



Internal Control over Financial Reporting (ICoFR) in Indonesia: Regulatory Development, Implementation Challenges, and Organizational Readiness Framework

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Abstract: Reliable financial reporting is essential for investor confidence, corporate governance, and sustainable organizational performance. The increasing complexity of business operations and regulatory expectations has heightened the importance of Internal Control over Financial Reporting (ICoFR). Indonesia recently introduced a mandatory ICoFR framework through Financial Services Authority Regulation (POJK) No. 15 of 2024 and the Minister of State-Owned Enterprises Decree No. SK-5/DKU.MBU/11/2024. This study examines the development of ICoFR regulations in Indonesia, identifies key implementation challenges, and proposes an Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR). Using an integrative literature review and regulatory analysis, the study synthesizes international governance frameworks, Indonesian regulations, and professional implementation guidance. The findings indicate that effective ICoFR implementation depends not only on regulatory compliance but also on organizational readiness, including governance, leadership commitment, human capital, business process maturity, technology governance, risk management integration, and continuous monitoring. The proposed framework provides a practical reference for organizations seeking to strengthen internal controls and enhance the reliability of financial reporting. This study contributes to the literature by integrating regulatory and organizational readiness perspectives within the Indonesian context and offers practical implications for regulators, financial institutions, state-owned enterprises, audit committees, internal auditors, and corporate management.



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1. Introduction

The credibility of financial reporting has become increasingly important in supporting sustainable economic growth, maintaining investor confidence, and strengthening public accountability. Financial statements are no longer viewed solely as statutory reporting documents; rather, they have become strategic information resources that influence investment decisions, credit assessments, corporate valuation, regulatory supervision, and overall market confidence. Consequently, the reliability of financial reporting largely depends on the effectiveness of an organization's internal control system.

Over the past two decades, global financial markets have experienced numerous accounting scandals that significantly undermined public confidence in corporate reporting. High-profile cases involving Enron, WorldCom, Toshiba, Wirecard, and several multinational corporations demonstrated that financial statement fraud often originated from ineffective governance structures, inadequate internal controls, weak risk management practices, and insufficient oversight by management and boards of directors. These corporate failures highlighted the necessity of establishing comprehensive internal control systems capable of providing reasonable assurance regarding the accuracy and integrity of financial reporting.

One of the most influential regulatory responses emerged through the enactment of the Sarbanes–Oxley Act (SOX) of 2002 in the United States. Section 404 of SOX requires management to assess the effectiveness of Internal Control over Financial Reporting (ICoFR) while requiring independent auditors to evaluate management's assessment for applicable public companies. Since its implementation, ICoFR has become one of the most widely adopted governance mechanisms internationally and has significantly influenced financial reporting regulations in many countries.

The implementation of ICoFR is primarily supported by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control—Integrated Framework (2013), which identifies five interrelated components: Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities. These components collectively establish the foundation for designing, implementing, and evaluating effective internal controls. Furthermore, the rapid advancement of digital technologies has expanded the scope of ICoFR beyond traditional manual controls to encompass Information Technology General Controls (ITGC), cybersecurity governance, automated business processes, continuous auditing, and data analytics. As organizations become increasingly dependent on enterprise information systems, effective ICoFR implementation now requires close integration between governance practices and technology management.

Indonesia has recently entered a significant stage of governance reform through the issuance of POJK No. 15 of 2024 concerning the implementation of Internal Control over Financial Reporting within financial institutions, complemented by the Minister of State-Owned Enterprises



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Decree No. SK-5/DKU.MBU/11/2024 for state-owned enterprises. These regulatory initiatives reflect Indonesia's commitment to improving the reliability of financial reporting, strengthening investor protection, and enhancing corporate governance by adopting internationally recognized internal control principles.

The introduction of mandatory ICoFR requirements should also be understood within the broader context of Indonesia's corporate governance development. Over the past decade, several corporate cases have revealed deficiencies in governance structures, financial reporting processes, investment controls, risk management practices, and organizational oversight. Although each case has distinct characteristics and should not be taken as the sole catalyst for regulatory reform, these experiences collectively underscore the importance of establishing stronger internal control mechanisms to prevent material misstatements and improve organizational accountability. Consequently, ICoFR is increasingly viewed not merely as a compliance requirement but as an integral component of sustainable corporate governance.

Despite the issuance of recent regulations, implementing ICoFR in Indonesia presents considerable challenges. Organizations differ significantly in governance maturity, internal audit capability, technological infrastructure, business process standardization, and organizational culture. Financial institutions generally possess more advanced governance systems due to regulatory requirements, whereas many non-financial organizations and state-owned enterprises remain at varying levels of preparedness. The transition toward mandatory ICoFR therefore requires substantial investments in organizational capability, human resource development, technology governance, and continuous monitoring mechanisms.

Academic research on ICoFR has predominantly focused on developed economies, particularly the United States, Japan, and South Korea, where regulatory frameworks have been in place for many years. Existing studies generally examine the relationship between internal control effectiveness, financial reporting quality, earnings management, audit quality, corporate governance, and investor confidence. Comparatively limited attention has been devoted to Indonesia's emerging ICoFR regulatory framework, particularly following the issuance of POJK No. 15 of 2024. Furthermore, previous studies rarely integrate international governance frameworks with Indonesian regulatory developments to assess organizational readiness for effective ICoFR implementation.

This study addresses these research gaps by examining Indonesia's evolving ICoFR regulatory landscape through an integrative review of international governance frameworks, national regulations, and organizational implementation challenges. More importantly, this paper proposes an Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR) that extends beyond traditional compliance perspectives by incorporating governance readiness, leadership commitment, organizational capability, business process maturity, technology governance, risk management integration, and continuous monitoring into a unified conceptual framework. The proposed model aims to assist organizations in evaluating their readiness to implement ICoFR effectively while providing regulators and practitioners with a practical reference for strengthening financial reporting governance.





Accordingly, this study seeks to answer three primary research questions:

1. How has the regulatory framework for ICoFR evolved in Indonesia in comparison with internationally recognized governance practices?
2. What are the major organizational challenges affecting effective ICoFR implementation in Indonesia?
3. How can an integrated organizational readiness framework support sustainable ICoFR implementation across Indonesian organizations?

The findings are expected to contribute to both theory and practice by enriching the literature on internal control and corporate governance while providing actionable recommendations for regulators, financial institutions, state-owned enterprises, listed companies, audit committees, internal auditors, external auditors, and corporate management responsible for ensuring reliable financial reporting.

