasurers, complemented by benchmarking with other university cooperatives.

Finding: Quantitative results indicate that the control environment and monitoring significantly affect financial statement quality, whereas risk assessment, control activities, and information and communication show no significant effect. Qualitative insights reveal weak internal control implementation due to a trust-based culture, limited resources, and administrative procedures. Benchmarking highlights good practices such as stronger supervisory roles, formalized documentation, and the use of information technology to enhance control effectiveness.

Implication: Strengthening the control environment and monitoring mechanisms is essential to improving cooperative financial reporting, supported by systematic risk management, consistent control activities, and effective communication.

Originality: By integrating SEM-PLS analysis with qualitative insights and benchmarking, this study provides a comprehensive understanding of COSO Framework-based internal control effectiveness in university cooperatives.

Keywords: Internal Control, COSO Framework, Financial Statement Quality, University Cooperatives.

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1. Introduction

The dynamics of Indonesia's current economic conditions continue to evolve. With significant developments in various sectors, cooperatives have emerged as an important instrument in strengthening the economic structure (Fikriman et al., 2021). Cooperatives play a key role in supporting inclusive and sustainable economic growth. Based on Law Number 25 of 1992 concerning Cooperatives, cooperatives are empowered to become economic drivers capable of overcoming global challenges. The issue of accountability in cooperative reporting is also stipulated in Minister of Cooperatives and Small and Medium Enterprises Regulation No. 12 of

2015 concerning General Guidelines for Accounting in the Real Sector Cooperatives, so that cooperatives are expected to develop properly (Chalim et al., 2022).

However, despite their positive contributions, cooperatives in Indonesia face several challenges that need to be addressed, particularly regarding the quality of financial reports and internal control (Henk, 2020). A common problem is a lack of understanding of the importance of preparing accurate and transparent financial reports (Meiryani et al., 2013; Utami et al., 2021). Furthermore, internal controls are ineffective, with cooperatives finding it difficult to implement control procedures to manage financial and operational risks (Putra, 2021; Tambunan et al., 2022; Kanakriyah et al., 2024). This can lead to vulnerability to fund misuse, fraud, and uncertainty in the financial information presented.

The internal control system is part of corporate governance and is a process designed to provide reasonable assurance about the achievement of organisational objectives, the reliability of financial reports, and compliance with applicable regulations and policies (Saputra & Setiyawati, 2023). When internal controls are not optimal, problems will arise (Putra, 2023). COSO (Committee of Sponsoring Organisations of the Treadway Commission) is a framework that provides guidelines on how organisations can design, implement, and monitor their internal control systems to achieve strategic objectives, minimise risk, and ensure good accountability (COSO, 2012). The COSO Framework is based on five components, namely 1) control environment; 2) risk assessment; 3) control activities; 4) information and communication; 5) monitoring (COSO, 2012).

Based on a systematic literature review related to the quality of financial reports in cooperatives (Ayu et al., 2021), it is known that the main factor affecting the quality of financial reports is internal control. Research results related to internal control systems with the COSO framework still show gaps. In several studies (Triono & Dewi, 2020; Arfismanda et al., 2021; Wulandari & Abidin, 2022; Boulhaga et al., 2022; Lustrilanang et al., 2023), internal control systems have a positive effect on financial statement quality. Meanwhile, other studies (Sumaryati et al., 2020; Aldino & Septiano, 2021; Sabrina et al., 2025) found that internal control systems have no effect on financial statement quality. When specifically discussing the effect of internal control systems on the quality of financial statements in cooperatives, quantitative analysis shows a positive effect (Ayem & Nugroho, 2020; Wijaya & Al Faruq, 2021; Anggreni & Dewi, 2022).

STIE Mandala Cooperative is a cooperative within a private university in Jember Regency, established in 1999. In 2024, it was discovered that STIE Mandala Cooperative was not yet certified with D1 status (had not reported at least one AGM result in the last three financial years) (Putra, 2024). This condition can have an impact on decreasing members' trust in the management of the cooperative, where cooperatives with a university background should reflect better management. This anomaly raises the urgency of the need for evaluation and recommendations for improvements to the internal control system at the STIE Mandala Cooperative in order to improve the transparency and financial accountability of the cooperative.

