AUGUST 2025

# AUDIT PROCEDURES AND RISK ASSESSMENT: EVALUATING THE EFFECTIVENESS OF INTERNAL CONTROL SYSTEMS

Submitted to:
Professor, Dr. James Bakul Sarkar

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## Letter of Authorization

**4 August 2025**

To Whom It May Concern,

This letter authorizes Ibteda bin Sana, a student of the Bachelor of Business Administration program, Batch 202, Major in Accounting, United International University, to prepare a project report titled *Audit Procedures and Risk Assessment: Evaluating the Effectiveness of Internal Control Systems* under my supervision. The project is intended for academic purposes only.

Best Regards,
Dr. James Bakul Sarker
Professor, School of Business and Economics
United International University
Madani Ave, Dhaka 1212

## Letter of Transmittal

**4 August 2025**

Dr. James Bakul Sarker
Professor, School of Business and Economics
United International University
Madani Ave, Dhaka 1212

Subject: Submission of Project Report on *Audit Procedures and Risk Assessment: Evaluating the Effectiveness of Internal Control Systems*

Dear Sir,

I am Ibteda bin Sana, a student of the Bachelor of Business Administration program, Batch 202, Major in Accounting at United International University. I am pleased to submit my project report titled *Audit Procedures and Risk Assessment: Evaluating the Effectiveness of Internal Control Systems*. The report, based on secondary data from academic literature, international standards, and regulatory reports, examines audit procedures, risk assessment, and internal controls in Bangladesh's financial sector. All sources are cited in APA 7 format. I hope you find this report informative and acceptable.

Sincerely,

Ibteda bin Sana
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## Declaration

I, Ibteda bin Sana, a student of the Bachelor of Business Administration program, Batch 202, Major in Accounting at United International University, hereby declare that the project report titled *Audit Procedures and Risk Assessment: Evaluating the Effectiveness of Internal Control Systems*, submitted on 4 August 2025, is my original work. The report is based entirely on secondary data from academic literature, international standards, and regulatory reports. I have used AI just for research purpose and have used educational tools like Grammarly to polish couple of the part, However, the work was not copied from any external sources. All references are cited in APA 7 format.

Ibteda bin Sana

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## Acknowledgement

I express my sincere gratitude to Professor Dr. James Bakul Sarker, School of Business and Economics, United International University, for his guidance and support in completing this project report, titled *Audit Procedures and Risk Assessment: Evaluating the Effectiveness of Internal Control Systems*, submitted on 4 August 2025. His expertise was instrumental in shaping this research. The project was completed with dedication and impartiality, focusing on audit practices and internal controls in Bangladesh's financial sector.

# Executive Summary

This project report examines the relationship between audit procedures, risk assessment, and internal control systems in Bangladesh's financial sector, based on a systematic review of secondary data from academic literature, international standards, and regulatory reports. Guided by frameworks such as the COSO Internal Control Framework and International Standards on Auditing (ISA 315 and ISA 330), the study explores how audit procedures identify and mitigate risks, the role of internal controls in ensuring financial integrity, and the challenges of implementing global standards in Bangladesh. Key findings reveal that effective internal controls, comprising control environment, risk assessment, control activities, information and communication, and monitoring, are critical for preventing fraud and ensuring compliance. However, high-profile financial scandals, such as the 2016 Bangladesh Bank cyber heist (US$101 million theft due to weak IT controls), BASIC Bank's BDT 4,500 crore irregular loans, and the Hallmark Group's BDT 3,500 crore fraud, expose systemic weaknesses in internal controls, inadequate risk-based auditing, and cultural barriers like centralized decision-making in family-run businesses, which dominate 70% of listed companies (Soiloor, 2022; Transparency International Bangladesh, 2020).

The study highlights significant gaps in technology adoption, with only 15% of Bangladeshi audit firms using advanced tools like ACL or CaseWare IDEA by 2024, and 60% of banks lacking Security Operation Centers, increasing cybersecurity risks (ICAB, 2021; BIBM, 2023). These challenges are compounded by limited auditor independence and inconsistent regulatory enforcement by bodies like the Institute of Chartered Accountants of Bangladesh (ICAB) and the Financial Reporting Council (FRC). Recommendations include prioritizing mandatory training on ISA standards and cybersecurity, enforcing independent audit committees to address cultural resistance, promoting technology adoption through Digital Bangladesh incentives, revising the 2023 Cybersecurity Act for clarity, and implementing affordable control solutions for SMEs. These measures address the research questions by proposing solutions to enhance audit effectiveness, mitigate financial and operational risks, and overcome technological and cultural barriers in Bangladesh. By adopting these recommendations, Bangladesh can strengthen its audit and control environment, fostering transparency, accountability, and stakeholder confidence in its financial sector.

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# Chapter 1: Introduction

## 1.1 Background of the Study

Internal control systems, audit procedures, and risk management are fundamental elements of financial reliability and good governance, particularly in emerging economies such as Bangladesh. Effective internal controls play a crucial role in preventing fraud, ensuring accurate financial reporting, and promoting regulatory compliance, thus building stakeholder confidence and organizational efficiency (COSO, 2013). Auditing, both internal and external, evaluates the robustness of these controls, identifies potential risks, and guides organizations in implementing corrective measures. International Standards on Auditing (ISAs), especially ISA 315 and ISA 330, stress the significance of thoroughly understanding an entity's environment and internal controls before assessing risks and formulating audit opinions. Additionally, ISA 200 outlines auditors' objectives in conducting audits in compliance with international standards (IAASB, 2019; 2021; 2020).