2. Literature Review

2.1 Theoretical Foundation

Agency Theory

Agency Theory, originally proposed by Jensen and Meckling (1976), provides one of the most fundamental theoretical perspectives on the necessity of internal control systems in modern organizations. The theory explains that the separation between ownership (principals) and management (agents) creates information asymmetry, whereby managers generally possess more complete information regarding organizational performance than shareholders and other stakeholders. Such asymmetry may encourage opportunistic behavior, including earnings management, financial statement manipulation, or concealment of material information.

Internal Control over Financial Reporting (ICoFR) serves as an important governance mechanism to reduce agency conflicts by establishing systematic procedures that ensure financial information is complete, accurate, timely, and prepared in accordance with applicable accounting standards. Effective ICoFR therefore reduces information asymmetry while increasing organizational transparency and investor confidence.

In the Indonesian context, the implementation of mandatory ICoFR further strengthens the agency relationship by increasing management accountability for the quality of financial reporting and reinforcing board oversight responsibilities. Consequently, ICoFR should not be interpreted merely as a compliance requirement but as an organizational governance mechanism designed to protect stakeholders' interests by enhancing financial reporting integrity.

Institutional Theory

While Agency Theory explains the economic rationale behind internal controls, Institutional Theory explains why organizations adopt governance practices even when immediate economic benefits may not be observable.

According to Institutional Theory, organizations continuously adapt to external institutional pressures originating from governments, regulators, professional associations, investors, and



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market expectations. Regulatory changes often create coercive pressures that encourage organizations to modify governance structures to achieve legitimacy and maintain stakeholder confidence.

The issuance of Financial Services Authority Regulation (POJK) No. 15 of 2024 represents such institutional pressure within Indonesia. Organizations are increasingly expected to demonstrate not only compliance with accounting standards but also the effectiveness of their internal control systems. Consequently, successful ICoFR implementation requires organizations to develop governance capabilities that extend beyond regulatory compliance toward sustainable organizational excellence.

Institutional Theory therefore provides an appropriate theoretical lens for understanding why Indonesian organizations are increasingly investing in governance systems, internal audit capabilities, enterprise risk management, and technology-enabled controls as part of broader organizational transformation.

2.2 Internal Control over Financial Reporting

Internal Control over Financial Reporting refers to policies, procedures, organizational structures, and control activities designed to provide reasonable assurance that financial statements are prepared accurately, reliably, and in accordance with applicable accounting standards. Unlike traditional internal control systems that encompass all organizational operations, ICoFR focuses specifically on controls that directly affect financial reporting processes. These controls include transaction authorization, segregation of duties, reconciliation procedures, documentation standards, access controls, system configurations, journal entry controls, financial closing procedures, disclosure controls, and monitoring activities. Following the implementation of the Sarbanes–Oxley Act (SOX) Section 404, ICoFR has evolved from a purely accounting-oriented function into an enterprise-wide governance mechanism involving senior management, internal auditors, audit committees, information technology departments, compliance functions, and boards of directors. Recent literature further suggests that organizations with effective ICoFR generally demonstrate higher financial reporting quality, stronger investor confidence, lower audit risks, and improved corporate governance maturity. These findings indicate that ICoFR contributes not only to regulatory compliance but also to long-term organizational resilience and value creation.

2.3 COSO Internal Control Framework

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) introduced the Internal Control—Integrated Framework to provide organizations with a comprehensive approach for designing, implementing, and evaluating internal control systems. The updated COSO Framework (2013) identifies five interrelated components supported by seventeen fundamental principles.

The five components include:

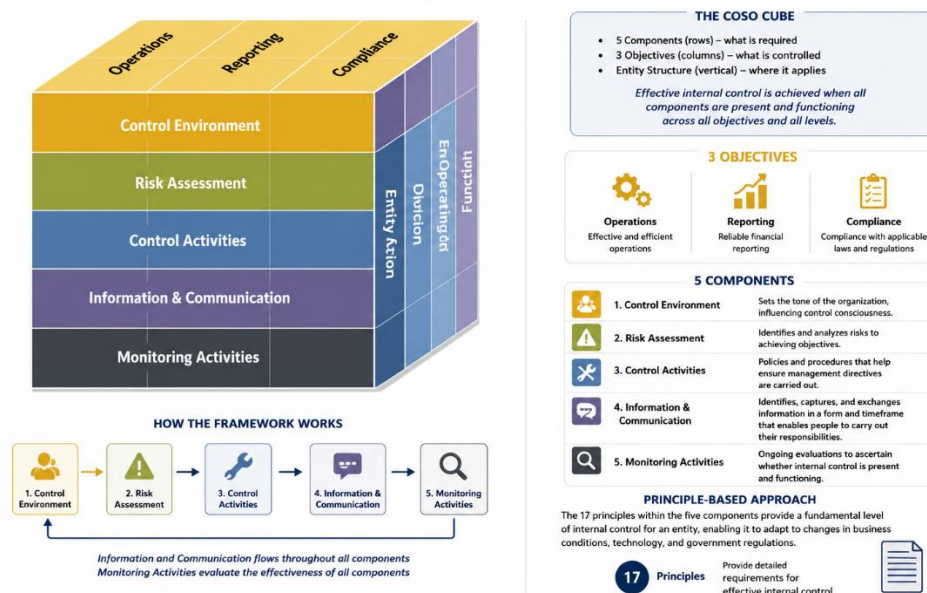


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1. **Control Environment**, which establishes ethical values, governance structures, accountability, and organizational culture.
2. **Risk Assessment**, involving systematic identification and evaluation of risks that may affect organizational objectives, including risks associated with financial reporting.
3. **Control Activities**, referring to policies and procedures designed to mitigate identified risks through preventive and detective controls.
4. **Information and Communication**, ensuring relevant information is captured, processed, and communicated to appropriate stakeholders promptly.
5. **Monitoring Activities**, involving continuous evaluation of internal control effectiveness through ongoing monitoring and independent assessments.

Figure 1. COSO Internal Control Framework



The COSO Framework has become the dominant international reference for ICoFR implementation because it provides a principles-based approach applicable across industries and organizational sizes. Indonesian regulatory developments concerning ICoFR also reflect substantial alignment with COSO principles, particularly regarding governance responsibilities, documentation, testing, and monitoring processes.

