



Munich Personal RePEc Archive

**Factors Affecting Detection of
Manipulation in Financial Statements:
An Empirical Study from Auditors'
Perspective**

Mahami, Zouleykha and Mouloudj, Kamel

University of Medea, University of Medea

9 June 2020

Online at <https://mpra.ub.uni-muenchen.de/108008/>
MPRA Paper No. 108008, posted 31 May 2021 08:53 UTC

Factors Affecting Detection of Manipulation in Financial Statements: An Empirical Study from Auditors' Perspective

Zouleykha Mahami & Kamel Mouloudj
University of Medea, Algeria

Received: 22/12/2019

Accepted: 09/06/2020

Published: 30/06/2020

Citation: Mahami, Z., and Mouloudj, K. (2020): Factors affecting detection of manipulation in financial statements: an empirical study from auditors' perspective. *Journal of Business Administration and Economic Studies*, Vol. 6, No. 1, pp. 11-24.

Abstract

This study examines whether independence of external auditor, auditor industry specialization and ethical commitment of external auditor, improves the ability to detect manipulation in Financial Statements. Using a 25-item questionnaire and convenience sampling method, the data were collected from 76 auditors. The results show that the auditor industry specialization and ethical commitment of auditor have a significant positive impact on detect manipulation in Financial Statements. While independence of auditor not significantly affecting detect manipulation.

Keywords: Independence; Ethics of auditor; Auditor Specialization; Manipulation; Financial Statements.

JEL Classification Codes: M41; M42

العوامل المؤثرة في اكتشاف التلاعب بالقوائم المالية: دراسة ميدانية من وجهة نظر مراجعي الحسابات

الملخص:

تبحث هذه الدراسة فيما إذا كانت استقلالية المراجع، التخصص الصناعي للمراجع والالتزام الأخلاقي للمراجع الخارجي يعملون على تحسين القدرة على اكتشاف التلاعب في القوائم المالية. تم جمع البيانات باستخدام استبيان مكون من 25 بند من خلال عينة ملاءمة مشكلة من 76 مراجع. أشارت النتائج إلى وجود أثر دال معنويًا لكل من التخصص الصناعي والالتزام الأخلاقي للمراجع الخارجي في اكتشاف التلاعب بالقوائم المالية، في حين تبين أن الاستقلالية لا تؤثر بشكل دال معنويًا في اكتشاف التلاعب.

الكلمات المفتاحية: الاستقلالية؛ أخلاق المراجع؛ تخصص المراجع؛ التلاعب؛ القوائم المالية.

I. Introduction:

According to report of Association of Certified Fraud Examiners (ACFE, 2014, p.12), occupational frauds by category - frequency are: asset misappropriation (85.4%), corruption (36.8%) and financial statement fraud (9.0%). Financial statement manipulation is one of the financial crimes; it is a highly complex phenomenon. Accounting manipulation can cause some serious damage to company, such as ruining the reputation, the stock price plunges, bankruptcy, and forcing the company to go out of business, etc. Wherefore, accounting manipulation has become of concern to stakeholders.

Accounting manipulation can occur in many different forms. Some of the most common forms of financial statement manipulations facing the external auditors are recording revenue prematurely or of questionable quality, recording fictitious revenue, increasing income with one-time gains, shifting current expenses to an earlier or later period, failing to record or improperly reducing liabilities, shifting current revenue to a later period, shifting future expenses to the current period as a special charge (Bhasin, 2016, p.202). In the same context, Sherman and Young (2001) identified common abuses in six areas: revenue measurement and recognition, provisions and reserves for uncertain future costs, asset valuation, derivatives, related party transactions, and information used for benchmarking performance.

The Middle East and North Africa had the largest percentage of reported corruption cases, followed by Sub-Saharan Africa (ACFE, 2014, p.14). In Algeria, there is evidence of manipulation cases becoming graver and more complex over the past two decades, such as the manipulation that occurred in the El Khalifa Bank, it is known as "the scandal of the century" or "the scandal of scandals". On this basis, identifying the factors that help external auditors from detecting accounting manipulation is an important starting point in considering efforts to enhance auditors' abilities to detecting manipulation.

Some previous studies have investigated the factors that affecting detection of manipulation in financial statements, among these are auditor competency and digital forensic support (Susanto et al., 2019), ethics of auditors (Al Momani and Obeidat, 2013), external pressure, changing auditors and effectiveness of monitoring (Supri, Rura and Pontoh, 2018), auditor's independence and auditor's industry specialization (Sarwoko and Agoes, 2014), and managerial ownership (Ferdinand and Santosa, 2018). In addition, according to American Institute of Certified Public Accountants (AICPA, 2017, p.19) the auditor's ability to detect a fraud can affected by the skillfulness of the perpetrator, the frequency and extent of manipulation, the degree of collusion involved, the relative size of individual amounts manipulated, and the seniority of those individuals involved.