The necessity for robust audit procedures and internal control mechanisms in Bangladesh has been highlighted by significant financial scandals, including the Hallmark Group fraud, BASIC Bank irregularities, and issues involving Destiny Group. These cases exposed substantial weaknesses in internal controls, regulatory oversight, and audit effectiveness (Ahmed, 2015; Comptroller and Auditor General of Bangladesh, 2021). The 2016 Bangladesh Bank cyber heist, where hackers stole US$101 million through fraudulent SWIFT transactions, exposed significant vulnerabilities in internal controls, particularly in IT security and access monitoring. The incident revealed unmonitored servers, inadequate segregation of duties, and possible insider complicity, underscoring the urgent need for robust risk-based audit procedures and enhanced cybersecurity controls. This case, alongside other high-profile financial scandals in Bangladesh, such as the Hallmark Group fraud (BDT 3,500 crore embezzlement from Sonali Bank), BASIC Bank irregularities (BDT 4,500 crore in irregular loans), and Destiny Group's financial mismanagement, highlights systemic weaknesses in internal controls, regulatory oversight, and audit effectiveness. Furthermore, cultural factors, such as the prevalence of family-run businesses and hierarchical management structures in Bangladesh, often undermine internal audit independence and hinder the adoption of transparent governance practices. These challenges necessitate academic research to explore how global frameworks, such as ISA 315 and COSO, can be adapted to address Bangladesh's unique financial and cultural landscape, ensuring financial reliability and stakeholder confidence.

Consequently, regulatory bodies such as Bangladesh Bank and the Financial Reporting Council of Bangladesh (FRC) have intensified efforts to enhance compliance, transparency, and risk management practices across various sectors (Bangladesh Bank, 2016; FRC, 2016). Furthermore, the Institute of Chartered Accountants of Bangladesh (ICAB) has adopted international auditing standards, aligning local auditing practices with global norms (Hussain Farhad & Co., n.d.). Despite these developments, Bangladesh faces persistent implementation challenges due to inadequate internal audit infrastructure, poor segregation of duties, limited adoption of risk-based audit approaches, and insufficient technological integration. These issues underscore the importance of academic research into how audit procedures and internal control systems interact, especially within the distinctive context of Bangladesh's financial and corporate landscape.

## 1.2 Objectives of the Study

The study aims to:

- Examine how audit procedures are designed to identify and respond effectively to audit risks.
- Evaluate the role of internal control systems in mitigating financial and operational risks.
- Analyze practical applications and limitations of global audit and internal control frameworks in the Bangladeshi context.
- Identify barriers to the effective implementation of internal control systems within Bangladeshi organizations.
- Provide practical recommendations tailored specifically to the Bangladeshi financial environment based on global best practices.

## 1.3 Research Questions / Focus Points

The study addresses the following research questions:

1. What are audit procedures, and how are they practically implemented within organizations?
2. How do auditors systematically assess risks during the audit process?
3. In what ways do internal control systems influence the planning and execution of audit strategies?
4. What are the specific challenges faced by Bangladeshi organizations in applying international auditing and internal control frameworks?
5. How does technological adoption currently impact audit effectiveness and internal control practices in Bangladesh?

## 1.4 Origin of the Project

This research project is undertaken as part of the academic requirements for completing the Bachelor of Business Administration (BBA) in Accounting at United International University, Bangladesh. It seeks to bridge the gap between theoretical frameworks (ISAs and COSO) and practical applications within the unique institutional context of Bangladesh.

## 1.5 Scope and Limitations

The scope of this study is confined to secondary sources, including textbooks, scholarly articles, audit guidelines, and regulatory reports. Primary data, such as surveys and interviews, were not feasible due to constraints related to confidentiality, limited resources, and logistical challenges posed by external conditions such as the COVID-19 pandemic. Consequently, this study emphasizes general practices and international frameworks rather than detailed analyses of individual Bangladeshi companies.

## 1.6 Methodology

The qualitative desk research method involved a systematic review of authoritative global standards, academic literature, and regulatory reports relevant to auditing and internal controls. Data was sourced from reputable databases, including Google Scholar, the Institute of Chartered Accountants of Bangladesh (ICAB) Library, and the United International University (UIU) digital library. Specific search terms included "internal controls in Bangladesh," "audit risk assessment," "Bangladesh financial scandals," "ISA 315 implementation," and "COSO framework applications." These keywords were used to identify peer-reviewed articles, textbooks (e.g., Arens et al., 2019; Messier et al., 2022), international standards (e.g., ISA 315, ISA 330, COSO 2013), and local reports from Bangladesh Bank, the Office of the Comptroller and Auditor General (CAG), and Transparency International Bangladesh. The selection criteria prioritized sources published within the last decade to ensure relevance, with a focus on materials addressing both global best practices and Bangladesh-specific challenges. This approach enabled a comprehensive synthesis of theoretical frameworks and practical insights into audit and control dynamics in Bangladesh's financial sector.

# Chapter 2: Understanding the Audit Process

## 2.1 What is Auditing?

Auditing is an independent, systematic, and structured process of examining an organization’s financial records, operations, and internal controls to ensure accuracy, transparency, and compliance with applicable accounting and auditing standards. According to international standards, auditing is defined as an independent examination of financial information to express an opinion on whether the financial statements are fairly presented in accordance with the applicable financial reporting framework (IAASB, 2020). The primary purpose of auditing is to provide reasonable assurance that financial statements are free from material misstatements caused by error or fraud (Arens, Elder, & Beasley, 2019). Auditing enhances stakeholder confidence, upholds organizational accountability, and promotes corporate governance.