2.4 Information Technology Governance and COBIT 2019

Rapid digital transformation has fundamentally altered financial reporting processes. Enterprise Resource Planning (ERP), cloud computing, robotic process automation, artificial intelligence, and data analytics increasingly automate accounting activities while simultaneously



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introducing new technology-related risks. Consequently, modern ICoFR implementation requires strong Information Technology General Controls (ITGC) to ensure confidentiality, integrity, and availability of financial information. COBIT 2019 complements COSO by providing governance and management objectives specifically addressing information technology governance. Areas such as change management, logical access management, system development, data backup, cybersecurity, and IT risk management are essential components that support reliable financial reporting.

The integration between COSO and COBIT has therefore become increasingly important, particularly for organizations operating highly digitalized financial reporting systems. Rather than functioning independently, both frameworks should be viewed as complementary governance mechanisms.

2.5 Three Lines Model

The Institute of Internal Auditors (IIA) introduced the updated Three Lines Model to clarify governance responsibilities throughout organizations.

The first line consists of operational management responsible for designing and operating internal controls. The second line comprises risk management, compliance, legal, and quality assurance functions that provide oversight and guidance. The third line comprises internal audit, which independently evaluates governance, risk management, and the effectiveness of internal controls. For ICoFR implementation, the Three Lines Model reinforces accountability by ensuring that internal controls are embedded in business processes and remain subject to independent assurance.

2.6 Previous Studies and Research Gap

Previous studies have consistently demonstrated positive relationships between effective internal control systems and financial reporting quality. However, the majority of empirical research has concentrated on developed economies, particularly the United States, following the implementation of SOX Section 404.

Research has primarily examined:

- Internal control effectiveness.
- Audit quality.
- Earnings management.
- Corporate governance.
- Financial reporting quality.
- Internal audit effectiveness.

Comparatively fewer studies have investigated:

- Regulatory implementation of ICoFR in emerging economies.
- Indonesia's newly established ICoFR regulatory framework.
- Organizational readiness for ICoFR implementation.
- Integration between COSO, COBIT, Three Lines Model, and Indonesian regulations.



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These observations indicate a significant research gap. Existing literature largely explains what constitutes effective internal control, whereas limited attention has been paid to how organizations prepare to implement mandatory ICoFR in newly introduced regulatory environments.

Accordingly, this study extends prior literature by proposing an Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR) that integrates regulatory readiness, governance maturity, people capability, business process integration, technology readiness, and continuous assurance into a unified conceptual framework tailored to Indonesia's evolving governance landscape.

Table 1. Research Gap Matrix

Research Focus	Previous Studies	Gap Identified	Contribution of This Study
Internal Control Effectiveness	Focus on control quality and financial reporting outcomes	Limited attention to implementation readiness	Develops an organizational readiness perspective
SOX and COSO	Extensive discussion in developed countries	Limited adaptation to Indonesian regulations	Compares international frameworks with Indonesia's regulatory environment
Corporate Governance	Focus on board oversight and audit committees	Limited integration with ICoFR implementation	Integrates governance with ICoFR readiness
Technology Governance	COBIT and IT General Controls are discussed separately	Limited integration with ICoFR	Links IT governance directly to ICoFR implementation
Indonesian Regulations	Descriptive discussion of new regulations	Absence of a conceptual implementation framework	Proposes the Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR)

3. Results and Discussion

3.1 Global Development of Internal Control over Financial Reporting

The development of Internal Control over Financial Reporting (ICoFR) has been closely associated with major corporate failures that exposed significant weaknesses in governance, risk management, and financial reporting systems. Although internal control has long been recognized as a fundamental component of corporate governance, the concept of ICoFR evolved into a formal regulatory requirement only after a series of high-profile accounting scandals in the early 2000s. These events demonstrated that conventional financial statement audits alone were insufficient to prevent material misstatements when organizations lacked effective internal control systems.

The collapse of several multinational corporations, including Enron and WorldCom, revealed serious deficiencies in management oversight, internal control design, financial reporting processes, and auditor independence. These failures resulted in substantial investor losses and significantly eroded public confidence in capital markets. In response, the United States enacted the Sarbanes–Oxley Act (SOX) of 2002, representing one of the most significant corporate governance reforms in modern financial reporting. Section 404 of SOX introduced a new





governance paradigm by requiring management to establish, document, assess, and report on the effectiveness of Internal Control over Financial Reporting. Public companies are required to issue a management assessment of ICoFR, while external auditors provide an independent opinion on the effectiveness of those controls for applicable issuers. This shifted corporate accountability from reliance on year-end financial statement audits toward continuous assurance over the processes that generate financial information. The implementation of SOX substantially increased management responsibility for financial reporting integrity. Rather than focusing solely on detecting errors after financial statements were prepared, organizations were expected to proactively design preventive and detective controls to reduce the risk of material misstatements throughout the financial reporting cycle. Consequently, ICoFR became an integral component of enterprise governance rather than merely an accounting compliance exercise. The adoption of SOX also accelerated the global acceptance of the COSO Internal Control–Integrated Framework, which became the dominant reference for designing and evaluating internal control systems. The updated COSO Framework (2013) emphasizes five interrelated components—Control Environment, Risk Assessment, Control Activities, Information and Communication, and Monitoring Activities—and is supported by seventeen principles that collectively provide reasonable assurance regarding operational effectiveness, regulatory compliance, and reliable financial reporting.

Following the success of SOX implementation, several jurisdictions developed their own ICoFR regulations. Japan introduced the Financial Instruments and Exchange Act, commonly referred to as J-SOX, which emphasizes management responsibility for internal control evaluation while allowing greater flexibility in implementation than in the United States. South Korea later adopted K-SOX, strengthening governance requirements and enhancing board accountability for the reliability of financial reporting. Although each regulatory framework reflects domestic legal and governance environments, they share common objectives: improving transparency, strengthening investor protection, and reducing financial reporting risk.

More recently, the increasing digitalization of business processes has expanded the scope of ICoFR. Financial reporting systems now depend heavily on Enterprise Resource Planning (ERP), cloud computing, robotic process automation, artificial intelligence, and advanced data analytics. As a result, organizations must ensure that Information Technology General Controls (ITGC), cybersecurity controls, access management, change management, and automated control activities operate effectively to support reliable financial reporting. This evolution demonstrates that modern ICoFR extends well beyond traditional accounting controls and increasingly requires integration with information technology governance and enterprise risk management.

