



Arab American University
Faculty of Graduate Studies

**Evaluating the Design of Anti-Fraud Programs in the
Palestinian Banking Sector**

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**This thesis was submitted in partial fulfilment of the
requirements for the Master's degree in Fraud Protection**

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Thesis Approval

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This thesis was defended successfully on 13/12/2025 and approved by:

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Signature

A handwritten signature in blue ink, appearing to be 'Muna Ismail Mahmoud Amira', written over a dotted grid background.

Declaration

I Declare that the work in this study entitled “Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector” was carried out by me under the supervision of Dr. Firas Murrar in the Department of Fraud Protection. Also, I declare that the information in this study is the result of my own work, and it has not been presented before in another degree, diploma, or another university.

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Dedication

To my loving family...

To my belated father Ismail Amira, you set me on the right path, equipped me with the means to pursue my dreams, guided me towards constant striving, instilled in me the highest moral and human values and taught me that investing in people is the most valuable kind of investment. You supported my ambitions and celebrated all of my accomplishments, whether small or great.

To my mother- the dearest to my heart- You are the source of support, strength and constant encouragement. I dedicate all of my accomplishments to you.

To my small family-My loving and supportive husband Mazen and my children, Laith and Amir- I share this achievement with you as a family accomplishment. You are my partners and the driving force behind all of my achievements.

To my dear Brothers- whom I look up to and take pride in their accomplishments- you are my backbone throughout my personal and academic journey.

I dedicate my work to you all.

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Abstract

This study examined the design of anti-fraud programs for banks operating in the Palestinian banking sector from the perspective of assurance providers and attempted to identify factors/methods that contribute to fraud risk management (FRM) from the perspective of assurance providers. The study has also attempted to introduce the components of FRM and explore the roles of different assurance providers with regards to FRM in the theoretical framework section of the study.

For the first two objectives, a mixed method approach was employed to collect data. Thus, quantitative data was collected via questionnaires targeting internal assurance providers who work in banks operating in Palestine. In addition, qualitative data was collected via structured interviews with seniors who work closely with the banking sector. Findings indicate that banks operating in the Palestinian banking sector have established anti-fraud programs to address fraud risks. However, the maturity level and alignment of these programs with risk exposure vary across the sector. Moreover, the study identified several factors/methods that are perceived by assurance providers as being most effective in supporting FRM. The highest ratings belonged to leadership-related elements such as tone at the top, active audit committee, and active risk committee.

The study concludes that while banks have established a strong foundation for FRM, enhancements are still required for board-level involvement, proactive risk assessments and specialized fraud oversight. The results also confirm that effective FRM relies on a balance of leadership involvement, continuous risk assessments and alignment, utilization of advanced technology and continuous consideration of emerging threats and fraud schemes especially in the context of digitization.

Key word and phrases: Fraud, fraud risk management, Palestinian banking sector, anti-fraud programs.

Table of Contents

Thesis Approval.....	I
Declaration.....	II
Dedication.....	III
Acknowledgment.....	IV
Abstract.....	V
List of Tables	X
List of Figures.....	XI
List of Abbreviations	XII
Chapter One.....	1
1.1 Introduction	1
1.2 Research Problem.....	1
1.3 Significance of the Study.....	2
1.4 Objectives of the Study.....	3
1.6 Research Methodology	5
1.7 Research Tools.....	5
1.7.1 Population and Sampling.....	5
1.7.2 Data Collection and Analysis	5
1.8 Literature Review	6
1.8.1 Managing Fraud Risks.....	6
1.8.2 Fraud Prevention and Detection Methods	7
1.9 Limitations of the Study	8
Chapter two.....	9
2.1 Fraud Definition Across Various Disciplines	9
2.1.1 Introduction	9
2.1.2 Fraud from a Business Perspective.....	9
2.1.3 Fraud from a Legal Perspective.....	10
2.1.4 Fraud from a Psychological Perspective	10
2.2 Fraud Definition Across International Organizations.....	12

2.3 Common Fraud in the Banking Industry	12
2.3.1 Introduction	12
2.3.2 Banking Fraud Worldwide.....	13
2.3.3 Banking Fraud Cases from Palestine.....	14
2.4 Risk Management.....	15
2.4.1 Introduction	15
2.4.2 COSO ERM Framework	16
2.4.3 FRM Components.....	17
2.4.4 Anti-fraud Program.....	19
2.4.4.1 Creating A Culture of Honesty and High Ethics.....	20
2.4.4.2 Evaluating Antifraud Processes and Controls	20
2.4.4.3 Developing an Appropriate Oversight Process.....	22
2.5 Roles of Assurance Providers	23
2.5.1 Introduction	23
2.5.2 Historical Background and Definition.....	23
2.5.3 Roles, Responsibilities & Reporting Lines.....	25
2.5.4 Strengths and Weaknesses	26
2.6 Internal Control Methods.....	28
2.6.1 Introduction	28
2.6.2 Internal Control Methods with Respect to FRM	28
Chapter 3.....	31
3.1 Introduction	31
3.2 Research Design	31
3.3 Data Collection Process.....	31
3.4 Population and Sample of the Study.....	33
3.5 Validity and Reliability of the Instrument	35
3.5.1 Validity of the Instrument	35
3.5.2 Reliability of the Instrument.....	39
3.6 Validity and Reliability of the Study	40
3.6.1 Validity of the Study	40
3.6.2 Reliability of the Study.....	41
3.7 Statistical Analysis Methods.....	41

3.8 Ethical Consideration	42
Chapter Four	43
4.1 Introduction	43
4.2 Analysis of the Personal and Demographic Questions	43
4.3 Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector	46
4.4 Factors that Contribute the Most to FRM.....	55
4.5 Interview Analysis	59
4.5.1 Section 1: General Perception of FRM.....	60
4.5.2 Section 2: Insights on the 25 Methods/Factors that Contribute to FRM.....	62
4.5.3 Section 3: Evaluating the Design of Anti-Fraud Programs (ACFE Fraud Prevention Check-up)	63
4.5.4 Section 4: Coordination, Enforcement & Recommendations	65
Chapter Five	67
5.1 Introduction	67
5.2 Discussion of Key Findings.....	67
5.2.1 Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector	67
5.2.2 Factors that Contribute the Most to FRM.....	69
5.3 Conclusion	71
5.4 Recommendations	71
References	73
ملخص الدراسة.....	78

List of Tables

No.	Table Name	Page
1	Most Common occupational fraud schemes in the banking and financial services industry	13
2	Data Pertaining to the Palestinian Banking Sector as of 2024	14
3	Strengths and Weaknesses of Assurance Providers	26
4	Banks operating in the Palestinian banking sector	34
5	Correlation Coefficient of Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector	35
6	Correlation Coefficient of Factors that contribute the most to FRM	37
7	Cronbach's Alpha for the instrument	39
8	Analysis of personal; and Demographic questions (N=71)	44
9	Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector	51
10	Factors that contribute the most to fraud risk management	56

List of Figures

No.	Figure Name	Page
1	The fraud triangle	11

List of Abbreviations

Abbreviation	Full Term
ACFE	Association of Certified Fraud Examiners
AML	Anti-Money Laundry
BOD	Board of Directors
COSO	Committee of the Sponsoring Organizations of the Treadway Commission
ERM	Enterprise Risk Management
ERP	Enterprise Risk Planning
FA	Forensic Accountant
FE	Fraud Examiner
FRA	Fraud Risk Assessment
FRM	Fraud Risk Management
IA	Internal Audit
IIA	Institute of Internal Auditors
OECD	Organization for Economic Cooperation and Development
PMA	Palestine Monetary Authority

Chapter One

1.1 Introduction

Fraud is defined as any deceitful and illegal act to obtain a gain (The Institute of Internal Auditors, 2019). Fraud has been linked to major financial scandals involving big names such as Enron, WorldCom and AIG. The intensity and adverse effects of fraud schemes have prompted the introduction of many legislations such as Sarbanes-Oxley Act and Consumer Protection Act in the early 2000s (The Institute of Internal Auditors, 2019).

The Palestinian banking sector plays a crucial role in maintaining the continuity of the Palestinian economy by providing credit to various sectors including the production sector (PMA, 2024). During the last several decades, even the most established and sophisticated banking sectors have suffered from fraud losses. Therefore, it's crucial to have a well designed and implemented anti-fraud program to help banks in managing fraud risks.

An appropriately designed internal control and anti-fraud program is the most effective approach to establish a culture of compliance in an entity (Biegelman, & Bartow, 2012). Therefore, it's crucial to evaluate the design of anti-fraud programs as they lay the foundation for FRM for any organization.

1.2 Research Problem

According to The Report to the Nation issued by the Association of Certified Fraud Examiners (ACFE) in 2022, the banking and financial services sector reported the highest number of fraud cases compared to other sectors with a median loss of USD100,000 (ACFE, 2022). The worldwide increase of fraud incidents during the last two decades and the impact of these crimes on entities and economy has brought the attention of regulators, legislators and assurance providers and led to the introduction of many laws, regulations,

standards and best practices to guide entities and assurance providers in fraud prevention and detection.

Palestine Monetary Authority (PMA) has issued many laws, regulations and instructions to regulate the Palestinian banking sector, it also performs regular monitoring and inspection to ensure banks' compliance with these regulations. This research will attempt to evaluate the design of anti-fraud programs for banks operating in Palestine. It will also attempt to determine factors that contribute the most to FRM from the perspective of assurance providers of the Palestinian banking sector.

1.3 Significance of the Study

Regulatory and governing entities have issued many guidelines to serve as best practices regarding risk management in general and specifically fraud risks. For instance, The Institute of Internal Auditors (IIA) issued a paper in 2013 titled "The Three Lines of Defence in Effective Risk Management and Control". This paper highlights the importance of having a coordinated model of assurance providers with specific roles assigned to each in order to improve the efficiency and effectiveness of risk management processes in the organization (IIA, 2013).

Moreover, the Basel Committee on Banking Supervision (BCBS) have issued the Basel instructions (Basel II and Basel III) to assist banks in improving their risk management, internal control systems and governance practices. The Committee has stressed the importance of internal controls, risk identification and assessment as well as the importance of independent assurance functions such as internal audit (BCBS, 2015).

The PMA regulates the banking sector in Palestine by formulating and implementing monetary and banking policies. In 2013 PMA issued instructions No. 09-2013 titled "Governance Instructions" to guide banks in establishing a good governance system.

Later, instructions No. 10-2017 were issued to update 2013 instructions and provide banks with a manual of rules and best practices for banks governance. In addition, PMA issued instructions related to Anti Money Laundry (AML) in 2019 and updated them in 2025. PMA governance instructions of 2017 introduced guidelines for the establishment and management of Enterprise Risk Planning (ERP) functions (PMA, 2025).

These guidelines did not specifically address fraud risk as a separate topic and rather discussed the requirements and roles of ERP in general. Moreover, presidential decree No. 9 of 2010 on banking law was issued to regulate the work of banks operating in Palestine. This law introduced a set of guidelines for the establishment and management of banks. Some of these guidelines relate to the internal control system, internal and external auditors' roles, ERP and governance structure.

Therefore, this study will attempt to evaluate the design of anti-fraud programs for banks operating in Palestine, a topic that might have not been explicitly addressed by local laws and regulations and the results may in turn be used by the banking sector and its regulators to assess the need for drafting and implementing a new set of instructions that focus on fraud related risks and controls.

1.4 Objectives of the Study

This research will attempt to:

1. Evaluate the design of anti-fraud programs in the Palestinian banking sector from the perspective of assurance providers.
2. Identify factors that contribute the most to FRM from the perspective of assurance providers of the Palestinian banking sector.
3. Introduce the components of FRM.
4. Explore the roles of different assurance providers with regard to FRM.