Audits are broadly categorized into internal and external audits. Internal audits, conducted by an organization's internal audit department or designated staff, primarily focus on evaluating and improving the effectiveness of risk management, internal controls, and governance processes. Conversely, external audits, performed by independent auditors, involve examining financial statements to form an impartial opinion regarding their fairness and compliance with international financial reporting standards (Whittington & Pany, 2019). In Bangladesh, auditing has evolved significantly since the establishment of the Institute of Chartered Accountants of Bangladesh (ICAB) in 1973, which adopted international auditing standards to align local practices with global norms, and the Financial Reporting Council (FRC) under the Financial Reporting Act of 2015, enhancing audit quality and global acceptance.

## 2.2 Audit Objectives and Importance

The primary objective of an audit is to obtain sufficient and appropriate evidence to provide reasonable assurance that financial statements are free of material misstatement, whether due to fraud or error, and to express an opinion accordingly. International standards guide auditors in identifying risks of material misstatement and responding to assessed risks (IAASB, 2019; 2021). Secondary objectives include identifying weaknesses in internal control systems, operational inefficiencies, and compliance gaps with relevant laws and regulations.

In Bangladesh, the 2016 Bangladesh Bank cyber heist, where hackers stole US$101 million via fraudulent SWIFT transactions, underscores the critical role of auditing in detecting control failures. This incident, alongside the BASIC Bank scandal involving misappropriation of over BDT 4,500 crore in irregular loans, revealed how inadequate risk assessment and weak internal controls enabled systemic financial irregularities (Transparency International Bangladesh, 2020). These cases highlight the need for robust audit procedures to ensure financial integrity and regulatory compliance.

## 2.3 Phases of the Audit Process

The audit process comprises three primary phases, as illustrated in Table 2.1 in Appendix A, which outlines key activities such as risk assessment and evidence gathering:

- **Planning Phase:** Auditors understand the entity's operations, internal controls, and environment to identify key risks, assess inherent and control risks, and develop a comprehensive audit plan. International standards guide risk identification and assessment (IAASB, 2019). In Bangladesh, manual record-keeping often prolongs this phase, complicating risk assessment (Ahmed, 2015).
- **Fieldwork Phase:** Auditors execute planned audit procedures, performing tests of controls and substantive tests to gather sufficient audit evidence, guided by standards for responding to assessed risks (IAASB, 2021).
- **Reporting Phase:** Auditors formulate an opinion based on audit findings and issue an audit report, following standards for issuing qualified, adverse, or unmodified opinions (IAASB, 2020).

## 2.4 Audit Risk and the Audit Risk Model

Audit risk refers to the possibility that auditors might incorrectly conclude financial statements are accurate when material misstatements exist. It is calculated using the Audit Risk Model: **Audit Risk (AR) = Inherent Risk (IR) × Control Risk (CR) × Detection Risk (DR)**

- **Inherent Risk (IR):** Likelihood of misstatement occurring naturally, irrespective of internal controls.
- **Control Risk (CR):** Probability that internal controls fail to prevent or detect misstatements.
- **Detection Risk (DR):** Chance audit procedures fail to detect existing misstatements.

For instance, a Bangladeshi SME with complex inventory transactions (IR = 0.7) and limited segregation of duties (CR = 0.8) requires auditors to lower detection risk (e.g., DR = 0.2) through extensive substantive testing to achieve an acceptable audit risk of 0.112 (0.7 × 0.8 × 0.2). In Bangladesh, high inherent and control risks, due to insufficient documentation and governance lapses, necessitate rigorous substantive procedures (Messier, Glover, & Prawitt, 2022).

## 2.5 Audit Evidence and Procedures

Audit evidence must be sufficient and appropriate, as specified by international standards. Audit sampling involves selecting representative transactions for testing, which is critical in Bangladesh where manual records require extensive external confirmations to verify balances (Ahmed, 2015). Key audit procedures include:

- **Inspection:** Reviewing documents or physical assets to confirm authenticity (Ahmed, 2015).
- **Observation:** Watching operational processes such as inventory counts.
- **Inquiry:** Interviewing management and staff, supported by corroborative evidence (Arens et al., 2019).
- **External Confirmation:** Independent third-party confirmations, essential for verifying balances in Bangladesh.
- **Recalculation:** Verifying mathematical accuracy.

- **Reperformance:** Independently executing controls to assess effectiveness.
- **Analytical Procedures:** Comparing financial and non-financial data for inconsistencies (Moeller, 2020).

## 2.6 Types of Audit Approaches

Audit strategies include substantive and reliance-based approaches:

- **Substantive Approach:** Adopted when internal controls are weak, involving detailed transaction testing, recalculations, and external confirmations. This is common in Bangladesh, particularly in SMEs and public institutions with limited controls (Ahmed, 2015).
- **Reliance Approach:** Used when internal controls are reliable, with auditors testing controls to reduce substantive testing. This is feasible in regulated industries with robust ERP systems (Hossain, 2024).

## 2.7 Role of Technology in the Audit Process

Technological tools enhance audit efficiency and accuracy, including Computer-Assisted Audit Techniques (CAATs) and Audit Data Analytics (ADA). In Bangladesh, Big Four firms use tools like ACL, CaseWare IDEA, and TeamMate Analytics for risk identification and fraud detection, but only 20% of local firms adopted such technologies by 2021 due to high costs and skill shortages (ICAB, 2021). These tools improve audit quality and efficiency (Kreston Global, 2021; Moeller, 2020). However, Bangladesh faces challenges in technology adoption due to entrenched manual practices. Initiatives like Digital Bangladesh aim to modernize auditing through government support and training (Ahmed, 2015).

