

Do Non-Financial Information Reduce the Fraud Risk Management?

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Abstract The aim of this study is to clarify the role of non-financial information on reducing the fraud risk management. In fact existing studies on the potential effect of this type of information on fraud risk management is still less explored in the development countries. Departing from a sample of Egyptian auditors and using a questionnaire, this study argues that non-financial information is crucial to reduce the fraud risk management.

Keywords: non-financial information, Fields of non-financial information, Elements of non-financial information, Fraud risk management

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1. Introduction

The fraud management detection is a complex task and auditors can fail to detect fraud because they usually excessively use and concentrate on quantitative aspect of firm's financial statements. By default, auditors long have relied on analytical procedures that use financial statement data to help assess and detect fraud, as required by auditing standards [1]. The problem is that in practice and according to the PCAOB the only use of analytical procedures using financial statement data are in the most of cases ineffective in detecting fraud (PCAOB 2004, 16). The premise for using NFMs to help detect fraud is that some NFMs are correlated with "true" financial performance [1].

Interest in non-financial information has started to increase, especially in recent times, as non-financial information is characterized by the possibility of obtaining it timely. This is due to the fact that non-financial information isn't exposed to the impact of distortions resulting from some accounting procedures and it is being more easy to understand even from non-specialists in the field of accounting. Given the shortcomings encountered only by financial standards in detecting cases of fraud in the financial statements, it has been found that the use of non-financial information in addition to financial information can lead to improving the fraud detection process in the financial statements, and this comes from the association of financial standards with certain non-financial standards, and in the same time, it is not possible to distort non-financial measures, such as financial measures. Studies have recently addressed the subject of non-financial reporting, but studies of non-financial reporting are rarely linked to its link to the discovery of fraud in the financial

statements. Consequently, this research should measure the advantage of non-financial information in reducing the risks of management fraud.

Auditors have long relied on analytical procedures that use financial statement data to help assess and detect fraud. The problem is that the use of analytical procedures alone is likely to be ineffective in detecting fraud [2,3]. A wave of research papers have argued that the use of non-financial measures could improve the ability of auditors to detect fraud [4]. The assumption that non-financial statements can help detect fraud appear since certain non-financial statements are associated with financial performance, and so these reciprocal relationships often reflect possible fraud in the financial statements. Consequently, the study of the relationship between non-financial information and the risks of fraud management in its various aspects is very important. To develop the essence of the research problem, the following set of questions can be checked: (i) What are the most important areas of non-financial information and how important are the building blocks of these areas? (ii) What are the most important forms of fraud management risk? Are there differences between scanning to determine the most important of these images? (iii) What are the main factors for fraud in risk management? Are there differences between scanning to determine the most important of these images? (iv) What are the main risks of administrative fraud? Are there differences between scanning to determine the most important of these images? (v) What are the main impacts of administrative fraud risks? Are there differences between scanning to determine the most important of these images? (vi) Is there a relationship between non-financial information and fraud risk management mechanisms? What is the strength, direction and content of this relationship?

We aim to study and analyze the importance of non-financial information elements in the fields of the nature and characteristics of the company's activity, the environment of the internal control system, and the accounting analysis and interpretation. Another objective of this current study is to study and analyze the most important images, engines, habitats and effects of management fraud risks. Finally, we aim to evoke the extent of the relationship between non-financial information elements and mechanisms to address the risks of management fraud.

2. Literature Review and Hypothesis Development

Previous studies on this area of research can be divided into several main axes: Studies have examined non-financial information and risks facing companies. Secondly, including management fraud. Finally, Studies dealing with the use of non-financial information in forecasting and performance evaluation and Studies dealing with the impact of non-financial information on the auditor's work.

2.1. Studies Have Examined Non-financial Information and Risks Facing Companies, including Management Fraud

[5] conduct a comparative analysis of the relevant financial and non-financial data describing the insolvency risks of twenty companies listed on the main stock market Bucharest Stock Exchange during the period 2009-2013. They find that for all three methods used it ends that payment to suppliers is the most important indication of the risk of entering into a default, confirming the Roman legal definition of insolvency.

[6] conduct an empirical study which aimed to focus on developing credit risk models that contain non-financial information. The study concluded that there is non-financial information that strengthens the predictive power of risk models, especially in medium and small companies. Non-financial variables can be used to forecast Projects fail, and this improves the accuracy of the model. [7] explore the role of non-financial information in developing credit risk models, especially in small and medium-sized companies, and it has been found that the use of non-financial information to predict the company's default leads to a significant improvement in the accuracy of the prediction model Banks should also carefully consider the results of this study when preparing internal procedures and systems for managing credit risk for small and medium-sized companies.

[4] examine whether auditors can use non-financial measures effectively to assess the reasonableness of financial performance, and thus, help in detecting financial fraud. Auditors or other interested stakeholders (for example managers, lenders, investors, or regulators) can learn about non-financial metrics that are associated with financial metrics (for example, revenue growth), and the use of patterns are interrelated between non-financial metrics Financial information can be used to detect

companies with a high risk of fraud. We find that the difference between financial and non-financial performance is much greater for companies that manipulate.

[1] study the usefulness of non-financial information (for example, number of employees, customer satisfaction, and number of customer accounts) in assessing the risk of revenue fraud. They conclude that perpetrators of such fraud may find it difficult to forge non-financial metrics, especially those that they independently produce such as customer satisfaction. Auditors can benefit from studying the relationships between non-financial metrics and financial metrics to validate the financial statements data.

Finally, [4] examine the extent to which auditors can use non-financial measures effectively to detect fraud, and it has been found that the use of non-financial measures and their comparison with the results of financial measures and the presence of inconsistency, this means a high possibility of fraud.

We should note that non-financial information has a great impact on fraud management identification. In fact, it can reflect the true situation of a given firm and so it constitutes a practical tool in order to improve the mission of auditors regarding the fraud risk identification and evaluation. This importance is stable among firms and sectors. It's also robust among firms activities and their internal control environment.

H1: The importance of non-financial information elements does not differ in the fields of the nature and characteristics of the company's activity, the environment of the internal control system, and the accounting analysis and interpretation.