Based on the background description, the research problem can be formulated as follows. Cooperatives in Indonesia, including university cooperatives, face serious challenges in maintaining the quality of financial reports and the effectiveness of internal control. This condition raises questions about the extent to which the implementation of an internal control system based on the COSO framework can improve the transparency and accountability of cooperative financial reports. In addition, there are still differences in the results of previous studies regarding the effect of internal control on the quality of financial statements, so further study is needed to clarify this relationship. This condition raises the urgency to evaluate and provide recommendations on the internal control system that is being implemented. Thus, the research questions are: (1) how does COSO framework-based internal control influence the quality of higher education cooperative financial reports; and (2) how can good internal control be implemented in higher education cooperatives to increase member trust and support accountable and sustainable governance.

Literature Review and Hypotheses

1.1. COSO Framework

The most widely used internal control framework internationally is the COSO Framework introduced by the Committee of Sponsoring Organisations of the Treadway Commission. This

framework emphasises that internal control is a process carried out by all elements of an organisation to provide reasonable assurance regarding the achievement of objectives related to operational effectiveness, reliability of financial reporting, and compliance with applicable laws and regulations (COSO, 2012). The COSO Framework consists of five main components, namely control environment, risk assessment, control activities, information and communication, and monitoring, which are integrated and serve as the foundation of organisational governance. With consistent implementation, this framework can assist organisations, including university cooperatives, in minimising risk, improving accountability, and strengthening the quality of financial reports (COSO, 2012).

1.2. The Influence of Control Environment on Financial Statement Quality

The control environment is the foundation of an internal control system that reflects integrity, ethical values, and management's commitment to accountability (COSO, 2012). A strong control environment will encourage the creation of more reliable and transparent financial statements. According to Jones (2011), the quality of financial statements is determined by the relevance, reliability, comparability, and understandability of information. Research by Triono & Dewi (2020) and Wulandari & Abidin (2022) shows that the control environment has a positive effect on the quality of financial statements.

H1: The control environment has a positive effect on the quality of cooperative financial statements.

1.3. The Effect of Risk Assessment on Financial Statement Quality

Risk assessment is the process of identifying and analysing risks that may hinder the achievement of organisational objectives (COSO, 2012). Cooperatives that are able to identify financial risks, such as bad debts or potential fraud, will produce more relevant and reliable financial statements (Jones, 2011). Research by Tambunan et al. (2022) and Kanakriyah et al. (2024) supports the notion that risk management has a significant effect on the quality of financial statements.

H2: Risk assessment has a positive effect on the quality of cooperative financial statements.

1.4. The Effect of Control Activities on Financial Statement Quality

Control activities such as authorisation, reconciliation, and transaction documentation help ensure the accuracy of financial statements (COSO, 2012). According to Jones (2011), quality financial statements must be free from material misstatements and comparable. Research by Arfismanda et al. (2021) and Wijaya & Al Faruq (2021) shows that control activities have a positive effect on the quality of financial statements.

H3: Control activities have a positive effect on the quality of cooperative financial statements.

1.5. The Influence of Information and Communication on Financial Statement Quality

Relevant information and effective communication, both internal and external, are important elements in supporting financial statement quality (COSO, 2012). According to Jones (2011), quality financial statements must be understandable and presented in a timely manner. Research by Meiryani et al. (2023) and Aldino & Septiano (2021) proves that the quality of information and communication systems affects the quality of financial statements.

H4: Information and communication have a positive effect on the quality of cooperative financial statements.

1.5. The Effect of Monitoring on Financial Statement Quality

Monitoring is a continuous or separate evaluation to ensure that internal controls are functioning effectively (COSO, 2012). According to Jones (2011), quality financial statements must be reliable, and this can only be achieved if there is a consistent monitoring mechanism. Research by Lustrilanang et al. (2023) and Anggreni & Dewi (2022) shows that monitoring has a positive effect on the quality of financial statements.

H5: Monitoring has a positive effect on the quality of cooperative financial statements.

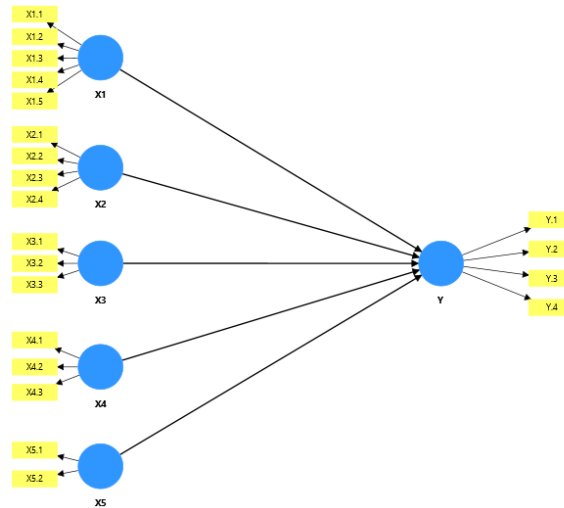


Figure 1. SEM-PLS structural model diagram
Source: Primary data processed (2025)