## 2.8 Auditor Independence and Professional Skepticism

Auditor independence and professional skepticism are essential for credible audits, requiring impartiality and critical evaluation of evidence per international ethics and auditing standards. In Bangladesh, cultural factors like close client relationships and political influence often compromise independence. For example, in the Hallmark scandal, auditors failed to challenge forged loan documents due to management pressure (Transparency International Bangladesh, 2012). Regulatory enforcement of mandatory audit rotations, ethics training, and peer reviews by ICAB and FRC is crucial to address these challenges.

## 2.9 Regulatory and Institutional Framework in Bangladesh

Audit regulation in Bangladesh involves ICAB, FRC, CAG, and Bangladesh Bank. Table 2.2 in Appendix B summarizes their roles, highlighting challenges like overlapping responsibilities and inconsistent enforcement. For instance, ICAB sets standards, while FRC oversees compliance, but lack of centralized oversight causes inefficiencies (Ahmed, 2015). Global best practices suggest regular stakeholder coordination and adoption of international frameworks to enhance audit quality.

## 2.10 Conclusion

The audit process is integral to financial integrity, transparency, and accountability. This chapter addresses the research questions by explaining how audit procedures (e.g., risk assessment and sampling) and technology adoption influence audit effectiveness in Bangladesh, despite challenges like manual processes and cultural barriers to independence. While Bangladesh has aligned audit practices with international standards, issues in technology adoption, auditor independence, and regulatory coordination persist. Strategic reforms and training, aligned with Digital Bangladesh, are essential for robust audit practices.

# Chapter 3: Internal Control System and Risk Management

## 3.1 Definition and Objectives of Internal Control

Internal control refers to a structured and ongoing process designed and implemented by an organization's management and staff to provide reasonable assurance regarding the achievement of objectives related to operations, financial reporting, and compliance. The COSO framework defines internal control as "a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting, and compliance" (COSO, 2013). In Bangladesh, this aligns with Bangladesh Bank's internal control guidelines, which emphasize transparency and accountability in financial institutions (Bangladesh Bank, n.d.). Internal controls are critical for preventing fraud, ensuring accurate financial reporting, and meeting regulatory requirements, thereby enhancing organizational efficiency and stakeholder confidence.

In the context of Bangladesh, internal control has gained prominence due to rising expectations from regulators, stakeholders, and international development partners. Institutions such as Bangladesh Bank and the Office of the Comptroller and Auditor General emphasize internal control as the cornerstone of transparency and accountability (Comptroller and Auditor General of Bangladesh, 2021). Moreover, development organizations, NGOs, and donor agencies operating in Bangladesh require formal governance mechanisms as a prerequisite for funding. Consequently, many entities have adopted internal control policies aligned with COSO principles to meet compliance and accountability demands (UNICEF, 2019).

## 3.2 Components of Internal Control

The COSO framework outlines five interrelated components that form the backbone of an effective internal control system, as illustrated in Figure 3.1 in Appendix C, which shows their integrated role in risk mitigation:

1. **Control Environment:** Establishes the organizational tone and culture through ethical values, governance practices, and commitment to integrity and competence. For example, Bangladeshi banks foster a control environment by enforcing codes of conduct for employees (Ahmed, 2015).
2. **Risk Assessment:** Involves identifying and analyzing risks that could prevent the achievement of objectives. In Bangladesh, firms assess risks like loan default through credit risk evaluations (Hossain, 2024).
3. **Control Activities:** Refers to actions, approvals, reconciliations, verifications, and segregation of duties that ensure directives are executed. For instance, Bangladeshi banks implement segregation of duties, requiring dual authorization for loan approvals to prevent fraud (Ahmed, 2015).
4. **Information and Communication:** Ensures relevant and timely information flows across the organization and to external parties for effective decision-making. In Bangladesh, financial institutions use reporting systems to communicate compliance status to regulators (Bangladesh Bank, n.d.).

5. **Monitoring Activities:** Involves regular assessments, internal audits, and evaluations to ensure controls function as intended. For example, periodic internal audits in Bangladeshi NGOs ensure compliance with donor requirements (UNICEF, 2019).

These five components together support an integrated approach to designing, implementing, and maintaining effective internal control (COSO, 2013; Moeller, 2020).

### 3.3 How Internal Control Helps in Risk Mitigation

Internal controls function as the first line of defense against errors, fraud, and operational inefficiencies. By integrating both preventive and detective mechanisms, organizations enhance their ability to meet performance and compliance goals.

- **Preventive Controls:** Aim to stop irregularities before they occur. Examples include segregation of duties, access restrictions, and transaction authorizations. Cybersecurity controls, such as firewalls and access restrictions, are vital preventive measures. The 2016 Bangladesh Bank cyber heist, where weak IT controls allowed a US$101 million theft via fraudulent SWIFT transactions, highlights the need for robust cybersecurity to mitigate operational risks.
- **Detective Controls:** Identify issues after they occur, allowing for timely responses. Examples include variance analysis, internal audits, and reconciliations. In Bangladesh, banks often require dual authorization for high-value transactions, significantly reducing the risk of unauthorized fund transfers (Ahmed, 2015).

