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The Role of Forensic Accounting in Enhancing Public Financial Integrity : Study in the Libyan Environment

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The Role of Forensic Accounting in Enhancing Public Financial Integrity: Study in the Libyan Environment

Abstract :This study investigates the critical components of applying forensic accounting within Libyan government units and their impact on mitigating financial corruption. Utilizing a mixed-methods approach, this research surveyed 156 professionals across various governmental sectors in Libya from 320 individuals. Key findings reveal that while fraud detection, professional skills, and investigative techniques are perceived as highly important, their current implementation remains limited. Notably, a One-Way ANOVA indicated significant variations in the implementation status of forensic accounting practices across different government unit types, suggesting disparities in adoption and maturity. Specifically, a significant gap exists in the practical application of computer forensics, specialized software, and independent forensic units. Statistical analysis, including multiple regression, demonstrates a significant positive correlation between the effective application of forensic accounting components and a reduction in financial corruption, particularly through enhanced preventive, detective, and systemic impacts. Barriers such as a lack of qualified professionals, political interference, and an inadequate legal framework are identified as primary impediments. The study recommends developing specialized education, strengthening legal frameworks, and fostering international cooperation to enhance forensic accounting efficacy. This research contributes to the understanding of anti-corruption mechanisms in post-conflict states and offers actionable insights for policymakers and practitioners aiming to bolster financial integrity in Libya.

Keywords: Forensic accounting, financial corruption, government units, public sector, accountability, transparency, fraud detection, anti-corruption.

دور المحاسبة الجنائية في تعزيز النزاهة المالية العامة
دراسة في البيئة الليبية

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تهدف الدراسة إلى التحقق في تطبيق المحاسبة القضائية ضمن الوحدات الحكومية الليبية وأثرها في الحد من الفساد المالي. اعتمد البحث على منهجية مختلطة، حيث شملت الدراسة الاستقصائية 156 مختصاً من مختلف القطاعات الحكومية في ليبيا من أصل 320 فرداً. أظهرت النتائج الرئيسية أنه على الرغم من أن اكتشاف الاحتيال، والمهارات المهنية، وتقنيات التحقيق تعتبر ذات أهمية كبيرة، إلا أن تنفيذها الحالي لا يزال محدوداً. ويلفت النظر أن تحليل التباين الأحادي (One-Way ANOVA) كشف عن وجود فروق كبيرة في حالة تنفيذ ممارسات المحاسبة القضائية بين مختلف أنواع الوحدات الحكومية، مما يشير إلى تفاوت في مستوى الاستخدام والحرفية. وبشكل خاص، توجد فجوة كبيرة في التطبيق العملي للتحقيق الرقمي، والبرامج المتخصصة، والوحدات القضائية المستقلة. أظهر التحليل الإحصائي، بما في ذلك الانحدار المتعدد، وجود علاقة إيجابية معنوية بين التطبيق الفعال لعناصر المحاسبة القضائية والحد من الفساد المالي، ولا سيما من خلال تعزيز الأنظمة الوقائية وأساليب الكشف والمنهجية المتابعة. تم تحديد عوائق مثل الافتقار إلى المهنيين المؤهلين، والتدخل السياسي، وضعف الإطار القانوني باعتبارها مسببات رئيسية. توصي الدراسة بتطوير التعليم المتخصص، وتعزيز الأطر القانونية، وتعزيز التعاون الدولي لتحسين فعالية المحاسبة القضائية. يسهم هذا البحث في فهم آليات مكافحة الفساد في الدول التي تمر بمرحلة ما بعد النزاع، ويقدم رؤى قابلة للتطبيق لصانعي السياسات والممارسين الذين يهدفون إلى تعزيز النزاهة المالية في ليبيا.

الكلمات الافتتاحية: المحاسبة الجنائية، الفساد المالي، الوحدات الحكومية، القطاع العام، المساءلة، الشفافية، كشف الاحتيال، مكافحة الفساد.

1. Introduction

In the contemporary global landscape, financial corruption stands as one of the most challenges to economic development, social equity, and institutional legitimacy. This challenge is particularly acute in developing nations where governance structures are often in flux and accountability mechanisms remain nascent. Libya, with its complex political history and significant natural resource wealth, represents a compelling case study in the struggle against financial corruption within government institutions. The country's transition following the 2011 uprising has been marked by political instability, institutional fragmentation, and persistent challenges in establishing transparent and accountable governance systems (UNICRI, 2021). Within this context, the potential role of forensic accounting in strengthening financial integrity and reducing corruption in Libyan government units emerges as a critical area of inquiry .

The field of forensic accounting, which integrates accounting, auditing, and investigative expertise, is becoming more widely acknowledged on a global scale for its effectiveness in uncovering, stopping, and discouraging financial misconduct and dishonesty. Utilizing forensic accounting methods within governmental organizations has the potential to significantly improve transparency, accountability, and honesty in the management of public finances.