2.2. Studies Dealing with the Use of Non-financial Information in Forecasting and Performance Evaluation

[8] ask whether non-financial performance measures (NFPMs) included in CEO bonus contracts are complementary to equity-based compensation, and whether they jointly explain future firm value. Overall, our findings suggest that equity-based compensation is more effective in aligning managerial efforts and actions with firms' long-term value when firms include NFPMs in CEO bonus contracts. [9] document that information contents and managerial motivations play an important role in assessing the antecedents and consequences of non-financial disclosure. Specifically, we find that earnings quality is a more pronounced factor in influencing forward-looking non-financial disclosures whereas proprietary cost is a more pronounced factor in influencing historical nonfinancial disclosures. [10] argue that it is not sufficient to analyze the company's performance from a financial point of view only. Sometimes financial reports do not reflect the true position of the company, in which case non-financial information explains this dispute, and the study emphasized that it should not be Measuring performance is a monopoly of financial analysis standards. Rather, it should be done in a comprehensive manner based on both financial and non-financial standards. [11] analyze non-financial information in terms of its importance and extent of growth of this importance to the market, develop a framework for reporting on non-financial information,

study the different types of non-financial information and focus on environmental and social information. The study concluded that managers need to evaluate their companies in terms of the degree of transparency and the need to incorporate broader sets of non-financial measures in order to obtain a more comprehensive view of the company. [12] try to clarify the effect of accounting and non-accounting information on the market value of stocks, and the study concluded that accounting and non-accounting information affects the market value of the stock in the Saudi market, and that information, factors and non-accounting for the overall market as a whole are more influential in The market value of stocks, followed by non-accounting information, then accounting information that is less effective. [13]'s study concludes that how the difference in the form of scorecards and the presentation of metrics affects the residents 'weight of financial information versus non-financial information in performance evaluation. Differences in non-financial metrics gain the most noticeable weight in valuations when presenting balanced scorecards to the market. [14]'s study aims to know the role of analysts in benefiting from the disclosures of non-financial information. The study concluded that it is necessary to increase the disclosure of non-financial indicators on the basis that they are an important factor in evaluating the performance of companies with intangible assets. [15] study the impact of the use of non-financial information by financial analysts on the accuracy of their expectations, and it has been found that the disclosure of non-financial information optionally by listed companies is constantly increasing over time in response to the demands of the authorities Regulatory and financial analysts, however, financial analysts tend to optionally not use additional non-financial information optionally in only two areas, namely, information regarding the outlook and the internal structure of the company.

H2: There are no statistically significant differences between the central agency's auditors and audit offices in identifying types, engines, habitats and the effects of management fraud risks.

2.3. Studies Dealing with the Impact of Non-financial Information on the Auditor's Work

[16] try to assess the extent to which audit plans respond to the risks of high management fraud, according to the requirements of the audit criteria. On the other hand, the results of the logistic regression analysis also indicated that previous work experience in discovering fraud and the auditor's job location have an important predictive ability in predicting management fraud. [17]' study aims to alert learners and auditors to the importance of non-financial information in the audit process and develop their ability to search for information related to the audit planning process, whether financial or non-financial, and emphasize the importance of resisting the natural tendency to information Financial and over-reliance upon auditing the financial statements. The study considered that auditors could discover many financial frauds if it took into account the consistency between financial performance

and non-financial information, and the study also found the importance of resisting the natural tendency to over-rely on financial information when conducting a review of financial statements. And encourage the consideration of all financial and non-financial information and the interaction between these two types of information. [2]'s study deals with measuring and examining the relative importance of financial and non-financial information when performing the external auditor's analytical procedures in the planning stage of the audit process. The results indicated that the auditors mainly focus on financial information in determining the level of audit scope, and benefit from non-financial information as enhanced secondary evidence. The results of the research also resulted in the impact of financial and non-financial information on the number of assumptions generated by the auditors, where a greater number of assumptions are generated when both financial and non-financial information highlight deteriorating conditions.

H3: There is no statistically significant relationship between non-financial information elements and mechanisms to address management fraud risk.

3. Research' Methodology

3.1. Search Tool

A questionnaire was used as a tool to obtain information from the auditors. The design of the list was taken into consideration to include elements of non-financial information previously identified, as well as the formulation of questions was accurate and expressive of each item and are interrelated, and the Likert five-point scale has been used.

3.2. The Sample

The study population is the auditors in the Arab Republic of Egypt and they are either the auditors of the Central Auditing Agency or the auditors in the accounting and auditing offices, and given the difference in the nature of work in these two categories and the inability to determine the size of the society in both categories, the sample size was determined according to the following formula:

$$n = \left[z^2 \frac{p(1-p)}{d^2} \right] \div d^2$$

Whereas:

n = the sample size.

z = a standard value extracted at a probability value of [1- (α ÷ 2)] to its left.

p = visible prevalence (occurrence).

d = accuracy, which is the maximum allowable error.

At a confidence level of 95%, p is compensated for 0.5 to obtain the largest sample size that can be withdrawn, at a maximum permissible error of 7%. The sample size in this case is:

$$n = \left[(1.96)^2 \times 0.5(0.5) \right] \div (0.07)^2 = 196.$$

3.3. Statistical Method Used for Analysis

In this study, a variety of methods is used. We use the simple regression method in order to precise the strength of the relationship between non-financial information items and their main areas through correlation analysis, and then to identify the most important ones of these elements through multiple linear regression analysis. Use of the method (step by step). We also use the Compare Means method to compare the means of the responses to determine the most important images, drivers, habitats and effects of the risks of management fraud, and use the comparison of the means for the two groups using the t-test of independent samples to examine the extent of significant differences between respondents among them. Finally, a simple linear correlation analysis test was used to determine the strength and direction of the relationship between non-financial information from different areas in terms of fraud risk management mechanisms and mechanisms for deal.