Researchers have conducted several studies on accounting manipulation to understand the causes and motivations (e.g. Noor et al., 2015; Kassem, 2016), detecting the manipulation (Perols, 2011; Drábková, 2015; Eusebio, 2016; Supri, Rura and Pontoh, 2018), influencing factors (Hastuti and Gozali, 2015; Manurung and Hardika, 2015; Ferdinand and Santosa, 2018), types of

manipulations (Dimitrijevic, Jovkovic and Milutinovic, 2020), and consequences of financial statement manipulation (Isa, 2011). However, no serious studies have been conducted to identify the factors affecting detection of manipulation in Algeria.

Objectives of the Study:

The main contribution of this study is that it supplies recent evidence on factors affecting detect manipulation in financial statements in the Algerian context. Therefore, the objective of this study is: (1) to examine the relationship between independence of external auditor, auditor industry specialization, ethical commitment of external auditor and detection of manipulation in financial statements; (2) to determine whether the Algerian auditor is able to detect manipulation.; (3) to determine the most important factors that influence detection of manipulation in financial statements from the perspectives of external auditors; and (4) to provide some of recommendations which may help increase the ability to detect manipulation.

Research Questions:

This study seeks to answer the following questions:

- What is the extent of the Algerian auditor is able to detect manipulation?
- Does independence of external auditor improve the ability to detect manipulation?
- Does auditor industry specialization improve the ability to detect manipulation?
- Does ethical commitment of external auditor improve the ability to detect manipulation?

The remainder of this study is organized as follows. Section 2 describes the financial statement manipulation, and then present relevant literature review and hypotheses. Section 3 explains method and procedures. Section 4 presents the main results, discussions thereof. Section 5 concludes, and limitations and future research agenda are outlined.

II. Literature review and hypotheses development:

1. Financial Statement Manipulation:

The Collins English Dictionary defines fraud as “the crime of gaining money or financial benefits by a trick or by lying”. According to Wells (2014, p.8) company fraud as “the use of one's occupation for personal enrichment through the deliberate misuse or application of the employing organisation's resources or assets". Similarly, Gabrielli and Medioli (2019, p.77) defined financial statement fraud as “violation of accounting and auditing standards, laws and regulations enforced by any relevant reporting bodies, intentionally committed the wrong doings with the purpose to deceive the users of the financial statements”. The Association Of Certified Fraud Examiners (ACFE) defined fraudulent financial reporting as “the intentional, deliberate, misstatement or omission of material facts, or accounting data to mislead and, when considered with all the information made available, would cause the reader to alter his or her judgment in making a decision, usually with regards to investments” (ACFE, 2014). Accounting manipulation involves the intentional cooking-up of financial records towards a pre-determined target (Bhasin, 2016). Hence, presently manipulation of financial statements more difficult to detect (Hastuti and Gozali, 2015).

In this study, financial statement manipulation is defined as *all forms and types of forgery, fraud, deliberate errors, and concealment including embellishment of accounts, employed in financial statements with the intention to mislead or deceive stakeholders*. Therefore, all offenses that employ trickery are frauds. In the broadest sense, fraud can encompass any crime for gain that uses deception as its principal modus operandi (Wells, 2014, p.8), it may be possible by force, trickery, or larceny.

Bhasin (2016, p.199) recommended that “all types of accounting manipulation practices should be legally recognized as a serious crime, and accounting bodies, law courts and regulatory authorities must adopt exemplary punitive measures to prevent such unethical practices”. According to Wells (2014, p.8) four elements must be present for a fraud to exist: (1) a material false statement; (2) knowledge that the statement was false when it was uttered; (3) reliance of the victim on the false statement; and (4) damages resulting from the victim’s reliance on the false statement.

In Indonesia, Ferdinand and Santosa (2018) found that audit committee characteristics, managerial ownership, leverage and liquidity have significant influence to the fraudulent financial statement report. Also, Supri, Rura and Pontoh (2018) found that financial stability, external pressure, financial targets and auditor change's has positive and significant effect on financial statements fraud, but nature of industry and director change's has not significant. While Manurung and Hardika (2015) they analyzed factors that influence financial statement fraud in the Indonesian context, the results indicate that (1) pressure, includes financial stability, external pressure and financial targets; (2) opportunity, includes nature of the industry and ineffective monitoring; and (3) rationalization, includes change in the auditor does not affect the financial statement fraud. But the turn of directors gave a positive influence on the financial statement fraud.