2. Methodology

This study utilised a mixed method with a sequential explanatory approach. The first stage employed a quantitative approach using the Structural Equation Modelling-Partial Least Squares (SEM-PLS) analysis method through SmartPLS 4.0 software. The population used was members of the STIE Mandala Cooperative, while the research sample was selected using a purposive method with the criteria of cooperative members who participated in the RAT and received the cooperative's financial reports, namely 66 members. The type of data in this study was quantitative data with data sources consisting of secondary data in the form of references from previous studies and primary data in the form of questionnaires with a Likert scale.

There was one endogenous variable, namely financial statement quality (Y), and five exogenous variables, namely control environment (X1), risk assessment (X2), control activities (X3), information and communication (X4), and monitoring (X5).

The data tests conducted were outer model tests, including convergent validity (outer loading and AVE), discriminant validity (cross loading and Fornell-Larcker), and reliability (Cronbach's Alpha and Composite Reliability). The inner model tests included R-square, f-square, and hypothesis testing through bootstrapping (T-statistic and P-value). Meanwhile, the Model Fit used SRMR (Standardised Root Mean Square Residual), d_ULS (Unweighted Least Squares Discrepancy), d_G (Geodesic Discrepancy), Chi-Square Test, NFI (Normed Fit Index), and GoF (Goodness of Fit).

The second stage involved a qualitative approach, through in-depth interviews with key informants, namely the administrators of the STIE Mandala Cooperative, consisting of the Supervisor, Chairperson and Treasurer. The focus of the in-depth discussion referred to the results of quantitative research. The interpretation of the results was based on the results of data analysis. Furthermore, to strengthen the research results, benchmarking was carried out by interviewing the administrators of other university cooperatives as a means of seeing the perspectives and benchmarks of internal control systems in university-based cooperatives.

3. Results and Discussion

3.1. Results

Outer Model

The outer model test shows that all indicators have outer loading values above 0.70 and Average Variance Extracted (AVE) above 0.50, which means that convergent validity is fulfilled. The discriminant validity test with cross loading and Fornell-Larcker criteria shows that the

square root of AVE for each construct is greater than the correlation between other constructs, so that discriminant validity is also fulfilled. In addition, the Cronbach's Alpha and Composite Reliability values of all constructs are above 0.70, indicating that all latent variables are reliable. Thus, the measurement model has met the criteria for good validity and reliability.

a. Convergent Validity

Table 1. Convergent Validity

	Outer Loading	AVE	Information
X1.1	0.768	0.633	Valid
X1.2	0.788		Valid
X1.3	0.823		Valid
X1.4	0.798		Valid
X1.5	0.800		Valid
X2.1	0.738	0.664	Valid
X2.2	0.767		Valid
X2.3	0.894		Valid
X2.4	0.852		Valid
X3.1	0.945		Valid
X3.2	0.891	0.829	Valid
X3.3	0.894		Valid
X4.1	0.831		Valid
X4.2	0.898	0.739	Valid
X4.3	0.848		Valid
X5.1	0.926		Valid
X5.2	0.910	0.843	Valid
Y.1	0.719		Valid
Y.2	0.892	0.701	Valid
Y.3	0.829		Valid
Y.4	0.897		Valid

Source: Primary data processed (2025)