1.5 Research Questions and Hypothesis

To evaluate the design of anti-fraud programs within the Palestinian banking sector and identify factors/methods that contribute the most to FRM, the study addresses the following questions:

RQ1: How do assurance providers assess the design of anti-fraud programs in the Palestinian banking sector?

RQ2: Which elements of an anti-fraud program are formally established and to what extent are they aligned with identified fraud risks?

RQ3: Which factors/ methods are viewed by assurance providers as having the greatest influence on FRM.

Moreover, the following hypotheses are developed to evaluate the design of anti-fraud programs for banks operating in Palestine:

H0: Banks operating in Palestine do not have an established anti-fraud program to address fraud risks, from the perspective of assurance providers.

H1: Banks operating in Palestine have an established anti-fraud program to address fraud risks, from the perspective of assurance providers.

In addition, the following hypotheses are developed to identify factors that contribute the most to FRM from the perspective of assurance providers of the banking sector:

H0: Factors that contribute to FRM are equally effective from the perspective of assurance providers in the Palestinian banking sector.

H1: Some factors are considered more effective in FRM from the perspective of assurance providers in the Palestinian banking sector.

1.6 Research Methodology

This study will apply a quantitative and cross-sectional approach to assess the research hypothesis. Data relevant to this study will be collected via questionnaires mailed to respondents with minimal interference from the researcher. The study will target assurance providers who work in the Palestinian banking sector. Interviews will also be conducted to collect information deemed to be useful to address research questions.

1.7 Research Tools

1.7.1 Population and Sampling

The Palestinian banking sector includes 13 banks. They include conventional and Islamic banks as well as local and foreign banks as follows:

- 4 local conventional banks.
- 3 local Islamic banks.
- 6 foreign banks.

The study targeted a sample of seventy-one individuals who provide internal assurance services to the Palestinian banking sector. Internal personnel included employees from the internal audit, compliance, anti-money laundering, risk management and internal control departments. Targeted banks included licensed banks operating in Palestine including conventional and Islamic banks as well as local and foreign banks.

1.7.2 Data Collection and Analysis

Structured questionnaires were used to collect information. The questionnaires consisted of fifteen questions divided into three sections. The first section collected demographic information about the respondents; such as age, gender, field of work and education level. The second section aimed at evaluating the design of anti-fraud programs of banks operating in Palestine. Finally, the third section corresponded to another objective of the study that aimed at determining some effective FRM methods from the perspective of

assurance providers, were respondents were asked to rate the effectiveness of some factors in managing fraud risk within their organizations.

Furthermore, interviews were conducted to collect more information regarding the design of anti-fraud programs and to explore the regulatory aspect of FRM in the Palestinian banking sector context.

1.8 Literature Review

1.8.1 Managing Fraud Risks

One study of FRM attempted to assess the process of FRM that must be implemented by entities. This study concluded that there are five components to effective FRM which are promoting a culture of risk management, risk identification, risk evaluation, determining preventive actions and an implementation and review stage (Marziana et al., 2020).

On a similar note, the Association of Certified Fraud Examiners (ACFE) and the Committee of the Sponsoring Organizations of the Treadway Commission (COSO) have partnered in 2016 to issue a comprehensive guide to manage fraud risks. In 2023 the updated version was introduced. The updated guide assists entities in establishing a FRM program based on the following five components (ACFE and Coso, 2023):

- 1- Establishing fraud risk governance and policies.
- 2- Performing fraud risk assessments (FRA).
- 3- Designing and deploying fraud prevention and detection controls.
- 4- Establishing a reporting process that includes investigations.
- 5- Monitoring the FRM program and reporting results.

The ACFE has also developed a practical tool that addresses the five components of the FRM program, titled “ACFE Fraud Prevention Check-up”. This tool will be used as a

base for our evaluation of anti-fraud plans in the Palestinian banking sector from the perspective of assurance providers.

To highlight the importance of FRM on organizations wellbeing, one study attempted to assess the impact of FRM on financial performance of conventional banks in Kenya. The results indicated that there is a positive relationship between FRM practices and performance of commercial banks in Kenya. This study has found that a preventive and detective measure has a strong positive relationship with the financial performance of conventional banks in Kenya (Ronald, 2015).

1.8.2 Fraud Prevention and Detection Methods

Fraud prevention and detection techniques were studied by many researchers in an attempt to find the best methods to combat fraud (Othman et al., 2015). Some studies concluded that assurance providers including external auditors, internal auditors and other assurance providers as well as an established system of internal controls play an essential role in combating fraud (Zamzami et al., 2016).

Other studies concluded that forensic accountants may do a better job than other assurance providers given that they tend to apply more sophisticated techniques in preventing and detecting fraud (Eiya and Otor, 2013). Alternatively, some researchers have focused on the importance of red flags identification and assessment in fraud prevention and detection (Gullkvist and Jokipii, 2013).

On a different note, a study of the effectiveness of FRM techniques at a group of universities in Indonesia concluded that the most effective fraud detection and prevention techniques are operational audits, internal controls and cash reviews (Zamzami et al., 2016).

1.9 Limitations of the Study

The researcher believes that some of the surveyed individuals might have not provided objective responses to the survey, given that the area of the study and related information are considered confidential to some organizations. The researcher has tried to overcome this limitation by assuring respondents of their confidentiality and by refraining from collecting their names or contact information in the questionnaire.

Chapter two

2.1 Fraud Definition Across Various Disciplines

2.1.1 Introduction

Fraud was studied and analyzed by different disciplines. Each discipline focused on a specific dimension of fraud. For instance, the psychological discipline focused on motives and pressures that lead fraudsters to commit fraud. Whereas, the legal discipline focused on rights and liabilities related to victims and fraudsters. In this section we will explore some definitions of fraud from the business, legal and psychological perspectives.

2.1.2 Fraud from a Business Perspective

In his book “principles of fraud examination”, Wells has described fraud as a crime involving deception, committed for the purpose of obtaining a gain (Wells, 2013). He has also defined occupational fraud as a person’s use of his occupation to obtain a gain by deliberately misusing the organization’s assets or resources (Wells, 2013).

Another business-oriented definition suggests that fraud involves a dishonest act that consists of a false representation concerning an important issue, made intentionally or with disregard for the truth, which is accepted and acted upon by a victim, resulting in harm to that victim (Albrecht et al., 2019).

We can see that the two definitions have emphasized some common characteristics of fraud. The first characteristic is deception or dishonesty, indicating the importance of the intent verification in judging one’s behavior as fraudulent or not. Another common characteristic is having two main parties; the fraudster (s) and the victim (s). And finally,

the last characteristic is the unlawful gain obtained by fraudster and/or harmful act to the victim.

2.1.3 Fraud from a Legal Perspective

Since fraud involves illegal activity, we will explore how some jurisdictions have defined fraud in a legal context. For instance The United Kingdom's (UK) Parliament has introduced The Fraud Act (2006). This act aimed at defining the criminal act of fraud, describing the elements that must be present in this type of crime. This act has defined fraud as an action perpetrated by a person who dishonestly makes a false presentation for the purpose of obtaining a gain or causing a loss to another (United Kingdom, 2006).

Black's Law Dictionary has also defined fraud as a knowing concealment or misrepresentation of a material fact in order to induce a person to act to his detriment (Garner, 2019). This definition also emphasizes deception by using terms such as concealment and misrepresentation. It also states that two parties are involved in this act; the fraudster and the victim. This definition also uses the term "material fact" to indicate the existence of a gain or loss for the parties involved.

The legal definitions above, emphasize the parties involved in this crime, the deception factor (Intent) and the gain or loss that results from this act.

2.1.4 Fraud from a Psychological Perspective

Dr. R. Cressy, an American criminologist has developed The Fraud Triangle Framework. This is perhaps one of the most popular frameworks for explaining fraudulent behavior. This framework suggests that three conditions lead individuals to commit fraud which are motivation/pressure, opportunity and rationalization (Wells, 2013).

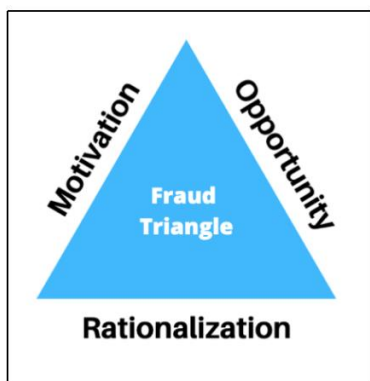


Figure (1): The Fraud Triangle.

Source: Principles of Fraud Examination (2013).

The opportunity to commit fraud refers to the circumstances that the fraudster will take advantage of to be able to commit fraud such as a weak system of internal controls or poor tone at the top (Wells, 2013).

Pressures or incentives refer to the reasons that drive a person into committing fraud. These include personal issues such as financial hardships or professional pressures such as meeting a specific target in a given period of time. And finally, rationalization refers to the fraudster's justification for committing fraud, such as justifying financial statement fraud for the benefit of the organization, or claiming that the embezzled funds will be returned in the future (Wells, 2013).

According to a study titled "The Psychology Behind Financial Fraud: Unmasking Motives and Warning Signs", fraud involves a discrepancy between an individual's ethical standards and their actions, frequently intensified by cognitive biases, insufficient empathy, or situational influences (Egiyi et al., 2023). This definition focuses on behavioral and moral factors that drive fraudulent behavior.

2.2 Fraud Definition Across International Organizations

Many international organizations have prepared guidelines for best practices in combating fraudulent behavior. For instance, The World Bank have prepared a set of guidelines to combat fraudulent behavior titled “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits & Grants”. These guidelines define fraud as any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation (World Bank, 2011).

In addition, the Organization for Economic Cooperation and Development (OECD) has issued many publications to address fraudulent practices. In A recent recommendation issued by the OECD to promote global collaboration aimed at combating fraudulent and misleading business practices, the OECD has defined fraud as a practice that causes harm to consumers such as making misrepresentations of material fact, failing to deliver products of services to customers who have already been charged, or charging customers’ financial or telephone or other accounts without authorization (OECD, 2025).

2.3 Common Fraud in the Banking Industry

2.3.1 Introduction

Some fraud schemes target numerous industries, while other fraud schemes target specific industries. In this section we will explore some common fraud schemes that targeted the banking industry around the world, in addition to fraud schemes that took place in Palestine as well. This section will help us to pinpoint possible risk areas that will serve as a basis for identifying some effective fraud prevention and detection methods that respond to these risks.

2.3.2 Banking Fraud Worldwide

The ACFE issues an annual report regarding reported fraud cases by fraud examiners around the world. This report covered 1,921 cases from 138 countries and territories around the world in 2024. According to the ACFE Report to The Nation 2024, the banking and financial services industry has recorded the highest number (305) of reported fraud cases with a median loss of 120,000 USD. Moreover, the report shows that the most common occupational fraud schemes for this industry are as follows (ACFE, 2024):

Table (1): Most Common occupational fraud schemes in the banking and financial services industry

Fraud Scheme	Percentage of Cases
Billing	12%
Cash larceny	12%
Cash on hand	18%
Check and payment tampering	14%
Corruption	44%
Expense reimbursement	6%
Financial statement fraud	5%
Noncash	16%
Payroll	4%
Register disbursements	4%

Skimming	8%
----------	----

Source: ACFE Report to The Nation (2024).

We note from the above schedule that corruption has the highest percentage (44%) of reported fraud cases in the banking and financial industry, followed by the cash on hand scheme that represented 18% of the reported fraud cases in the ACFE report. Other common fraud schemes included Noncash (16%) schemes and check and payment tampering (14%). On the other hand, we note that the least common reported fraud schemes were financial statement fraud (5%), Payroll (4%) and Register disbursements (4%).