In addition, Kassem (2016) examined how external auditors could assess various fraud factors of financial reporting in the Egyptian context; the results indicate that management integrity is an important factor in assessing the risk of financial reporting fraud. Sometimes accounting manipulation is complex and difficult to detect. For example, in India, Company Satyam Computer Services has used computers intelligently to manipulate account books, such as create fictitious sales or invoices, inflating revenue and gains to pull investor's interest, and inclusion of fictitious (ghost) employees (Bhasin, 2016).

In Report of ACFE , 1483 cases of fraud analyzed, and it was found that the most common detection methods for cases of occupational fraud are: tips (42.2%), management review (16.0%), internal audit (14.1%), by accident (6.8%), account reconciliation (6.6%), document examination (4.2%), external audit (3.0%), surveillance/monitoring (2.6%), notified by law enforcement (2.2%), IT controls (1.1%), confession (0.8%) and Other (0.5%) (ACFE, 2014, p.19). Drábková (2015) concluded that it is appropriate to use the combination of several models to detect manipulation in financial statements.

Many previous studies gave empirical evidence about the ability of financial measures to detect or predict financial statements manipulations. Trussel (2013) developed multivariate model

for use in compute the probability of accounting manipulation, this model include six basic financial indicators: surplus margin, deferred expenses ratio, revenues growth, depreciation rate-programs, deferred revenues ratio and program-spending ratio change. He found that potential accounting manipulation have lower surplus margins, less deferred expense, similar growth rates, more depreciation allocated to programs, less deferred revenue, and higher changes in program-spending ratios compared to non-manipulators. Also, Perols (2011) indicates that six independent variables that to predict fraud detection are: auditor turnover, total discretionary accruals, Big 4 auditor, accounts receivable, meeting or beating analyst forecasts, and unexpected employee productivity. However, Eusebio (2016) found that non-financial measures have reveled high effectiveness in the detection of financial statement manipulations.

2. The determinants of detect accounting manipulation:

Among the many factors affecting the detection of manipulation in financial statements, we chose to focus on three factors in this study are: (1) independence of external auditor; (2) auditor industry specialization; and (3) ethical commitment of external auditor.

A. Independence of external auditor:

Independence of the external auditor is one of the most important issues in the auditing profession. Independence is considered an important attribute of external auditors (Antle, 1984). Audit independence is defined as "an auditor' unbiased mental attitude in making decisions throughout the audit and financial reporting" (Bartlett, 1993). According to Agoes (2012), there are three kinds of independence, are: independent in appearance, independent in fact and independent in mind. Bakar and Ahmad (2009) found that risk of losing independence is related to (1) high the level of audit fees paid by client, (2) a higher level of competition between existing auditors, (3) smaller audit firms, (4) build a long-term client relationship, (5) providing management advisory services, and (6) absence of the audit committee. Sarwoko and Agoes (2014) found that auditor's independence has significant influence on the implementation of audit procedures to detect fraud. Therefore, the independence of an auditor from his client is fundamental to reporting a discovered fraud (DeAngelo, 1981). On the basis of the above, it can be hypothesized that:

H1: Independence of external auditor has a positive impact on detect manipulation in financial statements.

B. Auditor industry specialization:

According to Arens et al. (2011) a specialist auditor is an auditor who has a knowledge, experience, and deep understanding in a specific industry. Solomon, Shields and Whittington (1999, p.191) defines the auditor's specialty as "auditors who are so designated by their firms and whose training and practice experience largely are in a particular industry". Industry-specialist auditors have more ability to detect material misstatements resulting from fraud and manipulation in financial statements (Mukhlasin, 2018).

Carcello and Nagy (2004) discovered a significant negative relationship between auditor industry specialization and fraudulent financial reporting. Mukhlasin (2018) found that auditor

industry specialization has a positive effect on fraudulent financial reporting. Sarwoko and Agoes (2014) found that auditor's industry specialization has significant effect on the implementation of audit procedures to detect fraud. Also, Hegazy, Al Sabagh and Hamdy (2015) found that specialist auditors performed significantly better than non-specialist auditors in detecting fraud and misstatements. However, Fossung and Saurelle (2019) found that the auditor industry specialization did not reduce manipulation of accounting and financial information. Therefore, it is possible that the positive correlation between auditor industry specialization and ability to detect manipulation in financial statements. On the basis of the above, it can be hypothesized that:

H2: Auditor industry specialization has a positive impact on detect manipulation in financial statements.

C. Ethical commitment of external auditor:

Commitment to the auditor's professional ethics is deemed essential to gain stakeholders' trust. Unfortunately, not everyone who works in the audit profession is trustworthy. Albeksh (2005) indicate that collapse of Enron Company was not due to the international standards on auditing (ISAs) but the audit failed in the ethical aspects as a result of continuous deception, greed, bribery, speculation and fraud. Hence, in order to increase stakeholders' confidence, accountants and auditors must adhere to fundamental principles of ethical standards (Ethical Codes) established by professional groups. These principles include: (1) independence and objectivity; (2) integrity; (3) confidentiality; (4) professional competence; (5) due care; and (6) professional behavior.