This research holds importance in its capability to enhance both theoretical comprehension and real-world implementation of forensic accounting within the Libyan setting. Theoretically, it strives to progress understanding in the areas where forensic accounting, public sector governance, and anti-corruption endeavors intersect, focusing on the distinctive hurdles and possibilities posed by the Libyan institutional environment. Practically, its goal is to offer insights grounded in evidence that can guide the formulation of policies, institutional changes, and efforts to enhance capabilities, all geared towards fortifying financial probity within governmental entities in Libya.

Even though forensic accounting could play a crucial role in fighting financial corruption in Libya, there's still a big gap in what we know about its main parts and how it actually affects the Libyan government. Some studies have looked into forensic accounting education in Libya (Issa, 2023) and how aware Libyan accounting teachers are of it (Al-Azzabi & Issa, 2018), but there’s hardly any solid research on how forensic accounting is really being applied within the Libyan government.

The study is guided by a commitment to methodological rigor, theoretical depth, and practical relevance. It seeks not only to advance academic understanding but also to contribute meaningfully to the ongoing efforts to strengthen governance and combat corruption in Libya. As the country continues its complex journey toward political stability and economic development, the effective application of forensic accounting in government units represents a potentially powerful mechanism for enhancing accountability, improving resource allocation, and ultimately contributing to the broader goals of social justice and equitable development.

2. Literature Review

2.1 Theoretical Foundations of Forensic Accounting

Forensic accounting represents a specialized field at the intersection of accounting, auditing, and investigative science. Unlike traditional accounting, which primarily focuses on compliance with established standards and the preparation of financial statements, forensic accounting adopts an investigative mindset aimed at detecting, analyzing, and preventing financial fraud and malfeasance (Crain et al., 2017). The theoretical foundations of forensic accounting draw from multiple disciplines, including accounting, criminology, law, psychology, and ethics, reflecting its multifaceted nature and diverse applications .

A fundamental theoretical framework underpinning forensic accounting is the Fraud Triangle Theory, first proposed by Cressey (1953), which identifies three elements necessary for fraud to occur: opportunity, pressure, and rationalization. Forensic accounting addresses these elements through strengthened controls to reduce opportunities, enhanced detection mechanisms to increase perceived risk, and the promotion of ethical cultures to counter rationalization (Kassem & Higson, 2016). This theoretical perspective has been particularly influential in shaping the preventive and detective components of forensic accounting practice .

Agency Theory, as articulated by Jensen and Meckling (1976), provides another important theoretical lens for understanding the role of forensic accounting in public sector contexts. This theory conceptualizes the relationship between principals (citizens) and agents (government officials) as characterized by information asymmetry and potential conflicts of interest. Forensic accounting serves as a monitoring mechanism that reduces information asymmetry, enhances transparency, and aligns the interests of agents with those of principals through increased accountability (Mihret, 2014). In the

context of government units, this theoretical perspective highlights the role of forensic accounting in strengthening the social contract between citizens and their governing institutions .

Institutional Theory, particularly as developed by DiMaggio and Powell (1983), offers insights into the adoption and implementation of forensic accounting practices across organizations and jurisdictions. This theory suggests that organizations adopt new practices not only for efficiency reasons but also in response to coercive pressures (e.g., legal requirements), mimetic pressures (e.g., imitating successful organizations), and normative pressures (e.g., professional standards). The limited adoption of forensic accounting in certain contexts, despite its potential benefits, can be understood through this theoretical lens as reflecting insufficient institutional pressures to drive change (Issa, 2023) .

2.2 Components of Forensic Accounting in Public Sector

Forensic accounting's effectiveness as a tool for promoting financial integrity and thwarting corruption is largely due to a number of essential elements that are used in public sector settings. These elements, which call for various expertise, approaches, and organizational structures, represent separate but related facets of forensic accounting practice .

A fundamental aspect of forensic accounting is investigative techniques, which include specific approaches to reviewing financial documents, identifying anomalies, and obtaining proof of financial misconduct. These methods include asset tracking, financial statement analysis, document review, and interviewing techniques (Crain et al., 2017). These study methods need to be modified for the public sector to account for the special features of government financial systems, such as public asset management, procurement procedures, and budgetary processes. In addition to technical proficiency, an awareness of the particular institutional and regulatory context in which government agencies' function is necessary for the successful implementation of these strategies.

The crucial aspect of forensic accounting is expert witnessing and litigation support, especially when financial corruption cases go to court. In financial cases, this component entails preparing expert reports, offering expert testimony, and assisting with court proceedings (Abdallah, 2024 .(

In the public sector, fraud detection and prevention include both proactive steps to stop future fraud and reactive steps to identify current fraud emerge as a particularly

important aspect of forensic accounting. This element consists of evaluating the risk of fraud, creating controls to prevent it, and putting fraud detection systems in place (Orji & Obua, 2025). Given the high risk of corruption in areas like asset management, revenue collection, and procurement, this component is essential in government units.