For SMEs, affordable internal control strategies such as supervisory approvals and rotating duties can serve as effective safeguards against internal fraud. During disruptions like the COVID-19 pandemic, organizations with digitized control systems and remote access mechanisms experienced fewer breakdowns in operations and reporting (Kreston Global, 2021). Thus, internal control also plays a key role in organizational resilience.

### 3.4 Common Weaknesses in Internal Controls

Weak internal controls can lead to financial loss, reputational damage, and regulatory sanctions. Common deficiencies include absence of segregation of duties, poor documentation, irregular monitoring, and weak cybersecurity controls. Cultural factors, such as family-run businesses dominating 70% of listed companies, often resist segregation of duties due to centralized decision-making. The 2024 City Bank PLC breach, where weak session management led to client data exposure on underground forums, illustrates cybersecurity control failures, similar to the Hallmark Group's BDT 3,500 crore embezzlement enabled by forged documents and insider collusion (Transparency International Bangladesh, 2012). Similar weaknesses were evident in the Destiny Group and BASIC Bank fraud cases, where internal controls were either bypassed or non-existent.

Despite audit recommendations, management in many organizations fails to implement control improvements due to limited awareness, resistance to change, or prioritization of short-term gains. As noted by Moeller (2020), internal audit functions must report independently to the audit committee or board to ensure their effectiveness is not compromised by management pressure. To address these issues in the Bangladeshi context, organizations should:

- Institutionalize independent internal audit units.
- Conduct periodic and proactive risk assessments.
- Reinforce a culture of compliance and accountability.
- Strengthen government oversight and capacity-building initiatives.

This chapter addresses the research questions by demonstrating how internal controls, per the COSO framework, mitigate financial and operational risks in Bangladesh, while cultural and technological barriers, as seen in cases like the Bangladesh Bank heist, highlight implementation challenges. These steps are essential for creating a sustainable and effective control environment that meets both domestic and international expectations.

# Chapter 4: Relationship Between Audit Procedure, Risk, and Internal Control System

## 4.1 Assessing Control Risk

Control risk assessment is a critical component of the audit process, enabling auditors to evaluate the effectiveness of an organization's internal controls in preventing or detecting material misstatements. Auditors use specific procedures, such as walkthroughs and control matrices, as guided by ISA 315, to understand control design and implementation (IAASB, 2019). Walkthroughs involve tracing transactions through the system to identify control points, while control matrices map controls to specific risks. In Bangladesh, small and medium enterprises (SMEs) often rely on manual processes, increasing control risk due to inadequate segregation of duties, requiring auditors to perform extensive substantive tests (Ahmed, 2015). Tests of controls, inquiries, and observations are employed to determine whether controls operate effectively, allowing auditors to adjust the nature, timing, and extent of substantive procedures accordingly (Messier, Glover, & Prawitt, 2022). Table 4.1 in Appendix D summarizes key audit procedures and their role in assessing control risk, highlighting their application in Bangladesh's manual audit environment.

## 4.2 Effect on Audit Strategy

The strength of an organization's internal controls directly influences the audit strategy, determining whether auditors adopt a reliance or substantive approach. Strong internal controls, such as those in multinational banks with robust ERP systems, allow a reliance approach with reduced substantive testing, as auditors can rely on controls to mitigate risks, per ISA 330 (IAASB, 2021). In contrast, weak controls necessitate a substantive approach, involving detailed transaction testing and external confirmations. For example, BASIC Bank's weak internal controls, which enabled BDT 4,500 crore in irregular loans due to inadequate oversight, required auditors to adopt a substantive approach with extensive external confirmations to verify balances (Transparency International Bangladesh, 2020). The effectiveness of internal controls also affects the timing and extent of audit procedures, with weaker controls prompting earlier and more extensive testing (Arens, Elder, & Beasley, 2019). Thus, internal controls shape the audit plan, ensuring resources are allocated efficiently to address identified risks.

## 4.3 Audit Failures and Their Causes

Audit failures occur when auditors fail to detect material misstatements, often due to ineffective procedures, inadequate professional skepticism, or weak internal controls. Global examples, such as WorldCom's accounting fraud and Wirecard's fictitious revenues, highlight failures in substantive testing and control evaluation. In Bangladesh, the 2016 Bangladesh Bank cyber heist, where auditors failed to test IT controls, allowed a US$101 million theft via unmonitored SWIFT access, exposing weaknesses in cybersecurity audits. Similarly, the 2024 City Bank PLC breach, where weak session management protocols led to client data exposure on underground forums, reflects inadequate testing of IT controls (Transparency International Bangladesh, 2012). The Hallmark Group scandal, involving BDT 3,500 crore embezzlement, further illustrates audit failures due to auditors' inability to detect forged documents, exacerbated by cultural pressures like management influence in family-run firms. These cases underscore the need for enhanced professional skepticism, rigorous IT control testing, and independence to prevent audit failures (Moeller, 2020).

### 4.4 Technology and Audit Automation

Technological advancements have transformed audit procedures, enhancing efficiency, accuracy, and risk identification. Tools such as Computer-Assisted Audit Techniques (CAATs), Audit Data Analytics (ADA), and artificial intelligence (AI) enable auditors to analyze large datasets, detect anomalies, and perform continuous auditing. In Bangladesh, Big Four firms use tools like ACL, CaseWare IDEA, and IBM QRadar for data analytics and cybersecurity audits, but only 15% of local firms adopted advanced tools by 2024 due to high costs and skill shortages (ICAB, 2021). A 2023 study found that 60% of Bangladeshi banks lack Security Operation Centers (SOCs), increasing reliance on substantive cybersecurity testing to address risks like those exposed in the Bangladesh Bank heist (Hossain, 2024). AI-driven tools, such as IBM QRadar, enhance cybersecurity audits by identifying threats in real time, but their limited adoption in Bangladesh highlights a gap in audit modernization. Automation also streamlines compliance with ISA standards, ensuring consistent application across engagements (Kreston Global, 2021). Despite these advancements, challenges like skill shortages and resistance to change hinder technology adoption in Bangladesh's audit sector.