3.2 Regulatory Development of ICoFR in Indonesia

Indonesia has recently entered a new phase in strengthening financial reporting governance by introducing mandatory requirements for Internal Control over Financial Reporting. This development reflects broader regulatory efforts to improve corporate governance, enhance financial reporting quality, and increase public confidence in Indonesia's financial system. A





significant milestone was the issuance of POJK No. 15 of 2024, which establishes requirements for implementing Internal Control over Financial Reporting within financial institutions under the supervision of the Financial Services Authority (OJK). The regulation represents Indonesia's first comprehensive regulatory framework specifically addressing ICoFR and demonstrates alignment with internationally recognized governance principles while taking into account domestic institutional characteristics.

Unlike previous regulations that primarily focused on prudential supervision or corporate governance principles, POJK No. 15 of 2024 explicitly emphasizes management responsibility for designing, implementing, documenting, evaluating, and continuously improving internal controls over financial reporting. The regulation also strengthens the roles of boards of commissioners, boards of directors, audit committees, internal audit functions, and external auditors in assuring the reliability of financial reporting. In parallel, the issuance of the Minister of State-Owned Enterprises Decree No. SK-5/DKU.MBU/11/2024 extends similar expectations to state-owned enterprises (SOEs). The decree encourages SOEs to adopt structured ICoFR frameworks that integrate governance, risk management, internal audit, and business process controls. This initiative is particularly important given the strategic role of SOEs in Indonesia's economy and the need to maintain accountability for the management of public assets.

Professional guidance published by PwC Indonesia further explains that ICoFR implementation should not be viewed solely as a regulatory obligation. Rather, organizations should regard ICoFR as a strategic governance initiative that strengthens the reliability of financial reporting, improves operational discipline, supports risk management, and enhances stakeholder confidence. PwC also highlights that effective implementation requires a structured approach encompassing scoping, risk assessment, control design, operating effectiveness testing, remediation, and continuous monitoring. These implementation stages align with internationally recognized practices and underscore the importance of integrating governance, business processes, and technology to establish sustainable internal control systems.

Similarly, guidance published by GRC Indonesia emphasizes that successful ICoFR implementation requires organizations to establish clear governance structures, adopt internationally recognized control frameworks such as COSO, strengthen Information Technology General Controls (ITGC), and cultivate a culture of accountability throughout the organization. These professional perspectives complement the regulatory requirements by providing practical guidance on implementation for Indonesian organizations preparing to adopt ICoFR.

The introduction of mandatory ICoFR in Indonesia also reflects a broader transformation in regulatory philosophy. Historically, financial reporting supervision primarily focused on detecting non-compliance after financial statements had been prepared. The new regulatory framework shifts this focus toward preventive governance by requiring organizations to embed effective internal controls throughout financial reporting processes. Consequently, ICoFR functions not only as a compliance mechanism but also as an organizational capability that supports sustainable governance and long-term value creation.





Table 2. Comparative Development of ICoFR Regulations

Country	Primary Regulation	Scope	Management Responsibility	External Assurance	Key Characteristics
United States	Sarbanes–Oxley Act (Section 404)	Public companies	Mandatory assessment of ICoFR effectiveness	Required for applicable issuers	Global benchmark for ICoFR implementation
Japan	J-SOX	Listed companies	Mandatory internal control assessment	Independent audit	Flexible risk-based implementation
South Korea	K-SOX	Listed companies	Strengthened management accountability	Independent audit	Strong governance and disclosure requirements
Indonesia	POJK No. 15 of 2024 and SK-5/DKU.MBU/11/2024	Financial institutions and selected SOEs	Mandatory implementation, documentation, and evaluation of ICoFR	Regulatory oversight and assurance mechanisms	Risk-based governance aligned with international frameworks

Discussion

The comparative analysis indicates that Indonesia has adopted a principles-based approach rather than replicating SOX verbatim. Instead of focusing solely on compliance, the Indonesian framework emphasizes proportional implementation, governance integration, and organizational accountability. This approach is appropriate given the diversity of Indonesian organizations in terms of size, ownership structure, governance maturity, and technological capability. Furthermore, Indonesia's regulatory model demonstrates a progressive transition from compliance-oriented governance to assurance-oriented governance, in which reliable financial reporting is achieved through continuous evaluation of the effectiveness of internal controls rather than through periodic regulatory inspections alone. Such an approach aligns with contemporary international governance practices that increasingly integrate enterprise risk management, digital governance, and continuous assurance into financial reporting oversight.

3.3 Implementation Challenges of ICoFR in Indonesia

The issuance of POJK No. 15 of 2024 marks a significant milestone in Indonesia's financial reporting governance. However, regulatory compliance alone does not guarantee the successful implementation of Internal Control over Financial Reporting (ICoFR). Experience from jurisdictions such as the United States, Japan, and South Korea demonstrates that establishing an effective ICoFR system requires substantial organizational transformation involving governance, leadership, business processes, technology, human resources, and organizational culture. Consequently, Indonesian organizations are expected to face multiple implementation challenges during the transition from conventional internal control practices toward integrated ICoFR frameworks. Unlike in mature regulatory environments, where organizations have accumulated years of experience documenting and testing internal controls, many Indonesian organizations are





still in the early stages of developing structured ICoFR programs. The implementation gap is therefore influenced not only by technical capability but also by organizational readiness.

3.3.1 Governance and Leadership Commitment

Governance is widely recognized as the foundation of an effective internal control system. The COSO Internal Control Framework identifies the Control Environment as the first and most influential component because it establishes ethical values, accountability structures, and organizational commitment toward internal control.

In Indonesia, governance maturity varies considerably across organizations. Large financial institutions generally possess relatively mature governance structures due to stringent regulatory supervision. Conversely, many non-financial corporations and several state-owned enterprises continue to strengthen governance mechanisms as they adapt to the new ICoFR requirements.

The implementation of ICoFR therefore requires active involvement from the Board of Commissioners, the Board of Directors, the Audit Committee, the Chief Financial Officer (CFO), the Internal Audit Function, the Risk Management Unit, and business process owners. Without strong leadership commitment, ICoFR risks becoming merely a documentation exercise rather than an integrated governance mechanism.

Professional guidance published by PwC Indonesia emphasizes that successful implementation begins with "tone at the top," in which senior management demonstrates visible commitment to internal control, ethical behavior, and the integrity of financial reporting. Such commitment encourages organizational alignment and facilitates resource allocation for system improvements, documentation, and control testing.