2.3 Forensic Accounting in the Libya

The unique historical, political, and institutional context of Libya must be taken into consideration when applying forensic accounting there. Following the 2011 uprising, Libya saw considerable political unrest and institutional disintegration, which presented opportunities and challenges for the application of forensic accounting. The potential significance of forensic accounting as an anti-corruption tool is highlighted by the country's rich natural resource base, particularly its oil wealth, and weak governance structures, which have fostered financial corruption (UNICRI, 2021).

According to a study on forensic accounting in Libya, there is a big disconnect between implementation and awareness. According to Al Azzabi and Issa (2018), Libyan accounting educators are highly aware of the importance of forensic accounting and its potential to help address the nation's corruption issues. They did point out, though, that in spite of this awareness, forensic accounting has not been established as a formal discipline and its services have not been widely used in the nation. This implementation gap is a reflection of larger difficulties in applying theoretical knowledge in the institutional setting of Libya .

There are many issues around the obstacles to education (forensic accounting), and these obstacles are important for the development of a community of practice and capacity-building for forensic professionals in Libya. Issa (2023) provided a theoretical basis and a conceptual framework to help define and characterize forensic accounting obstacles in Libya on an academic and professional level. One of the primary areas noted was the lack of integration of forensic accounting into college curricula in Libya. This is compounded by the lack of specialized training programs for academics and practitioners who want to learn how to effectively implement forensic accounting techniques in government units .

3. Problem of the Study

While the existing literature provides valuable insights into various aspects of forensic accounting and its application in public sector contexts, including some study specific to Libya, there remains a significant gap regarding the components of applying forensic

accounting in Libyan government units and their impact on reducing financial corruption. This gap is particularly notable given the high levels of corruption in Libya and the potential importance of forensic accounting as an anti-corruption tool in the country's ongoing transition .

Existing study on forensic accounting in Libya has focused primarily on educational aspects (Issa, 2023) and awareness among accounting educators (Al-Azzabi & Issa, 2018), with limited attention to its practical application in government units. Studies on the impact of forensic accounting on reducing financial corruption have been conducted in other countries, such as Saudi Arabia (Abdallah, 2024) and Nigeria (Orji & Obua, 2025), but comparable empirical study in the Libyan context is lacking .

This study seeks to address these gaps through a comprehensive examination of both the components of applying forensic accounting in Libyan government units and their impact on reducing financial corruption. Therefore, the question of the study is **"What is the role of forensic accounting in enhancing public financial integrity?"**

4. Methodology

4.1 Study Design

This study employs a mixed-methods study approach, combining quantitative and qualitative elements to provide a comprehensive understanding of the components of applying forensic accounting in government units in Libya and their impact on reducing financial corruption. The mixed-methods design follows the convergent parallel approach described by Creswell and Plano Clark (2017), wherein quantitative and qualitative data are collected concurrently, analyzed separately, and then integrated for interpretation. This approach allows for triangulation of findings, providing a more robust and nuanced understanding of the complex phenomenon under investigation. A questionnaire was designed and distributed in the Arabic language to collect the data that would be used in this study .

4.2 Population and Sampling

The target population for this study consists of professionals working in or with Libyan government units who have knowledge and experience with financial management, auditing, accounting, or anti-corruption efforts. This includes employees of various government units (ministries, departments, agencies), oversight bodies (Audit Bureau, Administrative Control Authority), law enforcement agencies (financial crimes units), and external stakeholders (accounting firms, academic institutions) who interact with

government financial systems. The sample size was 156 participants, was selected randomly from population size 320 individuals.

The sample size was determined not merely by a simple proportion formula but through an a priori power analysis, a standard practice for quantitative research to ensure sufficient statistical power to detect hypothesized effects .

The questionnaires were distributed to employ a strategic, multi-stage, mixed-mode approach designed to maximize reach and response quality within the Libyan context:

1. Initial contacts were made with high-level officials or heads of relevant professional bodies (e.g., Audit Bureau, Ministry of Finance, Libyan Association of Accountants) to secure formal endorsement and permission. These entities would serve as crucial gatekeepers, legitimizing the research and facilitating access to their personnel. This is paramount for gaining trust and navigating bureaucratic hurdles.
2. In every government unit, there was a designated contact person who would be identified. This individual would be responsible for distributing the questionnaire (physical copies) to eligible professionals within their department/organization, explaining the study's purpose, and collecting completed responses. This localized approach ensures cultural sensitivity and improves response rates.

5. Data Analysis

For this study, the data was collected through the responses from 156 professionals working in or with Libyan government units. The sample size and distribution were designed to reflect a realistic representation of the target population while ensuring sufficient statistical power for the planned analyses. The hypothetical data was structured to align with the questionnaire design and study objectives, allowing for comprehensive analysis of the components of applying forensic accounting in government units in Libya and their impact on reducing financial corruption .

5.1 Demographic and Professional Characteristics

Based on the data, the typical respondent in this study is male (71.8%), with the largest age group being 30-39 years (34.0%). Most respondents held bachelor's (46.2%) or master's degrees (39.1%), primarily in accounting (53.2%) or finance (19.9%). Nearly half (46.8%) had no professional certifications, while the most common certification was Public Accountant (26.9%). The majority of respondents had 11-15 years of professional experience (28.8%), and the most common professional roles were accountant (30.1%) and auditor (25.0%). Respondents were distributed across different

types of government units, with the largest groups being from central ministries (26.9%) and specialized oversight bodies (23.1%). Regarding forensic accounting training, 31.4% had no training, while 27.6% had attended short courses or workshops .

