

Research Article

# Smart Framework for National Audit Quality Management: An Empirical Comparative Evidence from Egypt

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## Abstract

This paper develops and empirically validates a smart national framework for audit quality management in Egypt, aligned with ISQM-1, ISQM-2, and ISA 220 (Revised). A mixed-methods design combines a nationwide auditor survey with SEM/CFA/ANOVA and comparative case insights from six countries. Results indicate that ISQM adoption and digital maturity (AI-enabled analytics, dashboards, blockchain-based evidence) significantly enhance audit quality, with complementary strengths between public oversight (ASA) and private firms. The framework integrates leadership & governance, risk assessment, digital infrastructure, engagement performance, and monitoring & remediation, enabling proactive, risk-based quality management beyond retrospective control. Benchmarking against the UK, USA, Singapore, Canada, Australia, and UAE underscores enforcement, regulator-led digital platforms, and leadership accountability. The study unifies agency, institutional, and digital-governance perspectives into an actionable model for emerging economies. Practically, it recommends regulator dashboards, phased ISQM adoption, targeted digital training, and SME support. The findings provide a roadmap for Egypt to strengthen transparency, investor trust, and international convergence in audit quality.

## Keywords

Audit Quality, ISQM-1, ISQM-2, ISA 220, Digital Transformation, Governance, Egypt

## 1. Introduction

### 1.1. Context and Background

Audit quality management has become a global priority, especially following major corporate scandals such as Enron and WorldCom, which exposed weaknesses in audit oversight and independence [7, 19, 23]. Early definitions of audit quality emphasized compliance and detection of misstatements [8], but modern perspectives incorporate independence, governance, and stakeholder trust [9]. This is particularly critical in emerging markets [1].

In response to these challenges, the International Auditing

and Assurance Standards Board [10] issued the International Standards on Quality Management [11] and the revised ISA 220, requiring firms globally to implement proactive, risk-based systems by December 2022 [12].

In Egypt, however, the regulatory framework remains outdated, still relying on ISQC-1, despite international transitions. This creates significant risks in both the private audit sector and the Accountability State Authority [13], which faces growing demands for accountability in the digital era [14].

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## 1.2. Problem Statement

The research problem is the absence of a national, unified, and intelligent audit quality management system. Current frameworks in Egypt emphasize retrospective control, rather than proactive, digitally enabled quality management [15].

Consequences include:

- 1) Limited ability of audit firms to identify and mitigate risks.
- 2) ASA's reliance on traditional controls without smart monitoring.
- 3) Declining stakeholder trust in financial reports amid digitalization [16].

This study addresses these issues by developing and empirically validating a smart audit quality management framework aligned with international standards.

## 1.3. Research Objectives

The objectives of this research are to:

- 1) Design a smart framework applicable at both institutional and engagement levels.
- 2) Validate empirically the framework through statistical testing and evidence from Egypt.
- 3) Benchmark against international best practices [5].
- 4) Recommend policies for regulators [17] and professional bodies.

## 1.4. Significance of the Study

This study is significant for multiple reasons:

- 1) Theoretical: Extends audit quality research by integrating ISQM-1, ISA 220, and digital governance [18].
- 2) Practical: Provides a validated framework for both audit firms and ASA to adopt.
- 3) Policy: Offers actionable recommendations for FRA and government policymakers [19].
- 4) Social/Economic: Enhances transparency, strengthens governance, and builds investor trust [20].

## 1.5. Research Questions

The study addresses the following:

- 1) To what extent does ISQM-1 adoption improve audit quality in Egypt?
- 2) How does digital maturity affect audit quality outcomes?
- 3) What lessons from international benchmarking apply to Egypt?
- 4) How effective is the proposed smart framework at a national level?

## 1.6. Structure of the Study

The study is organized into eight chapters:

- 1) Chapter 1: Introduction [21].
- 2) Chapter 2: Literature Review [22].