In Algeria, the Executive Decree No. 96-136 of April 15, 1996 addressed expert Accountant, Accountant, and Certified Accountant's profession ethics, the decree dealt with profession ethics in terms of three aspects professional relationship (auditor, expert, and accredited accountant) with his clients, relationship with the union, relationship with fellow colleagues, this law vehemently emphasized the following ethical principles: honesty, independence, professional conscience, diligence, impartiality, sincerity, legitimacy and professional confidence. Whereas, Law 10-01 of June 29, 2010 focused on regulating the accounting profession and the responsibilities of its practitioners (general and civil responsibilities, exercising activity requirements, etc.), and merely made reference to the need to adhere to certain ethical duties. Several decrees organizing the auditing profession were issued. Accordingly, it appears that Algeria is not in lack of laws related to the ethics of the auditing profession, but rather in implementing those ethics on the ground and do not remain merely ink on paper, and effectively invigorate supervision and accountability and increasingly promoting ethical practices among accounting professionals and auditors especially after the rampant corruption that Algeria has been witnessing in the yesteryears.

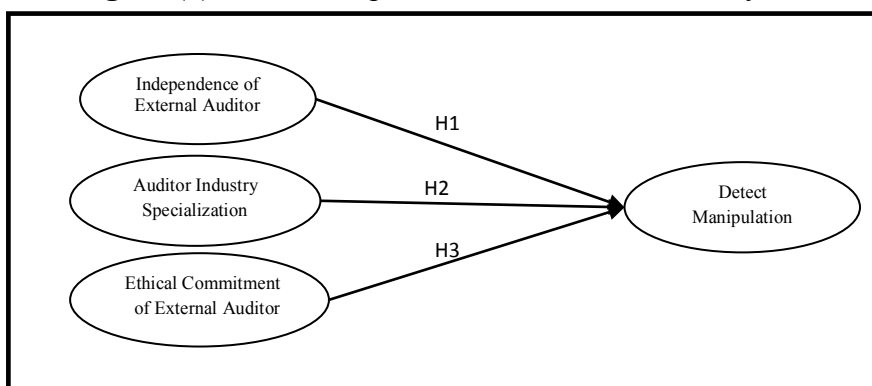
There is no doubt that the quality of audit is associated with low-level of manipulation in financial statements. Kuntari, Chariri and Nurdhiana (2017), found that auditor ethics had a significant positive effect on audit quality. Nasrabadia and Arbabian (2015) found a positive relationship between professional ethics (confidentiality and impartiality, professional competence, accountability and individual values) and audit quality. Also, Al qtaish, Baker and Othman (2014) found that auditors professional ethics (include, independence of the auditor, auditor's straightening

and integrity, efficiency of the auditor, commitment to professional, the auditor's commitment to the confidentiality of information) has a positive impact on quality audit. On the basis of the above, it can now be hypothesized that:

H3: Ethical commitment of external auditor has a positive impact on detect manipulation in financial statements.

Figure 1 shows the conceptual framework of the study.

Figure (1): The Conceptual Framework of this Study



III. Method and procedures:

1. Developing measurement instruments:

The data collection methodology for this study is a survey research. In accounting studies survey method of primary data collection is used in order to test proposed hypothesis, reflect attitude of respondents (auditors in our case). We used the questionnaire to collect large amount of data in a short period of time. The first part of the questionnaire includes demographic characteristics of the respondents (such as gender, age and professional experience). The second part contained a total of 15 items designed to measure fundamental three factors affecting an auditor to detect manipulation in financial statements. Five items to measure independence of external auditor (IEA) adopted from Ahmad (2012), five items to measure auditor industry specialization (AIS) adopted from Elshawarby (2017), five items to measure ethical commitment of external auditor (ECEA) adopted from Al qtaish, Baker and Othman (2014). The third part contained a total of ten items designed to measure detect manipulation in financial statements (DMFS) adopted from Al Momani and Obeidat (2013). Which have been modified to be consistent with purpose of the current study. Hence, research measurements were adapted from previous studies as can be seen in the Tables 5 and 6. All measurements in the study were subjective assessments by the respondents using a five-point Likert-type scale (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree and 5. Strongly agree).

2. Population and sample:

The population for the current research is all practitioners in the field of auditing in Algeria. Practitioners include external auditors that are registered in table of national order of accounting experts and auditors (2019). There are 323 accounting experts and 2379 auditors registered in

Algeria in 2019. The total number of authorized audit practitioners 2702 auditors. The sample is selected using non-probability convenience sampling, which includes those who have the willingness to participate in survey. The participants were contacted by mail, facebook or personally. Data collection took place from September 3 to October 15, 2019. In total, 100 questionnaires were distributed and 79 questionnaires were returned. However, the analyses were carried out on 76 questionnaires because three of them were either incomplete or incorrect.