2.3.3 Banking Fraud Cases from Palestine

In this section we will illustrate important data related to the Palestinian banking sector. we will also go over two of the most famous bank fraud cases that were reported in Palestine in recent years. These cases refer to two Palestinian banks, one of the banks is conventional and the other is an Islamic bank.

The following table illustrates important information regarding the Palestinian banking sector as of the end of 2024.

Table (2): Data Pertaining to the Palestinian Banking Sector as of 2024

Balance Sheet Item	Amount as of the end of 2024 (million \$)
Total Assets	24,512.8
Total Liabilities	24,512.8
Net Income	1,034.2
Total Expenses (excluding interest)	530.4

Customer Deposits – West Bank	15,420.4
Customer Deposits – Gaza Strip	3,355.7
Direct Credit Facilities – West Bank	10,998.5
Direct Credit Facilities – Gaza Strip	948.7

Source: Palestine Monetary Authority (2025).

According to the annual report of The National Bank (TNB) of 2020, the bank has undergone a fraud investigation in response to findings related to irregular operational activities. The results of the investigation revealed that banking transactions and treasury operations amounting to 9.6 million USD were made for the benefit of other parties connected to the incident. The incident was classified under operational losses amounting to 1.7 million US dollars in 2020, to reflect the damage (TNB, 2020).

More recently, Palestine Islamic Bank has also reported a fraud case in its 2022 annual report. The bank has reported that one of his employees has handled consumer cheques that had been deposited for collection in an illicit banking activity. The event's financial impact was estimated to be 1,134,833 USD, and this amount was noted in the income statement for the year 2021 under the Operational Losses section (Palestine Islamic bank, 2022).

2.4 Risk Management

2.4.1 Introduction

Enterprise Risk Management (ERM) includes practices and strategies developed to identify, assess and respond to risks in order to mitigate risks to an acceptable level. FRM encompasses the practices and strategies that specifically address fraud risks. In this section we will go over the components of ERM and examine FRM.

2.4.2 COSO ERM Framework

Many frameworks were introduced to explain ERM. COSO ERM framework is one of the most widely accepted frameworks. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) is a private sector organization established in 1985 that has developed ERM and internal control guidance and frameworks to help organizations in evaluating and improving internal control systems (www.coso.org, 2025).

COSO ERM framework includes five components as follows:

- 1- Governance and Culture :Oversees board risk management, sets up governance and operational frameworks, outlines deferred organizational behaviours, shows commitment to principles of integrity and ethics, enforces accountability, and attracts, develops, and retains skilled individuals.
- 2- Strategy and Objective Setting :Takes into account risk and the business environment, defines risk appetite, evaluates various strategic options, considers risk when establishing business goals, and determines acceptable performance variability.
- 3- Performance :Recognizes and evaluates potential risks that may affect the accomplishment of goals and incorporates risk ranking and response strategies.
- 4- Review :Assesses the effectiveness of the ERM components and modifies risk management procedures when necessary.

- 5- Information communication and Reporting :Utilizes pertinent data, capitalizes on information systems, conveys risk-related information, provides reports on risk, culture, and performance (Mishra et al., 2019).

2.4.3 FRM Components

FRM is an important part of ERM. While management holds the primary responsibility to manage and monitor risks along with the board of director's (BOD) oversight role, risk management is the responsibility of all entity employees and each one can contribute to this process in a different manner. FRM will not only help entities in preventing, detecting and responding to fraud instances, but it will also help the entity in aligning performance with corporate values and ensure asset protection as well as an aligned organizational behavior characterized by strong ethics and values.

In 2016, the Committee of the Sponsoring Organizations of the Treadway Commission (COSO) and the Association of Certified Fraud Examiners (ACFE) collaborated to release a comprehensive guide to FRM. To update the first edition, a second one was released later in 2023. The following five elements serve as the foundation for the updated guide to assist entities in creating a FRM program ([ACFE](#) and Coso, 2023):

- 1- Establishing fraud risk governance and policies:

Fraud risk governance plays a crucial role in corporate governance and the framework of internal controls. Corporate governance focuses on how the board of directors and management fulfill their duties to reach the organization's objectives, which include obligations related to fiduciary duties, reporting, and legal responsibilities to stakeholders. The internal control framework establishes the necessary discipline that aids in evaluating risks to accomplishing the organization's goals.

2- Performing FRA:

A dynamic and iterative procedure for determining and evaluating fraud risks pertinent to the company is called a fraud risk assessment (FRA). The risk of asset theft, false financial reporting, fraudulent non-financial reporting, and corruption (including unlawful activity and noncompliance with legal requirements) are all included under FRA. This strategy can be modified by organizations to fit their own requirements, objectives, and difficulties.

3- Designing and deploying fraud prevention and detection controls:

A fraud control activity is a measure put in place by rules and procedures to assist guarantee that management's instructions to reduce the risk of fraud are followed. A fraud control activity is a particular technique or process designed to either stop fraud from happening or to identify it as soon as it does. Generally speaking, there are two types of fraud control activities; preventative, which aim to stop a fraudulent event or transaction before it starts, and detective, which seeks to identify a fraudulent event or transaction.

Important components for controlling fraud risk include the selection, development, implementation and monitoring of detective and preventive control activities. Descriptions of the recognized fraud risk and scheme, the fraud control activity intended to reduce the fraud risk, and the names of the people in charge of the fraud control activity are all included in the documentation of fraud control activities.

4- Establishing a reporting process that includes investigations:

The organization implements a coordinated approach to investigation and remedial action to address fraud information properly and promptly, and it sets up a communication process to gather information regarding possible fraud.

- 5- Monitoring the FRM program and reporting results: FRM monitoring activities are used by organizations to make sure that all five of the principles of FRM are in place, operating as intended, and that the organization quickly recognizes any necessary adjustments. To carry out the fraud monitoring tasks, organizations employ ongoing and separate (periodic) assessments, or a mix of the two.

2.4.4 Anti-fraud Program

An appropriately designed internal control and antifraud program is the most effective approach to establish a culture of compliance in an entity (Biegelman, & Bartow, 2012). An essential component of an antifraud program is a comprehensive FRA. This assessment can benefit the entity in many ways as it provides evidence of culture and integrity and helps in fraud prevention and timely detection (Lister, 2007).

Many frameworks of internal controls and antifraud were established worldwide. One of these programs is the Management Antifraud Programs and Controls that was developed by the American Institute of Certified Public Accountants (AICPA) in 2002. This program was the result of a study sponsored by leading institutions in the field including the Association of Certified Fraud Examiners (ACFE) and the Institute of Internal Auditors (IIA) (Biegelman, & Bartow, 2012).

This study concluded that entities must implement three basic actions to combat fraud.

These actions include:

- Creating a culture of high ethics and honesty.
- Evaluating antifraud processes and controls.
- Developing an oversight process.

2.4.4.1 Creating A Culture of Honesty and High Ethics

The organization is responsible for creating a culture of ethics and clearly communicating expectations about acceptable behavior to all employees. The first step in culture creation is setting the right tone at the top, where directors and executive management lead employees and subordinates by example and convey the desired level of ethical behavior.

Moreover, the organization is responsible for creating a positive workplace environment in order to reduce the negative feelings that an employee could have towards the organization that may prompt fraudulent behavior rationalization. Therefore, effective training, equal promotion opportunities and fair treatment could be effective tools regarding this matter (Biegelman, & Bartow, 2012).

Effective hiring and training policies and procedures are also successful approaches to fraud prevention. They reduce the risk of fraud by appointing honest and ethical employees by conducting effective background checks and providing periodic training to all employees in matters relating to fraud prevention, detection and reporting (Biegelman, & Bartow, 2012).

Management also holds primary responsibility in ensuring that all employees clearly understand the organization's code of conduct and sign a statement that convey their understanding at least annually. Moreover, disciplinary actions towards fraudulent incidents send a strong deterrent message throughout the entity and reduce the risk of employees committing fraud (Biegelman, & Bartow, 2012).

2.4.4.2 Evaluating Antifraud Processes and Controls

Organizations have to be proactive in managing fraud by continuously evaluating antifraud processes and controls. Therefore, carrying out FRA is a crucial step in

identifying the organization's vulnerabilities to fraud risk. FRA is part of enterprise risk management (ERM) which is the responsibility of management.

In 2008, the IIA, AICPA and ACFE have released a guidance titled "Managing the Business Risk of Fraud: A Practical Guide" that aims at helping organizations to enhance their antifraud programs. This guidance presented five main principles for establishing an effective FRM. The first principle suggests that a formal FRM program (including policies) should be in place. The second principle suggests that FRM is a continuous process where risk exposures have to be assessed periodically (Biegelman, & Bartow, 2012).

The third principle focuses on prevention techniques that were proven to be the best and least costly methods in fraud management. Fraud detection is the fourth principle, where the importance of detection is highlighted when prevention fails to mitigate fraud risks. Finally, the last principle addresses the importance of establishing a reporting process to make sure that fraud related communication is being transmitted in a timely manner (Biegelman, & Bartow, 2012).

FRA is defined as a process by which management identifies fraud risks that may face the organization, analyze their likelihood and determine their impact. Effective FRM will help the organization in identifying the inherent risks, residual risks, risk appetite as well as establishing effective controls to mitigate risks to an acceptable level.

In the first step in the risk assessment process, the organization has to identify the objectives of the process or function being examined. Then the process and activities that constitute the process should be identified in order to analyze the risks relating to them. After identifying the inherent risks (risks without controls), the organization has to

determine the risk score by determining the likelihood and impact level of each risk. The second step involves identifying the existing controls relating to these risks, and assessing these controls in terms of design and operating effectiveness.

After identifying the inherent risk and assessing the related controls, the residual risk can be identified. The residual risk is the risk level that remains after applying the control. In the same manner as in inherent risk assessment, the organization has to determine the risk score for residual risks in order to decide whether this level of risk is acceptable. An important factor to consider in making this decision is the risk appetite which is the level of risk that is acceptable to the organization.

When the residual risk level is above the risk appetite, the organization has to further manage these risks by avoiding, accepting, transferring or mitigating these risks. However, if the risk level is less than the risk appetite, then the organization has to monitor this risk to make sure it stays within an acceptable level.

2.4.4.3 Developing an Appropriate Oversight Process

Many individuals across the organization can be involved in the oversight function under the overall oversight of the BOD. The BOD holds the responsibility of evaluating the risk management activities performed by the management and the creation of the tone at the top. On the other hand, management is responsible for managing risks by overseeing the activities performed by employees through implementing and processes and controls (Biegelman, & Bartow, 2012).

Assurance providers include internal auditors, independent (external) auditors and certified fraud examiners. These parties provide assurance service to the organization in

areas relating to risk management, governance, financial reporting and effectiveness and efficiency of operations.

2.5 Roles of Assurance Providers

2.5.1 Introduction

In this section, we will address the similarities and differences between the roles, duties, positions as well as strengths and weaknesses of Forensic Accountants (FA), Fraud Examiners (FE) and Internal Auditors (IA) within an organization. We will also explore the role of each of these functions in the FRM process.

2.5.2 Historical Background and Definition

The rise of different assurance roles was caused by different events and circumstances and during different periods of time. In this section we will address the definition of the assurance roles on hand as well as the background and emergence of them.

Forensic accounting is defined as the use of any accounting knowledge or skill for courtroom purposes that involves fraud, bankruptcy, business valuations, disputes, divorce and other services (FCA, 2023).