4. Results and Discussion

4.1. Analysis and Discussion of the Results of the First Hypothesis

The importance of non-financial information elements does not differ in the fields of the nature and characteristics

of the company's activity, the environment of the internal control system, and the accounting analysis and interpretation, It is divided into three sub-assumptions:

4.1.1. The Importance of the Non-financial Information Elements does not Differ in the Nature and Characteristics of the Company's Activity

Through [Table 1](#), which shows the average, the standard deviation and the coefficient of difference for the non-financial information field related to the nature and characteristics of the company's activity; we find that most of it falls in the range (3.4 - 4.2) which means that it is important, while the main field and the element of disclosure of laws regulating the company's business They fall in the range (4.2 - 5) and this means that they are very important.

Through the analysis of the correlation and shown in [Table 2](#), we find that there are four elements that have a strong correlation with the main field with a moral score of 99%, namely: the disclosure of the company's activities and products, the disclosure of laws regulating the company's business, the disclosure of the nature and form of the administrative and accounting systems of the company, and the disclosure of accounting requirements The legal impact on the stability of the company, while there is one element that has a strong correlation with the main field with a moral score of 95%, which is: Disclosure of the external environment affecting the company's activities.

Table 1. The importance of non-financial information in the field of the nature and characteristics of the company's activity and its elements

	Mean	Std. Dev.	CV
The nature and characteristics of the company's activity	4.26	0.832	19.5%
Disclosure of laws governing the company's business	4.28	0.8	18.7%
Disclosure of the company's activities and products	4.05	0.697	17.2%
Disclosure of competition in the market in which the company operates	4.02	0.805	20.0%
Uncovering the competitiveness of the company	4.11	0.721	17.5%
Disclosure of the external environment affecting the company's activities	3.86	0.946	24.5%
Disclosure of accounting and legal requirements affecting the stability of the company	4.04	0.857	21.2%
Disclosure of the strategic vision of the company	3.95	0.943	23.9%
Disclosure of the nature and shape of the company's administrative and accounting systems	3.95	0.959	24.3%

Table 2. The strength of the nature and characteristics of the company's activity in relation to its various elements

Correlations									
		Disclosure of laws governing the company's business	Disclosure of the company's activities and products	Disclosure of competition in the market in which the company operates	Uncovering the competitiveness of the company	Disclosure of the external environment affecting the company's activities	Disclosure of accounting and legal requirements affecting the stability of the company	Disclosure of the strategic vision of the company	Disclosure of the nature and shape of the company's administrative and accounting systems
The nature and characteristics of the company's activity	Pearson Correlation	.314**	.344**	0.061	0.085	.178*	.281**	0.1	.299**
** . Correlation is significant at the 0.01 level (2-tailed).									
* . Correlation is significant at the 0.05 level (2-tailed).									

Table 3. Defining the most important elements of the nature and characteristics of the company's activity

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			Std. Error	Beta		
1	(Constant)	2.591	0.407		6.36	0
	Disclosure of the company's activities and products	0.412	0.099	0.348	4.155	0
2	(Constant)	1.983	0.447		4.435	0
	Disclosure of the company's activities and products	0.357	0.098	0.302	3.64	0
	Disclosure of the nature and shape of the company's administrative and accounting systems	0.209	0.072	0.242	2.922	0.004

a. Dependent Variable: The nature and characteristics of the company's activity

As for the most important elements of the nature and characteristics of the company's activity, it was through a multiple linear regression analysis that it was found that two elements are: the disclosure of the company's activities and products and the disclosure of the nature and shape of the company's administrative and accounting systems are the most important in the elements of the nature and characteristics of the company's activity, and this is illustrated in Table 3.

Consequently, we conclude that the null hypothesis is not accepted, which is that the importance of the non-financial information elements does not differ in the field of the nature and characteristics of the company's activity.

4.1.2. The Importance of Non-financial Information Elements in the Field of the Internal Control System is not Different

Through Table 4 which shows the average, the standard deviation, and the difference coefficient for the non-financial information field of the internal control

system environment, we find that most of it falls in the range (3.4 - 4.2) which means that it is important, but the main field and the element of the mechanisms of evaluation of the internal control system are located in the range (4.2 - 5) this means that it is very important.

Through the analysis of the correlation and shown in Table 5, we find that there are three elements that have a strong correlation with the main field with a moral score of 99%, namely: the means of the internal control system, the goals of the internal control system, and the level of confidence in the internal control system:

As for the most important elements of the internal control system environment, through analyzing multiple linear regression, it was found that the element of internal control means is the most important in the environment of the internal control system, and this is illustrated in Table 6.

Consequently, we conclude that the null hypothesis is not accepted, which is that the importance of non-financial information elements does not differ in the field of the internal control system environment.

Table 4. The importance of non-financial information in the field of the internal control system environment and its components

	Mean	Std. Dev.	CV
Internal control system environment	4.32	0.739	17.11
Mechanisms for evaluating the internal control system	4.44	0.715	16.10
The level of confidence in the internal control system	4.25	0.768	18.07
The objectives of the internal control system	4.05	0.825	20.37
Internal control system means	4.16	0.873	20.99
Company systems and guides	3.98	0.906	22.76

Table 5. The strength of the internal control system environment, with its various components

		Mechanisms for evaluating the internal control system	The level of confidence in the internal control system	The objectives of the internal control system	Internal control system means	Company systems and guides
Internal control system environment	Pearson Correlation	0.097	.296**	.281**	.340**	0.158

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Table 6. Determining the most important elements of the internal control system environment

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta		
(Constant)	3.124	0.301		10.37	0.00
Internal control system means	0.289	0.071	0.34	4.074	0.00

a. Dependent Variable: Internal control system environment

Table 7. The importance of non-financial information in the field of accounting analysis and interpretation and its components

	Mean	Std. Dev.	CV
Accounting analysis and interpretation	4.11	0.831	20.2%
Disclosure of information about employment	3.93	0.974	24.8%
Disclosure of information about customers	3.77	0.768	20.4%
Disclosure of information about suppliers	3.81	0.881	23.1%
Disclosure of information about the notes to the financial statements	4.23	0.825	19.5%
Disclosure of information about the auditor's report	4.2	0.935	22.3%
Disclosure of information about the report of the Board of Directors	4.18	0.821	19.6%

Table 8. The strength of the association of the field of accounting analysis and interpretation with its various elements

Correlations							
		Disclosure of information about employment					
Accounting analysis and interpretation	Pearson Correlation	0.049	.304**	.191*	0.171	.174*	0.121

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

* . Correlation is significant at the 0.05 level (2-tailed).