Table (1) shows the proportional distribution of the sample members according to their some demographic.

Table (1): Study Sample Characteristics

Characteristic	Variables	Percentage	Frequency
Gender	Male	53	69.74
	Female	23	30.26
Age	Under 30	07	09.21
	31-40	37	48.68
	above 40	32	42.11
Profession	Accounting Expert	05	06.58
	Auditor	68	89.47
	Undefined	03	03.95
Experience	Under 5	11	14.47
	6-10	29	38.16
	above 10	36	47.37

The results show that most of the members of the sample are male with percentage of 69.74%. The higher percent of the respondents was those who fall in the age ranges 31-40 years old (48.68%). With regards to qualifications of the respondents, majority of respondents are auditors (89.47%), and (06.58%) respondents are accounting experts. The majority of the respondents (47.37%) had experience of above 10 years.

IV. Empirical results:

1. Constructs reliability:

The reliability of the research instrument was assessed by examining the Cronbach's alpha coefficient. Table 2 shows the variables used in the scale, their number of items and inter reliability of the scale. A value greater than 0.6 indicates satisfactory internal consistency reliability (Malhotra, 2010). The reliability for the independence of external auditor construct was satisfactory with a value of 0,895. The Cronbach Alpha values for the auditor industry specialization 0,897. For ethical commitment of external auditor 0,911 and for detect manipulation 0,939. These values indicate that the scales were reliable and all items should be included in the scale.

Table (2): Results of reliability analysis

Construct	No. of Items	Alpha
Independence of External Auditor	5	,895
Auditor Industry Specialization	5	,897
Ethical Commitment of External Auditor	5	,911
Detect Manipulation in Financial Statements	10	,939

2. Correlation between research constructs:

Table 3 shows that there is strong relationship between independence of external auditor and detect manipulation, mediator at $r=.793$ (value of $p \leq .01^{**}$). Also, auditor industry specialization has also strong relationship with detect manipulation ($r=.902$, at value of $p \leq .01^{**}$). Similarly, ethical commitment of external auditor has also strong relationship with dependent variable i.e. the detect manipulation ($r=.860$ at value of $p \leq .01^{**}$).

Table (3): Correlation between research constructs

Construct	Mean	SD	IEA	AIS	ECEA	DMFS
IEA	3,7079	,8355	1	-	-	-
AIS	3,7474	,8329	,837**	1	-	-
ECEA	3,6553	,8214	,737**	,866**	1	-
DMFS	3,7763	,7704	,793**	,902**	,860**	1

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

3. Testing of hypotheses:

Multiple linear regression is a model used to explain the relationship between one dependent variable and two or more independent variables. To test our research hypotheses, we conducted a multiple linear regression to evaluate degree of importance of each variable (Table 4). We note that the global regression model is significant ($p= 0,000 < 0,05$).

Table (4): Regression Analysis Results for Detection of Manipulation

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(constant)	,459	,176		2,605	,011
IEA	,107	,079	,116	1,355	,180
AIS	,498	,107	,538	4,642	,000
ECEA	,289	,088	,308	3,276	,002

Dependent Variable: Detection of manipulation in financial statements.

Independent variables: Independence of external auditor (IEA), Auditor industry specialization (AIS), Ethical commitment of auditor, Ethical commitment of external auditor (ECEA).

Notes: Model summary: $R = 91,8$ per cent; R Square = $84,2$ per cent; Adjusted R Square = $83,5$ per cent; $F = 128,822$; $P = 0.000$ ($p < 0.05$).

The relationship between auditor industry specialization and detect manipulation in financial statements is positive ($\beta = ,498$; $t = 4,642$). Hence, H2 is supported. This suggests that an increase in the level of professional specialty of external auditor would have a higher ability to detect

manipulation in financial statements and vice versa. For example, specialization in hotels auditing or public hospitals. This can be explained by the fact that specialist auditors have more accurate knowledge of the techniques used for the manipulation of accounting information in a particular industry. This result is consistent with earlier research. For example, Mukhlisin (2018) found that industry specialization auditors are able to detect financial reporting fraud.

The relationship between ethical commitment of external auditor and detect manipulation in financial statements is positive ($\beta = ,289$; $t= 3,276$). Hence, H3 is supported. This suggests that an increase in the level of ethical commitment of external auditor would have a higher ability to detect manipulation in financial statements and vice versa. This result are consistent with the Al Momani and Obeidat (2017) study which found that audit ethics (integrity, objectivity, contingent fees, advertising rights, commission determination, organization form, and name) affect auditors' ability to detect the practices of creative accounting.