3.3.2 Human Capital and Competency Challenges

One of the most significant implementation barriers is the availability of competent human resources. ICoFR implementation requires multidisciplinary expertise involving accounting, auditing, risk management, business process management, information technology, cybersecurity, and regulatory compliance. However, many organizations continue to rely on finance personnel who possess strong accounting knowledge but limited experience in enterprise-wide internal control assessment.

The transition toward mandatory ICoFR therefore requires substantial investment in competency development. Internal auditors, finance professionals, compliance officers, and operational managers need specialized training covering:

- COSO Internal Control Framework
- Risk assessment methodologies
- Process documentation
- Control testing techniques
- Information Technology General Controls (ITGC)
- Continuous monitoring
- Deficiency evaluation





- Remediation planning

The challenge becomes more pronounced for organizations operating across multiple business units, where a consistent understanding of ICoFR principles must be established throughout the organization.

3.3.3 Business Process Standardization

Effective ICoFR depends heavily on standardized business processes. Organizations with fragmented operational procedures often experience inconsistent implementation of controls across departments. Differences in documentation standards, approval hierarchies, reconciliation procedures, and financial closing activities increase the likelihood of control deficiencies. PwC Indonesia identifies process mapping and risk identification as essential preliminary activities before organizations begin designing ICoFR controls. Each significant financial reporting process should be documented, including:

- Revenue cycle
- Procurement
- Inventory
- Treasury
- Payroll
- Fixed assets
- Financial closing
- Financial statement preparation

Process standardization also facilitates automation and improves the effectiveness of monitoring.

3.3.4 Information Technology and IT General Controls

Digital transformation has fundamentally altered financial reporting processes. Enterprise Resource Planning (ERP) systems, cloud-based accounting platforms, robotic process automation, artificial intelligence, and data analytics have significantly reduced manual accounting tasks while increasing reliance on information technology. Consequently, Information Technology General Controls (ITGC) have become an indispensable component of modern ICoFR implementation.

Key ITGC areas include:

- Logical access management
- User privilege administration
- Password policies
- Change management
- System development controls
- Backup and disaster recovery
- Interface controls
- Database security
- Cybersecurity governance



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COBIT 2019 complements COSO by providing governance objectives specifically addressing technology management. Organizations lacking mature IT governance may face increased risks of unauthorized access, inappropriate system modifications, data integrity failures, and cybersecurity incidents that can affect the reliability of financial reporting.

3.3.5 Documentation and Testing

Unlike traditional internal control systems that rely heavily on informal practices, ICoFR requires comprehensive documentation.

Organizations are expected to document:

- Process narratives
- Risk Control Matrices (RCM)
- Flowcharts
- Control descriptions
- Testing procedures
- Deficiency reports
- Remediation plans

Documentation supports management assessment while providing audit evidence for independent assurance.

Another challenge concerns testing operating effectiveness. Controls may exist formally but fail to operate consistently throughout the reporting period.

Accordingly, organizations should conduct periodic:

- Walkthrough testing
- Design effectiveness testing
- Operating effectiveness testing
- Deficiency evaluation
- Corrective action monitoring

These activities require considerable coordination among finance, internal audit, operational management, and external auditors.

3.3.6 Organizational Culture

Technical controls alone cannot guarantee reliable financial reporting. Several major accounting scandals demonstrated that sophisticated control systems may still fail when organizational culture tolerates unethical behavior. COSO therefore places strong emphasis on ethical values and accountability.

Organizations should cultivate:

- Ethical leadership
- Accountability
- Transparency
- Whistleblowing mechanisms
- Anti-fraud awareness





- Continuous learning

These cultural elements reinforce formal controls while reducing opportunities for intentional financial statement manipulation.

Table 3. Major Implementation Challenges of ICoFR in Indonesia

Dimension	Key Challenges	Potential Organizational Impact
Governance	Limited board engagement and inconsistent oversight	Weak accountability and ineffective control environment
Human Resources	Insufficient ICoFR competency and multidisciplinary expertise	Inconsistent implementation and higher risk of control deficiencies
Business Processes	Non-standardized procedures and fragmented documentation	Inefficient controls and increased risk of financial reporting errors
Technology	Weak IT General Controls and cybersecurity vulnerabilities	Higher risk of unauthorized access and unreliable financial data
Documentation	Incomplete Risk Control Matrix and process documentation	Difficulty demonstrating control effectiveness during assessment
Organizational Culture	Limited awareness of internal control responsibilities	Reduced compliance and ineffective control execution
Continuous Monitoring	Lack of automated monitoring and remediation mechanisms	Delayed identification and correction of control deficiencies

3.4 Critical Success Factors for Sustainable ICoFR Implementation

While implementation challenges are inevitable, international experience suggests that organizations can substantially improve the effectiveness of ICoFR by focusing on several critical success factors. Rather than treating ICoFR as a compliance initiative, successful organizations integrate internal control into daily business operations and strategic decision-making. Based on the synthesis of COSO (2013), COBIT 2019, the IIA Three Lines Model (2020), POJK No. 15 of 2024, PwC Indonesia, and professional guidance from GRC Indonesia, this study identifies seven interrelated critical success factors.

1. Leadership Commitment

Visible support from the Board of Directors, Board of Commissioners, and executive management is essential to establish an ethical control environment and ensure sufficient organizational resources.

2. Strong Governance Structure

Clearly defined responsibilities among operational management, risk management, compliance, internal audit, and the Audit Committee enhance accountability and reduce control gaps.

3. Competent Human Capital



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Continuous professional development in accounting, auditing, risk management, information technology, and regulatory compliance ensures that personnel possess the skills required to design, operate, and evaluate ICoFR effectively.

4. Integrated Risk Management

Risk assessment should be embedded within financial reporting processes, enabling organizations to identify emerging risks and design appropriate preventive and detective controls.

5. Mature Business Processes

Standardized procedures supported by process documentation, Risk Control Matrices, and segregation of duties improve consistency and operational effectiveness.

6. Technology Governance

Robust Information Technology General Controls, cybersecurity measures, ERP governance, and data management practices support reliable and secure financial reporting.

7. Continuous Monitoring and Improvement

Organizations should establish ongoing monitoring mechanisms, periodic control testing, root cause analysis, remediation plans, and continuous improvement initiatives to maintain the effectiveness of controls over time.