b. Discriminant Validity

Table 2. Cross Loading

	X1	X2	X3	X4	X5	Y	Information
X1.1	0.768	0.576	0.526	0.652	0.590	0.414	Valid
X1.2	0.788	0.611	0.670	0.679	0.518	0.637	Valid
X1.3	0.823	0.540	0.473	0.503	0.505	0.534	Valid
X1.4	0.798	0.505	0.426	0.549	0.587	0.623	Valid
X1.5	0.800	0.732	0.644	0.533	0.570	0.668	Valid
X2.1	0.645	0.738	0.515	0.434	0.518	0.496	Valid
X2.2	0.517	0.767	0.800	0.532	0.568	0.501	Valid
X2.3	0.575	0.894	0.600	0.541	0.764	0.537	Valid
X2.4	0.697	0.852	0.615	0.627	0.739	0.629	Valid
X3.1	0.700	0.780	0.945	0.614	0.648	0.668	Valid
X3.2	0.511	0.626	0.891	0.617	0.534	0.497	Valid
X3.3	0.670	0.689	0.894	0.663	0.591	0.536	Valid
X4.1	0.611	0.545	0.579	0.831	0.653	0.586	Valid
X4.2	0.717	0.579	0.524	0.898	0.720	0.658	Valid
X4.3	0.547	0.579	0.682	0.848	0.575	0.623	Valid
X5.1	0.664	0.696	0.623	0.696	0.926	0.704	Valid
X5.2	0.609	0.782	0.575	0.692	0.910	0.642	Valid
Y.1	0.592	0.558	0.699	0.607	0.435	0.719	Valid
Y.2	0.696	0.617	0.495	0.601	0.670	0.892	Valid

Y.3	0.571	0.444	0.429	0.524	0.659	0.829	Valid
Y.4	0.619	0.614	0.513	0.694	0.675	0.897	Valid

Source: Primary data processed (2025)

Table 3. Fornell-Larcker

	X1	X2	X3	X4	X5	Y
X1	0.795					
X2	0.751	0.815				
X3	0.695	0.773	0.911			
X4	0.729	0.661	0.690	0.860		
X5	0.694	0.802	0.653	0.756	0.918	
Y	0.741	0.669	0.631	0.725	0.734	0.837

Source: Primary data processed (2025)

c. Reliability

Table 4. Reability

	Cronbach's alpha	Composite reliability (rho_c)	Information
X1	0.856	0.896	Reliable
X2	0.830	0.887	Reliable
X3	0.897	0.936	Reliable
X4	0.823	0.895	Reliable
X5	0.814	0.915	Reliable
Y	0.855	0.903	Reliable

Source: Primary data processed (2025)

Inner Model

Testing of the inner model showed an R-square value of 0.661, indicating that the variables of control environment, risk assessment, control activities, information and communication, and monitoring were able to explain 66.1% of the variation in the quality of cooperative financial reports, including the strong category. The effect size test (f-square) shows that the control environment and monitoring have a small but significant effect, while the other variables have a very small and insignificant effect. Hypothesis testing with bootstrapping shows that only the control environment ($p = 0.024$) and monitoring ($p = 0.047$) have a significant effect on financial statement quality at a 5% significance level.

a. R Square

Table 5. R Square

	R-square	R-square adjusted
Y	0.661	0.634

Source: Primary data processed (2025)

1. Effect Size

Table 6. Effect Size

	Y	Information
X1	0.123	Small
X2	0.001	Very Small
X3	0.004	Very Small
X4	0.039	Small
X5	0.083	Small

Source: Primary data processed (2025)

2. Hypothesis testing

Tabel 7. Hypothesis testing

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Information
X1->Y	0.352	0.364	0.156	2.253	0.024	Accepted
X2->Y	-0.043	-0.034	0.168	0.258	0.796	Rejected
X3->Y	0.064	0.054	0.121	0.531	0.596	Rejected
X4->Y	0.205	0.206	0.141	1.454	0.146	Rejected
X5->Y	0.328	0.324	0.165	1.987	0.047	Accepted

Source: Primary data processed (2025)

b. Model Fit

The model fit test results show that all criteria are met, with an SRMR value of 0.098 (< 0.10), $d_{ULS} = 2.232$ and $d_G = 1.616$, which are within the feasibility limits, and the calculated Chi-square (542.388) is greater than the table Chi-square (32.671). The NFI value of 0.619 is in the acceptable category and the Goodness of Fit (GoF) value of 0.697 indicates a strong level of model acceptability. Overall, the structural model used in this study can be said to have good compatibility with the research data.

Table 8. Model Fit

	Rule of Thumb	Estimated model	Information
SRMR	< 0.10	0.098	Fit
d_{ULS}	$> 0,05$	2.232	Fit
d_G	$> 0,05$	1.616	Fit
Chi-square	χ^2 statistik $> \chi^2$ tabel	542.388 $>$ 32,671	Fit
NFI	Close to the value 1	0.619	Fit
GoF	0,1 (GOF small), 0,25 (GOF moderate), 0,36 (GOF strong)	0.697	Strong Fit

Source: Primary data processed (2025)

3.2. Discussion

Control Environment and Financial Statement Quality

The results indicate that the control environment (X1) has a positive and significant effect on financial statement quality (Y). This confirms that a strong control environment at STIE Mandala Cooperative characterised by ethical values, leadership commitment, and a clear organizational structure contributes directly to the reliability and relevance of financial statements.