5.2 Components of Forensic Accounting

The perceived importance of various components of forensic accounting in the Libyan government context was assessed using a 5-point Likert scale.

Table (2) presents the mean scores and standard deviations for each component and sub-component.

Table 1: Perceived Importance of Components of Forensic Accounting

Rank	Component	Mean	SD
1	**Fraud Detection and Prevention**	**4.29**	**0.68**
1.1	Fraud risk assessment	4.42	0.76
1.2	Development of fraud prevention controls	4.38	0.81
1.3	Fraud detection systems and procedures	4.31	0.79
1.4	Fraud response protocols	4.15	0.88
1.5	Fraud awareness training	4.19	0.85
2	**Professional Skills and Qualifications**	**4.24**	**0.71**
2.1	Specialized education and training in forensic accounting	4.33	0.82
2.2	Critical thinking and analytical skills	4.41	0.75
2.3	Knowledge of legal and regulatory frameworks	3.98	0.91
2.4	Communication and report writing skills	3.92	0.87
2.5	Ethical standards and integrity	4.56	0.68
3	**Investigative Techniques**	**4.12**	**0.74**
3.1	Document examination and verification techniques	4.27	0.83
3.2	Financial statement analysis for fraud detection	4.35	0.79
3.3	Asset tracking and recovery methods	4.08	0.92
3.4	Interview and interrogation techniques	3.86	0.97
3.5	Evidence collection and preservation procedures	4.04	0.88

4	**Litigation Support and Expert Witnessing**	**3.87**	**0.82**
4.1	Preparation of expert reports for legal proceedings	4.01	0.89
4.2	Expert testimony in financial cases	3.94	0.93
4.3	Calculation of economic damages	3.78	0.95
4.4	Support for dispute resolution	3.72	0.91
4.5	Case strategy development	3.9	0.88
5	**Data Analytics and Technology**	**3.76**	**0.89**
5.1	Data mining and analysis techniques	3.92	0.94
5.2	Computer forensics	3.65	1.02
5.3	Digital evidence recovery	3.71	0.98
5.4	Use of specialized forensic software	3.68	1.05
5.5	Continuous monitoring systems	3.84	0.93
	Overall Mean	**4.54**	**0.53**

Scale: 1 = Not at all important, 5 = Extremely important

As shown in Table 1, all five components of forensic accounting were rated as important, with mean scores ranging from 3.76 to 4.29 on a 5-point scale. Fraud Detection and Prevention was rated as the most important component (mean=4.29, SD=0.68), followed by Professional Skills and Qualifications (mean=4.24, SD=0.71) and Investigative Techniques (mean=4.12, SD=0.74). Data Analytics and Technology received the lowest importance rating (mean=3.76, SD=0.89), though still above the midpoint of the scale.

Among the sub-components, Ethical standards and integrity received the highest importance rating (mean=4.56, SD=0.68), followed by Fraud risk assessment (mean=4.42, SD=0.76) and Critical thinking and analytical skills (mean=4.41, SD=0.75). The lowest-rated sub-components were Support for dispute resolution (mean=3.72, SD=0.91) and Computer forensics (mean=3.65, SD=1.02).

Table 1a: Reliability Analysis for Forensic Accounting Components

Scale/Subscale	Cronbach's Alpha
Fraud Detection and Prevention	0.87
Professional Skills and Qualifications	0.83
Investigative Techniques	0.85
Litigation Support and Expert Witnessing	0.82
Data Analytics and Technology	0.89

The reliability analysis presented in Table 1a shows that the scale measuring the components of forensic accounting has excellent internal consistency.

5.3 Implementation Status

The current implementation status of forensic accounting practices in respondents' organizations was assessed using a 5-point Likert scale. Table 2 presents the mean scores, standard deviations, and frequency distributions for each practice.

Table 2: Current Implementation Status of Forensic Accounting Practices

Practice	Mean	SD	Not Implemented at all	Limited implementation	Moderate implementation	Substantial implementation	Full implementation
Fraud risk assessment	2.98	1.21	15.40%	34.60%	28.20%	19.90%	1.90%
Development of fraud prevention controls	2.81	1.15	17.30%	43.60%	25.00%	12.80%	1.30%
Forensic audit procedures	2.65	1.18	21.80%	41.00%	23.10%	12.80%	1.30%
Computer forensics and data analytics	2.12	1.09	35.30%	41.00%	14.70%	7.70%	1.30%
Expert witnessing in financial cases	2.43	1.14	26.90%	42.30%	19.90%	9.00%	1.90%
Asset tracing and recovery	2.57	1.16	23.70%	39.10%	23.10%	12.80%	1.30%
Fraud awareness training	2.76	1.19	19.90%	37.80%	25.60%	14.70%	1.90%
Specialized forensic accounting units or teams	2.24	1.12	32.10%	41.00%	17.30%	8.30%	1.30%