Discussion

The analysis indicates that successful ICoFR implementation is not determined solely by regulatory compliance but by the organization's overall readiness to integrate governance, people, processes, technology, and continuous assurance into a coherent control environment. This observation supports the need for an Integrated Organizational Readiness Framework for ICoFR (IORF-ICoFR), which will be developed in the next section as the principal conceptual contribution of this study. Rather than viewing ICoFR as a static compliance requirement, the proposed framework positions it as a dynamic organizational capability that evolves alongside changes in regulation, business models, digital technologies, and stakeholder expectations.

3.5 Indonesian Case Studies: Lessons for Strengthening ICoFR

Indonesia's decision to introduce mandatory Internal Control over Financial Reporting (ICoFR) should not be viewed as an isolated regulatory initiative. Rather, it represents part of a broader effort to strengthen corporate governance and enhance the reliability of financial reporting following several corporate failures that exposed weaknesses in governance, internal controls, and risk management.

Although each corporate case has unique characteristics and should not be interpreted as evidence of the absence of ICoFR alone, these events provide valuable lessons regarding the importance of establishing an integrated internal control framework. Publicly reported corporate failures have consistently highlighted weaknesses in governance oversight, ineffective risk assessment, inadequate monitoring, insufficient segregation of duties, and deficiencies in financial reporting processes.





Accordingly, these cases illustrate why regulators increasingly emphasize preventive governance rather than relying solely on post-event regulatory enforcement.

3.5.1 Case Study 1: Garuda Indonesia

The financial statement controversy involving Garuda Indonesia attracted significant public attention because it raised concerns about revenue recognition and the presentation of financial information.

From an ICoFR perspective, the case illustrates the importance of effective controls over:

- Revenue recognition;
- Accounting estimates and judgments;
- Financial statement review procedures;
- Audit committee oversight; and
- Management certification.

The controversy also demonstrated that financial reporting quality depends not only on accounting standards but also on governance processes that ensure management decisions are appropriately challenged before financial statements are published.

If an integrated ICoFR framework had been fully embedded, multiple layers of preventive and detective controls—including management review controls, documentation standards, segregation of duties, and audit committee oversight—could have reduced the likelihood of inappropriate financial reporting decisions.

3.5.2 Case Study 2: Jiwasraya

The Jiwasraya case represents one of Indonesia's most significant corporate governance failures. Public investigations highlighted issues relating to investment governance, risk management, financial reporting, and oversight mechanisms. Rather than focusing solely on accounting outcomes, the case illustrates how weaknesses across multiple governance functions can ultimately affect the reliability of financial reporting.

Several governance observations include:

- inadequate investment risk governance;
- insufficient monitoring mechanisms;
- ineffective segregation of responsibilities;
- limited integration between risk management and financial reporting;
- delayed identification of control deficiencies.

These observations reinforce the principle that ICoFR should operate as an enterprise-wide governance framework rather than merely a finance department initiative.

3.5.3 Lessons Learned

The two case studies demonstrate that financial reporting failures rarely arise from a single accounting error. Instead, they generally result from cumulative weaknesses involving:

- governance,



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- organizational culture,
- risk management,
- business processes,
- information technology,
- internal audit,
- management oversight,
- continuous monitoring.

Consequently, strengthening ICoFR requires organizations to improve governance holistically rather than implementing isolated financial controls.

Table 4. Conceptual Analysis of Selected Indonesian Cases Based on COSO Components

COSO Component	Garuda (Conceptual Observation)	Indonesia Jiwasraya (Observation)	(Conceptual Lessons for ICoFR)
Control Environment	Governance oversight is required to be strengthened	Governance and accountability weaknesses reported publicly	Ethical leadership and board oversight are fundamental
Risk Assessment	Revenue-related judgments required a stronger risk assessment	Investment risk assessment weaknesses reported	Risk identification should be integrated with financial reporting
Control Activities	Preventive review controls require strengthening	Investment authorization controls require strengthening	Strong preventive and detective controls reduce reporting risk
Information & Communication	Greater transparency in reporting processes	Improved communication across governance functions	Timely and accurate reporting supports reliable decisions
Monitoring Activities	Independent monitoring required	Continuous monitoring mechanisms are required	Continuous assurance improves control effectiveness

Note: The table above is a conceptual analysis, prepared for academic discussion, based on publicly available information and the governance literature. It should not be interpreted as an official assessment of the companies concerned.

3.6 Comparative Analysis of ICoFR Readiness

The comparative analysis between international practices and Indonesia's regulatory environment indicates that successful ICoFR implementation depends less on the existence of regulations than on organizational readiness. Organizations operating under SOX have spent more than two decades developing governance structures, internal control documentation, control testing methodologies, and management assessment processes. By contrast, Indonesian organizations are entering the early stages of mandatory implementation. This transition presents both challenges and opportunities. Challenges arise from differences in governance maturity, technology infrastructure, organizational capability, and resource availability. Conversely, Indonesia benefits from the opportunity to adopt international best practices while avoiding many of the implementation inefficiencies experienced during the early years of SOX. Professional





guidance published by PwC Indonesia recommends that organizations adopt a phased implementation strategy rather than attempting full compliance within a single reporting period.

Such an approach enables organizations to strengthen governance capabilities while maintaining operational continuity progressively.

Table 5. Comparative Readiness Assessment

Readiness Dimension	Current Situation in Indonesia	Future Direction
Regulatory Framework	Recently established	Continuous regulatory refinement
Governance	Improving, but varies among organizations	Stronger board accountability
Human Capital	Limited ICoFR specialists	Professional certification and training
Business Processes	Partial standardization	Enterprise-wide process integration
Information Technology	Increasing ERP adoption	Stronger ITGC and cybersecurity governance
Internal Audit	Expanding the assurance role	Continuous auditing and data analytics
Organizational Culture	Compliance-oriented	Integrity-driven governance culture

3.7 Discussion

The findings demonstrate that Indonesia has established a strong regulatory foundation for ICoFR implementation. Nevertheless, effective implementation requires organizations to move beyond regulatory compliance toward developing organizational capabilities.

The comparative analysis suggests that governance maturity, leadership commitment, competent human resources, integrated business processes, robust information technology governance, and continuous monitoring collectively determine the effectiveness of ICoFR. Importantly, these dimensions do not operate independently. Rather, they interact dynamically to influence the organization's overall readiness to produce reliable financial reporting. This observation indicates that existing governance frameworks, although comprehensive individually, do not fully explain how organizations transition from regulatory compliance to sustainable implementation.