This finding is in line with the COSO (2012) framework, which places the control environment as the foundation for all other internal control components. Good governance and an ethical culture form the basis for organizational behaviour and decision-making. These results are also in line with the research by Anggreni and Dewi (2022) and Ayem and Nugroho (2020), which shows that managerial integrity and commitment are crucial in determining the quality of cooperative financial statements.

In the context of the STIE Mandala Cooperative, its affiliation with an educational institution provides advantages in terms of organizational discipline and accountability awareness. However, these advantages still require continuous strengthening through leadership training and ethics development programmes in order to be maintained in the long term.

An effective control environment not only serves as the foundation of an internal control system, but also plays a decisive role in building an accountability-oriented organisational culture. According to research conducted by Kanakriyah (2024), a strong control environment can increase stakeholder confidence in financial reports due to management's commitment to upholding ethical values and transparency. This shows that the quality of financial reports does not only depend on technical accounting procedures, but also on the integrity and leadership reflected in the organisational structure.

Furthermore, a study by Harb et al. (2024) confirms that the application of control environment components in the COSO Framework contributes significantly to improving reporting quality in the financial sector. These findings are relevant to the conditions of university cooperatives, where academic discipline and ethical culture can serve as social capital to strengthen governance. However, without a sustainable coaching mechanism, these advantages risk weakening over time. Therefore, strengthening the control environment through internal policies, leadership training, and periodic evaluations are strategic steps to ensure that the quality of financial reports is maintained.

Risk Assessment and Financial Statement Quality

The results indicate that risk assessment (X2) does not have a significant effect on financial statement quality. This indicates that the risk identification and evaluation mechanisms at STIE Mandala Cooperative are not yet mature enough to have an impact on financial statement quality.

This finding is in line with Sumaryati et al. (2020), who reported that many cooperatives in Indonesia do not yet have documented and integrated risk management procedures. Conversely, this result differs from the research by Triono and Dewi (2020) on local governments, which found that effective risk assessment has a significant effect on the accuracy of financial statements. This difference is likely influenced by differences in regulations and operational complexity.

For the STIE Mandala Cooperative, the absence of a formal risk assessment has the potential to create vulnerability to human error and operational inefficiencies. Therefore, the implementation of a documented risk assessment framework, complete with periodic reviews and a list of risks, is a strategic step that needs to be taken.

Risk assessment is an important component of the COSO Framework because it serves to identify, analyse, and respond to potential threats that could affect the achievement of organisational objectives. However, the effectiveness of risk assessment is highly dependent on management's capacity to design systematic and documented procedures. According to Arena et al. (2010), organisations with weak risk assessment mechanisms tend to face difficulties in maintaining the quality of financial reporting, as undetected risks can lead to material errors and inaccuracies in information. This explains why in cooperatives that do not yet have a formal risk management system, the influence of risk assessment on the quality of financial reports is often insignificant.

Conversely, research by Harb et al. (2024) shows that the application of risk assessment integrated with internal control can improve the transparency and accuracy of financial reports in the banking sector. This difference in results confirms that institutional context and the level of operational complexity are determining factors in the effectiveness of risk assessment. In the case of the STIE Mandala Cooperative, limited managerial capacity and the absence of documented risk procedures meant that this component did not contribute significantly to the quality of financial reports. Therefore, strengthening risk assessment through the preparation of risk lists, management training, and periodic evaluations are strategic steps to improve the accountability and reliability of higher education cooperative reporting.

Financial Statement Control and Quality Activities

Control activities (X3) also did not have a significant effect on financial statement quality. This indicates that although administrative procedures and operational systems are in place, their implementation at the STIE Mandala Cooperative has not been fully optimised to improve financial statement quality.

This finding is consistent with the research by Sabrina et al. (2025), which states that in small to medium-sized cooperatives, control activities tend to be administrative in nature without periodic evaluation of their effectiveness. Conversely, Wulandari and Abidin (2022) found that structured control activities can improve the accuracy and reliability of financial reports in the corporate sector, indicating that organizational context influences results.

At the STIE Mandala Cooperative, control activities can be strengthened through the establishment of clear SOPs, the implementation of compliance audits, and regular performance evaluations to ensure that procedures are not only documented but also implemented consistently.