According to the Financial Crime Academy, the role of FAs goes back to ancient Egypt where a financial control system was in place to track valuable items such as grains and jewelry. Later on, this role has emerged when the court system was established to assist the court in solving financial related crimes (FCA, 2024).

The Institute of Certified Forensic Accountants (ICFA) is a professional body that aims to develop and oversee the forensic accounting profession as well as represent professional FA worldwide. The ICFA provides a diploma program for individuals who

seek to specialize in the area of forensic accounting. Upon successful completion of this program an individual is awarded a Certified Professional Forensic Accountant (CPFA) designation (ICFA, 2024).

On a different note fraud examination is described by the Association of Certified Fraud Examiners (ACFE) as a process that's primary performed by FEs where fraud allegations are resolved from inception until disposition (ACFE, 2024). The ACFE is the governing body of the fraud examination profession. This organization provides professional education programs such as the Certified Fraud Examiners (CFE) program, advocates for the fraud examination profession worldwide and publishes fraud related reports from various disciplines around the world.

The ACFE was established in 1988 by Joseph T. Wells in order to address the need for having skilled FEs, because up until 1985 fraud detection and prevention was handled either by accountants who lack the investigation skills or by investigators who lack the accounting knowledge (ACFE, 2024).

The Institute of Internal Auditors (IIA) is the governing body of the internal audit profession worldwide. This organization is responsible for setting the standards, principles, code of ethics and best practices of the internal audit profession. According to the IIA, Internal audit is described as an independent, assurance and consulting role designed to improve and add value to the operations of the organization (IIA, 2016). The history of this role goes back to the Mesopotamian civilization around 4000-3500 B.C. Other evidence regarding the existence of audit is traced back to Greece, the Roman Empire and Italy where systems of bookkeeping review were in place to prevent errors and fraud (Swinkels, 2012).

2.5.3 Roles, Responsibilities & Reporting Lines

The above-mentioned roles may share some similar characteristics in terms of their roles and responsibilities. For instance, the three roles provide professional assurance or consulting services to organizations in all sectors and must demonstrate a high level of ethical standing. Another similarity would be in the professional affiliation of these roles, since each role has a professional body that sets the best practices and advocates for the professional development and education for each role.

In addition, professionals who work in these three fields may share similar knowledge and skills such as knowledge in local and international laws and standards, accounting and financial reporting. Shared skills include attention to details, analytical skills, effective communication and reporting skills.

The role of FAs involves fraudulent bookkeeping investigations and anti-fraud risk assessment. Moreover, FAs contribute to litigation discovery by collecting information related to civil and criminal disputes such as electronic data, paper documents and all relevant statements as well as appearing in court to testify in civil and criminal matters and provide legal professionals and authorities with materials at hearings, trials, and arbitrations (Toblin, 2023).

The reporting line for FA depends on the services provided. Forensic accountants can be appointed by an organization to provide consulting services to the management and Board of Directors (BOD). They can also be hired by individuals in divorce and insurance litigations to help in financial aspects of litigations. They also work closely with lawyers, law enforcement agencies and the court to provide professional testimony on financial crimes and litigations.

On the other hand, IA's primary role includes providing assurance and consulting services to the BOD (specifically the Audit Committee) in areas of risk management, corporate governance, operations efficiency and effectiveness, financial reporting and compliance with laws and regulations. Hence, the IA function will report administratively to the executive management and technically to the Audit Committee of the BOD.

FEs can be defined as a process that aims at resolving fraud allegations, starting from inception until disposition. It involves financial analysis, taking statements, witness interviewing, testifying to findings, writing incident reports and participating in fraud prevention and detection (Wells, 2014). The Reporting line for FEs depends on the fraud case on hand and the sector. FEs who are hired by companies can report to the executive management and BOD, depending on the fraud case on hand. FEs employed by law enforcement agencies report internally to the highest administrative level and externally to the party mandated by law.

2.5.4 Strengths and Weaknesses

The following table illustrates the strengths and weaknesses of the three assurance providers on hand:

Table (3): Strengths and Weaknesses of Assurance Providers

	FAs	FEs	IAs
Strengths	Ability to see beyond financial records	Strong investigation skills	Risks and controls assessment

	Specific legal knowledge	Fraud prevention and detection knowledge	Strong communication and reporting skills
	Advanced evidence gathering skills	Wide range of knowledge areas (financial, legal, ...)	Strongly regulated profession
Weaknesses	Encounter ethical challenges with clients that may affect their ethical standing	The need for a lot of resources (human and other) to conduct investigations	Some IAs may fail to think outside the box and deal with complex situations
	Lack of professional regulations	False positives and negatives	Overemphasis on documentation

Source: Prepared by the researcher based on collected data (2025).

In my opinion, each role has its own importance and its own unique contribution and specialization. Similarities include some areas of knowledge such as laws and regulations and accounting and financial reporting standards, as well as some core skills such as financial analysis, attention to details and effective communication and reporting.

We can conclude from this section that the three roles have some differences in terms of the timing of conducting their work. Internal audit is recurring which means that IAs perform their work on a regular basis. However, FEs and FAs services are non-recurring; they are performed only with sufficient predication. In addition, the IAs work is general, on the contrary to the FEs and FAs work which addresses a specific allegation.

We can also conclude that the objective of internal audit is to express an opinion regarding the effectiveness of risk management process, governance, financial reporting, compliance and effectiveness and efficiency of operations. Whereas, the FEs and FAs objective is to determine whether fraud or a financial crime has occurred and who was the perpetrator.

Finally, each role has its own strengths and weaknesses which implies that certain roles can be more effective in specific areas than other roles. Therefore, internal auditors can add more value in regular ongoing control/risk assessments including FRAs, whereas fraud examiners main responsibility revolves around fraud investigations as well as fraud prevention and detections. On the other hand, forensic accountants are of a great value in forensic investigations, gathering evidence for litigations, and courtroom testimonies.

2.6 Internal Control Methods

2.6.1 Introduction

Internal controls are the organizations responses to risks. therefore they take an important part in the anti-fraud program. In this section we will explore the different types of internal controls in the context of FRM.

2.6.2 Internal Control Methods with Respect to FRM

Othman et al. (2015) addressed accountants' and internal auditors' perceptions of fraud detection and prevention methods in the Malaysian public sector, structured questionnaires aimed at accountants and internal auditors working in the Malaysian public sector, revealed that the most effective methods in fraud prevention and detection are operational audits, enhanced audit committees, internal controls and an implementation of a fraud reporting policy (Othman et al., 2015).

Moreover, PWC (2012) conducted a survey on fraud awareness, prevention and detection in the public sector in New Zealand that highlighted the importance of an effective internal control system in the detection and prevention of fraud.

Likewise, Omar and Baker (2012) concluded that internal controls review by management as well as external audits are the most effective fraud prevention techniques, followed by internal and operational audits as well as internal control review.

On a different note, some studies concluded that the role of forensic accounting is more important in the prevention and detection of fraud.

Eiya and Otalor (2013) highlighted the importance of forensic accounting in fighting financial crime in Nigeria. This study argues that forensic accounting expands its scope to explore the substance of the accounting transaction, and therefore recommends hiring forensic accounting experts to combat financial crime.

In addition, Haron et al. (2014) found that the forensic accountant plays an important role in minimizing fraud occurrence in the public sector. They argue that a forensic accountant can investigate beyond the traditional audit work and therefore would play a more essential role in the prevention and detection of fraud. Data for this study was collected from interviews and questionnaires of public administrators working for Malaysian public organizations.

Other studies concluded that organizations are more likely to prevent and detect fraud when they focus on fraud red flags. Pincus (1989) concluded that organizations which use red flags questionnaires to assess the risk of fraud, will have a greater potential to prevent and detect fraud compared to the ones that did not.

Similarly, Gullkvist and Jokipii (2013) studied red flags relating to different types of fraud schemes like fraudulent financial reporting and asset misappropriation and came to the conclusion that red flags are essential in detecting some fraud schemes such as asset misappropriation.

Furthermore, a study by Glory et al. (2022) have attempted to evaluate the effectiveness of fraud detection and prevention methods for the public sector of Tanzania. The researchers concluded that the most effective process control included bank reconciliation, cash reviews, inventory observation and inspection, and internal control review and improvement.

Recent studies have highlighted the importance of applying artificial intelligence and data analytics in fraud risk management. A study by Gkegkas et al. (2025) revealed that the integration of continuous monitoring and predictive analytics into accounting information systems can turn audits from being reactive investigations into proactive mechanisms for preventing fraud.

Chapter 3

3.1 Introduction

This chapter presents the methodology of the study. In this chapter we will illustrate the research design, data collection process, population and sample of the study. Furthermore, we will go over the validity and reliability of instruments used as well as the validity and reliability of the study as well as statistical analysis methods used. Moreover, ethical considerations were disclosed in the last section of this chapter.

3.2 Research Design

To address the hypothesis of this study has applied a mixed-methods design. Combining both quantitative and qualitative methods to assess the research hypothesis. The quantitative component was based on structured questionnaires, whereas the qualitative component consisted of two structured interviews to support the results of the quantitative method.

The overall design is cross-sectional and descriptive since data collected via questionnaires and interviews was obtained at a single point in time from assurance providers who worked closely with the Palestinian banking sector entities, with the aim of assessing the current design of anti-fraud programs and to identify the factors/methods that contributed the most to FRM.

3.3 Data Collection Process

The quantitative data was collected via structured questionnaires. Questionnaires were mailed to respondents with minimal interference from the researcher and data was collected electronically. The questionnaires consisted of fifteen questions divided into three sections. The first section collected demographic information about the respondents

including age, gender, field of work, professional certifications, years of experience and academic level.

The second section aimed at evaluating the design of anti-fraud programs of banks operating in Palestine from the perspective of assurance providers. The questions in this section were derived from the “ACFE fraud prevention check-up” (ACFE, 2016). This tool was developed by the ACFE to assist organizations in evaluating their fraud prevention and detection measures and to pinpoint weaknesses in their anti-fraud programs.

This section included eight questions related to fraud risk oversight, fraud risk ownership, FRA, fraud control activities, fraud investigation and corrective action as well as fraud awareness and training. A scale of 0-3 was used, with 0 meaning that the process is not in place, 1 meaning that an informal process exists, 2 meaning that a formal process exists but is not aligned with risks and 3 meaning that a well-designed process exists and is aligned with risks.

Finally, the third section corresponded to another objective of the study that aimed at determining some effective FRM methods from the perspective of assurance providers, where respondents were asked to rate the effectiveness of 25 factors/methods in managing fraud risk within their organizations using a Likert scale.

A scale of 0-5 was used, with 0 meaning that the method/ factor was ineffective in contributing to FRM and 5 meaning that the factor/method was effectively contributing to FRM. The methods/factors included active audit committee, Internal audit, ERM, formal FRM, Ethics training, data security policy, employee and vendor due diligence, IT controls and data analytics.

Furthermore, two interviews were conducted to collect qualitative information regarding the design of anti-fraud programs and methods/factors contributing to FRM. Two structured interviews were held with seniors who work closely with the banking sector and who have knowledge about FRM in the Palestinian banking sector context. The first interviewee was Mr. Firas Alshak'a, Head of Information and Analysis Section at The Financial Follow-up Unit (FFU) in Palestine. The second interviewee was Mr. Mohammad Dar Al Haj, Audit Senior Manager, Deloitte and Touche, Middle East.