The relationship between independence of external auditor and detect manipulation in financial statements is positive ($\beta = ,107$; $t= 1,355$). However, no significant association was found (Sig. = 0.180). Hence, H1 is rejected. This result is inconsistent with the Gore et al., (2009) study which found that audit independence has a positive relationship with the level of earnings management. This suggests that an increase in the level of independence of external auditor do not necessarily increase ability to detect manipulation in financial statements. This result can could be explained by the fact that auditor is not wholly independent of his client, particularly for an auditor who works in a corrupt environment. In addition, there may be other reasons, such as external pressures, intersection of interests, lack of transparency and accountability, and difficult of information access.

We can conclude that the variables “auditor industry specialization” and “ethical commitment of external auditor” positively impact the detection of manipulation in financial statements. These variables determine detect manipulation. Based on the SPSS output, the following multiple regression equation was formed:

$$DMFS = 0,495 + 0,498 AIS + 0,289 ECEA$$

The values of the un-standardized Beta coefficient among the independent variables shows that “auditor industry specialization” (0.495) is the most important antecedent in detection of manipulation in financial statements and this indicates that by changing the value of auditor industry specialization by 1-unit (assuming other variables are fixed) will cause 0,495 + 0,498 changes in the ability to detect manipulation. In addition, the detection of manipulation is explained 84.2 percent by the combination of the two independent variables ($r^2=0.842$), which includes auditor industry specialization and ethical commitment of external auditor.

V. Conclusion:

Accounting manipulation can cause severe damage to owners, investors, tax administration, employees; it also undermines credibility and reliability of the auditors. The main purpose of financial information manipulation is to deceive the investors; an investment decision based on false financial information causes the investors to suffer losses (Isa, 2011). The findings of this study confirmed that both auditor industry specialization and ethical commitment of external auditor have a positive and significant effect on detection of manipulation in financial statements (H2 and H3). Our results indicate that auditor independence have no statistically significant effect on detection of manipulation. Accordingly, we conclude that auditor independence is necessary, but not sufficient to detect manipulation in financial statements.

The result indicates that the respondents (external auditors) have high level of ability to detect manipulation (Overall mean = 3.776), this means that by providing good working conditions, the Algerian auditor is able to effectively engaged in anti-corruption strategies. Finally, we can say that the fight against manipulations and fraud is everyone's responsibility. So, the authorities should encourage individuals (especially employees) to contact local judicial and security authorities if a person has any suspicion of wrongdoing. Based on the results of this study, there are some suggestions: (1) encouraging the trend towards the audit industry specialization, such as audit in private medical clinics, sports clubs, malls, universities and others, (2) include audit ethics in educational programs and teaching auditing ethics in universities and institutes, and (3) support the independence of the auditor.

This study has several limitations that could be addressed in future research. First, the use of the questionnaire in some accounting and auditing studies may not provide accurate results. Thus, future studies should rely on quantitative data. Secondly, in our study the relatively small sample size. Thus, future studies should increase sample size. Thirdly, we used convenience sampling; this may limit ability to generalize the results. Thus, it is recommended that future research using a random sampling. Lastly, there may exist other factors that affect detection of manipulation in financial statements. Other potential factors should be explored in future studies, such as use of Information and Communication Technology (ICT) in audit, competence and experience of the external auditor, audit quality, and religious commitment of the auditor.

VI. References:

- ACFE, (2014). Report to the Nations on Occupational Fraud and Abuse, Global Fraud Survey, Association of Certified Fraud Examiners. Available at: <https://www.acfe.com/rtnn/docs/2014-report-to-nations.pdf> (15/10/2019).
- Ahmad, M. B. (2012). Auditor independence in Malaysia: The perceptions of loan officers and professional investors, Doctoral dissertation, Cardiff University, UK.
- Albeksh, H. M. A. (2016). The Crisis of the Ethics of Audit Profession: Collapse of Enron Company and the Lessons Learned. Open Access Library Journal, 3(11), 1-18.