Control activities are essentially policies and procedures designed to ensure that management directives are implemented consistently in order to achieve organisational objectives. However, the effectiveness of control activities is highly dependent on the quality of implementation and ongoing evaluation. According to Doyle et al. (2007), weaknesses in control activities are often associated with poor quality financial reporting, especially when procedures are merely formal without adequate oversight mechanisms. This condition is relevant to small to medium-sized cooperatives, where resource constraints cause control activities to focus more on administrative aspects rather than substantive controls that can improve reporting accuracy.

Conversely, research by Kanakriyah (2024) shows that structured control activities, such as internal audits, separation of functions, and compliance evaluations, contribute significantly to improving the transparency and reliability of financial reports. This confirms that the differences in research results between cooperatives and the corporate sector can be explained by the level of organisational complexity and managerial capacity. In the context of the STIE Mandala Cooperative, the implementation of more systematic control activities through clear SOPs, compliance audits, and periodic evaluations is a strategic step to ensure that procedures are not only documented but also implemented consistently and effectively.

Information and Communication and Financial Statement Quality

The relationship between information and communication (X4) and financial statement quality is positive but not significant. This indicates that although STIE Mandala Cooperative has reporting channels, the effectiveness of internal communication is not yet optimal enough to improve financial statement quality.

This finding is similar to the results of research by Ayem and Nugroho (2020) on savings and loan cooperatives in rural areas, which found that internal communication barriers can hinder the timely and accurate delivery of financial information. Meanwhile, COSO (2012) emphasises that relevant information and effective communication are important prerequisites for the success of an internal control system.

This gap indicates that the STIE Mandala Cooperative needs to improve the effectiveness of its internal information and communication systems, for example through the digitization of financial reporting, simplification of communication flows, and improvement of communication skills at the management and staff levels.

Information and communication are important components in the COSO Framework because they serve as a means of conveying relevant and timely data to all stakeholders. However, the effectiveness of internal communication is often influenced by the quality of the information system used. According to Gelinas et al. (2017), a weak accounting information system can hinder the internal control process because the information presented is not always accurate or easily understood by decision makers. This explains why the relationship between information and communication and the quality of financial reports in cooperatives is often insignificant, especially when communication channels are not supported by adequate technology.

Research by Harb et al. (2024) shows that organisations that implement integrated communication systems, including the digitisation of financial reporting, are able to significantly improve the transparency and accuracy of financial reports. These differences in results confirm that institutional context and the level of technology adoption are determining factors in the effectiveness of internal communication. In the case of the STIE Mandala Cooperative, limitations in digitisation and a lack of communication training at the management level meant that this component did not contribute optimally to the quality of financial reports. Therefore, strengthening technology-based information systems and improving managerial communication capacity are strategic steps to support the accountability and reliability of higher education cooperative reporting.

Monitoring and Financial Statement Quality

Monitoring (X5) was found to have a positive and significant effect on financial statement quality. This finding indicates that the regular and structured monitoring process at STIE Mandala Cooperative is able to detect and correct errors quickly, thereby having a positive impact on financial statement quality.

This result is in line with the research by Triono and Dewi (2020), which shows that periodic monitoring of accounting processes can minimize recording errors and improve the reliability of financial statements. COSO (2012) also places monitoring as a key component in ensuring that the effectiveness of internal controls is maintained over time.

In practice at the STIE Mandala Cooperative, the involvement of administrators and supervisors in conducting periodic evaluations has served as an effective control mechanism. Going forward, the establishment of an internal audit unit could be a strategic step to strengthen the monitoring function professionally.

Effective monitoring serves as a feedback mechanism in the internal control system, so that weaknesses can be immediately identified and corrected. According to Oussii and Boulila (2018), a continuous monitoring process can improve the quality of financial reporting by ensuring that internal control policies and procedures are properly implemented in accordance with standards. This confirms that monitoring is not merely an administrative activity, but an integral part of organizational governance that is oriented towards accountability and transparency.

In addition, research by Harb et al. (2024) shows that organizations with internal audit units or independent monitoring mechanisms tend to produce financial reports that are more reliable and trusted by stakeholders. The difference in results between cooperatives and the corporate sector can be explained by the level of formality of the monitoring system implemented. In the context of the STIE Mandala Cooperative, the involvement of the management and supervisors has already made a positive contribution, but the establishment of an internal audit unit will strengthen the monitoring function in a professional manner, so that the quality of financial reports can continue to be improved and the trust of members can be maintained.