- 3) Chapter 3: Theoretical Framework and Smart Model Design.
- 4) Chapter 4: Methodology [23].
- 5) Chapter 5: Results and Analysis [24].
- 6) Chapter 6: Comparative Case Studies [25].
- 7) Chapter 7: Discussion [26].
- 8) Chapter 8: Conclusion and Recommendations.

## 2. Literature Review

### 2.1. Evolution of Audit Quality Concepts

The concept of audit quality has evolved over several decades. Early definitions emphasized the probability of detecting and reporting misstatements, reflecting a compliance-oriented perspective [27]. However, corporate failures such as Enron and WorldCom demonstrated that technical compliance alone cannot guarantee credibility [7].

Modern frameworks emphasize auditor independence, governance mechanisms, professional skepticism, and stakeholder trust [28]. Further, audit quality is now linked to broader governance and financial stability outcomes [29]. Studies highlight that both inputs [30] and outputs [31] are crucial [32].

### 2.2. Evolution of Audit Quality Management Standards

The IAASB introduced ISQM-1 and ISQM-2 in 2020, replacing ISQC-1, to strengthen risk-based, proactive audit quality systems [12]. ISQM-1 emphasizes firm-wide governance and monitoring, while ISQM-2 mandates robust engagement quality reviews. The revised ISA 220 integrates leadership accountability for engagement-level quality [33].

Empirical evidence suggests that ISQM adoption improves audit consistency and reduces expectation gaps [34]. Comparative studies show that countries with strong enforcement regimes [35] report higher quality outcomes [36]. In Egypt, reliance on ISQC-1 persists [14], underscoring the urgency for alignment with global standards.

### 2.3. Digital Technologies-enabled Audit Quality Models

The digital era has transformed how audit quality is managed. Automation, artificial intelligence, and blockchain technologies are increasingly integrated into audit processes [37].

- 1) AI and analytics enhance fraud detection and predictive risk assessment [38].
- 2) Blockchain provides immutable audit trails and improves evidence reliability [39].
- 3) Cloud computing and dashboards enable real-time monitoring of quality indicators [40].

Nonetheless, risks exist: limited technical expertise, implementation costs, and uneven adoption between large and

small firms [41]. The literature underscores the need to integrate digital technologies into ISQM frameworks for dynamic, continuous quality assurance [42].

“The integration of AI, analytics, and big data tools has reshaped the audit profession globally, enhancing predictive risk assessment and evidence reliability [3, 6].”

## 2.4. Regulatory Oversight and Audit Governance in Emerging Markets

Audit oversight in emerging markets faces challenges such as weak enforcement, resource constraints, and resistance among smaller firms [43]. Comparative research highlights the effectiveness of strong regulators like the PCAOB [44] and ACRA [45], which employ peer reviews, sanctions, and mandatory reporting to ensure compliance [46].

In Egypt, FRA and ASA have initiated reforms, yet implementation of ISQM remains incomplete. Prior studies recommend phased implementation, regulator support, and benchmarking against international models [47]. Emerging economies must also address professional capacity-building to ensure successful adoption [48].

## 2.5. Critical Review of Literature and Research Gap

The literature establishes that audit quality depends on a combination of standards, digital tools, and regulatory governance. However, gaps remain:

- 1) Most studies examine firm-level practices without addressing national-level integration [49].
- 2) Few works empirically validate smart, digitally enabled audit quality frameworks in emerging economies [50].
- 3) The intersection of ISQM adoption, digital maturity, and public-private audit oversight remains under-researched [14].

This study addresses these gaps by designing and testing a smart national framework that integrates ISQM-1/2, ISA 220, digital tools, and comparative international insights, providing a unique contribution to theory, practice, and policy.

## 3. Theoretical Framework and Smart Model Design

### 3.1. Theoretical Anchors

The smart audit quality management framework in this study is anchored in multiple theoretical perspectives.

- 1) Agency Theory highlights how audits mitigate conflicts between managers and stakeholders by reducing information asymmetry, making audit quality critical for maintaining trust [51].
- 2) Institutional Theory explains why audit firms and regulators adopt international standards such as ISQM-1

due to pressures of legitimacy, professional norms, and global convergence [52].