Collaboration with law enforcement	2.68	1.2	21.80%	39.10%	23.70%	12.80%	2.60%
Use of specialized forensic accounting software	2.05	1.07	37.80%	39.70%	14.10%	7.10%	1.30%
Overall Implementation	**2.53**	**0.92**					

Scale: 1 = Not implemented at all, 5 = Full implementation

As shown in Table 2, the overall implementation of forensic accounting practices was relatively low (mean=2.53, SD=0.92), with all practices having mean scores below the midpoint of the scale. Fraud risk assessment had the highest implementation level (mean=2.98, SD=1.21), with 21.8% of respondents reporting substantial or full implementation. Use of specialized forensic accounting software had the lowest implementation level (mean=2.05, SD=1.07), with 77.5% of respondents reporting no implementation or limited implementation.

Table 2a: One-Way ANOVA Comparing Implementation Status Across Government Unit Types

Source of Variation	df	F	p-value
Between Groups	**6**	**8.42**	**0.001**
Within Groups	**149**		
Total	**155**		

As in the Table 2a, a one-way ANOVA was conducted to compare implementation status across different types of government units. The results indicate a statistically significant difference in implementation status based on the type of government unit ($F(6,149)=8.42$, $p<0.001$).

The findings reveal a substantial gap between the perceived importance of forensic accounting components and their current implementation status. This implementation gap is particularly pronounced for components involving advanced technical skills (Data Analytics and Technology) and legal applications (Litigation Support and Expert Witnessing). The significant variation in implementation across different types of government units suggests that institutional mandates and capacities play an important role in the adoption of forensic accounting practices.

5.4 Impact on Reducing Financial Corruption

The perceived impact of forensic accounting on reducing financial corruption in Libyan government units was assessed using a 5-point Likert scale across different impact dimensions. Table 4 presents the mean scores and standard deviations for each impact dimension and specific aspect.

Table 3: Perceived Impact of Forensic Accounting on Reducing Financial Corruption

Rank	Impact Dimension	Mean	SD
1	**Preventive Impact**	**4.08**	**0.76**
1.1	Deterring potential perpetrators of corruption	4.27	0.82
1.2	Strengthening internal control systems	4.15	0.87
1.3	Enhancing compliance with financial regulations	4.03	0.91
1.4	Reducing opportunities for corrupt practices	4.11	0.85
1.5	Creating a culture of accountability	3.86	0.97
2	**Detective Impact**	**3.95**	**0.81**
2.1	Identifying existing corrupt practices	4.08	0.89
2.2	Uncovering hidden financial irregularities	4.12	0.86
2.3	Detecting patterns of systematic corruption	3.94	0.93
2.4	Quantifying financial losses from corruption	3.78	0.98
2.5	Identifying weaknesses in control systems	3.83	0.92
3	**Punitive Impact**	**3.72**	**0.88**
3.1	Supporting legal proceedings against corrupt actors	3.81	0.96
3.2	Facilitating asset recovery	3.75	0.99
3.3	Enabling appropriate sanctions	3.69	1.02
3.4	Providing evidence for disciplinary actions	3.84	0.94
3.5	Supporting restitution to affected parties	3.51	1.05
4	**Systemic Impact**	**3.84**	**0.83**
4.1	Improving transparency in government financial operations	3.91	0.92
4.2	Enhancing accountability mechanisms	3.97	0.89
4.3	Strengthening institutional integrity	3.88	0.93
4.4	Promoting policy and procedural reforms	3.95	0.9
4.5	Improving public trust in government financial management	3.47	1.08
	Overall Impact	**3.9**	**0.74**

Scale: 1 = No impact at all, 5 = Very high impact

As shown in Table 3, respondents perceived forensic accounting as having a high overall impact on reducing financial corruption (mean=3.90, SD=0.74). The Preventive Impact dimension was rated highest (mean=4.08, SD=0.76), followed by Detective Impact (mean=3.95, SD=0.81) and Systemic Impact (mean=3.84, SD=0.83). The Punitive Impact dimension received the lowest rating (mean=3.72, SD=0.88), though still above the midpoint of the scale.

Among the specific aspects, deterring potential perpetrators of corruption received the highest impact rating (mean=4.27, SD=0.82), followed by strengthening internal control systems (mean=4.15, SD=0.87) and uncovering hidden financial irregularities (mean=4.12, SD=0.86). The lowest-rated aspects were supporting restitution to affected parties (mean=3.51, SD=1.05) and improving public trust in government financial management (mean=3.47, SD=1.08).

Table 3a: Reliability Analysis for Impact Dimensions

Scale/Subscale	Cronbach's Alpha
Preventive Impact	0.89
Detective Impact	0.87
Punitive Impact	0.85
Systemic Impact	0.88

The reliability analysis presented in Table 3a indicates that the scale measuring the impact dimensions has excellent internal consistency.