Integrated Perspective

The results of data analysis show that all five internal control components together explain 66.1% of the variation in financial statement quality at STIE Mandala Cooperative. Interestingly, only the control environment and monitoring have a significant effect, indicating that these two components are key factors that can be optimized immediately.

This finding confirms that although cooperatives affiliated with educational institutions have the potential for better governance, they still face operational challenges similar to those faced by cooperatives in other sectors. The comprehensive implementation of a COSO-based internal control framework, supported by digital infrastructure and formal risk management practices, is expected to raise the standard of cooperative financial reporting to a higher level.

Implementation of Internal Control at STIE Mandala Cooperative

Effect size analysis shows that Control Environment, Information and Communication, and Monitoring only have a small effect on the quality of financial statements. Meanwhile, Risk Assessment and Control Activities even show a very small effect. These results are not surprising when considered in relation to the reality on the ground, where the internal control practices of the STIE Mandala Cooperative have not been implemented optimally.

The COSO (2012) framework states that internal control should include five interrelated components and emphasises that effectiveness can only be achieved if these five aspects are implemented in an integrated manner. However, in practice at the STIE Mandala Cooperative, this integration is still weak.

A supervisor at the STIE Mandala Cooperative stated:

"kami memang melakukan pengawasan, tetapi lebih banyak sebatas memeriksa dokumen. Masih belum menilai apakah risiko sudah dipetakan dengan baik".

("we do carry out supervision, but it is mostly limited to checking documents. We have not yet assessed whether the risks have been properly mapped".)

This statement illustrates that the monitoring function does exist, but it has not yet touched on the substance.

From the perspective of the chairperson of the STIE Mandala Cooperative, a different view emerged:

"kami terbiasa mengambil keputusan berdasarkan musyawarah. Prosedur formal terkadang dilewati, sehingga pengendalian internal juga tidak selalu dijalankan."

("we are accustomed to making decisions based on deliberation. Formal procedures are sometimes bypassed, so internal control is not always implemented".)

This explains why the Control Environment has only a minor influence. An organisational culture based on trust does exist, but it is not strong enough to guarantee the quality of financial reports.

Meanwhile, the treasurer of the STIE Mandala Cooperative added:

"sebagai bendahara, saya sering berada di posisi sulit. Di satu sisi, saya tahu pentingnya pencatatan yang rapi dan sesuai prosedur. Namun di sisi lain, anggota sering mendesak agar dana segera dicairkan tanpa menunggu proses administrasi lengkap. Akhirnya, saya harus memilih jalan tengah, meskipun itu berarti pengendalian internal tidak berjalan sebagaimana mestinya."

("as treasurer, I am often in a difficult position. On the one hand, I know the importance of neat and procedural record keeping. However, on the other hand, members often urge me to disburse funds immediately without waiting for the complete administrative process. In the end, I have to choose a middle ground, even though it means that internal control is not running as it should".)

This view highlights the practical dilemma faced by the treasurer. He recognises the importance of activities such as authorisation, reconciliation, and consistent documentation. However, pressure from members and limited resources often compromise these procedures. This quote aligns with the finding that Control Activities have little impact.

In terms of regulations, Law No. 25 of 1992 on Cooperatives emphasises the obligation of cooperatives to maintain orderly accounting and submit financial reports through the Annual Members' Meeting (RAT). Similarly, Permenkop No. 19/Per/M.KUKM/IX/2015 emphasises the importance of transparency and accountability. However, implementation in the field is often limited to fulfilling administrative obligations, rather than serving as a genuine instrument of accountability.

Thus, the low effect size values for Risk Assessment and Control Activities reflect the weakness of internal control practices at STIE Mandala cooperatives. The Control Environment, Information and Communication, and Monitoring do contribute, but only to a limited extent. This condition underscores the need to strengthen cooperative governance through the consistent application of COSO principles, as well as the enforcement of national regulations so that cooperative financial reports are truly reliable, transparent, and accountable.

Best Practices from Other University Cooperatives

a. Artha STIESIA Employee Cooperative

A best practice in internal control at the Artha STIESIA Employee Cooperative is the significant role of the Cooperative Supervisor in control and monitoring activities. The appointed Cooperative Supervisor is a lecturer with expertise and experience as a practitioner in the fields of cooperatives, finance, and public accounting.