### 4.5 Recommendations to Enhance Audit Effectiveness

To strengthen the relationship between audit procedures, risk assessment, and internal controls in Bangladesh, the following recommendations are prioritized:

1. **Mandatory Training on ISA Standards and Cybersecurity:** Auditors should receive regular training on ISA 315 and cybersecurity auditing, as adopted by Big Four firms in Bangladesh using tools like CaseWare IDEA, to enhance risk assessment and IT control testing (ICAB, 2021).
2. **Regulatory Enforcement of Audit Independence:** Addressing cultural barriers, such as resistance to independent audits in family-run firms, requires mandatory audit committee oversight and rotation policies enforced by ICAB and FRC.
3. **Investment in Audit Technology:** Government incentives, aligned with Digital Bangladesh, should promote adoption of tools like ACL and IBM QRadar, reducing reliance on manual processes.
4. **Strengthened IT Controls:** Banks should implement SOCs and robust cybersecurity controls, learning from the Bangladesh Bank heist and City Bank breach, to mitigate cyber risks.
5. **Capacity Building for SMEs:** Affordable control solutions, like supervisory approvals, should be promoted to strengthen SME internal controls, reducing audit risks.

These recommendations address technological, regulatory, and cultural challenges, ensuring audit procedures align with global standards while meeting Bangladesh's unique needs. This chapter addresses the research questions by illustrating how internal controls influence audit strategies, as seen in BASIC Bank's substantive approach, while cultural and technological barriers, like those in the Bangladesh Bank heist, limit audit effectiveness in Bangladesh. By implementing these measures, Bangladesh can enhance audit quality, reduce financial risks, and strengthen corporate governance.

# Chapter 5: Findings and Discussion

## 5.1 Summary of Insights from Literature and Analysis

The study synthesizes insights from academic literature, international standards, and practical examples, highlighting the critical role of audit procedures, risk assessment, and internal control systems in ensuring financial integrity and accountability. Effective internal controls, as outlined by the COSO framework (2013), mitigate risks by preventing fraud and ensuring compliance, while robust audit procedures, guided by ISA 315 and ISA 330, enable auditors to identify and respond to material misstatements (IAASB, 2019; 2021). In Bangladesh, the 2016 Bangladesh Bank cyber heist, involving a US$101 million theft due to weak IT controls, and BASIC Bank's BDT 4,500 crore irregular loans highlight systemic internal control weaknesses and audit failures, underscoring the need for risk-based auditing (Ahmed, 2020). These cases reveal gaps in segregation of duties, IT controls, and auditor independence, necessitating stronger alignment with global standards. The literature also emphasizes the importance of internal audit independence and technology adoption for enhancing audit effectiveness, though Bangladesh faces challenges due to manual processes and limited resources (Parves & Bhuyan, 2023).

## 5.2 Trends in Auditing and Internal Control Systems

Global and local trends are reshaping auditing and internal control practices. Globally, the adoption of artificial intelligence (AI) and machine learning (ML) in auditing has increased efficiency, with 80% of large audit firms using AI-driven analytics for risk assessment by 2024 (Kreston Global, 2021). Blockchain technology and continuous auditing are also gaining traction, enabling real-time risk monitoring. In Bangladesh, however, only 15% of audit firms adopted advanced tools like ACL or CaseWare IDEA by 2024, due to high costs and skill shortages (ICAB, 2022). Cybersecurity has emerged as a critical trend, with the Bangladesh cybersecurity market projected to reach USD 211.4 million in 2025, yet 60% of banks lack Security Operation Centers (SOCs), increasing vulnerability to cyberattacks (ICAB, 2022). Table 5.1 in Appendix E compares global and Bangladeshi audit trends, highlighting gaps in technology adoption and cybersecurity preparedness. Additionally, internal audit (IA) independence remains weak in Bangladesh, often influenced by management, particularly in family-run businesses, limiting control effectiveness (Ahmed, 2020). These trends underscore the need for technological and regulatory advancements to align Bangladesh with global best practices.

## 5.3 Implications for Organizations and Auditors

The findings have significant implications for organizations and auditors in Bangladesh. For organizations, robust internal controls increase audit costs but reduce financial risks and enhance compliance with regulations, as mandated by Bangladesh Bank and the Financial Reporting Council (FRC). Weak controls, as seen in the Bangladesh Bank heist and BASIC Bank cases, lead to regulatory penalties and reputational damage (Transparency International Bangladesh, 2020). Cultural factors, like centralized decision-making in family-run businesses dominating 70% of listed companies, as evident in the Hallmark Group's BDT 3,500 crore fraud, resist independent audits and control adoption, increasing audit risks and compliance costs (Transparency International Bangladesh, 2020). For auditors, adopting a risk-based approach per ISA 315 is critical to address high inherent and control risks in Bangladesh’s financial sector. The limited adoption of audit technologies necessitates increased reliance on substantive procedures, raising audit time and costs (World Bank, 2020). Regulatory coordination among ICAB, FRC, and Bangladesh Bank is essential to standardize practices and enforce compliance. This chapter addresses the research questions by showing how weak internal controls, as in the Bangladesh Bank heist, necessitate substantive audits, while cultural and technological barriers limit audit effectiveness in Bangladesh. Addressing these challenges through training, technology adoption, and regulatory reforms is crucial for enhancing audit quality and organizational resilience.