- Al qtaish, H. F., Baker, M. A. A., and Othman, O. H. (2014). The ethical rules of auditing and the impact of compliance with the ethical rules on auditing quality. *International Journal of Research and Reviews in Applied Sciences*, 18(3), 248-262.
- Al Momani, M. A., and Obeidat, M. I. (2013). The effect of auditors' ethics on their detection of creative accounting practices: a field study. *International Journal of Business and Management*, 8(13), 118-137.
- American Institute of Certified Public Accountants (AICPA), (2017). *Audit and accounting guide: Not-for-profit entities*, AICPA, Inc., New York.
- Antle, R. (1984). Auditor independence. *Journal of Accounting Research*, 22(1), 1-20.
- Arens, A. A., Best, P., Shailer, G., Fidler, B., Elder, R. J., & Beasley, M. S. (2011). *Auditing assurance services in Australia: an integrated approach* (8th edition). Pearson, Australia.
- Bakar, N.B., and Ahmad, M.B., Auditor independence: Malaysian accountants' perceptions. *International Journal of Business and Management*, 4(12), 2009, 129-141.
- Bartlett, R. G., (1993). A scale of perceived independence: New evidence on an old concept. *Accounting, Auditing and Accountability Journal*, 6(2), 52-67.
- Bhasin, M. L. (2016). Accounting manipulation practices in financial statements: an experience of an Asian economy. *International Journal of Economics and Financial Research*, 2(11), 199-214.
- Carcello, J., and Nagy, A.,(2004). Client size, auditor specialization and fraudulent financial reporting. *Managerial Auditing Journal*, 19(5), 651-668.
- DeAngelo, L. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3), 183-199.
- Dimitrijevic, D., Jovkovic, B., and Milutinovic, S. (2020). The scope and limitations of external audit in detecting frauds in company's operations, *Journal of Financial Crime*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JFC-11-2019-0155>
- Drábková, Z., (2015). Analysis of possibilities of detecting the manipulation of financial statements in terms of the IFRS and Czech accounting standards. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(6), 1859–1866.
- Elshawarby, M. A. (2017). Auditor's professional specialization role in reducing the potential negative effects of mandatory audit-firm rotation on audit quality, *Journal of Accounting & Marketing*, 6(3), 1-9.
- Eusebio, N. (2016). How to detect account manipulation-the real Gowex case. *Revista de Contabilidad y Dirección*, 23, 135-156.
- Executive Decree No. 96-136 of April 15, 1996, concerning the code of ethics for professional accountants, People's Democratic Republic of Algeria, Official journal (Government Gazette), No. 24, issued on April 17, 1996.
- Ferdinand, R., and Santosa, S. (2018). Factors that influence fraudulent financial statements in retail companies – Indonesia. *Journal of Applied Accounting and Finance*, 2(2), 99-109.
- Fossung, M. F., and Saurelle, M. W. (2019). External audit and quality of accounting and financial information in Cameroonian companies. *European Journal of Accounting, Auditing and Finance Research*, 7(3), 55-72.
- Gabrielli, G., and Medioli, A. (2019). An overview of instruments and tools to detect fraudulent financial statements. *Universal Journal of Accounting and Finance*, 7(3), 76-82.
- Gore, P., Pope, P., and Singh, A., (2001). Non-audit services, auditor independence and earnings management. *Accounting and Finance Working Paper Series* (2001/014), The Department of Accounting and Finance, Lancaster University.
- Hastuti, T. D., and Gozali, I., (2015). Manipulation detection in financial statements. *International Journal of Humanities and Management Sciences (IJHMS)*, 3(4), 222-229.

- Hegazy, M., Al Sabagh, A., and Hamdy, R. (2015). The effect of audit firm specialization on earnings management and quality of audit work, *Journal of Accounting and Finance*, 15(4), 143-165.
- Law No. 10-01 of June 29, 2010 relating to the professions of chartered accountant, auditor and certified accountant. People's Democratic Republic of Algeria, Official journal (Government Gazette), No. 42, issued on July 11, 2010.
- Isa, T. (2011). Impacts and losses caused by the fraudulent and manipulated financial information on economic decisions. *Review of International Comparative Management*, 12(5), 929-939.
- Kassem, R., (2016). Detecting Financial Reporting Fraud: The Impact and Implications of Management Motivations for External Auditors – Evidence from the Egyptian Context. Doctoral dissertation, Loughborough University, UK.
- Kuntari, Y., Chariri, A., and Nurdhiana, N. (2017). The effect of auditor ethics, auditor experience, audit fees and auditor motivation on audit quality. *Sriwijaya International Journal of Dynamic Economics and Business*, 1(2), 203-218.
- Malhotra, N.K., (2010). *Marketing research: An applied orientation*, 6th edition, Pearson, New Jersey.
- Manurung, D. T. H., and Hardika, A. L. (2015). Analysis of factors that influence financial statement fraud in the perspective fraud diamond: Empirical study on banking companies listed on the Indonesia Stock Exchange year 2012 to 2014. *International Conference on Accounting Studies (ICAS)*, 17-20 August 2015, Johor Bahru, Malaysia.
- Mukhlisin, M. (2018). Auditor tenure and auditor industry specialization as a signal to detect fraudulent financial reporting. *Academy of Accounting and Financial Studies Journal*, 22(5), 1-10.
- Nasrabadia, A., and Arbabian, A. (2015). The effects of professional ethics and commitment on audit quality. *Management Science Letters*, 5, 1023–1028.
- Noor, N., Sanusia, Z., Heang, L., Iskandar, T., and Isa, Y. (2015). Fraud motives and opportunities factors on earnings manipulations. *Procedia Economics and Finance*, 28(1), 126-135.
- Perols, J. (2011). Financial statement fraud detection: an analysis of statistical and machine learning algorithms. *Auditing: A Journal of Practice & Theory*, 30(2), 19–50.
- Sarwoko, I., and Agoes, S. (2014). An Empirical analysis of auditor's industry specialization, auditor's independence and audit procedures on audit quality: evidence from Indonesia. *Procedia - Social and Behavioral Sciences*, 164, 271-281.
- Sherman, H.D., and Young, S.D. (2001). Tread lightly through these accounting minefields. *Harvard Business Review*, 79(7), 129–135.
- Solomon, I., Shields, M. D., and Whittington, O. R. (1999). What do industry-specialist auditors know?, *Journal of Accounting Research*, 37(1), 191-208.
- Supri, Z., Rura, Y., and Pontoh, G. T. (2018). Detection of fraudulent financial statements with fraud diamond, *Journal of Research in Business and Management*, 6(5), 39-45.
- Susanto, H., Mulyani, S., Azhar Azis, H., and Sukmadilaga, C. (2019). The level of fraud detection affected by auditor competency using digital forensic support. *Revista Internacional de Filosofía Iberoamericana y Teoría Social*, 24(5), 252-267.
- Trussel, J. (2003). Assessing potential accounting manipulation: the financial characteristics of charitable organizations with higher than expected program-spending ratios. *Nonprofit and Voluntary Sector Quarterly*, 32(4), 616-634.

