Evaluation of the Influence of IA roles and functions in preventing and detecting fraud in South African manufacturing SMEs

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Abstract. One of the significant challenges the African continent and South Africa are currently facing is fraud, theft, financial irregularities, and corrupt practices in all sectors, including manufacturing firms. There are numerous accounting scandals, financial fraud, asset and property misappropriation, alterations of financial statements, corruption, non-financial irregularities, non-compliance to accounting procedures, tax evasion, unethical practices and many more in manufacturing companies in Africa and South Africa. Due to this risk, confidence in the strength and dependability of the financial statements and reporting has significantly reduced, negatively affecting the economy.

This study surveyed 89 IA and their accounts officer counterparts working as IA in a manufacturing company across South Africa. Data was collected February 2019 to October 2021 to assess the evaluation of IA's roles and functions in preventing and detecting fraud and other financial irregularities. The study utilized SPSS 26, and a logistic regression model to analyze and unravel the influence of IA roles and functions. The findings show that the board should ensure an effective risk-based internal audit, which allows a risk-based approach in its policies, anti-fraud programs, and reports. Most of the IA confirms that theoretically, there is a whistleblowing policy but not practically effective and efficient. More fundamentally, most respondents confirmed that the functionality and effectiveness of IA programs and policies could shape corporate strategies and decisions. The implications or contribution of this study is to suggest that the board of directors and audit committee must engage more qualified and competent IA to develop more sophisticated internal control measures that will expose and report fraud, theft, unethical behavior and corrupt practices timeously, which is also in line with the report by the IIA 2019. In addition, management

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should provide technology and adequate resources to equip the IA department with the latest intelligence mechanisms. This will help prevent and detect fraud and other financial irregularities in South African manufacturing SMEs and produce cleaner audits for these companies.

1. Introduction

Some significant challenges the African continent and South Africa are facing are fraud, financial irregularities & manipulation and financial mismanagement in all sectors, including manufacturing firms (Lamptey and Singh, 2018). There have been numerous accounting scandals, financial fraud, asset and property misappropriation, alterations of financial statements, corruption, non-financial irregularities, non-compliance with accounting procedures, tax evasion and many more in business organizations in South African firms (Sewnath and Niemand, 2018). Due to this risk, the assurance of the dependability and impartiality of the financial statements of interested parties has been considerably reduced, which negatively undermines the influence of IA roles and functions (Alqudah et al., 2019).

Therefore, the focus of this study is to evaluate the influence of IA roles and functions for preventing and detecting fraud and financial irregularities in the manufacturing sector in South Africa. As Dirk Strydom stated in his lecture at the IIASA, "If internal auditors are supposed to challenge wrong practices within firms and are there every day as events leading to wrongdoing unfold, where were the IA of these companies where accounting fraud is unveiled" (Lamptey and Singh, 2018). On the other hand, recent incidents in South African companies are alarming. Such as the case of VBS mutual bank, the PRASA scandal, the Steinhoff debacle, and municipalities irregularities form the background of this study to evaluate the IA roles critically and functions and how these can influence the prevention and detection of fraud.

However, two major significant factors are the absence of prior research in internal auditing and limited accounting research. There is a need to study how internal audits be used as the first line of defense against fraud and the idea is to emphasize the need to promote the influence of internal audit functions to reduce the risk of fraud and financial irregularities in a South African manufacturing company.

The IA's roles and functions are not ambiguous, as "to provide independent assurance on organization risk management, governance, and internal control processes are operating effectively and efficiently" (Frank et al., 2019). Therefore, IA must ensure they engage timely with the audit committee for presentation to the directors, who will assess the report and advise the IA staff on the way forward. This further explains that the primary functions of preventing and detecting fraud rest with those charged with governance of the entity –the board. This responsibility requires management to recruit qualified and competent IA to

evaluate and manage the firm's corporate & inherent risks. This includes the risk of "financial reporting fraud as well as implementing and monitoring compliance with the appropriate internal controls to mitigate those risks to an acceptable level" (Amarasingha and Gamage, 2021). The IA department's role is to manage the firm's internal control and make recommendations on how to improve it.

They also have primary responsibility for designing, implementing and monitoring the company's financial reporting system. In addition, according to the International Standard for Auditing (ISA 240), it is essential that management, with the support of those charged with governance, place a strong emphasis on fraud prevention and detection, which may reduce opportunities for fraud to occur in the workplace (Hijazi and Mahboub, 2019) and also, according to the "Association of Certified Fraud Examiners" (ACFE) study, it is essential to define the contribution of everyone in the organization towards the preparation of financial accounting and to report prevent and detect any likely fraudulent activities in the company (Murdock, 2018).

2. Background – Examples of Fraud Cases

The Steinhoff case: Steinhoff is a global retailer with over forty brands in over thirty countries. This is seen as one of the biggest financial frauds in a retail business, the scandal was shocking and broke a record in the industry. This exposes the earning managers of their dirty dealings. It tainted the corporate culture of the company. The government's intensive investigation revealed that this was one of the biggest earning manipulations, uncontrolled acquisition, tax fraud and a host of others. The implication is that should Steinhoff declare bankruptcy, there will be a loss of jobs, a fall in share price and further possible repercussions (Sewnath and Niemand, 2018).

The VBS Mutual Bank: The bank was looted by the earning managers and resulting in a liquidity crisis. The South African Reserve Bank reported that the management did not report over 900 million South African Rands. There are major concerns about customers' bank deposits. Then the "Independent Regulatory Board for Auditors (IRBA)" also launched its own investigation into the activities of external auditors and VBS books (Kempen, 2017). The outcome of the study shows that over 2 billion South African Rands customer deposits have been looted, and the question everyone is asking is 'who will be arrested for this monumental fraud?' (Ntingi, 2018).