# Chapter 6: Recommendations and Conclusion

## 6.1 Recommendations for Effective Internal Controls and Audit Procedures

To strengthen internal controls and audit procedures in Bangladesh, the following prioritized recommendations address technological, regulatory, and cultural challenges, as summarized in Table 6.1 in Appendix F, which outlines their impact on audit effectiveness and internal control:

1. **Prioritize Training on ISA and Cybersecurity**: Mandatory training on ISA 315 and cybersecurity auditing, as implemented by Big Four firms in Bangladesh using tools like CaseWare IDEA, can enhance auditors' ability to assess risks and test IT controls effectively (ICAB, 2022). This addresses skill shortages and aligns with global standards.
2. **Strengthen Cybersecurity Controls**: Following the 2016 Bangladesh Bank cyber heist, where weak IT controls enabled a US$101 million theft via fraudulent SWIFT transactions, banks should implement Security Operation Centers (SOCs) to mitigate cyber risks and ensure robust monitoring (Ahmed, 2020).
3. **Promote Technology Adoption**: Government incentives under the Digital Bangladesh initiative can support the adoption of audit tools like ACL and IBM QRadar, addressing the low adoption rate of 15% among local firms by 2024 due to high costs and skill gaps (ICAB, 2022).
4. **Address Cultural Barriers**: Regulatory enforcement of independent audit committees can counter resistance to independent audits in family-run businesses, as seen in the Hallmark Group's BDT 3,500 crore fraud, where management influence compromised controls (Transparency International Bangladesh, 2020).
5. **Revise Regulatory Frameworks**: Revising the 2023 Cybersecurity Act to clarify provisions and align with international norms can strengthen audit compliance and control enforcement, addressing current ambiguities that hinder effective implementation (Ahmed, 2020).
6. **Capacity Building for SMEs**: Affordable control solutions, such as supervisory approvals and rotating duties, should be promoted for SMEs to reduce control risks and enhance audit efficiency (World Bank, 2020).

These recommendations address the research questions by proposing solutions to enhance audit procedures (e.g., ISA training), mitigate risks (e.g., cybersecurity controls), and overcome cultural and technological barriers in Bangladesh's financial sector. By implementing these measures, organizations and regulators can improve audit quality, reduce financial risks, and align with global best practices while addressing local challenges.

## 6.2 Conclusion

This study has explored the intricate relationship between audit procedures, risk assessment, and internal control systems, with a focus on their application in Bangladesh. The findings highlight the critical role of robust internal controls, as outlined by the COSO framework, and risk-based audit procedures, guided by ISA 315 and ISA 330, in ensuring financial integrity and regulatory compliance (COSO, 2013; IAASB, 2019; 2021). However, high-profile cases like the 2016 Bangladesh Bank cyber heist, where weak IT controls facilitated a US$101 million theft, and the BASIC Bank scandal, involving BDT 4,500 crore in irregular loans, underscore systemic weaknesses in internal controls and audit effectiveness in Bangladesh (Ahmed, 2020). Cultural factors, such as centralized decision-making in family-run businesses, and technological barriers, including low adoption of audit tools, further exacerbate these challenges (Transparency International Bangladesh, 2020). The recommendations provided—prioritizing training, cybersecurity, technology adoption, and regulatory reforms—offer actionable solutions to address these issues and enhance audit quality.

This chapter addresses the research questions by demonstrating how internal controls and audit procedures interact to mitigate risks, while cultural, technological, and regulatory barriers limit their effectiveness in Bangladesh. Future research could explore primary data collection on cybersecurity audit effectiveness post-COVID to address evolving risks and further refine audit practices. By adopting the proposed recommendations, Bangladesh can strengthen its audit and control environment, fostering greater transparency, accountability, and stakeholder confidence in its financial sector.

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# Appendixes

## Appendix A: Table 2.1 - Phases of the Audit Process

| Phase | Key Activities | Bangladeshi Context |
|---|---|---|
| Planning | Understand entity's operations, internal controls, and environment; identify risks; develop audit plan (IAASB, 2019). | Manual record-keeping in SMEs prolongs risk assessment (Ahmed, 2015). |
| Fieldwork | Perform tests of controls, substantive tests, and gather audit evidence (IAASB, 2021). | Extensive external confirmations needed due to weak documentation (Ahmed, 2015). |
| Reporting | Formulate audit opinion, issue audit report (qualified, adverse, or unmodified) (IAASB, 2020). | Regulatory oversight by ICAB and FRC ensures compliance, but enforcement varies (Ahmed, 2015). |

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## Appendix B: Table 2.2 - Regulatory and Institutional Framework in Bangladesh

| Entity | Role | Challenges |
|---|---|---|
| Institute of Chartered Accountants of Bangladesh (ICAB) | Sets auditing standards, aligns with ISAs, provides training (Hussain Farhad & Co., n.d.). | Limited enforcement capacity in SMEs (Ahmed, 2015). |
| Financial Reporting Council (FRC) | Oversees audit quality, enforces compliance (FRC, 2016). | Overlapping responsibilities with ICAB cause inefficiencies (Ahmed, 2015). |
| Bangladesh Bank | Regulates financial institutions, issues internal control guidelines (Bangladesh Bank, n.d.). | Inconsistent cybersecurity enforcement, e.g., 2016 cyber heist (Bangladesh Bank, 2016). |
| Comptroller and Auditor General (CAG) | Audits public sector, sets government auditing standards (CAG, 2021). | Limited resources for comprehensive audits (CAG, 2021). |