The interview consisted of ten questions organized into four sections. The first section included questions about the general perception of FRM. The second section included questions related methods/factors that contribute to FRM. Whereas the third section included questions related to evaluating the design of anti-fraud programs in the Palestinian banking sector. Finally, the last section concluded interviews by shedding the light on coordination and enforcement efforts in the Palestinian banking sector to combat fraud, as well as recommendations for the improvement of FRM in the Palestinian banking sector.

3.4 Population and Sample of the Study

The target population included assurance providers who work in the banking sector for all banks operating in Palestine. Purposive sampling was used to target employees with direct involvement or expertise in FRM specifically employees who work in the Internal audit, risk management, compliance and anti-money laundry departments.

All banks in the Palestinian banking sector were targeted and 71 responses were received electronically. However, we were unable to determine response rate per bank since the questionnaire wasn't designed to collect information about the bank name or participant

identity. This approach was adopted to encourage honest and unbiased responses. The targeted banks included all 13 banks operating in the Palestinian banking sector including conventional and Islamic banks as well as local and foreign banks. Following is a table that illustrates these banks (PMA, 2024):

Table (4): Banks operating in the Palestinian banking sector

Bank Name	Local/Foreign	Conventional/Islamic
Bank of Palestine	Local	Conventional
Quds Bank	Local	Conventional
The National Bank	Local	Conventional
Palestine Investment Bank	Local	Conventional
Arab Islamic Bank	Local	Islamic
Safa Bank	Local	Islamic
Palestine Islamic Bank	Local	Islamic
Cairo Amman Bank	Foreign	Conventional
Jordan Ahli Bank	Foreign	Conventional
Arab Bank	Foreign	Conventional
Bank of Jordan	Foreign	Conventional
Housing Bank for Trade and Finance	Foreign	Conventional
Egyptian Arab Land Bank	Foreign	Conventional

Source: Palestine Monetary Authority Annual Report 2023

3.5 Validity and Reliability of the Instrument

3.5.1 Validity of the Instrument

The validity of the questionnaire was established by the comprehensive review of FRM literature including frameworks and guidelines produced by various professional organizations including the Association of Certified Fraud Examiners (ACFE), the Committee of the Sponsoring Organizations of the Treadway Commission (Coso) and by reviewing literature produced by other studies regarding anti-fraud programs and factors that contribute to FRM.

The initial drafts of the questionnaire and interview template were reviewed by academics and professionals who specialize in fields closely related to FRM. The questionnaire was later modified based on their feedback to improve the alignment of questions with the objectives of the study.

Table (5): Correlation Coefficient of Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector

	Statement	Pearson Correlation	P-Value (Sig.)
1.	To what extent has the organization established a process for oversight of fraud risks by the board of directors or others charged with governance (e.g., an audit committee)?	.724**	0.000
2.	To what extent has the organization created “ownership” of fraud risks by identifying a member of senior	.637**	0.000

	management as having responsibility for managing all fraud risks within the organization and by explicitly communicating to department managers that they are responsible for managing fraud risks within their area?		
3.	To what extent has the organization implemented an ongoing process for regular identification of the significant fraud risks to which it is exposed?	.728**	0.000
4.	To what extent has the organization identified, and had approved by the board of directors, its tolerance for different types of fraud risks?	.784**	0.000
5.	To what extent has the organization developed, and had approved by the board of directors, a policy on how it will manage its fraud risks?	.810**	0.000
6.	To what extent has the organization implemented controls at the process level to prevent, deter, and detect each of the significant fraud risks identified in its risk assessment?	.724**	0.000
7.	To what extent has the organization implemented a process to promote ethical behaviour, deter wrongdoing, and enable employees to communicate concerns about known or potential wrongdoing without fear of retribution?	.753**	0.000

8.	<p>To what extent has the organization established a process to detect, investigate, and resolve potentially significant fraud?</p> <p>Such a process should typically include proactive fraud detection tests that are specifically designed to detect the potentially significant frauds identified in the organization's fraud risk assessment.</p>	.724**	0.000
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The table shows the correlation coefficient for each item of evaluating the design of anti-fraud programs in the Palestinian banking sector and the total of this dimension. The p-values for all the items are less than 0.05. Thus, the correlation coefficients of this dimension are significant at $\alpha = 0.05$. Thus, it can be stated that the items of this dimension are valid to measure what they were set for.

Table (6): Correlation Coefficient of Factors that contribute the most to FRM

	Statement	Pearson Correlation	P-Value (Sig.)
1.	Tone at the Top	.632**	0.000
2.	Active Audit Committee	.742**	0.000
3.	Active Risk Committee	.721**	0.000
4.	Investigative Procedures, Fraud Examination and Forensic Accountants	.755**	0.000

5.	IT Audit	.575**	0.000
6.	External Audit	.540**	0.000
7.	Internal Audit	.637**	0.000
8.	Enterprise Risk Management	.755**	0.000
9.	Formal Fraud Risk Management	.688**	0.000
10.	Fraud Reporting Policy	.855**	0.000
11.	Fraud Awareness Training	.773**	0.000
12.	Corporate Code of Conduct / Ethics Policy	.791**	0.000
13.	Ethics Training	.760**	0.000
14.	Code of Sanctions	.783**	0.000
15.	Fraud Hotline	.834**	0.000
16.	Whistle Blowing Policy	.767**	0.000
17.	Data Security Policy	.827**	0.000
18.	Physical and Logical Access Controls	.886**	0.000
19.	Employee and Vendor Due Diligence	.857**	0.000
20.	Staff Rotation Policy	.790**	0.000
21.	Staff Vacations Policy	.767**	0.000
22.	Segregation of Duties	.882**	0.000

23.	IT Controls	.670**	0.000
24.	Data Analytics	.696**	0.000
25.	Behavioural Analytics and lifestyle audit	.643**	0.000

Table (6) shows the correlation coefficient for each item of factors that contribute the most to FRM. The p-values for all the statements are less than 0.05. Thus, the correlation coefficients of this dimension are significant at $\alpha = 0.05$. Thus, it can be stated that the items of this dimension are valid to measure what they were set for.

3.5.2 Reliability of the Instrument

Cronbach's Alpha was used to examine internal consistency and statistically evaluate the questionnaire's reliability. Both the overall instrument and each of the questionnaire's sections were analyzed. For social science research, a Cronbach's Alpha coefficient of 0.70 or above was deemed appropriate, signifying that the items consistently assess the same underlying construct.

the analysis shows the value of Cronbach alpha is (0.963). This indicates that there is a very high level of reliability. The first dimension has a Cronbach alpha (0.849) while the second section that is Factors that contribute the most to FRM is (0.965).

Table (7): Cronbach's Alpha for the instrument

Objectives	N of Items	Cronbach's Alpha
Evaluating the Design of Anti-Fraud Programs in	8	.879

the Palestinian Banking Sector		
Factors that contribute the most to FRM	25	.965
Total	33	.963

3.6 Validity and Reliability of the Study

3.6.1 Validity of the Study

The validity of the study was established by following several procedures. First of all, alignment of research design and methodology with the study objectives was established by focusing on evaluating the design of anti-fraud programs and factors/methods that contribute the most to FRM. Furthermore, the use of purposive sampling method allowed the researcher to collect data from individuals who have specialized knowledge in the field of FRM in the context of the Palestinian banking sector.

Moreover, triangulation was achieved by conducting interviews with professionals who work closely with organizations in the Palestinian banking sector and who therefore have an extended experience and knowledge in the FRM field. Employing a mixed method design enriched the findings of the study and allowed for the support of quantitative findings.

Content validity was achieved by using FRM literature including internationally recognized frameworks and guidelines produced by various professional organizations such as the Association of Certified Fraud Examiners (ACFE) and the Committee of the Sponsoring Organizations of the Treadway Commission (Coso).

3.6.2 Reliability of the Study

Through statistical testing of the questionnaire, the study's dependability was determined. Cronbach's Alpha was calculated for the entire scale as well as for each component of the instrument. Strong internal consistency was established by the fact that all results were higher than the minimum cutoff of 0.70. The reliability of the collected data is supported by this statistical proof.

3.7 Statistical Analysis Methods

The analysis of the collected data was carried out using a combination of quantitative and qualitative techniques, in line with the mixed-method design of the study. The survey data were processed using SPSS to examine the relationships among the main components of anti-fraud programs, while the interview data were analysed thematically to provide more insight on the goals of the study.

After collecting responses, they were checked for completeness, coded, and entered into SPSS. Descriptive statistics such as frequencies, percentages, means, and standard deviations were first used to outline the characteristics of the participants and to present an initial picture of how anti-fraud measures are currently structured within the sector. These statistics helped in identifying trends and patterns in practices such as fraud prevention, detection procedures, reporting mechanisms, and investigative processes.

The reliability of the questionnaire was assessed using Cronbach's Alpha to ensure the internal consistency of the measurement scales. A value of 0.70 or higher was considered acceptable for this study. The validity of the instrument was established through examining the correlation coefficient for each item of factors that contribute the most to

FRM as well as for evaluating the design of anti-fraud programs. A significance level of $p < 0.05$ was adopted to determine statistical significance.

Qualitative data obtained through structured interviews were analysed thematically. Interview questions were presented together with a summary of the responses to address the objectives of the study and give more depth into the understanding of FRM in the context of the Palestinian banking sector. The analysis focused on highlighting key opinions that support quantitative findings as well as providing more insight regarding the challenges that face the implementation of effective FRM practices as well as exploring areas for improvement in the context of the Palestinian banking sector.

3.8 Ethical Consideration

Participation in this study via questionnaires and interviews was voluntary. For the questionnaire, anonymity of the bank and employee identity were established by refraining from collecting information regarding the name of the bank and the name and the job title of the participant. Disclosure of the title and objectives of this study were also communicated to participants of questionnaires and interviews, and consent of interviewees was provided to disclose their identities.

Chapter Four

4.1 Introduction

This study aims to introduce the components of FRM. Besides, evaluating the design of anti-fraud programs in the Palestinian banking sector from the perspective of assurance providers. Furthermore, identifying the factors that contribute the most to FRM from the perspective of assurance providers of the banking sector, and eventually exploring the roles of different assurance providers with regard to FRM.

Chapter two has addressed the third and fourth objectives through a thorough review of related literature. Therefore, this section of the study will address the first and second objectives that include evaluating the design of anti-fraud programs and identifying factors/methods that contribute the most to FRM from the perspective of assurance providers.

This chapter consists of four main sections. The first section will illustrate an analysis of the personal and demographic characteristics of the sampled participants. The second section will address the hypothesis related to evaluating the design of anti-fraud programs by analysing the data collected through the second part of the questionnaire. Moreover, the third section will address the hypothesis related to identifying the factors/methods that contribute the most to FRM by analysing data collected through the third part of the questionnaire. Finally, the fourth section will give more depth to the results by presenting the results of the structured interview.

4.2 Analysis of the Personal and Demographic Questions

Table (8) presents a detailed analysis for the personal and demographic questions of the study. The analysis shows that the highest percentage of the studied sample were internal auditors (32.4%), (18.3%) are in compliance field, (26.8%) are in risk management, (22.5%) are anti-money laundering. Whereas, according to the

distribution of the studied sample based on age group, the analysis shows that (43.7%) their ages are equal to or less than 30 years, (42.3%) are in the range of 31 - 40 years, (14.1%) are in the range of 41 -50 years.

The highest percentage of the studied sample have Bachelor degree as their percentage is (87.3%), (11.3%) have master's degree, (9.9%) have CPA, (21.1%) have CIA, (4.2%) have CRMA, (4.2%) have CFE, (1.4%) have CMA, (32.3%) have other certificates and (40.8%) have no certificates.

According to the years of employment, (36.6%) have less than five years of experience, (29.6%) have 6 – 10 years of experience, (18.3%) they have an experience in range of (11-15) years, (8.5%) they have an experience in range of (16 – 20) years, and (7%) they have more than 20 years of experience.