"kalau disini (Koperasi Karyawan Artha STIESIA) seluruh pengurus koperasi adalah tenaga kependidikan, sedangkan pengawas koperasi adalah dosen yang mempunyai keahlian keuangan dan auditor di KAP (Kantor Akuntan Publik). Sehingga dalam menjalankan aktivitas termasuk dalam penyusunan laporan kami selalu aktif berkomunikasi dengan pengawas koperasi. Kami pun aktif bertanya kepada pengawas terkait perencanaan termasuk membahas risiko, begitu juga dalam menjalankan masukan yang diberikan oleh pengawas." (Chairperson of the Artha STIESIA Employee Cooperative).

("Here (Artha STIESIA Employee Cooperative), all cooperative administrators are educational personnel, while the cooperative supervisor is a lecturer with expertise in finance and auditing at a public accounting firm. Therefore, in carrying out activities, including the preparation of reports, we always actively communicate with the cooperative supervisor. We also actively ask the supervisor about planning, including discussing risks, as well as implementing the input provided by the supervisor"). (Chairperson of the Artha STIESIA Employee Cooperative).

b. Universitas Muhammadiyah Jember Employee Cooperative

Good practices at the Universitas Muhammadiyah Jember Employee Cooperative include cooperative governance in the form of valid documents, a well structured organisation, and

personnel placement according to their respective fields. These conditions are in line with the control environment element of COSO.

First, procedural documents have been validated at the notary level, and any additional documents are created in the form of Standard Operating Procedures (SOPs) that are validated by the Chair of the Cooperative.

"di Koperasi ini (Koperasi Pegawai Universitas Muhammadiyah Jember) aturan baku terdapat di AD/ART yang sudah dinotariskan, apabila ada penambahan aturan baru, sementara dibuat dalam bentuk SOP terpisah". (Chairperson of the Universitas Muhammadiyah Jember Employee Cooperative).

("in this cooperative (Universitas Muhammadiyah Jember Employee Cooperative), the standard rules are contained in the Articles of Association, which have been notarised. If there are any new rules, they are temporarily made in the form of separate SOPs"). (Chairperson of the Universitas Muhammadiyah Jember Employee Cooperative)

Furthermore, the utilisation of university finance department staff/educational personnel as cooperative credit analysts and the use of the financial database are prerequisites when applying for loans.

"terdapat analis koperasi yang juga menjabat sebagai karyawan di bagian keuangan universitas bertugas menganalisis pengajuan kredit koperasi berdasar catatan keuangan di bagian keuangan universitas". (Secretary of the Universitas Muhammadiyah Jember Employee Cooperative).

("there are cooperative analysts who also serve as employees in the university finance department tasked with analysing cooperative credit applications based on financial records in the university finance department"). (Secretary of the Universitas Muhammadiyah Jember Employee Cooperative).

In addition, the 'Cooperative Shop', which is organisationally separate from the academic community, can maximise its activities by recruiting a Cooperative Shop Manager and Staff.

"kami merekrut Manajer dan Staff untuk melaksanakan aktifitas di Toko Koperasi yaitu penjualan bahan pokok. Mereka juga diberikan tunjangan kinerja berdasar capaian penjualan di Toko Koperasi". (Chairperson of the Universitas Muhammadiyah Jember Employee Cooperative).

("we recruit managers and staff to carry out activities at the Cooperative Store, namely the distribution of basic necessities. They are also given performance allowances based on sales achievements at the Cooperative Store"). (Chairperson of the Universitas Muhammadiyah Jember Employee Cooperative).

4. Conclusion

This study shows that the implementation of COSO Framework has a varied impact on the quality of cooperative financial reports. The control and monitoring environment has been proven to play an important role in improving the reliability and accountability of financial reports, as both are capable of strengthening ethical values, integrity, and consistent evaluation mechanisms. Conversely, risk assessment, control activities, and information and communication have not made a significant contribution, indicating the need for strengthening through formal procedures, managerial training, and more effective information systems.

Overall, the results of the study confirm that the quality of cooperative financial statements depends not only on the existence of an internal control system, but also on the effectiveness of its implementation and consistency in its execution. Good practices from other cooperatives provide a concrete picture of strategies for strengthening internal control. The main focus needs to be on strengthening the control and monitoring environment, accompanied by improvements in other aspects that are still weak. With these strategic steps, university cooperatives such as STIE Mandala can produce higher quality, transparent, and accountable financial reports, while strengthening member trust and supporting organisational sustainability.

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