Table 9. Identifying the most important elements of the field of accounting analysis and interpretation

Coefficients						
Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	2.912	0.357	Beta	8.159	0
	Disclosure of information about customers	0.32	0.093	0.294	3.43	0.001
2	(Constant)	3.093	0.362		8.544	0
	Disclosure of information about customers	0.475	0.117	0.437	4.051	0
	Disclosure of information about employment	-.195-	0.092	-.230-	-2.132-	0.035

a. Dependent Variable: Accounting analysis and interpretation

4.1.3. The Importance of the Non-financial Information Elements is not Different in the Field of Accounting Analysis And Interpretation

Through Table 7 which shows the mean, the standard deviation, and the coefficient of difference for your non-financial information field in accounting interpretation and interpretation; we find that most of them fall into the range (3.4 - 4.2) which means that they are important, the element of disclosing information about the clarifications In the range (4.2-5) this means that it is very important.

Through the correlation analysis, which is shown in Table 8, we find that there is one component that has a strong correlation with the main field with a moral score of 99%, which is the disclosure of information about customers, while there are two elements with a strong correlation with the main field with a moral score of 95% These are: disclosure of information about suppliers and disclosure of information about the auditor's report.

As for the most important elements of accounting analysis and interpretation, through multiple linear regression analysis, it was found that two elements: disclosure of information about customers and disclosure of information about employment; are the most important elements of analysis and accounting interpretation, and this is illustrated in Table 9.

Thus, we conclude that the null hypothesis is not accepted, which is that the importance of non-financial information elements does not differ in the field of

accounting analysis and interpretation. Therefore, we conclude that the main null hypothesis is not accepted, which is that the importance of the non-financial information elements does not differ in the fields of the nature and characteristics of the company's activity, the environment of the internal control system, and the accounting analysis and interpretation.

4.2. Analysis and Discussion of the Results of the Second Hypothesis

There are no statistically significant differences between the Central Auditors' accounts and the Audit Offices in determining the most important forms, drivers, field and the effects of the risks of management fraud, and this main hypothesis is divided into four sub-assumptions which are:

4.2.1. There are no Statistically Significant Differences between the Monitors and Accounts of the Central Agency and the Audit Offices in Identifying the Most Important Forms of Risk of Management Fraud

Through Table 10, which shows the mean, standard deviation, and the coefficient of variation for pictures of the risks of management fraud; we find that most of them are in the range (4.2-5) and this means that it is very important, and the rest is located in the range (3.4-4.2) which means that it is important, and this It means that all the elements mentioned are one of the most important forms of risk management fraud:

Table 10. The most important forms of fraud risk management

	The group	Mean	Std. Dev.	CV
To publish materially distorted financial statements	Auditors	4.55	0.862	18.9%
	Central Agency Auditors	4.66	0.536	11.5%
Deceiving and misleading the users of the financial statements	Auditors	4.53	0.804	17.7%
	Central A. Auditors	4.31	0.633	14.7%
Omission of accounting disclosure for some financial statements	Auditors	4.39	0.754	17.2%
	Central Agency Auditors	4.04	0.806	20.0%
Omission of accounting disclosure for some financial sums	Auditors	4.37	0.773	17.7%
	Central Agency Auditors	4	0.953	23.8%
Administrative fraud to achieve illegal benefits	Auditors	4.26	0.767	18.0%
	Central Agency Auditors	4.15	0.902	21.7%
Manipulation of accounting records	Auditors	4.56	0.692	15.2%
	Central Agency Auditors	4.09	1.004	24.5%
Intentional misappropriation of accounting standards	Auditors	4.39	0.837	19.1%
	Central Agency Auditors	4.06	0.944	23.3%

Table 11. T-test results to measure the differences between the investigated ones in determining the most important forms of management fraud risk

		F	Sig.	t	df	Sig. (2-tailed)
To publish materially distorted financial statements	Equal var. ass.	5.152	0.025	-.909-	128	0.365
	Equal var. not ass.			-.890-	100.18	0.375
Deceiving and misleading the users of the financial statements	Equal var. ass.	1.937	0.166	1.724	127	0.087
	Equal var. not ass.			1.709	115.792	0.09
Omission of accounting disclosure for some financial statements	Equal var. ass.	0.004	0.947	2.485	127	0.014
	Equal var. not ass.			2.492	126.982	0.014
Omission of accounting disclosure for some financial sums	Equal var. ass.	0.146	0.703	2.415	127	0.017
	Equal var. not ass.			2.435	124.893	0.016
Administrative fraud to achieve illegal benefits	Equal var. ass.	0.424	0.516	0.752	128	0.453
	Equal var. not ass.			0.758	127.394	0.45
Manipulation of accounting records	Equal var. ass.	4.823	0.03	3.12	128	0.002
	Equal var. not ass.			3.172	119.459	0.002
Intentional misappropriation of accounting standards	Equal var. ass.	0.159	0.69	2.089	128	0.039
	Equal var. not ass.			2.101	127.9	0.038

To measure the extent of the presence of statistically significant differences between the Central Agency auditors and the audit offices in determining the most important forms of management fraud risk; an independent samples t test was used. The results of the analysis and shown in Table 11 show the following:

- Sig value. (2-tailed) is smaller than the value of $\alpha = 0.05$ and therefore we reject null hypothesis and therefore there are statistically significant differences between the averages for the four elements, namely: the omission of accounting disclosure for some financial statements, the omission of accounting disclosure for some financial amounts, manipulation of accounting records and misapplication Deliberate accounting standards.
- Sig value. (2-tailed) is greater than the value of $\alpha = 0.05$, and therefore we accept null hypothesis, and therefore there are no statistically significant

differences between the averages for the three elements, namely: publishing distorted financial statements substantially, deceiving and misleading users of financial statements, and administrative fraud to achieve illegal benefits.