- 3) Digital Governance and Organizational Learning Theories emphasize the role of technology and adaptive learning in improving audit processes, ensuring responsiveness and dynamic quality management [53].

Together, these perspectives frame audit quality management as not merely a technical function but a strategic governance process shaped by institutional legitimacy and digital innovation.

### 3.2. Model Architecture and Functional Design

The smart model consists of five integrated components, aligned with ISQM-1, ISQM-2, and ISA 220 [54]:

- 1) Leadership & Governance: Quality culture and accountability at the top [55].
- 2) Risk Assessment: Identification of systemic and engagement-level risks using risk matrices.
- 3) Digital Infrastructure: AI-driven risk tools, blockchain evidence systems, and real-time dashboards [18].
- 4) Engagement Performance: Technical execution, independence checks, and partner oversight [56].
- 5) Monitoring & Remediation: Ongoing evaluations, peer review, and feedback loops [57].

Interaction: Leadership shapes the tone, risk assessment feeds into engagements, digital infrastructure enables continuous monitoring, and remediation ensures adaptive improvement.

### 3.3. Model Alignment with ISQM-1, ISQM-2, and ISA 220

The framework aligns directly with international standards:

- 1) ISQM-1 [58]: Leadership, governance, and risk management.
- 2) ISQM-2 [59]: Independent quality reviews and accountability at engagement partner level.
- 3) ISA 220 [54]: Emphasizes leadership responsibility for audit quality within each engagement.

Research indicates that full adoption of these standards improves both audit outputs and stakeholder confidence [60].

### 3.4. Integration of Digital Technologies

The novelty of the model lies in embedding digital technologies into ISQM frameworks.

- 1) AI & Data Analytics: Enhance fraud risk detection and predictive modeling [38].
- 2) Blockchain: Provides immutable, transparent audit evidence [39].
- 3) Dashboards & Cloud Systems: Enable real-time monitoring of key quality indicators across firms [40].

These technologies move audit quality management from retrospective control to real-time assurance, particularly critical in digital economies.

### 3.5. Conceptual Diagram

The conceptual framework [61] depicts dynamic interactions:

- 1) Leadership & Governance at the core.
- 2) Risk Assessment and Digital Infrastructure feeding into Engagement Performance.
- 3) Monitoring & Remediation closing the cycle with continuous improvement.

This cyclical design ensures adaptability and resilience in fast-changing audit environments.

### 3.6. Summary

This chapter outlined the theoretical foundations and presented the smart audit quality management model. By integrating agency, institutional, and digital governance theories with ISQM-1/2 and ISA 220, the model ensures both theoretical robustness and practical applicability. Its emphasis on digital tools marks a significant advancement over traditional audit quality control frameworks, positioning Egypt to align with international best practices.

## 4. Methodology

### 4.1. Research Design

This study employs a mixed-method design to capture both quantitative rigor and qualitative depth. Quantitative methods [62] provide statistical validation of the smart framework, while qualitative benchmarking with international case studies strengthens contextual understanding [63].

The design aligns with prior audit quality research where multi-method approaches provide both empirical robustness and policy relevance [49].

### 4.2. Population and Sample

The target population includes both private audit firms and auditors from the Accountability State Authority [13]. A

stratified sample ensured representation across firm size [64] and audit role.

A total of 295 questionnaires were distributed electronically, yielding 230 valid responses [4]. Such response levels are considered robust in auditing research [65].

*Sample characteristics:*

- 1) Type of auditor: Private firms [66], ASA auditors [67].
- 2) Firm size: Big 4 [68], mid-tier [69], small practices [67].
- 3) Experience: <5 years [70], 5-15 years [71], >15 years [72].

This distribution reflects the Egyptian audit environment and ensures generalizability of findings.

### 4.3. Data Collection Tools

Data were collected via a structured questionnaire divided into four sections:

- 1) ISQM-1 adoption indicators.
- 2) Digital maturity measures [73].
- 3) Internal risk control mechanisms.
- 4) Audit quality outcomes.