Wells, J. T. (2014). Principles of Fraud Examination (4th edition). John Wiley and Sons, Hoboken, New York.

Appendices:

Table (5): Descriptive Statistics of Independent Variables

No.	Items	Mean	SD
IEA1	A lengthy relationship with an audit client affects confidence in an auditor's independence.	3,684	1,073
IEA2	Even though an external auditor is economically dependent upon its audit client, it could still maintain its independence from that client.	3,697	1,033
IEA3	When an external auditor income is dependent on total fees generated from a single audit client, his/her ability to remain independent would be affected.	3,552	,914
IEA4	When an external auditor provides management advisory services to an existing audit client, the auditor's ability to remain independent would be affected.	3,697	,980
IEA5	An audit committee's existence may safeguard external auditor independence.	3,907	,968
AIS1	Auditor industry specialization contributes to the compliance of the auditors with the requirements of professional auditing rules.	3,697	1,006
AIS2	Auditor industry specialization contributes to increasing the auditor's ability to select clients carefully.	3,723	,903
AIS3	Auditor industry specialization contributes to detect complex types of manipulation in financial statements.	3,842	,938
AIS4	Auditor industry specialization would improve audit quality, make financial reporting more reliable.	3,736	1,075
AIS5	Auditor industry specialization will increase the ability to detect manipulation in financial statements.	3,736	1,011
ECEA	External auditor should be honest and truthful and legal.	3,750	,967
ECEA2	External auditor has to be trustworthy, keep promises and contracts and implement the obligations.	3,802	,993
ECEA3	External auditor must be careful that his name is not linked to any reports or information containing distorted or misleading data or ambiguity lead to misleading.	3,736	,957
ECEA4	The commitment to the ethical rules and standards that governing auditing profession would improve audit quality, make financial reporting more reliable.	3,460	,944
ECEA5	The commitment to the ethical rules and standards that governing auditing profession will increase the ability to detect manipulation in financial statements.	3,526	,916

Table (6): Descriptive Statistics of Dependent Variable

No.	Items	Mean	SD
DM1	I feel that I am able to detect the sale of assets at higher prices than its book value in selected periods, just to affect the client's profits.	3,592	,851
DM2	I feel that I am able to detect the artificial entries to affect profits in selected accounting periods.	3,684	,926
DM3	I believe that I am able to detect the sale of an asset and lease it again to increase profits.	3,828	1,050
DM4	I feel that I have the abilities to detect the transfer of transactions from period to period.	3,868	,956
DM5	I have the ability to detect the manipulation procedures that have been taken to capitalize non capitalizable expenses.	3,855	,948
DM6	I am able to detect any manipulation of inventory values.	3,802	,924
DM7	I am able to detect any manipulation of provisions.	3,802	,993
DM8	I can detect that company did not record some decreases in asset values.	3,828	,998
DM9	I think that I can detect that the company did not apply the principle of historical cost where it should be used.	3,750	,994
DM1	I can detect that revenue is recognized while the sale transaction is still incomplete.	3,750	,939