4.2.2. There Are no Statistically Significant Differences between the Auditors of the Central Agency and the Audit Offices in Determining the Most Important Drivers of the Risk of Management Fraud

Through Table 12, which shows the mean, the standard deviation, and the coefficient of variation for the management risk factors of fraud, we find that most of them are in the range (3.4 - 4.2) which means that they are important, and the rest is located in the range (4.2 - 5) and this means that it is very important, and this It means that all the mentioned elements are among the most important drivers of risk management fraud:

Table 12. The most important drivers of fraud risk management

	The group	Mean	Std. Dev.	CV
Optimization of the private utility function	Auditors	3.87	0.914	23.6%
	Central A. Auditors	4.48	0.746	16.7%
Insufficient accounting disclosure	Auditors	3.85	0.786	20.4%
	Central A. Auditors	4.25	0.662	15.6%
Unfair accounting measurement	Auditors	3.76	0.824	21.9%
	Central A. Auditors	3.94	0.844	21.4%
Control, acquisition and institutional merging	Auditors	3.73	0.833	22.3%
	Central A. Auditors	4.09	0.926	22.6%
Multiple alternatives to accounting policies	Auditors	3.63	0.752	20.7%
	Central A. Auditors	3.93	1.078	27.4%
Poor independence of references	Auditors	4.39	0.837	19.1%
	Central A. Auditors	4.09	0.949	23.2%

Table 13. T-test results to measure the differences between the investigated ones in determining the most important drivers of management fraud risk

		F	Sig.	T	df	Sig. (2-tailed)
Optimization of the private utility function	Equal variances assumed	0.658	0.419	-4.143-	127	0
	Equal var. not assumed			-4.111-	117.943	0
Insufficient accounting disclosure	Equal variances assumed	0.497	0.482	-3.039-	125	0.003
	Equal var. not assumed			-3.027-	119.389	0.003
Unfair accounting measurement	Equal variances assumed	0.211	0.647	-1.250-	128	0.214
	Equal var. not assumed			-1.251-	127.408	0.213
Control, acquisition and institutional merging	Equal variances assumed	0.008	0.929	-2.337-	128	0.021
	Equal var. not assumed			-2.349-	127.979	0.02
Multiple alternatives to accounting policies	Equal variances assumed	3.125	0.08	-1.798-	127	0.075
	Equal var. not assumed			-1.822-	118.28	0.071
Poor independence of references	Equal variances assumed	0.119	0.731	1.882	127	0.062
	Equal var. not assumed			1.892	126.711	0.061

To measure the extent of the presence of statistically significant differences between the central agency auditors and the audit offices in determining the most important drivers of management fraud risk; an independent samples t test was used and the results of the analysis are shown in Table 13, and by reading these results, they are: value (t) calculated, degrees of freedom, and the value of Sig. (2-tailed) Note that:

- Sig value. (2-tailed) is smaller than the value of $\alpha = 0.05$ and therefore we reject null hypothesis and therefore there are statistically significant differences between the averages for the four elements, namely: the omission of accounting disclosure for some financial statements, the omission of accounting disclosure for some financial amounts, manipulation of accounting records and misapplication Deliberate accounting standards.
- Sig value. (2-tailed) is greater than the value of $\alpha = 0.05$ and thus we accept null hypothesis

and therefore there are no statistically significant differences between the averages for the three elements, namely: publishing distorted financial statements substantially and deceiving and misleading users of financial statements and administrative fraud to achieve illegal benefits.

4.2.3. There are No Statistically Significant Differences between the Auditors of the Central Agency and the Audit Offices in Determining the Most Important Risk Areas for Management Fraud:

Through Table 14, which shows the average, standard deviation, and the coefficient of variation for the risk factors of management fraud, we find that most of them are in the range (4.2 - 5) and this means that it is very important, and the rest is located in the range (3.4 - 4.2) which means that it is important, and this It means that all the mentioned elements are among the most important risks of fraud to the administration.

Table 14. The most important risk areas for fraud management

	The group	Mean	Std. Dev.	CV
Manipulation of minority rights	Auditors	3.97	1.008	25%
	Central A. Auditors	4.54	0.762	17%
Manipulation of revenue	Auditors	4.45	0.783	18%
	Central A. Auditors	4.24	0.672	16%
Manipulation of expenses	Auditors	4.44	0.802	18%
	Central A. Auditors	4.06	0.959	24%
Asset valuation manipulation	Auditors	4.52	0.741	16%
	Central A. Auditors	4.09	0.893	22%
Manipulation of profit rates	Auditors	4.45	0.803	18%
	Central A. Auditors	4.31	0.783	18%
Manipulating stock prices	Auditors	4.35	0.907	21%
	Central A. Auditors	4.09	0.973	24%
Manipulation of the tax due	Auditors	4.29	0.912	21%
	Central A. Auditors	4.23	0.908	21%

Table 15. Results of the t-test to measure the differences between the investigated ones in determining the most important risks areas for management fraud

		F	Sig.	T	Df	Sig. (2-tailed)
Manipulation of minority rights	Equal variances assumed	2.869	0.093	-3.699-	128	0
	Equal variances not assumed			-3.652-	113.152	0
Manipulation of revenue	Equal variances assumed	1.102	0.296	1.695	128	0.092
	Equal variances not assumed			1.683	120.842	0.095
Manipulation of expenses	Equal variances assumed	2.651	0.106	2.391	126	0.018
	Equal variances not assumed			2.405	124.369	0.018
Asset valuation manipulation	Equal variances assumed	1.051	0.307	2.956	128	0.004
	Equal variances not assumed			2.982	126.897	0.003
Manipulation of profit rates	Equal variances assumed	0.003	0.955	0.989	127	0.324
	Equal variances not assumed			0.988	125.636	0.325
Manipulating stock prices	Equal variances assumed	0.089	0.766	1.611	128	0.11
	Equal variances not assumed			1.616	127.934	0.108
Manipulation of the tax due	Equal variances assumed	0.005	0.945	0.392	126	0.696
	Equal variances not assumed			0.392	125.424	0.696

To measure the extent of statistically significant differences between the central agency auditors and audit offices in determining the most important risks of management fraud; the Independent samples t-test was used and the results of the analysis are shown in Table 15, and by reading these results: (t) calculated, degrees of freedom, and the value of Sig. (2-tailed) Note that.