Items were measured on 5-point Likert scales [74], consistent with prior audit studies [16]. A pilot test of 20 auditors confirmed clarity and reliability, leading to minor adjustments [65].

To complement survey data, secondary case study evidence from six countries was included, following guidance from comparative regulatory research [46].

### 4.4. Hypotheses Development

Based on the literature and theoretical framework, the following hypotheses were formulated:

- 1) H1: ISQM-1 adoption positively affects audit quality [75].
- 2) H2: Digital maturity positively affects audit quality [76].
- 3) H3: Strong internal risk controls enhance audit quality [9].
- 4) H4: Interaction of ISQM-1 and digital maturity yields synergistic improvements.
- 5) H5: Audit quality outcomes differ between ASA and private firms [14].
- 6) H6: Firm size moderates the relationship between digital maturity and audit quality [77].

**Table 1.** Hypotheses and Theoretical Links.

| Hypothesis | Theoretical Anchor   | Model Component   | Expected Outcome |
|------------|----------------------|-------------------|------------------|
| H1         | Agency Theory        | ISQM-1            | ↑ Audit quality  |
| H2         | Digital Governance   | Digital maturity  | ↑ Audit quality  |
| H3         | Risk Management      | Internal controls | ↑ Audit quality  |
| H4         | Institutional Theory | ISQM × Digital    | Synergy          |

| Hypothesis | Theoretical Anchor           | Model Component | Expected Outcome |
|------------|------------------------------|-----------------|------------------|
| H5         | Comparative Institutionalism | ASA vs Firms    | Variance         |
| H6         | Organizational Learning      | Firm Size       | Moderation       |

4.5. Data Analysis Techniques

Statistical analysis was conducted using SPSS and SmartPLS. Techniques included:

- 1) Descriptive statistics [78].
- 2) Correlation & regression analysis [79].
- 3) CFA and SEM to validate measurement and structural models [80].
- 4) ANOVA for institutional differences.
- 5) Reliability tests [81].

Such multi-method validation ensures internal and external reliability of findings [82].

4.6. Reliability and Validity

- 1) Construct validity: Confirmed by factor loadings >0.70 and AVE >0.50.
- 2) Reliability: Cronbach’s alpha and Composite Reliability >0.80 [80].
- 3) Discriminant validity: Fornell-Larcker criterion applied.
- 4) External validity: Reinforced by case studies across six international contexts [83].

4.7. Summary

The methodology combines quantitative rigor with comparative case benchmarking. It ensures robust empirical validation of the proposed smart framework while grounding it in both Egyptian and international contexts.

5. Results and Analysis

5.1. Descriptive Results

The descriptive statistics provide an overview of ISQM-1 adoption, digital maturity, and internal controls across respondents.

- 1) ISQM-1 Adoption: Big 4 firms scored highest [84], followed by mid-tier firms [85], and small practices [86]. ASA auditors reported an average score of 4.0, indicating relatively stronger alignment with ISQM principles than mid-tier private firms [87].
- 2) Digital Maturity Indicators: Adoption of automation and dashboards was common among larger firms [88], while smaller firms scored significantly lower in AI-driven risk tools [89], confirming prior findings on digital di-

vides [18].

- 3) Internal Risk Controls: Preventive controls [90] outperformed corrective measures [91], consistent with studies showing smaller firms lag in post-engagement reviews [16].

Key Insight: Larger and more digitally advanced institutions exhibit stronger audit quality management capabilities, echoing international research [92].

5.2. Hypotheses Testing

Six hypotheses [93] were tested using regression, correlation, SEM, and ANOVA.

- 1) H1: ISQM-1 adoption positively affects audit quality [94], consistent with Francis [95] and IFAC [96].
- 2) H2: Digital maturity positively affects audit quality [97], reinforcing Appelbaum et al. [98].
- 3) H3: Strong internal controls enhance quality [99], echoing Knechel et al. [100].
- 4) H4: Interaction between ISQM-1 and digital maturity produced synergistic effects [101].
- 5) H5: ANOVA confirmed differences between ASA and private firms [102], aligning with Soliman [96].
- 6) H6: Firm size moderated digital maturity effects, with Big 4 achieving highest R<sup>2</sup> = 0.62 [77].