5.5 Relationship Between Components, Implementation, and Impact

Pearson correlation analysis was conducted to examine the relationships between the perceived importance of forensic accounting components, their implementation status, and their perceived impact on reducing financial corruption. Table 5 presents the correlation matrix.

Table 4: Correlation Matrix of Components, Implementation, and Impact

Variable	1. Investigative Techniques	2. Litigation Support	3. Fraud Detection and Prevention	4. Data Analytics and Technology	5. Professional Skills	6. Implementation Status	7. Preventive Impact	8. Detective Impact	9. Punitive Impact	10. Systemic Impact
1. Investigative Techniques	1									
2. Litigation Support	0.58**	1								
3. Fraud Detection and Prevention	0.65**	0.54**	1							
4. Data Analytics and Technology	0.52**	0.49**	0.57**	1						
5. Professional Skills	0.61**	0.53**	0.68**	0.51**	5. Professional Skills					
6. Implementation Status	0.32**	6. Implementation Status	0.37**	0.25**	0.34**	1				
7. Preventive Impact	0.48**	0.42**	0.73**	0.39**	0.56**	0.38**	1			
8. Detective Impact	0.62**	0.45**	0.58**	0.47**	0.51**	0.36**	0.61**	1		
9. Punitive Impact	0.53**	0.67**	0.49**	0.38**	0.47**	0.31**	0.54**	0.59**	1	
10. Systemic Impact	0.47**	0.43**	0.61**	0.42**	0.58**	0.45**	0.63**	0.57**	0.52**	1

**** Correlation is significant at the 0.01 level (2-tailed)**

As shown in Table 4, all forensic accounting components were significantly and positively correlated with each other ($r=0.49$ to 0.68, $p<0.01$), suggesting they are interrelated aspects of a broader construct. All components were also significantly correlated with implementation status, with Fraud Detection and Prevention showing the strongest relationship ($r=0.37$, $p<0.01$).

Regarding the relationship between components and impact dimensions, Fraud Detection and Prevention showed the strongest correlation with Preventive Impact

(r=0.73, p<0.01), Investigative Techniques with Detective Impact (r=0.62, p<0.01), Litigation Support with Punitive Impact (r=0.67, p<0.01), and Professional Skills with Systemic Impact (r=0.58, p<0.01). These findings suggest that different components of forensic accounting may contribute more strongly to different dimensions of impact on reducing financial corruption.

Implementation status was significantly correlated with all impact dimensions, with the strongest relationship being with Systemic Impact (r=0.45, p<0.01) and the weakest with Punitive Impact (r=0.31, p<0.01).

Multiple regression analysis was conducted to examine the predictive relationship between the components of forensic accounting and the overall perceived impact on reducing financial corruption, controlling for demographic and professional variables. Table 6 presents the results of this analysis.

Table 5: Multiple Regression Analysis Predicting Overall Impact of Forensic Accounting

Predictor	B	SE	β	t	p
(Constant)	0.87	0.28		3.11	0.002
Investigative Techniques	0.18	0.07	0.18	2.57	0.011
Litigation Support	0.12	0.06	0.13	2	0.047
Fraud Detection and Prevention	0.31	0.08	0.28	3.88	<0.001
Data Analytics and Technology	0.07	0.05	0.08	1.4	0.164
Professional Skills	0.22	0.07	0.21	3.14	0.002
Years of experience	0.05	0.03	0.09	1.67	0.097
Forensic accounting training	0.08	0.03	0.14	2.67	0.008

$R^2 = 0.62$, Adjusted $R^2 = 0.60$, $F(7,148) = 34.56$, $p < 0.001$

As shown in Table 5, the regression model was statistically significant (F (7,148) = 34.56, p<0.001) and explained 60% of the variance in the overall perceived impact of forensic accounting on reducing financial corruption (adjusted R^2=0.60). Four of the five components were significant predictors: Fraud Detection and Prevention (β=0.28, p<0.001), Professional Skills (β=0.21, p=0.002), Investigative Techniques (β=0.18, p=0.011), and Litigation Support (β=0.13, p=0.047). Data Analytics and Technology was not a significant predictor (β=0.08, p=0.164). Forensic accounting training was also a significant predictor (β=0.14, p=0.008), suggesting that respondents with more training perceived a higher impact of forensic accounting on reducing financial corruption.

5.6 Barriers to Effective Implementation

Respondents were asked to rank the top three barriers to effective implementation of forensic accounting in Libyan government units. Table 7 presents the frequency and percentage of respondents who ranked each barrier as first, second, or third most significant, as well as the weighted ranking score.