- Sig value. (2-tailed) is smaller than the value of $\alpha = 0.05$ and therefore we reject null hypothesis and therefore there are statistically significant differences between the averages for the three elements: the manipulation of minority rights, the manipulation of expenses and the manipulation of asset valuation.
- Sig value. (2-tailed) is greater than the value of $\alpha = 0.05$, and therefore we accept null hypothesis and therefore there are no statistically significant differences between the averages for the four elements, namely: revenue manipulation, profit rate manipulation, stock price manipulation, and due tax manipulation.

4.2.4. There are no Statistically Significant Differences between the Auditors of the Central Agency and the Audit Offices in Determining the Most Important Effects of the Risks of Management Fraud

Through Table 16 that shows the mean, the standard deviation, and the coefficient of variation for the effects of management fraud risks, we find that most of them are in the range (3.4 - 4.2) which means that they are important, and the rest is located in the range (4.2 - 5) and this means that it is very important, and this Means that all the

elements mentioned are one of the most important effects of the risks of management fraud:

To measure the extent of the presence of statistically significant differences between the auditors of the central apparatus and the audit offices in determining the most important effects of management fraud risks; an independent samples t test was used and the results of the analysis are shown in Table 17, and by reading these results: (t) calculated, degrees of freedom, and the value of Sig. (2-tailed) Note that:

- Sig value. (2-tailed) is smaller than the value of $\alpha = 0.05$ and therefore we reject null hypothesis and therefore there are statistically significant differences between averages for only one element which is low institutional performance.
- The rest of the elements are Sig. (2-tailed) is greater than the value of $\alpha = 0.05$ and consequently we accept null hypothesis and therefore there are no statistically significant differences between the averages.

4.3. Analysis and Discussion of the Results of the Third Hypothesis

There is no statistically significant relationship between the elements of non-financial information and the mechanisms for dealing with risks of management fraud. This main hypothesis is divided into three sub-assumptions. The simple linear correlation analysis test was used to find the strength and direction of the relationship between non-financial information elements of different fields in terms of mechanisms and mechanisms to address management fraud risk, as follows.

Table 16. Main Effects of Management Fraud Risks

	The group	Mean	Std. Dev.	CV
Low institutional performance	Auditors	4.02	0.799	20%
	Central A. Auditors	4.4	0.813	18%
Low productivity	Auditors	4.21	0.727	17%
	Central A. Auditors	3.99	0.938	24%
Return on investment fluctuation	Auditors	3.95	0.688	17%
	Central A. Auditors	4.12	0.879	21%
Value added fluctuation	Auditors	3.9	0.67	17%
	Central A. Auditors	3.78	0.944	25%
A financial failure of the company	Auditors	4.18	0.736	18%
	Central A. Auditors	4.12	0.869	21%
A financial failure of the company	Auditors	4.24	0.761	18%
	Central A. Auditors	4.02	0.903	22%

Table 17. Results of the t-test to measure the differences between those surveyed in determining the most important effects of the risks of management fraud

		F	Sig.	t	df	Sig. (2-tailed)
Low institutional performance	Equal var. ass.	1.97	0.163	-2.690-	128	0.008
	Equal var. not ass.			-2.692-	127.258	0.008
Low productivity	Equal var. ass.	1.396	0.24	1.513	128	0.133
	Equal var. not ass.			1.531	124.854	0.128
Return on investment fluctuation	Equal var. ass.	13.299	0	-1.200-	127	0.232
	Equal var. not ass.			-1.212-	123.638	0.228
Value added fluctuatio	Equal var. ass.	11.262	0.001	0.855	128	0.394
	Equal var. not ass.			0.868	120.978	0.387
A financial failure of the company	Equal var. ass.	5.774	0.018	0.394	126	0.694
	Equal var. not ass.			0.396	124.71	0.693
A financial failure of the company	Equal var. ass.	0.886	0.348	1.531	126	0.128
	Equal var. not ass.			1.539	124.588	0.126

4.3.1. There is no Statistically Significant Relationship between the Elements of Non-financial Information for the Nature and Characteristics of the Company's Activity and the Mechanisms for Dealing with the Risks of Management Fraud

Through the use of a simple linear correlation method, the results shown in Table 18 were reached as follows:

There is a positive, statistically significant positive relationship with a level of 99% between the evaluation of internal control as one of the mechanisms for addressing the risks of management fraud and non-financial information elements related to:

- Disclosure of laws governing the company's business.
- Disclosure of accounting and legal requirements affecting the stability of the company.
- Disclosure of the strategic vision of the company.
- Disclosure of the nature and shape of the company's administrative and accounting systems.

There is also a positive, statistically significant positive relationship between business risk assessment as one of the mechanisms for addressing management fraud risks and non-financial information elements related to:

- Disclosure of accounting and legal requirements affecting the stability of the company.
- Disclosure of the strategic vision of the company.
- Disclosure of the nature and shape of the company's administrative and accounting systems.

There is also a positive, statistically significant positive correlation between evaluating strategic systems as one of the mechanisms for addressing the risks of management fraud and non-financial information elements related to:

- Uncovering the competitiveness of the company
- Disclosure of accounting and legal requirements affecting the stability of the company.

- Disclosure of the strategic vision of the company.
- Disclosure of the nature and shape of the company's administrative and accounting systems.

It is noticeable that there is a single correlation between disclosure of the company's competitiveness and the mechanism for evaluating strategic systems, and this explains the effect of competitiveness on strategic systems, and this is also evident in the presence of such a relationship with the disclosure of the strategic vision of the company.