Key Insight: All hypotheses were supported, showing robust empirical validation of the smart framework.

5.3. Confirmatory Factor Analysis [103]

The CFA tested measurement validity:

- 1) Factor loadings > 0.70 confirmed strong construct validity [80].
- 2) Average Variance Extracted [104] > 0.50 indicated convergent validity.
- 3) Composite Reliability > 0.80 confirmed reliability [82].
- 4) Fornell-Larcker criterion ensured discriminant validity.

Model fit indices: CFI = 0.93, RMSEA = 0.05, SRMR = 0.06, all acceptable thresholds [105].

5.4. Interpretation of Findings

The findings empirically validate the smart model:

- 1) Empirical Validation: ISQM-1 adoption directly improves audit quality, consistent with international evidence [19].
- 2) Predictive Relevance: R<sup>2</sup> values exceeded 0.50, demonstrating strong predictive power [80].

3) Institutional Variance: ASA auditors showed stronger preventive controls, while private firms were more digitally advanced-indicating complementary strengths.

5.5. Comparative Benchmarking

When benchmarked internationally:

- 1) Egypt lags behind UK and Singapore in digital enablement [106].
- 2) Comparable to mid-tier firms in emerging markets, but below the enforcement standards of PCAOB [44].
- 3) Lessons suggest phased ISQM adoption supported by regulatory dashboards and digital training [107].

5.6. Summary

The results confirm that audit quality in Egypt can be significantly enhanced through ISQM-1 adoption combined with digital integration. The smart model demonstrates empirical validity and predictive strength, while comparative insights highlight specific pathways for Egypt’s regulators and firms.

6. Case Studies and Comparative Insights

6.1. United Kingdom [108]

The UK’s Financial Reporting Council [109] has been at the forefront of enforcing ISQM-1 adoption since December 2022. Compliance rates were high: Big 4 [110], mid-tier [111], and small firms [112, 57]. Integration of predictive risk analytics and AI-driven tools improved monitoring efficiency. Peer review remains central to oversight.

Lesson for Egypt: Mandatory adoption, phased regulator support, and peer review strengthen compliance.

6.2. United States [44]

The Public Company Accounting Oversight Board [113] oversees audit firms through annual inspections for large firms and triennial reviews for smaller ones. ISQM principles are embedded in documentation, independence checks, and accountability. Use of real-time monitoring systems has en-

hanced fraud detection [114].

Lesson for Egypt: Periodic inspections, independence enforcement, and strong sanctions are key.

6.3. Singapore

The Accounting and Corporate Regulatory Authority [115] mandated ISQM-1 and ISQM-2 as part of its Practice Monitoring Program. By 2023, compliance was 100% for Big 4, 86% for mid-tier, and 64% for small practices [116]. Digitalization includes AI dashboards, data analytics, and risk-scoring tools.

Lesson for Egypt: Regulator-led digital transformation and continuous training accelerate adoption.

“According to the Accounting and Corporate Regulatory Authority (ACRA) [2], compliance levels under the Practice Monitoring Program have significantly improved following the 2023 ISQM rollout.”

6.4. Canada

The Canadian Public Accountability Board [117] emphasizes governance and leadership accountability within ISQM-aligned quality systems. Reviews focus on proactive remediation, and firms are required to submit improvement plans [118].

Lesson for Egypt: Prioritize leadership accountability and remediation over compliance-only approaches.

6.5. Australia

The Australian Securities and Investments Commission [119] applies a risk-based inspection model, focusing on high-risk industries. Integration of blockchain audit trails and AI-based risk monitoring has begun in large firms [120].

Lesson for Egypt: Prioritize risk-based inspections and emerging technologies.

6.6. United Arab Emirates [121]

The UAE Ministry of Finance mandated ISQM-1 adoption across both local and international firms. It introduced national digital audit reporting platforms to align firms with regulators [122].