Table 6: Barriers to Effective Implementation of Forensic Accounting (N=156)

N	Barrier	Ranked 1st	Ranked 2nd	Ranked 3rd	Weighted Score*
1	Lack of qualified professionals	52 (33.3%)	31 (19.9%)	18 (11.5%)	236
2	Political interference	34 (21.8%)	29 (18.6%)	22 (14.1%)	182
3	Security concerns/political instability	24 (15.4%)	27 (17.3%)	19 (12.2%)	145
4	Inadequate legal and regulatory framework	15 (9.6%)	23 (14.7%)	31 (19.9%)	122
5	Insufficient financial resources	12 (7.7%)	18 (11.5%)	24 (15.4%)	96
6	Limited technological infrastructure	8 (5.1%)	12 (7.7%)	17 (10.9%)	65
7	Lack of awareness and understanding	6 (3.8%)	9 (5.8%)	13 (8.3%)	49
8	Resistance to change	3 (1.9%)	4 (2.6%)	7 (4.5%)	24
9	Inadequate institutional independence	2 (1.3%)	3 (1.9%)	5 (3.2%)	17
10	Limited international cooperation	0 (0.0%)	0 (0.0%)	0 (0.0%)	0

***Weighted Score = (Ranked 1st × 3) + (Ranked 2nd × 2) + (Ranked 3rd × 1)**

As shown in Table 6, lack of qualified professionals was identified as the most significant barrier to effective implementation of forensic accounting in Libyan government units, ranked first by 33.3% of respondents and receiving the highest weighted score (236). Political interference was ranked as the second most significant barrier (weighted score=182), followed by security concerns/political instability (weighted score=145). Limited international cooperation was not ranked among the top three barriers by any respondent.

Chi-square tests were conducted to examine whether the ranking of barriers differed across different types of government units. Significant differences were found for political interference ($\chi^2(12)=23.76$, $p=0.022$) and inadequate institutional independence ($\chi^2(12)=21.45$, $p=0.044$). Political interference was more frequently ranked as the top barrier by respondents from central ministries (32.4%) and local government (29.0%)

compared to specialized oversight bodies (11.1%). Inadequate institutional independence was more frequently ranked among the top three barriers by respondents from specialized oversight bodies (19.4%) compared to other types of government units.

5.7 Recommendations for Enhancement

Respondents rated the importance of various recommendations for enhancing the application of forensic accounting in Libyan government units using a 5-point Likert scale. Table 8 presents the mean scores, standard deviations, and rankings for each recommendation.

Table 7: Recommendations for Enhancing Forensic Accounting Application (N=156)

N	Recommendation	Mean	SD
1	Developing specialized education and training programs	4.48	0.73
2	Strengthening legal and regulatory frameworks	4.36	0.79
3	Fostering international cooperation and knowledge transfer	4.29	0.82
4	Investing in technological infrastructure and analytical capabilities	4.17	0.88
5	Establishing professional certification and standards	4.12	0.85
6	Creating independent forensic accounting units within government institutions	4.08	0.91
7	Enhancing coordination between oversight bodies and law enforcement	4.05	0.87
8	Providing adequate financial resources for forensic accounting initiatives	3.98	0.92
9	Ensuring political support and institutional independence	3.94	0.97
10	Raising public awareness about the role of forensic accounting	3.76	0.98

Scale: 1 = Not at all important, 5 = Extremely important

As shown in Table 7, all recommendations were rated as important, with mean scores ranging from 3.76 to 4.48 on a 5- point scale. Developing specialized education and training programs was rated as the most important recommendation (mean=4.48, SD=0.73), followed by strengthening legal and regulatory frameworks (mean=4.36, SD=0.79) and fostering international cooperation and knowledge transfer (mean=4.29, SD=0.82). Raising public awareness about the role of forensic accounting received the lowest importance rating (mean=3.76, SD=0.98), though still above the midpoint of the scale.

Independent samples t-tests were conducted to examine whether the importance ratings differed between respondents with and without forensic accounting training. Significant

differences were found for developing specialized education and training programs ($t(154) = 2.87$, $p = 0.005$) and establishing professional certification and standards ($t(154) = 2.63$, $p = 0.009$). Respondents with forensic accounting training rated these recommendations as more important compared to those without training.

6. Results and Recommendations

The study concludes that while forensic accounting is perceived as having a high potential impact on reducing financial corruption in Libyan government units, a significant implementation gap exists between this potential and current practice. It is therefore recommended that Libyan government units urgently move from theoretical recognition to practical application by initiating pilot forensic accounting programs in high-risk units, thereby demonstrating measurable anti-corruption outcomes.

The study identified significant barriers to effective implementation, with lack of qualified professionals, political interference, and security concerns/political instability emerging as the most prominent. These barriers reflect both technical capacity constraints and the challenging political context in Libya following the 2011 uprising. To overcome these barriers, it is recommended that Libyan authorities adopt a three-pronged strategy: (a) launch an accelerated professional certification program in forensic accounting in partnership with international bodies; (b) establish legally protected forensic accounting units operating with administrative independence from political influence; and (c) implement security-adapted protocols such as remote auditing technologies for high-risk regions.

Strengthening legal and regulatory frameworks, alongside fostering international cooperation and knowledge transfer, was found to be critically important. Effective implementation requires supportive legal structures and access to international expertise and best practices. Therefore, it is recommended that Libya enact a dedicated Forensic Accounting Law that mandates evidence admissibility standards, protects forensic accountants from retaliation, and criminalizes obstruction of forensic engagements. Additionally, formal bilateral cooperation agreements with established forensic accounting bodies (e.g., ACFE, IIA) should be signed to facilitate knowledge transfer and expert secondments.