Accordingly, this study proposes an Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR). The framework synthesizes international governance standards, Indonesian regulatory requirements, and implementation experience into a single conceptual model to assess organizational readiness for ICoFR implementation. The proposed framework extends previous literature by positioning ICoFR not merely as a regulatory requirement but as an organizational capability that evolves through continuous improvement, governance maturity, and technological advancement.

4. Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR)

4.1 Development of the Framework

The findings from the literature review, comparative regulatory analysis, and Indonesian case studies collectively indicate that the successful implementation of Internal Control over Financial Reporting (ICoFR) cannot be achieved solely through regulatory compliance. While regulations establish mandatory requirements, organizational capability ultimately determines



whether internal controls operate effectively and consistently. Existing governance frameworks, including the COSO Internal Control–Integrated Framework, COBIT 2019, the Institute of Internal Auditors (IIA) Three Lines Model, and Enterprise Risk Management (ERM), each address specific dimensions of governance. However, these frameworks are generally implemented independently and do not explicitly evaluate an organization's overall readiness to implement ICoFR within an emerging regulatory environment such as Indonesia. Moreover, the recent issuance of POJK No. 15 of 2024 and the Minister of State-Owned Enterprises Decree No. SK-5/DKU.MBU/11/2024 introduces a governance landscape that differs from jurisdictions where ICoFR has been mandatory for decades. Organizations are therefore confronted with a transition phase in which compliance obligations must be translated into sustainable organizational capabilities.

To bridge this gap, this study proposes the Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR). Rather than functioning as another internal control framework, IORF-ICoFR serves as an organizational readiness model that enables organizations to assess their preparedness before, during, and after ICoFR implementation. The framework integrates regulatory requirements, governance principles, risk management, business processes, information technology governance, organizational culture, and continuous assurance into a unified conceptual model tailored to the Indonesian context.

Figure 2. Integrated Organizational Readiness Framework for ICoFR (IORF-ICoFR)



Figure 2 illustrates that organizational readiness is not represented by a single factor but by the interaction of multiple governance dimensions. Weaknesses in any component may reduce the overall effectiveness of ICoFR implementation.

4.2 Dimensions of the IORF-ICoFR



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1. Regulatory Readiness

Regulatory readiness represents the organization's ability to understand, interpret, and operationalize applicable laws, regulations, accounting standards, and supervisory expectations. Organizations should ensure that their policies, procedures, governance structures, and reporting mechanisms align with regulatory requirements issued by the Financial Services Authority (OJK), the Ministry of State-Owned Enterprises, and other relevant authorities.

Regulatory readiness is the foundation of ICoFR implementation, as organizations cannot establish effective controls without understanding regulatory expectations.

2. Leadership Commitment

Successful implementation requires strong commitment from senior management.

Leadership commitment includes:

- tone at the top;
- ethical leadership;
- resource allocation;
- strategic communication;
- accountability;
- decision-making support.

Management should demonstrate that internal control is considered a strategic investment rather than merely a compliance obligation.

3. Governance and Three Lines Integration

Governance structures define organizational accountability.

This dimension integrates:

- Board of Commissioners;
- Board of Directors;
- Audit Committee;
- Risk Management Function;
- Compliance Function;
- Internal Audit;
- External Audit;
- Operational Management.

The Three Lines Model ensures that operational management owns controls, governance functions provide oversight, and internal audit delivers independent assurance.

4. Enterprise Risk Management Integration

Financial reporting risks rarely exist independently.

Organizations should integrate:

- operational risks;
- financial risks;



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- compliance risks;
- fraud risks;
- information technology risks;
- cyber risks.

ERM strengthens ICoFR by ensuring that controls are designed in line with organizational risk priorities.

5. Business Process Maturity

Reliable financial reporting depends on mature business processes.

Organizations should establish:

- Standard Operating Procedures (SOP);
- Process Mapping;
- Risk Control Matrix (RCM);
- Segregation of Duties;
- Process Owners;
- Documentation Standards.

Business process maturity improves consistency while reducing operational variability.

6. Technology Governance

Modern financial reporting relies heavily on information systems.

Organizations should strengthen:

- ERP governance;
- IT General Controls;
- Cybersecurity;
- Access Management;
- Change Management;
- Data Governance;
- Artificial Intelligence Governance.

Technology governance supports the integrity, confidentiality, and availability of financial information.

7. Continuous Monitoring and Internal Assurance

ICoFR implementation should not conclude after documentation or initial testing.

Organizations should establish:

- Continuous Monitoring;
- Continuous Auditing;
- Data Analytics;
- Control Self-Assessment;
- Internal Audit Reviews;
- Deficiency Assessment;



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- Remediation Programs.

Continuous assurance enables organizations to respond proactively to emerging risks.

Table 6. Organizational Readiness Indicators

Dimension	Readiness Indicators
Regulatory Readiness	Regulatory compliance, documented policies, governance alignment
Leadership Commitment	Tone at the top, strategic support, accountability
Governance	Board oversight, Audit Committee effectiveness, Three Lines implementation
Risk Management	Enterprise Risk Management integration, fraud risk assessment
Business Process	SOP maturity, RCM completeness, segregation of duties
Technology	ERP governance, ITGC effectiveness, cybersecurity maturity
Continuous Assurance	Internal audit, continuous monitoring, remediation effectiveness

4.3 Practical Implementation Roadmap

The implementation of ICoFR should be conducted progressively rather than through a one-time compliance initiative.

This study proposes the following implementation roadmap.

Phase Activities

Phase 1 Regulatory assessment and governance preparation

Phase 2 Process mapping and risk assessment

Phase 3 Control design and documentation

Phase 4 IT General Controls implementation

Phase 5 Testing of Design and Operating Effectiveness

Phase 6 Deficiency remediation

Phase 7 Continuous monitoring and annual evaluation

The roadmap is consistent with internationally recognized ICoFR implementation practices while remaining adaptable to Indonesian organizational environments.

4.4 Theoretical Implications

This study contributes to the literature by extending existing discussions on Internal Control over Financial Reporting beyond compliance-oriented perspectives. The proposed IORF-ICoFR integrates Agency Theory, Institutional Theory, COSO, COBIT 2019, the IIA Three Lines Model, and Enterprise Risk Management into a single organizational readiness framework tailored to Indonesia's evolving regulatory environment.