Thus, the analysis demonstrates that the majority of the sample are somewhat young professionals with less than 10 years of experience, basically they hold BA degree and working in the internal audit, risk management, compliance and anti-money laundry fields. The analysis also shows that the distribution across age and experience levels shows a workforce that is diverse but skewed toward early to mid-career stages. The prevalence of particular certifications and specializations indicates that professional qualifications common with this sample that could affect their perspectives and responses in the study.

Table (8): Analysis of personal; and Demographic questions (N=71)

Questions	Answer	Frequency	Percent
What is your current field?	Internal audit	23	32.4
	Compliance	13	18.3

	Risk management	19	26.8
	Anti-money laundry	16	22.5
Age Group	Equal or less than 30	31	43.7
	31 - 40	30	42.3
	41 -50	10	14.1
	Total	71	100.0
Gender	Female	25	35.2
	Male	46	64.8
Please select your academic level	Diploma	1	1.4
	Bachelor degree	62	87.3
	Master Degree	8	11.3
Which of the following professional certifications do you currently hold? (Select all that apply)	CPA	7	9.9
	CIA	15	21.1
	CRMA	3	4.2
	CFE	3	4.2
	None	29	40.8
	Others	23	32.3
Please select the number of years of your employment	<=5	26	36.6
	6 - 10	21	29.6
	11 -15	13	18.3
	16 -20	6	8.5
	> 20	5	7

4.3 Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector

Table (9) shows the statistical analysis of the studied sample responses about the evaluation of the design of anti-fraud programs in the Palestinian banking sector. The analysis of the first question that states “To what extent has the organization established a process for oversight of fraud risks by the board of directors or others charged with governance (e.g., an audit committee)?”. The analysis shows that the highest percentage of the studied sample confirmed that a well-designed process exists and is aligned with risks scoring (54.9%) as well as (35.2%) stated that there is a formal process exists but is not aligned with risks compared to 9.9% who stated there is an informal process exists in their banks.

These results indicate that most banks in Palestine recognize the significance of establishing oversight processes for fraud risks. Whereas, a considerable percentage has developed well designed, risk aligned processes, there is still a considerable segment with merely formal or informal procedures that may restrict the efficiency FRM efforts. Furthermore, this emphasis an area for expected improvement that encourages banking institutions to transition from formal but perhaps generic processes to well designed, risk specific oversight mechanisms to support and strengthen the efficiency and effectiveness of anti-fraud procedures in addressing the most significant or emerging risks.

When the studied sample were asked “To what extent has the organization created “ownership” of fraud risks by identifying a member of senior management as having responsibility for managing all fraud risks within the organization and by explicitly communicating to department managers that they are responsible for managing fraud risks within their area. The highest percentage of the studied sample confirmed that is (57.7%) confirmed that a formal process exists but is not aligned with risks. Whereas,

(32.4%) stated that a well-designed process exists and is aligned with risks. Whereas, just (9.9%) stated that an informal process exists in their banks.

Thus, this question shows how banks develop and improve a sense of ownership over fraud risks among their employees, basically through the assignment of responsibility and communication. The data shows that a majority (57.7%) have created formal procedures, however these are not efficiently associated with the risks, signifying a prospective gap between policy and practice. About a third (32.4%) have more strong procedures that are well-structured and aligned with their risk profile, representing a greater level of maturity in FRM. The remaining minority (9.9%) depend on informal methods, which might be less reliable and possibly less effective. Generally, the result emphasizes various extents of organizational maturity in managing fraud risks and highlight the significance of aligning formal processes with actual risk exposure to improve and support ownership and accountability.

The third question was “To what extent has the organization implemented an ongoing process for regular identification of the significant fraud risks to which it is exposed?”. The highest portion of the studied sample that is (47.9%) confirmed that a formal process exists and is aligned with risks that the organization has implemented an ongoing process for regular identification of the significant fraud risks to which it is exposed confirming that they have an established and continuous method for identifying major fraud risks. Furthermore, (38%) they stated that a well-designed process exists and is aligned with risks. Whereas, (12.7%) have stated that an informal process exists and (1.4%) they selected that their banks have no process in place.

This result explores the way that banks manage the ongoing identification of fraud risks. The result demonstrates that almost 50% of banks have a formal process that assumes a

structured and proactive approach to FRM, whereas almost 40% have formal and risk aligned processes to respond to FRM. Another considerable depends on informal processes that may lack structure or consistency and a very small portion have no processes at all, indicating potential vulnerabilities.

The fourth question was “To what extent has the organization identified, and had approved by the board of directors, its tolerance for different types of fraud risks?”. The analysis shows that almost half of the studied sample stated that their banks have a formal process but is not aligned with risks. This assumes that whereas procedures and policies may exist, they might be outdated, not comprehensive, or not reflective of the current risk landscape. Whereas, (38%) have stated that their banks have a well-designed process and is aligned with risks assuming strong risk governance. Whereas, (14.1%) stated that an informal process exists in their banks that indicates weaker control tools or less structured risk management approaches. This indicates that a considerable percentage has formal procedures and processes where some are aligned with risks. Therefore, banks with well aligned procedures are expected to be more efficient and well prepared to prevent, detect, and react to fraud.

According to the fifth question that was “To what extent has the organization developed, and had approved by the board of directors, a policy on how it will manage its fraud risks?”. The analysis shows that nearly half of the studied sample stated that there is a well-designed process exists and is aligned with risks. Meanwhile, (32.4%) have stated that a formal process exists but is not aligned with risks compared to (18.3%) that demonstrated that an informal process exists. Whereas, (1.4%) have stated that the process is not in place.

This question explores the degree to which banks have created and accepted policies for

managing fraud risks, as perceived by respondents. The result emphasizes that there is a high level of maturity and proactive risk management. Meanwhile, the result also indicates awareness and structure but highlights room for improvement in tailoring the process.

In General, the study result assumes that meanwhile a considerable percentage of banks have created policies and processes for managing fraud risks, there is still a considerable portion with either incomplete, informal, or absent processes. This indicates that there are various extents of maturity and underlines possible extents for development in creating effective FRM policies.

When the studied sample were asked “To what extent has the organization implemented controls at the process level to prevent, deter, and detect each of the significant fraud risks identified in its risk assessment?”. The result shows that (45.1%) stated that a formal process exists but is not aligned with risks. This emphasizes that whereas formal procedures are in place, they may not efficiently target or address that most significant fraud risks, potentially leaving vulnerabilities unidentified. Whereas, (43.7%) stated that a well-designed process exists and is aligned with risks. This indicates that banks have efficiently tailored their controls to match their specified fraud risks which is a positive sign of proactive risk management. Eventually, (11.3%) of participants stated that an informal process exists that may emphasize lack of consistency and comprehensive coverage, potentially increasing the risk of fraud.

Eventually, this finding emphasizes that most banks recognize the significance of formal controls, but there is a considerable gap in aligning these controls with particular risks. Banks with well aligned, risk- based controls are better positioned to prevent and detect fraud efficiently and appropriately. The existence of informal procedures in some banks

assumes a necessity for more well-structured approaches and procedures to managing fraud risk.

When the studied sample were asked “To what extent has the organization implemented a process to promote ethical behaviour, deter wrongdoing, and enable employees to communicate concerns about known or potential wrongdoing without fear of retribution?”. The aim was to evaluate the efficiency with which the bank has created channels for ethical communication and misconduct reporting.

The analysis shows that (43.7%) they have demonstrated that a well-designed process exists and is aligned with risks. This assumes a mature ethical framework exists, where processes and procedures are thoughtfully aligned and integrated within the overall risk framework, compared to (36.6%) who emphasized that a formal process exists but is not aligned with risks indicating room for development and improvement in tailoring procedures and processes to particular risks.

However, (19.7%) stated that an informal process exists. Thus, this result indicates that whereas several banks have formal procedures and processes to implement and monitor ethical behaviour, fewer have procedures and policies that are fully aligned with their risk profiles, and some still rely on informal methods. This emphasizes also that there are opportunities to develop and improve processes related to promoting ethical behaviour and developing effective communication channels in this regard.

Eventually, the last question was “To what extent has the organization established a process to detect, investigate, and resolve potentially significant fraud? Such a process should typically include proactive fraud detection tests that are specifically designed to

detect the potentially significant frauds identified in the organization's fraud risk assessment".

The results confirmed that (47.9%) confirmed that a well-designed process exists and is aligned with risks. This indicates that banks in Palestine have a robust, well-designed processes that directly specifies particular fraud risks and assumes a proactive approach to fraud detection and prevention. Likewise, (40.8%) of participants stated that a formal process exists but is not aligned with risks. This means that potential gaps where fraud risks might not be efficiently identified or mitigated. Finally, (11.3%) of participants stated that an informal process exists in their banks. The existence of informal processes that may lack reliability, documentation, or adequate control measures, expectedly leaving the bank more vulnerable to fraud.

Thus, we accept the first hypothesis that states "**Banks operating in Palestine have an established anti-fraud program to address fraud risks, from the perspective of assurance providers**".

Table (9): Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector

No.	Question	process is not in place	Informal process exists	Formal process exists but is not aligned	Well-designed process exists and is aligned with risks

				with risks	
1	To what extent has the organization established a process for oversight of fraud risks by the board of directors or others charged with governance (e.g., an audit committee)?	0.00	9.9	35.2	54.9
2	To what extent has the organization created “ownership” of fraud risks by identifying a member of senior management as having responsibility for managing all fraud risks within the organization and by explicitly communicating to department managers that they are responsible for managing fraud risks within their area?	0.00	9.9	57.7	32.4

3	To what extent has the organization implemented an ongoing process for regular identification of the significant fraud risks to which it is exposed?	1.4	12.7	47.9	38.0
4	To what extent has the organization identified, and had approved by the board of directors, its tolerance for different types of fraud risks?	0.00	14.1	47.9	38.0
5	To what extent has the organization developed, and had approved by the board of directors, a policy on how it will manage its fraud risks?	1.4	18.3	32.4	47.9
6	To what extent has the organization implemented controls at the process level to prevent, deter, and detect each of the significant fraud	0.00	11.3	45.1	43.7

	risks identified in its risk assessment?				
7	To what extent has the organization implemented a process to promote ethical behaviour, deter wrongdoing, and enable employees to communicate concerns about known or potential wrongdoing without fear of retribution?	0.00	19.7	36.6	43.7
8	To what extent has the organization established a process to detect, investigate, and resolve potentially significant fraud? Such a process should typically include proactive fraud detection tests that are specifically designed to detect the potentially s	0.00	11.3	40.8	47.9

4.4 Factors that Contribute the Most to FRM

Table (10) shows the responses of the studied sample about factors/methods that contribute the most to FRM. Respondents were asked to rate each factor/method on a scale from (0) that is not effective to (5) very effective. The overall results show that there is a moderate to high perception of the 25 factors in terms of their contribution to FRM from the perspective of assurance providers since all mean scores fall between (3.0) and (3.7).

We can group the results into three levels of effectiveness perceptions. The high effectiveness perception includes tone at the top with a mean of (3.56) and active audit committee with a mean of (3.70), an active risk committee with a mean of (3.68) indicating that respondents perceive leadership as quite effective. Likewise, internal audit also scored well with a mean of (3.63) which indicates that participants value the role of internal audit in terms of FRM.

The moderate level of effectiveness includes ERM with a mean of (3.44), segregation of duties with a mean of (3.44), and formal FRM with a mean of (3.39). Furthermore, other factors/methods such as fraud reporting policy and whistle blowing policy also are in this range.