Finally, there is a positive, statistically significant positive correlation between the practice of doubt as one of the mechanisms to address the risks of management fraud and non-financial elements of information related to:

- Disclosure of the company's activities and products
- Disclosure of the strategic vision of the company.
- Disclosure of the nature and shape of the company's administrative and accounting systems.

4.3.2. There is no Statistically Significant Relationship between the Non-financial Information Elements of the Internal Control System Environment Group and the Mechanisms to Address Management Fraud Risks.

Through the use of a simple linear correlation method, the results shown in Table 19 were reached as follows. There is a positive, statistically significant positive relationship between all mechanisms to address the risks of management fraud and all non-financial information elements related to the internal control system environment group. It is noted that this result shows the importance of non-financial information in the field of control systems in reducing the risks of management fraud.

Table 18. The relationship between the non-financial information elements in the field of nature and characteristics of the company's activity and the mechanisms for dealing with risks of management fraud

	Disclosure of laws governing the company's business							
Internal control evaluation mechanism	.280**	0.035	0.135	0.155	0.169	.294**	.271**	.244**
Business risk assessment mechanism	-.044-	-.048-	0.037	0.149	0.067	.193*	.254**	.179*
Strategic systems evaluation mechanism	0.101	-.047-	0.136	.247**	0.161	.212*	.281**	.295**
Practice suspicion	-.059-	-.199*	0.062	0.04	0.152	0.079	.289**	.276**
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

Table 19. The relationship between non-financial information elements in the field of internal control system environment and mechanisms to address the risks of management fraud

	Mechanisms for evaluating the internal control system	The level of confidence in the internal control system	The objectives of the internal control system	Internal control system means	Work systems and guides in Company
Internal control evaluation mechanism	.523**	.381**	.224*	.214*	.263**
Business risk assessment mechanism	.233**	.297**	.254**	.297**	.311**
Strategic systems evaluation mechanism	.289**	.323**	.232**	.280**	.286**
Practice suspicion	.332**	.278**	.210*	.278**	.202*
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Table 20. The relationship between the non-financial information elements of the field of accounting analysis and interpretation, and the mechanisms for dealing with the risks of management fraud

	Disclosure of information about employment	Disclosure of information about customers	Disclosure of information about suppliers	Disclosure of information about the notes to the financial statements	Disclosure of information about the auditor's report	Disclosure of information about the report of the Board of Directors
Internal control evaluation mechanism	.241**	.258**	.271**	.243**	.314**	.226**
Business risk assessment mechanism	0.075	.223*	.173*	0.112	.230**	0.111
Strategic systems evaluation mechanism	0.115	.239**	.261**	0.17	.224*	.188*
Practice suspicion	.185*	.196*	.193*	0.16	0.099	0.062
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

4.3.3. There is no Statistically Significant Relationship between the Non-financial Information Elements of the Accounting Analysis And Interpretation Group and the Mechanisms for Dealing with the Risks of Management Fraud

Using a simple linear correlation method, the results shown in Table 20 were reached as follows:

There is a positive, statistically significant positive relationship between the evaluation of internal control as one of the mechanisms to address the risks of management fraud and all non-financial information elements related to the set of accounting analysis and interpretation.

There is also a positive, statistically significant positive relationship between business risk assessment as one of the mechanisms for addressing management fraud risks and non-financial information elements related to:

- Disclosure of information about customers
- Disclosure of information about suppliers
- Disclosure of information about the auditor's report

There is also a positive, statistically significant positive correlation between evaluating strategic systems as one of the mechanisms for addressing the risks of management fraud and non-financial information elements related to:

- Disclosure of information about customers
- Disclosure of information about suppliers
- Disclosure of information about the auditor's report
- Disclosure of information about the report of the Board of Directors

Finally, there is a positive, statistically significant positive correlation between the practice of doubt as one of the mechanisms to address the risks of management fraud and non-financial information elements related to:

- Disclosure of information about employment
- Disclosure of information about customers
- Disclosure of information about suppliers.

5. Managerial Implications

This paper mainly focuses on the effect of non-financial information used by auditors in order to detect fraud Management. Regarding our empirical findings we strongly recommend that auditors should use this type of information. In fact, it seems that non-financial information can largely increase the probability that auditors can succeed to detect fraud management. Firms also are invited to improve the

structure of their internal corporate governance mechanisms in order to reduce the fraud management and to facilitate the mission of auditors regarding the fraud detection [18]. In fact, the role of corporate governance can largely increase the rationality degree of all financial decisions including the quality of annual report [19] and [20].

6. Conclusion

The research specialized in studying and analyzing the elements of non-financial information and determining the extent of the relationship between non-financial information and the risks of management fraud from its various aspects, whether it portrays these risks or engines of fraud or its citizens or its effects, with the aim of clarifying the extent of the possibility of relying on non-financial information in the face of management fraud.

With regard to the first assumption, we find that the financial information elements of the various fields are important and if this importance varies; we find that the elements of disclosure of the company's activities and products and the disclosure of the nature and shape of the company's administrative and accounting systems are the most important in the field of the nature and characteristics of the company's activity, while the element of internal control means is The most important in the field of non-financial information on the environment of the internal control system, and it was found that the two elements revealing information about customers and revealing information about employment are the most important in the field of non-financial information about the elements of accounting analysis and interpretation.

With regard to the second hypothesis of the extent of the existence of statistically significant differences between the central agency auditors and auditing offices in determining the most important pictures, motors, citizen and the effects of the risks of management fraud, it was found that there are no statistically significant differences between the central agency auditors and auditing offices in determining the most important pictures, engines and citizens The effects of the risks of management fraud in some elements, but there are differences in some others. The researcher attributes this difference to the difference in the nature and scope of work between the auditors of the central agency and the audit offices.

With regard to the third assumption in terms of the relationship between the elements of non-financial information and the mechanisms to address the risks of management fraud, it was found that there is a directness between the internal control evaluation mechanism as one of the mechanisms to address the risks of management fraud and some elements of non-financial information, and there is also a positive relationship with statistical significance among all the mechanisms of processing the risks of management fraud and all elements of non-financial information related to the internal control system environment group. It is noted that this result clarifies the importance of non-financial information in the field of control systems in reducing the risks of management fraud.