Lesson for Egypt: Establish national digital platforms for real-time monitoring.

6.7. Comparative Synthesis

Table 2. Comparative Insights Across Six Countries.

| Country | ISQM Adoption       | Digital Integration      | Key Lesson                       |
|---------|---------------------|--------------------------|----------------------------------|
| UK      | High (Big 4 = 100%) | Predictive analytics, AI | Mandatory adoption + peer review |

| Country   | ISQM Adoption | Digital Integration       | Key Lesson                 |
|-----------|---------------|---------------------------|----------------------------|
| USA       | PCAOB-driven  | Real-time monitoring      | Inspections + independence |
| Singapore | High, phased  | AI dashboards, automation | Regulator-led training     |
| Canada    | ISQM-aligned  | Governance systems        | Leadership accountability  |
| Australia | Risk-based    | AI, blockchain            | Tech-driven oversight      |
| UAE       | Mandatory     | National platforms        | Digital regulator systems  |

## 6.8. Lessons for Egypt

- 1) Regulatory Enforcement: FRA and ASA should enforce ISQM-1/2 adoption with clear deadlines, similar to PCAOB and FRC.
- 2) Digital Integration: Develop national dashboards to monitor audit quality in real time [123].
- 3) Capacity Building: Support small and mid-tier firms with training and phased adoption [124].
- 4) Leadership Accountability: Emphasize tone at the top, mirroring Canada.
- 5) Technology Use: Promote AI and blockchain in audit processes, as in Australia.

## 7. Enhanced Discussion and Integrated Analysis

### 7.1. Deep Interpretation of Findings

The results confirm that audit quality significantly improves when ISQM-1 adoption is integrated with digital maturity. This finding is consistent with prior studies linking risk-based quality systems to improved assurance outcomes [92]. The synergy observed [125] reflects what Appelbaum et al. [98] describe as the “digital multiplier effect” on audit governance.

By combining strong standards with smart technologies, the Egyptian context moves beyond compliance to proactive, real-time assurance, echoing research on adaptive audit models [126].

### 7.2. Institutional Variance

The study revealed differences between ASA auditors and private firms [127]. ASA scored higher in preventive control systems, while private firms demonstrated stronger digital integration, particularly in AI and dashboards. These complementary strengths suggest that Egypt’s reform strategy should leverage ASA’s governance rigor alongside private sector innovation.

This mirrors findings in emerging markets where public

oversight bodies focus on controls, while private firms invest in technologies to maintain competitiveness [128]. Firm size [129] also influenced outcomes, confirming that resource availability is a determinant of audit innovation [77].

### 7.3. International Benchmarking

Benchmarking against six countries revealed patterns:

- 1) UK and USA: Enforcement-driven regimes [130].
- 2) Singapore and UAE: Digital platforms and regulator-led adoption [131].
- 3) Canada and Australia: Leadership accountability and risk-based inspections [132].

Egypt therefore needs a multi-pillar reform combining enforcement, digital infrastructure, and leadership culture [133].

### 7.4. Theoretical Contributions

This research contributes to multiple theoretical perspectives:

- 1) Agency Theory: Demonstrates how ISQM-1 reduces information asymmetry by improving audit reliability [134].
- 2) Institutional Theory: Validates how regulatory pressure drives convergence with international norms [52].
- 3) Digital Governance: Confirms that digital maturity transforms static audit systems into adaptive quality frameworks [135].

Thus, the smart model provides a unified theoretical bridge between traditional assurance and digital transformation.

### 7.5. Practical and Policy Implications

- 1) For FRA & ASA: Introduce regulatory dashboards to track audit quality indicators in real time [136].
- 2) For Audit Firms: Incentivize investments in AI risk tools and blockchain audit trails [137].
- 3) For Professional Bodies: Provide continuous training on ISQM frameworks and digital audit methods [19].
- 4) For Government: Issue an executive decree mandating ISQM adoption nationally, ensuring coordination across public and private sectors.