Lower effectiveness rating includes behavioural analytics and lifestyle audit with a mean of (3.03), and IT audit with a mean of (3.00). Moreover, other factors/methods are also in this range such as data analytics and fraud awareness trainings. Thus, this indicates there is a room for development in these areas.

According to the variability in the responses of the examined statements, the STD range from nearly 0.90 – 1.44, emphasizing some respondents have various perceptions of the effectiveness and efficiency of these factors/methods. High STD values were noted especially for factors/methods such as IT audit (1.44) and behavioural analytics and

lifestyle audit (1.31) which indicates possible inconsistency in implementation or differing levels of maturity across banks operating in the Palestinian banking sector.

Thus, we accept the first hypothesis that states that **“some factors are considered more effective in FRM from the perspective of assurance providers in the Palestinian banking sector”**.

Table (10): Factors that contribute the most to FRM

	Statement	0 (Not effective)	1	2	3	4	5 (Very effective)	Mean	STD
1.	Tone at the Top	1.4	1.4	11.3	31.0	35.2	19.7	3.56	1.07
2.	Active Audit Committee	0.00	1.4	7.0	29.6	43.7	18.3	3.70	0.90
3.	Active Risk Committee	0.00	1.4	8.5	31.0	39.4	19.7	3.68	0.94
4.	Investigative Procedures, Fraud Examination and	2.8	0.00	9.9	36.6	35.2	15.5	3.48	1.05

	Forensic Accountants								
5.	IT Audit	4.2	12.7	19.7	25.4	18.3	19.7	3.00	1.44
6.	External Audit	0.00	9.9	21.1	31.0	31.0	7.0	3.04	1.10
7.	Internal Audit	0.00	0.00	18.3	21.1	39.4	21.1	3.63	1.02
8.	Enterprise Risk Management	0.00	0.00	16.9	36.6	32.4	14.1	3.44	0.94
9.	Formal Fraud Risk Management	1.4	4.2	14.1	32.4	29.6	18.3	3.39	1.15
10	Fraud Reporting Policy	0.00	2.8	23.9	23.9	31.0	18.3	3.38	1.13
11	Fraud Awareness Training	0.00	11.3	19.7	26.8	25.4	16.9	3.17	1.25
12	Corporate Code of	0.00	11.3	19.7	16.9	38.0	14.1	3.24	1.25

	Conduct / Ethics Policy								
13	Ethics Training	0.00	14. 1	15.5	23.9	29.6	16.9	3.20	1.29
14	Code of Sanctions	1.4	12. 7	14.1	22.5	35.2	14.1	3.20	1.29
15	Fraud Hotline	1.4	9.9	18.3	25.4	26.8	18.3	3.21	1.30
16	Whistle Blowing Policy	0.00	9.9	18.3	28.2	26.8	16.9	3.23	1.22
17	Data Security Policy	0.00	4.2	16.9	28.2	28.2	22.5	3.48	1.14
18	Physical and Logical Access Controls	0.00	1.4	18.3	29.6	33.8	16.9	3.46	1.03
19	Employee and Vendor Due Diligence	0.00	11. 3	15.5	31.0	28.2	14.1	3.18	1.20

20	Staff Rotation Policy	1.4	7.0	14.1	29.6	32.4	15.5	3.31	1.19
21	Staff Vacations Policy	0.00	7.0	16.9	23.9	35.2	16.9	3.38	1.16
22	Segregation of Duties	0.00	1.4	15.5	35.2	33.8	14.1	3.44	0.97
23	IT Controls	1.4	8.5	23.9	26.8	22.5	16.9	3.11	1.27
24	Data Analytics	0.00	11. 3	19.7	32.4	22.5	14.1	3.08	1.20
25	Behavioural Analytics and lifestyle audit	2.8	8.5	25.4	25.4	22.5	15.5	3.03	1.31

4.5 Interview Analysis

This section presents an analysis of the interviews that aims to determine factors that contribute the most to FRM, along with evaluating the design of anti-fraud programs in the Palestinian banking sector from the perspective of assurance providers of the banking sector.

The researcher conducted two interviews with Mr. Firas ashik's who is the head of information and analysis section at the financial follow-up unit, Palestine and Mr. Mohammad Dar Al Haj, Audit Senior Manager, Deloitte and Touche, Middle East.

The interview consisted of four sections that are:

1. Section 1: General Perception of FRM.
2. Section 2: Insights on the 25 Methods/Factors that contribute to FRM.
3. Section 3: Evaluating the Design of Anti-Fraud Programs (ACFE fraud prevention check-up).
4. Section 4: Coordination, Enforcement & Recommendations.

4.5.1 Section 1: General Perception of FRM.

Two questions were set to explore the general perceptions of FRM which are:

1. Based on your experience, how would you describe the maturity of FRM in the Palestinian banking sector?
2. Do you think fraud risk is prioritized enough by bank's internal assurance departments (such as internal audit, risk and compliance) in Palestine? Why or why not?

According to the responses of the two interviewees there are moderate level of the maturity of FRM in the Palestinian banking sector with varying degrees between banks. For most banks, FRAs are not fully embedded within enterprise risk management (ERM). Most banks have fraud policies, reporting channels and investigation procedures. However, their approach to managing fraud risk is reactive rather than proactive depending on the type of fraud scheme.

While according to the extent to which the fraud risk is prioritized enough by bank's internal assurance departments (such as internal audit, risk and compliance) in Palestine, they confirmed that this is true to an extent. Assurance departments cover fraud risk regularly and PMA requires banks to report fraud incidents as they occur. But sometimes fraud risk seems to be shadowed by other risks such as credit and liquidity risks which

are seen as more material financially. This means that FRAs may be carried out to comply with regulatory requirements rather than to continuously drive controls improvements.

The two participants also confirmed that banks have improved in this matter during the last years and especially after Covid 19 with the rise of E-fraud. Banks have realized that fraud risk has increased which in turn increase reputation risk that has a direct impact on competition. Therefore, banks have recently given more attention to FRM.

On another note, the national risk assessment results produced by the Financial Follow-up Unit (FFU) for year 2024 indicated that the Palestinian banking sector has a medium to high risk for Money Laundry and low to medium risk for Terrorism Financing, therefore banks operating in Palestine together with the regulators and related parties should put in more efforts to mitigate this risk to an acceptable level.

Thus, based on the interviews of the participants in the interview we can stand on the following inferences:

There is a moderate level of maturity in FRM in banking institutions in Palestine with considerable differences between banks. Whereas, most banking institutions have created fraud policies and procedures, demonstrating tools, and examination procedures, their approach tends to be reactive rather than proactive. FRA is usually not completely integrated into the broader ERM framework.

Reactive and Compliance driven approach: The FRM is basically reactive, responding to events after they take place and usually driven by regulatory compliance rather than continuous improvement and development of controls and policies. This assumes that fraud risk is not always prioritized as highly as other material risks such as credit risk or liquidity risk.

There are increasing awareness and recognition of the necessity of improvement post COVID-19 as there has been considerable progress over recent years, basically post COVID-19 pandemic that emphasized recognition of E-fraud and reputation risks. Banking institutions have begun paying more interest and involvement in FRM, recognizing its significance for maintaining competitiveness and protecting reputation. Regulatory requirements from PMA and national risk assessments for money laundering and terrorism financing have directed the attention of banking institutions towards fraud related risks.

4.5.2 Section 2: Insights on the 25 Methods/Factors that Contribute to FRM

To get a clear insight concerning the 25 methods or factors that contribute to FRM in banking institutions in Palestine, the researcher has identified two questions that are:

1. Which FRM methods or tools do you consider the most effective in banks (25 factors in the questionnaire)?
2. What methods or controls do you believe banks should invest in more heavily moving forward?

The results confirmed that interviewees considered the most significant factors/methods that contribute to FRM are active risk committee, IT audit, ERM, Formal FRM, ethics training, code of sanctions, data security policy, employee and vendor due diligence, data analytics, and staff vacations policy.

Meanwhile, they argued that banks should invest in the following moving forward: Data analytics, artificial intelligence, training for assurance providers in areas related to fraud and fraud schemes, invest and participate in awareness campaigns to improve employees and customers' knowledge on fraud schemes.

The perceptions highlight a strategic emphasis on technical tools, constant employee training and development, and proactive risk control as essential constituents of active FRM. Moving forward, banks in Palestine are advised to make investments in innovative technologies such as AI and data analytics, along with reinforcement of the ethical standing of employees as well as investing in the training of assurance providers in areas related to fraud and fraud schemes.

4.5.3 Section 3: Evaluating the Design of Anti-Fraud Programs (ACFE Fraud Prevention Check-up)

The following questions were identified to evaluate the design of antifraud programs:

1. From your perspective, how well are banks operating in Palestine aligning with global standards like those set by ACFE in their anti-fraud programs?
2. Which elements of a well-designed anti-fraud program do you think are currently weakest in the sector? (e.g., fraud risk assessments, whistle-blower mechanisms, tone at the top, fraud reporting processes, etc.)
3. How involved is senior management and the board in fraud risk governance? Do you believe there's a strong "tone at the top"?

According to the first question that is how well are banks operating in Palestine aligning with global standards like those set by ACFE in their anti-fraud programs. They demonstrated that they believe banks are aligned at a high level. However, the maturity level is different from one bank to another. For example, some banks perform FRA regularly while other banks only respond to fraud cases as they occur. For some banks, the cost/benefit factor of managing fraud risk prohibits the bank from investing heavily in methods or people who help in FRM.

While, the answers for the second question that related to the elements of a well-designed anti-fraud program that are currently weakest in the sector, they argued

that there should be a specialized committee from the BOD that oversees FRM. Also, whistleblower mechanisms could be improved since some employees still hesitate to report on fraud cases or red flags. Moreover, FRAs are not always updated after process changes, new product introduction and emergence of a new fraud scheme.

Another important area for improvement is investigative procedures, fraud examination and forensic accounting. They believe that this area is weak since banks may lack the human expertise in those fields. Ethics training also needs to be improved in order to establish awareness among employees in order to improve the prevention aspect of responding to fraud risk. Finally, a fraud hotline should be established so employees and customers can have a direct channel for reporting fraud cases and fraud red flags in a timely and efficient manner.

Eventually, they demonstrated that senior management and the board in fraud risk governance have a strong tone at the top, but senior management are more involved in FRM than BOD. As they have mentioned earlier, they think banks should establish a committee from the BOD that specializes in fraud risk oversight.

This question intends to explore the extent to which banking institutions in Palestine are adopting and integrating international best practices in their anti-fraud efforts. The general awareness and perception that banking sector institutions are aligned at high extent. However, there is differences in the maturity and complexity of their programs. Some banking institutions perform regular FRAs. Whereas, other banks tend to react just after fraud incidents take place.

Moreover, financial constraints may restrict investment in comprehensive FRM, influencing overall effectiveness of the program.

Areas of improvements for an anti-fraud program include formation of a specialized board of director's committee dedicated to fraud oversight. Besides, improvement of FRA, monitoring changes in processes, new products, or emerging schemes.

In addition, banks could also develop and improve investigative policies and procedures, forensic accounting, and fraud investigation capabilities that are currently perceived as weak due to a lack of human expertise.

Generally, Palestinian banks demonstrate a good foundational alignment with global anti-fraud standards, but a number of areas require enhancements to reach higher maturity levels in their anti-fraud programs.

4.5.4 Section 4: Coordination, Enforcement & Recommendations

The researcher specified three questions to explore the effectiveness of the cooperation between banks and regulators in issues of fraud detection and prevention, as well as to identify the most important obstacles that help to improve fraud prevention in the Palestinian banking sector and identify the most interesting recommendations to improve anti-fraud program design or FRM practices.