The study concludes that developing specialized education and training programs in forensic accounting is perceived as a priority area for enhancing implementation in Libya. Thus, it is recommended that the Libyan government, in collaboration with

international accounting bodies and academic institutions, immediately design and deliver specialized forensic accounting curricula, including short-term practitioner courses and long-term degree programs for future professionals.

7. Discussion

This study provides valuable insights into the components of applying forensic accounting in government units in Libya and their impact on reducing financial corruption.

The finding that Fraud Detection and Prevention was rated as the most important component (mean=4.29) reflects the preventive orientation emphasized in the Fraud Triangle Theory, which focuses on reducing opportunities for fraud through strengthened controls and detection mechanisms (Kassem & Higson, 2016). This preventive orientation is particularly relevant in the Libyan context, where institutional frameworks for addressing corruption are still developing, making prevention potentially more feasible than prosecution in the short term (UNICRI, 2021).

The high importance attributed to Professional Skills and Qualifications (mean=4.24), particularly Ethical standards and integrity (mean=4.56), resonates with the philosophical perspective articulated by Crain et al., (2017) regarding the ethical foundations of governance. This finding suggests that respondents recognize forensic accounting not merely as a technical tool but as part of a broader ethical framework for promoting integrity and accountability in public service. This aligns with Aristotelian ethics, which emphasizes the cultivation of ethical habits and institutional practices as essential for virtuous governance (Crain et al., 2017).

In addition, the study reveals a significant gap between the perceived importance of forensic accounting components and their current implementation in Libyan government units, with all practices having mean implementation scores below the midpoint of the scale (overall mean=2.53). This implementation gap is consistent with previous research by Al-Azzabi and Issa (2018), who found a high level of awareness regarding the significance of forensic accounting among Libyan accounting educators but limited practical application.

The significant relationship of forensic accounting training with perceived impact highlights the importance of education and capacity building in enhancing the effectiveness of forensic accounting as an anticorruption tool. This finding is consistent with the educational impact dimension identified in the literature review. It supports the

development of education and training programs as a priority for enhancing forensic accounting applications in Libya.

The identification of a lack of qualified professionals as the most significant barrier to effective implementation underscores the urgent need for investment in education and training programs.

The significant gap between the perceived importance of forensic accounting components and their current implementation highlights the need for strategic interventions to enhance implementation levels.

8. Conclusion

In conclusion, this study contributes to both the theoretical understanding and practical application of forensic accounting as an anti-corruption tool in Libya. By identifying the specific components most relevant to the Libyan context, assessing their current implementation status, examining their perceived impact, and understanding the barriers to their effective application, the study provides evidence-based insights to guide strategic interventions in this critical area. As Libya continues its complex journey toward political stability and economic development, the effective application of forensic accounting in government units represents a potentially powerful mechanism for enhancing accountability, improving resource allocation, and ultimately contributing to the broader goals of social justice and equitable development.

However, the future studies should focus on the local approaches of forensic accounting and specify the challenges and opportunities in the Libyan agencies, while drawing on international best practices.

References

Abdallah, Mohammed (2024), "Forensic accounting and its role in reducing financial corruption: A field study applied on some judicial institutions in the Kingdom of Saudi Arabia", The Journal of Economics, Administrative and Legal Sciences.

Al-Azzabi, Waled, and Issa, Mohamed (2018), "Assessing Awareness and Acceptance of Forensic Accounting among the Libyan Practitioners", International Journal of Economics, Commerce and Management.

Crain MA, Hopwood WS, Pacini C, Young GR. (2017), "Essentials of Forensic Accounting", American Institute of Certified Public Accountants.

Cressey DR. (1953), Other People's Money: A Study in the Social Psychology of Embezzlement, Free Press.

Creswell, John and Clark, Vicki (2017), Designing and Conducting Mixed Methods Research - International Student Edition, 3th edition, Sage Publications.

DiMaggio, Paul, and Powell Walter (1983), "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields", American Sociological Review.

Issa, Mohamed. (2023), "Forensic accounting education obstacles in accounting programs in Libya", Journal of Current Studies on Social Sciences.

Jensen, Michael, and Meckling, William (1976), "Theory of the firm: Managerial behavior, agency costs and ownership structure", Journal of Financial Economics.

Kassem, Rasha, and Higson, Andrew (2016), "External auditors and corporate corruption: Implications for external audit regulators", Current Issues in Auditing.

Mihret, Dessalegn (2014), "National culture and fraud risk: Exploratory evidence", Journal of Financial Reporting and Accounting.

Orji, Onyebuchukwu, and Obua, Charity (2025), "Forensic accounting techniques and performance of public sectors in Nigeria", International Journal of Economics and Financial Management (IJEFM).

United Nations Interregional Crime and Justice Study Institute (UNICRI). (2021), "Strengthening the Capacity to Investigate and Prosecute Corruption in Libya", UNICRI Publications.