Finally, regarding the increasing role of corporate governance in all business issues [21,22,23,24], firms should adopt an optimal corporate governance structure in order to increase the quality of financial reports and to reduce financial frauds

References

- [1] Ames D., Brazel, J.F., Jones, K.L., Rich, J.S. & Zimbelman, M.F., "Using nonfinancial measures to improve fraud risk assessments," *Current Issues in Auditing*, American Accounting Association, Volume 6, (1), 28-34, 2012.
- [2] Mustafa, Sadiq Hamid., "Measuring the impact of financial and non-financial information on the performance of analytical procedures for planning the audit process: a pilot study," *Journal of King Abdulaziz University: Economics and Administration*, Volume 18, (2), 81-116, 2004.
- [3] El Helou, Sherin Mostafa, "The Auditors' Professional Responsibility in Detecting Fraud and Error in Financial Statements: An Empirical Study of Auditing Firms in Gaza Strip," Master Thesis, Available: <https://www.mobt3ath.com/uplode/book/book-27341.pdf>.
- [4] Brazel, J.F., Jones, K.L. & Zimbelman, M.F., "Using nonfinancial measures to assess fraud risk," *Journal of Accounting Research*, Volume 47 (5), 1135-1166, 2009.
- [5] Marilena, M., Alina, T., "The significance of financial and non-financial information in insolvency risk detection," in 4th World Conference on Business, Economics and Management, WCBEM, *Procedia Economics and Finance* 26, 750-756, 2015.
- [6] Al-Otaibi, Abdullah, "The value of non-financial information in the risk management of small and medium-sized enterprises in the Kingdom of Saudi Arabia," *Journal of Contemporary Commercial Research*, Faculty of Commerce, Sohag University, Volume 26, (1), 281-302, June 2012.
- [7] Altman, E. I., Sabato, G., and Wilson, N., "The value of non-financial information in small and medium-sized enterprise risk management," *Journal of Credit Risk*, Vol. 6, (2), 95-127, Summer 2010.
- [8] Gana, H., Park, N., Suh, S., "Non-financial performance measures, CEO compensation, and firms' future value," *Journal of Business Research*, Volume 110, March 2020, Pages 213-227.
- [9] Rezaee, Z. and Tuo, L., "Voluntary disclosure of non-financial information and its association with sustainability performance," *Advances in Accounting*, Volume 39, 47-59, December 2017.
- [10] Dorina, P., Victoria, B., and Diana, B., "Aspects Of Company Performance Analysis Based On Relevant Financial Information And Nonfinancial Information," *The Journal of the Faculty of Economics – Economic*, Volume 1, (1): 956-961, 2012.
- [11] Eccles, R.G., Serafeim, G. and Krzus, M.P. (2011), Market Interest in Nonfinancial Information. *Journal of Applied Corporate Finance*, 23: 113-127.
- [12] Al-Mazraqi, Abdullah Saeed, Saleh Abdul-Rahman Al-Saad, "The impact of accounting and non-accounting information on the decision in circulation in the Saudi stock market: a field study," *Journal of King Abdulaziz University: Economics and Administration*, Volume 24, (1), 87-148, 2010.
- [13] Cardinaels, E., and van Veen-Dirks, P. M. G., "Financial versus non-financial information. The impact of information organization and presentation in a balanced scorecard," *Accounting, Organizations and Society*, Volume 35, (6), 565-578, 2010.
- [14] Simpson, A., "Analysts' Use of Nonfinancial Information Disclosures," *Contemporary Accounting Research* Volume 27, (1), 249-288, 2010.
- [15] Orens, R. and Lybaert, N., "Does the financial analysts' usage of non-financial information influence the analysts' forecast accuracy? Some evidence from the Belgian sell-side financial analyst," *The International Journal of Accounting*, Volume 42(3), 237-271, 2007.
- [16] Al-Washali, Akram Muhammad Ali, "The extent to which the audit plans respond to the risks of management fraud in light of the recent requirements of the audit criteria: a "field study," in *The Accounting Profession in the Kingdom of Saudi Arabia and the Challenges of the Twenty-first Century*", (in Saudi Arabia), King Saud University.
- [17] Cohen J., Krishnamoorthy G., and Wright A., "Waste is our business inc.: the importance of nonfinancial information in the audit planning process" *Journal of Accounting Education*, Volume 26, (3), 166-178, 2008.
- [18] Lajnef, K., Ellouze, S., and Ben Mohamed, E., "How to explain accounting manipulations using the cognitive mapping technique? An evidence from Tunisia," *American Journal of Finance and Accounting*, Inderscience Enterprises Ltd, Volume 5, (1), pages 31-50, January 2017.
- [19] Baccar, A., Ben Mohamed, E., & Bouri, A. (2016). Managerial psychology and corporate investment rationality: Evidence from Tunisian listed firms. *Savings and development*, 40(1), 51-73.
- [20] Baccar, A., Ben Mohamed, E., & Bouri, A. (2013). Managerial Overconfidence and Board Characteristics: Toward a New Role of Corporate Governance. *Australian Journal of Basic and Applied Sciences*, 7(7), 287-301.
- [21] Ben Mohamed, E., Baccar, A., Fairchild, R., & Bouri, A. (2012). Does Corporate Governance Affect Managerial Optimism: Evidence from NYSE Panel Data Firms. *International Journal of Euro-Mediterranean Studies*, 5(1), 41-56.
- [22] Mohamed BE and Jarbou S (2016). Do corporate governance mechanisms affect public transport firm value?. *Journal of the Knowledge Economy*: 1-13.
- [23] Mohamed, E.B. and M.A. Shehata, R&D investment cash flow sensitivity under managerial optimism. *Journal of Behavioral and Experimental Finance*, 2016. 14: p. 1-4.
- [24] Ezzeddine Ben Mohamed, Garoui, Nassreddine, Naoui, Kamel (2020). Do optimistic managers destroy firm value? *Journal of Behavioral and Experimental Finance*, Volume 26, June 2020, 100292.