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Unlike prior studies that predominantly assess the effectiveness of internal controls after implementation, this framework emphasizes **organizational readiness** as a critical antecedent to successful and sustainable ICoFR adoption.

4.5 Practical Implications

The proposed framework offers practical value for:

- **Regulators (OJK):** as a reference for developing implementation guidance and supervisory approaches.
- **State-Owned Enterprises (SOEs):** to assess readiness before mandatory ICoFR implementation.
- **Financial Institutions:** to strengthen governance and reduce financial reporting risk.
- **Audit Committees and Boards:** to evaluate governance effectiveness.
- **Internal Auditors:** to prioritize assurance activities and monitor remediation.
- **Management:** to integrate governance, risk management, and technology into financial reporting processes.

5. Conclusion

- The introduction of Internal Control over Financial Reporting (ICoFR) through Financial Services Authority Regulation (POJK) No. 15 of 2024 and the Minister of State-Owned Enterprises Decree No. SK-5/DKU.MBU/11/2024 represents a significant milestone in strengthening corporate governance and financial reporting reliability in Indonesia. The regulatory development demonstrates Indonesia's commitment to aligning its governance practices with internationally recognized frameworks while responding to the increasing complexity of business environments and stakeholder expectations.
- This study demonstrates that the implementation of ICoFR extends beyond regulatory compliance. Rather, it requires organizations to establish an integrated governance system encompassing leadership commitment, governance structures, enterprise risk management, standardized business processes, information technology governance, organizational culture, and continuous monitoring mechanisms. The findings further indicate that effective ICoFR implementation depends on an organization's overall readiness rather than solely on the existence of formal policies and procedures.
- By reviewing international governance frameworks, Indonesian regulations, professional guidance, and selected Indonesian corporate cases, this study identifies the principal implementation challenges faced by organizations during the transition toward mandatory ICoFR adoption. These challenges include governance maturity, competency limitations, business process standardization, Information Technology General Controls (ITGC), documentation quality, organizational culture, and continuous assurance capability.
- To address these challenges, this paper proposes the Integrated Organizational Readiness Framework for Internal Control over Financial Reporting (IORF-ICoFR). The framework integrates Agency Theory, Institutional Theory, COSO Internal Control–Integrated





Framework, COBIT 2019, the IIA Three Lines Model, Enterprise Risk Management, and recent Indonesian regulatory requirements into a unified organizational readiness model.

- Unlike previous studies that primarily evaluate the effectiveness of internal controls after implementation, the proposed framework emphasizes organizational preparedness as a prerequisite for sustainable ICoFR implementation. The framework therefore provides a practical approach for organizations to evaluate their readiness before implementing mandatory ICoFR while supporting regulators in developing more effective supervisory strategies.
- Overall, this study contributes to the growing body of knowledge on corporate governance by demonstrating that reliable financial reporting is achieved not merely through compliance with regulations but through the continuous development of organizational capability, governance maturity, technological readiness, and ethical leadership.

6. Theoretical Contributions

- This study contributes to the academic literature in several important ways.
- First, it extends the discussion of Internal Control over Financial Reporting beyond traditional compliance-oriented perspectives by introducing organizational readiness as an important determinant of implementation success.
- Second, it integrates several governance theories and professional frameworks—including Agency Theory, Institutional Theory, COSO, COBIT 2019, Enterprise Risk Management, and the IIA Three Lines Model—into a single conceptual model specifically developed for Indonesia's emerging ICoFR regulatory environment.
- Third, the proposed IORF-ICoFR provides an original conceptual framework that can serve as the basis for future empirical studies examining organizational readiness, governance maturity, financial reporting quality, and internal control effectiveness.

7. Practical Implications

The findings provide practical implications for multiple stakeholders.

- **Financial Services Authority (OJK)**
The proposed framework may support future regulatory guidance by providing a structured approach to evaluating organizational readiness prior to mandatory ICoFR implementation.
- **State-Owned Enterprises**
SOEs may use the framework as a governance assessment tool to strengthen the reliability of financial reporting while supporting the implementation of the Minister of State-Owned Enterprises Decree concerning ICoFR.
- **Financial Institutions**
Banks, insurance companies, and other regulated financial institutions may use the framework to improve governance integration, strengthen internal controls, and reduce financial reporting risk.
- **Audit Committees**





Audit Committees may utilize the readiness dimensions to evaluate management preparedness, monitor implementation progress, and prioritize governance oversight activities.

- **Internal Audit**

Internal auditors may incorporate the framework into annual audit planning, continuous monitoring, and advisory activities supporting management throughout ICoFR implementation.

- **Corporate Management**

Senior management may use the framework to identify implementation gaps, allocate organizational resources, strengthen business processes, and improve the reliability of financial reporting.

8. Policy Implications

- The successful implementation of ICoFR in Indonesia will require collaboration among regulators, professional associations, higher education institutions, and business organizations.
- Several policy recommendations emerge from this study:
- Develop detailed implementation guidelines that complement the principles established in POJK No. 15 of 2024.
- Encourage professional certification and competency development programs related to ICoFR implementation.
- Promote the integration of Information Technology General Controls (ITGC) into corporate governance frameworks.
- Encourage adoption of Continuous Auditing and Continuous Monitoring technologies.
- Develop industry-specific implementation guidance to accommodate differences among financial institutions, state-owned enterprises, and publicly listed companies.

9. Research Limitations

- This study has several limitations.
- First, the study adopts an integrative literature review approach and does not empirically evaluate organizational readiness using primary data.
- Second, the proposed IORF-ICoFR framework remains conceptual and therefore requires empirical validation across different industries and organizational settings.
- Third, regulatory implementation in Indonesia is still in its early stages; consequently, long-term organizational outcomes cannot yet be comprehensively assessed.

10. Future Research

- Future studies may extend this research in several directions.



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- First, the proposed framework may be empirically tested using quantitative methods such as Structural Equation Modeling (SEM) or Partial Least Squares Structural Equation Modeling (PLS-SEM).
- Second, longitudinal case studies may evaluate organizational readiness throughout multiple implementation periods following mandatory ICoFR adoption.
- Third, comparative studies may examine differences in ICoFR implementation among financial institutions, state-owned enterprises, publicly listed companies, and private corporations.
- Finally, future research may investigate the role of emerging technologies—including Artificial Intelligence, Process Mining, Continuous Auditing, Blockchain, and Environmental, Social, and Governance (ESG) reporting—in enhancing Internal Control over Financial Reporting.

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