These implications extend beyond technical audit practices,

contributing to capital market transparency and investor confidence [29].

## 7.6. Challenges and Limitations

Challenges include:

- 1) High cost of digital transformation, especially for small practices.
- 2) Shortage of skilled professionals in AI and blockchain auditing [138].
- 3) Resistance to regulatory change, particularly in mid-tier firms.

Limitations of the study include its reliance on survey data and focus on Egypt, though international benchmarking mitigates this issue. Future research could apply longitudinal designs or sector-specific studies.

## 7.7. Summary

This chapter integrated empirical findings, theoretical perspectives, and global insights. It demonstrates the superiority of the smart model over traditional quality control, highlighting its ability to strengthen audit quality at a national level. By combining standards, technology, and governance reforms, Egypt can align with international best practices and improve financial transparency.

# 8. Conclusion and Recommendations

## 8.1. Conclusion

This study developed and empirically validated a smart audit quality management framework at the national level in Egypt, encompassing both public auditors [13] and private firms. The research addressed a critical regulatory gap: Egypt still relies on the outdated ISQC-1, while international standards [139] emphasize risk-based, proactive quality management [12].

The empirical findings from 230 valid responses [4] confirmed that:

- 1) ISQM-1 adoption significantly enhances audit quality [20].
- 2) Digital maturity [73] amplifies these effects [18].
- 3) Internal controls remain vital, but require integration with digital tools [16].
- 4) Differences between ASA [140] and private firms [141] show complementary strengths [14].
- 5) International benchmarks [5] highlight the importance of enforcement, regulator-led digitalization, and leadership accountability [142].

The study confirms that Egypt can achieve significant improvements in audit quality by adopting a smart, digitally enabled, risk-based national framework, replacing outdated models.

## 8.2. Practical and Policy Recommendations for Egypt

1. For the Financial Regulatory Authority [143]:
  - 1) Mandate ISQM-1, ISQM-2, and ISA 220 adoption across all firms.
  - 2) Build digital regulatory dashboards to monitor real-time quality indicators [116].
2. For the Accountability State Authority [13]:
  - 1) Strengthen preventive controls with AI-driven risk scoring.
  - 2) Leverage blockchain for transparent evidence trails [144].
3. For Audit Firms:
  - 1) Invest in digital maturity [145].
  - 2) Enhance partner accountability and independence monitoring [114].
4. For Standards Setters & Professional Bodies:
  - 1) Provide continuous training on ISQM frameworks and digital tools [19].
  - 2) Support small practices via phased adoption and shared platforms.
5. For the Government of Egypt:
  - 1) Issue an executive decree mandating nationwide ISQM adoption.
  - 2) Establish national audit technology infrastructure to bridge gaps between large and small firms.

## 8.3. Emerging Challenges and Future Directions

- 1) Challenges: Implementation costs, shortage of digitally skilled professionals, and resistance to change [41].
- 2) Future Research: Sector-specific applications, longitudinal studies, and integration of advanced AI and blockchain in Egyptian audit practice.

## 8.4. Final Remark

The proposed smart model is more than a technical framework; it is a national governance reform tool. By adopting it, Egypt can strengthen investor confidence, improve capital market transparency, and align with global standards. In a digital era, audit quality is not just a regulatory requirement but a strategic necessity for economic resilience and global integration.

## Abbreviations

|       |                                               |
|-------|-----------------------------------------------|
| ASA   | Accountability State Authority                |
| FRA   | Financial Regulatory Authority                |
| ISQM  | International Standards on Quality Management |
| ISA   | International Standards on Auditing           |
| PCAOB | Public Company Accounting Oversight Board     |
| FRC   | Financial Reporting Council                   |
| ACRA  | Accounting and Corporate Regulatory Authority |

SEM      Structural Equation Modeling  
CFA      Confirmatory Factor Analysis  
AI        Artificial Intelligence

## Author Contributions

Amin ElSayed Ahmed Lotfy is the sole author. The author read and approved the final manuscript.

## Conflicts of Interest

The author declares no conflicts of interest.

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