The interviewees confirmed that a high level of cooperation exists between banks, regulators and the FFU. Banks report daily to Palestine Monetary Authority (PMA) regarding the red flagged transactions and they also report regularly on E-fraud. In addition, there are several significant challenges that confront the improvement of fraud prevention in the banking sector in Palestine that include the existence of limited resources, insufficient advanced technology, and a general lack of customer awareness.

Moreover, the lengthy legal process for resolving fraud cases diminishes deterrence. The dependence on cash transactions within the economy further complicates the tracing of funds. Furthermore, some cases require some level of international cooperation which sometimes is limited, needs a lot of time to take place or legal issues may arise between countries when doing so.

Their recommendations to improve anti- fraud program design or FRM practices are: Creating an information sharing platform for the entire sector, where the regulators and banks can share insights and valuable information regarding FRM and fraud cases. Furthermore, investment in using artificial intelligence and data analytics in the FRM process. Moreover, completing FRAs prior to launching any new product or service.

They also recommended carrying out campaigns that target the awareness of employees and customers in dealing with fraud schemes. Also, increasing the use of biometric identification methods for authenticating the identity of customers. Finally, they stressed the importance of geographical alignment for authenticating transactions made abroad, as well as the engagement and cooperation between the private and the public sectors that could help in mitigating the risk of fraud to an acceptable level.

Chapter Five

5.1 Introduction

This chapter will present a discussion of the results that relate to the hypothesis tested in chapter 4 regarding the two objectives that include evaluating the design of anti-fraud programs and identifying factors/methods that contribute the most to FRM from the perspective of assurance providers in the Palestinian banking sector.

5.2 Discussion of Key Findings

This section will present a discussion of the findings presented in chapter four of this study. It will include two main sections, where each section will correspond to one of the tested sets of hypotheses. The first section will discuss findings related to evaluating the design of anti-fraud programs from the perspective of assurance providers in the Palestinian banking sector while the second section will discuss findings related to identifying factors/methods that contribute the most to FRM from the perspective of assurance providers in the Palestinian banking sector. Finally, to conclude the chapter a set of practical recommendations will be presented.

5.2.1 Evaluating the Design of Anti-Fraud Programs in the Palestinian Banking Sector

The results of the study indicate that banks operating in the Palestinian banking sector have well designed anti-fraud programs, however, the maturity level and risk alignment varies across the sector.

Data collected via survey indicate that most banks maintain formal, well-designed processes for fraud risk oversight, assignment of fraud ownership, risk identification and implementation of controls. In addition, a significant number of respondents pointed that FRM efforts are well aligned with the banks' risk profiles which highlights the importance of structured FRM. Moreover, other respondents pointed that some banks have

established formal processes that are not fully aligned with their risks, or that they have established informal processes, which indicate a possible lack of effectiveness or inconsistency in implementation.

The interviews results complemented survey findings and suggested possible explanations to these variations. Interviewees pointed that banks have policies, reporting channels and investigative procedures, however, the approach of some banks remains reactive rather than proactive. Furthermore, despite the presence of formal processes, interviewees indicated that some banks have not aligned their processes with the most significant risks, which in turn contribute to a reactive approach to FRM.

Moreover, interviewees suggested that some banks tend to prioritize other risks, such as credit or liquidity risks over fraud risks, in addition to conducting FRAs to satisfy regulatory requirements rather than to derive continuous improvements to FRM. Nevertheless, interviewees have also pointed out that some banks have made great progress over recent years in terms of improving their FRM efforts, especially after the increase in e-fraud post COVID-19, indicating a growing understanding of fraud risk as both a reputational and competitive issue.

The findings of surveys and interviews point to opportunities that could enhance FRM in the Palestinian banking sector. Weaknesses were noted in areas such as specialized board level oversight, FRAs, investigative procedures, whistleblowing methods and ethics training. Although senior management demonstrated a strong “tone at the top”, the interviewees argued that specialized oversight of BOD could be improved to enhance governance structures.

Finally, the results suggest that banks are likely to be better positioned to manage the risk of fraud when they implement risk-aligned processes, whereas banks with informal or partially aligned processes are more vulnerable in facing fraud threats.

In my opinion, the PMA could introduce regulations to guide banks operating in Palestine towards establishing an effective anti-fraud program. This will ensure that banks achieve a comparable level of design effectiveness and therefore narrow the gap between banks in terms of designing an effective anti-fraud program.

5.2.2 Factors that Contribute the Most to FRM

The study identified several factors/methods that are perceived by assurance providers as being most effective in supporting FRM. The highest ratings belonged to leadership-related elements such as tone at the top, active audit committee, and active risk committee. These factors have received the highest effectiveness ratings in the survey, which emphasizes the importance of governance and strategic oversight in FRM.

Internal audit functions were also highly rated, reflecting their important role in monitoring controls and ensuring compliance with policies. These results are consistent with the results of the study conducted by Othman et al., 2015, where audit committee, operational audit and internal controls were identified as most important in contributing to fraud prevention and detection. They are also consistent with the results reported by Zamzami et al., 2016, where they concluded that internal auditors and an established system of internal controls play an essential role in combating fraud.

Moderate effectiveness ratings were noted for enterprise risk management, segregation of duties, formal FRM programs, and policies such as fraud reporting and whistleblowing. The fraud reporting policy was also reported in the findings of Othman et al., 2015 as an effective method in fraud prevention and detection.

Whereas, lower effectiveness ratings were noted for IT audit, behavioural analytics and lifestyle audits, data analytics, and fraud awareness training, suggesting that improvements could be made to these areas in order to enhance FRM.

Interview responses aligned with these survey findings to a great extent, highlighting active risk committee, ERM, formal FRM, ethics training, investigative procedures, and data security policies as key contributors to effective FRM. Meanwhile, IT audit has received low ratings in survey results but high ratings in interview results, which also complements the fact that IT audit has received the highest STD based on survey results. This may suggest that banks in the Palestinian banking sector vary considerably in terms of their effectiveness in FRM, where some IT audit functions have comprehensive and regular audits that take fraud risks into consideration, while others rely on less structured or infrequent audits that does not address fraud risks. The same argument may also be relevant to behavioural analytics and lifestyle audit which received a high STD suggesting a wide variation in implementation across banking institutions in the Palestinian sector. These findings emphasize the importance of developing standardized practices and enhancing capabilities to improve FRM practices across the sector.

Interviewees also recommended that banks should invest in advanced data analytics, artificial intelligence, and continuous training for assurance providers in areas related to fraud and new fraud schemes, as well as awareness campaigns for employees and customers. These insights reinforce the importance of combining governance, technical capabilities, and human expertise in advancing FRM.

In my opinion, the lower effectiveness ratings for IT audit, behavioural analytics and lifestyle audits, data analytics may suggest that there are variations in implementation of these factors across banks operating in Palestine. Therefore, the low effectiveness

perceptions could indicate that some banks have not implemented these methods, or that have these methods in place but with minimal utilization. Utilizing IT audit and data analytics within an anti-fraud program can enhance the detection of irregularities, improve monitoring and strengthen the overall effectiveness of FRM.

5.3 Conclusion

The findings of the study indicate that banks operating in the Palestinian banking sector have established anti-fraud programs to address fraud risks. However, the maturity level and alignment of these programs with risk exposure vary across the sector. The presence of formal anti-fraud programs indicates recognition of fraud risk, yet variations in implementation and risk alignment indicate the need for greater strategic integration.

Results collected through survey and interviews indicated that some factors/methods are considered more effective in contributing to FRM. These include governance elements such as tone at the top and active audit and risk committees. However, enhancements are still required for board-level involvement, proactive risk assessments and specialized fraud oversight. The results also confirm that effective FRM relies on a balance of leadership involvement, continuous risk assessments and alignment, utilization of advanced technology and continuous consideration of emerging threats and fraud schemes especially in the context of digitization.

5.4 Recommendations

Based on the findings, the following recommendations are proposed to strengthen FRM within the Palestinian banking sector:

1. Enhance the alignment between anti-fraud programs and risk exposure by conducting regular, proactive FRAs and integrating these assessments into the overall ERM.

2. Strengthen board-level oversight by forming specialized committees that oversee and monitor fraud risks and anti-fraud programs.
3. Improve whistleblower mechanisms and fraud reporting channels to ensure timely and effective communication of fraud related information.
4. Invest in data analytics and artificial intelligence to improve early detection, trend analysis and timely monitoring of fraud risks.
5. Develop ongoing and specialized training programs for assurance providers regarding fraud schemes and investigative techniques and knowledge.
6. Develop ongoing ethics and awareness programs to target employees and customers in order to reinforce a culture of integrity and accountability and raise awareness regarding possible fraud schemes.
7. Encourage collaboration between banks and regulators to facilitate information sharing and collective response to emerging fraud trends.

These recommendations are expected to help banks operating in Palestine to adopt a proactive, risk-oriented anti-fraud programs. This shift will likely align anti-fraud practices with global standards and strengthen banks' protection against fraud risks and related threats.

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ملخص الدراسة

تتناول هذه الدراسة تصميم برامج مكافحة الاحتيال في البنوك العاملة في القطاع المصرفي الفلسطيني من وجهة نظر مقدّمي خدمات التوكيد، كما تسعى إلى تحديد العوامل والأساليب التي تسهم في إدارة مخاطر الاحتيال من منظورهم. وتهدف الدراسة أيضًا إلى عرض مكونات إدارة مخاطر الاحتيال واستكشاف أدوار مقدّمي خدمات التوكيد المختلفة في هذا المجال حيث تم تناولها في الإطار النظري لهذه الدراسة.

ولتحقيق الهدفين الأولين، استخدمت الدراسة منهجًا مختلطًا لجمع البيانات؛ حيث تم جمع البيانات الكمية من خلال استبيانات وُجّهت إلى مقدّمي خدمات التوكيد الداخلي العاملين في بنوك القطاع المصرفي الفلسطيني، في حين تم جمع البيانات النوعية عبر مقابلات منمّمة مع مسؤولين على ارتباط وثيق بالقطاع المصرفي.

أظهرت النتائج أن البنوك العاملة في فلسطين قد أنشأت برامج لمكافحة الاحتيال بهدف الحد من المخاطر ذات الصلة، إلا أن مستوى نضج هذه البرامج ومدى توافقها مع مستوى التعرض للمخاطر يختلف من بنك لآخر. كما حدّدت الدراسة مجموعة من العوامل والأساليب التي يراها مقدّمو خدمات التوكيد الأكثر فاعلية في دعم إدارة مخاطر الاحتيال، حيث حصلت العناصر المرتبطة بالقيادة، مثل نيرة القيادة العليا، ولجنة التدقيق الفاعلة، ولجنة المخاطر النشطة، على أعلى تقييم من حيث الفاعلية. وتخلص الدراسة إلى أن البنوك العاملة في فلسطين تمتلك أساسًا متينًا لإدارة مخاطر الاحتيال، غير أن هناك حاجة إلى مزيد من التطوير في مجالات إشراك مجلس الإدارة، وتقييم المخاطر بشكل استباقي، وتعزيز الإشراف المتخصص على قضايا الاحتيال. كما تؤكد النتائج أن فعالية إدارة مخاطر الاحتيال تعتمد على توازن بين مشاركة القيادة، واستمرارية تقييم المخاطر وتحديثها،

وإستخدام التقنيات المتقدمة، إلى جانب المتابعة المستمرة للتهديدات وأساليب الإحتيال المستجدة، خاصة في ظل التحول الرقمي المتسارع.