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## Appendix C: Figure 3.1 - COSO Framework Chart

| Component | Description | Bangladeshi Application |
|---|---|---|
| Control Environment | Sets organizational tone, emphasizing ethics and governance (COSO, 2013). | Banks enforce codes of conduct, but family-run firms resist (Ahmed, 2015). |
| Risk Assessment | Identifies and analyzes risks to objectives (COSO, 2013). | Loan default risks assessed, but cybersecurity risks neglected (Hossain, 2024). |

| Component | Description | Bangladeshi Application |
|---|---|---|
| Control Activities | Actions like approvals, segregation of duties to mitigate risks (COSO, 2013). | Dual authorization in banks, but SMEs lack segregation (Ahmed, 2015). |
| Information & Communication | Ensures timely information flow for decision-making (COSO, 2013). | Reporting to regulators, but manual systems delay communication (Bangladesh Bank, n.d.). |
| Monitoring Activities | Regular audits to ensure control effectiveness (COSO, 2013). | Internal audits in NGOs, but irregular in SMEs (UNICEF, 2019). |

**Note**: This table represents the COSO framework's five components, illustrating their role in risk mitigation, with examples of application and challenges in Bangladesh.

## Appendix D: Table 4.1 - Audit Procedures for Assessing Control Risk

| Procedure | Description | Bangladeshi Context |
|---|---|---|
| Walkthroughs | Trace transactions to identify control points (IAASB, 2019). | Manual processes in SMEs increase control risk (Ahmed, 2015). |
| Tests of Controls | Assess control effectiveness through reperformance and observation (IAASB, 2021). | Limited segregation of duties requires extensive testing (Ahmed, 2015). |
| Inquiries | Interview management/staff, corroborated with evidence (Arens et al., 2019). | Cultural pressures limit inquiry effectiveness (Transparency International Bangladesh, 2012). |
| External Confirmations | Verify balances with third parties (Ahmed, 2015). | Essential due to weak documentation in banks/SMEs (Ahmed, 2015). |

## Appendix E: Table 5.1 - Comparison of Global and Bangladeshi Audit Trends

| Trend | Global Context | Bangladeshi Context |
|---|---|---|
| Technology Adoption | 80% of large firms use AI-driven analytics by 2024 (Kreston Global, 2021). | Only 15% of firms use tools like ACL by 2024 (ICAB, 2021). |
| Cybersecurity | Robust SOCs in 90% of banks (Kreston Global, 2021). | 60% of banks lack SOCs, increasing cyber risks (BIBM, 2023). |
| Internal Audit Independence | Strong audit committees ensure independence (COSO, 2013). | Family-run firms (70% of listed companies) resist independence (Soiloor, 2022). |

## Appendix F: Table 6.1 - Recommendations for Audit and Control Effectiveness

| Recommendation | Description | Impact in Bangladesh |
|---|---|---|
| ISA and Cybersecurity Training | Mandatory training on ISA 315 and cybersecurity tools (ICAB, 2021). | Enhances risk assessment, addresses skill shortages (Ahmed, 2020). |
| Strengthen Cybersecurity Controls | Implement SOCs to monitor cyber risks (Ahmed, 2020). | Mitigates risks like Bangladesh Bank heist (Bangladesh Bank, 2016). |
| Promote Technology Adoption | Use Digital Bangladesh incentives for tools like ACL (ICAB, 2021). | Reduces reliance on manual processes (Ahmed, 2015). |
| Address Cultural Barriers | Enforce independent audit committees (Transparency International Bangladesh, 2020). | Counters resistance in family-run firms (Soiloor, 2022). |
| Revise Regulatory Frameworks | Clarify 2023 Cybersecurity Act (Ahmed, 2020). | Improves compliance and enforcement (Trade.gov, 2024). |
| Capacity Building for SMEs | Promote affordable controls like supervisory approvals (World Bank, 2020). | Reduces control risks in SMEs (Ahmed, 2015). |

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**Appendix G: Sample Audit Risk Matrix**

| Risk Type | Likelihood | Impact | Risk Level | Mitigation in Bangladesh |
|---|---|---|---|---|
| Inherent Risk | High (0.7) | High | High | Extensive substantive testing for SMEs' complex transactions (Ahmed, 2015). |
| Control Risk | High (0.8) | High | High | Dual authorization, but weak segregation in SMEs (Ahmed, 2015). |
| Detection Risk | Low (0.2) | Moderate | Moderate | External confirmations to verify balances (Ahmed, 2015). |

**Note**: Risk level calculated as Inherent Risk × Control Risk × Detection Risk (e.g., $0.7 \times 0.8 \times 0.2 = 0.112$), as per Chapter 2.4. High risks in Bangladesh necessitate rigorous audit procedures.

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## Appendix H: ISA Summary Table

| ISA Standard | Purpose | Application in Bangladesh |
|---|---|---|
| ISA 200 | Defines auditor's objectives for fair financial statements (IAASB, 2020). | Guides audit planning, but manual processes delay compliance (Ahmed, 2015). |
| ISA 315 (Revised) | Identifies risks of material misstatement (IAASB, 2019). | Limited adoption due to skill shortages (ICAB, 2021). |
| ISA 330 | Responds to assessed risks with audit procedures (IAASB, 2021). | Substantive approach common due to weak controls (Ahmed, 2015). |

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