The PRASA Scandal: The detailed report of the public protector exposed many incredible activities in the Passenger Rail Agency of South Africa (PRASA). The agency is inundated with maladministration, abuse of power, wasteful expenditure, unaudited financial statements, and other financial irregularities. The government is currently considering the withdrawal of its support to this agency, which may eventually lead to the loss of jobs (Walters, 2013).

3. Literature review

3.1 Background of Internal Audit Functions (IAF)

The origins of auditing can be traced back to Greek, Egyptian and other early civilizations (Ramamoorti, 2003). Hence, with the advent of big manufacturing business in the eighteenth century and the current relationship between internal audits and fraud detection was instituted, it is established that the functions of fraud prevention and detection rest on those who charge with corporate governance (TCWG) or management through designated IA department (Pickett, 2011). Conspicuously, towards the end of the 19th century, a more bulging accountancy profession connected internal audits with fraud detection even though there was resistance by those who believe that it was arbitrary to expect the internal auditor to expose fraudulent acts. However, Lawrence Dickie's textbook is often considered the first major auditing textbook, and in his original book, published in 1892, "it was clearly stated that the scope of an internal audit included the discovery of fraud, technical errors and errors of principle" (Ramamoorti, 2003). Several authors supported this view, stating that the detection of fraud was an important part of the internal auditor's duties as their duty is to determine the exact state of the management affairs at a given accounting period (DeZoort and Harrison, 2018). Some earlier researchers argue that the role of fraud detection is the sole responsibility of the external auditor, but recent researchers disagree. They point out that it is the duty of the board or management to have effective IA as part of corporate governance to evaluate internal control, safeguard assets and prevent corrupt practices in the organization (Ackermann, 2017). As business activities evolved, a special need for a separate internal assurance function that would fact check financial records and information used for decision-makers. Thereafter, the researchers opined that a department in which these functions and responsibilities could be performed was seen as the logical answer. In due course, the IA function became answerable for the careful collection and informative reporting of selected business facts to assist the management in keeping track of important business expansions, activities, and results from various and voluminous transactions.

More so, the critical prominence and relevance of internal auditing to business led to the founding of the IIA in the USA. It recognized that no business, whether small or large, could escape the necessity of IA, thus making it a very crucial and critical unit in the company. "The Institute is the outgrowth of the belief on the part of internal auditors that an organization was needed in the structure of American business to develop the true professional status of internal auditing; although its roots are in accountancy, its key purpose lies in the area of management control. It comprises a complete intra-company financial and operational review" (Prodanova et al., 2019).

Therefore this study is explained and pinned on two theories reviews which are theoretical and conceptual frameworks.

3.2 Theoretical review

The theory of the fraud triangle explains why people commit fraud in an organization (Homer, 2020). This model shows a combination of three factors: motivation, opportunity, and rationalization. The early researchers agreed with this theory that motivation could be greed or need; at the same time, the opportunity is concerned with weak internal control systems in the company, and rationalization has to do with the justification of why people commit fraud. Previous research has shown that although some employees are honest, many are tempted by the opportunities available in the structure of the company. Likewise, a weakness in internal control systems can be an opportunity for employees to commit fraud (Sánchez-Aguayo et al., 2021). The application of this theory is to explain the premises and justification for why employees commit fraud in the manufacturing firm. The researchers explained in detail the three key elements in the fraud triangle. The focus here is drawn to the attention of stakeholders to see the influence of IA roles and functions to manage these risks and prevent fraud in the South African manufacturing firm.

The theory of policeman is an auditing theory widely supported by researchers and used by both IA and EA to address the issue of fraud locally and internationally. This theory asserted that the auditors are liable for searching, detecting and preventing fraud (Owolabi and Olagunju, 2020). Earlier scholars believe that from the establishment of the field of accounting and auditing until the present time, not much has changed. However, some scholars explain succinctly that an IA could act as a policeman, focusing on financial arithmetic and logic but, most importantly, should focus on the prevention and detection of fraud, the scholar explains that although the policeman theory is applicable to an external auditor, due to the ability to carry out an audit on "verification of truth and fairness of the financial statements", but can be used as tools in the hand of IA. Hence, the challenge is that the smallest or medium firms do not have the IA department to carry out these functions, or in some cases, they are structurally there but not performing the function of IA and, therefore not adding value. The application of this theory is that IA should be involved in all sections of audits in the manufacturing firm, ranging from operation audit, information technology audit, production audit and even aspects of a financial audit. However, some researchers still believe that since IA independence is questionable, therefore financial audit should be left to external auditors (Engelbrecht et al., 2018). Alzeban disagrees that financial audit is usually left for the external auditor; in some cases, internal auditors should be part of it (Alzeban, 2019). Though independence is always an issue when it comes to internal auditing, the external auditor is expected to form an opinion on the financial position of an organization for verification of truth and fairness. The main objective of auditors, both internal and external, is to provide reasonable assurance and verify the truth and fairness of all financial statements and other relevant accounting records (Turetken et al., 2020). This theory lays emphasis on the idea of 'true and fair view', which is expected of external auditors, but should also be applied by the internal auditor. The researcher believes that the prevention and detection of

fraud is, however, still a significant issue in the debate on the auditor's functions and responsibilities. With recent financial scandals in South Africa, where financial fraud has been exposed, the pressure increases the responsibilities of IA in detecting fraudulent activities especially in manufacturing companies (Ntingi, 2018).

3.3 Conceptual framework

This exemplifies a fusion of the literature on how to explain a phenomenon. "It set out the actions required in the course of the study given previous knowledge of other researchers' point of view and observation on the subject of the research" (Dennis, 2018).

Figure 1. Some factors that influence the efficacy of IA functions
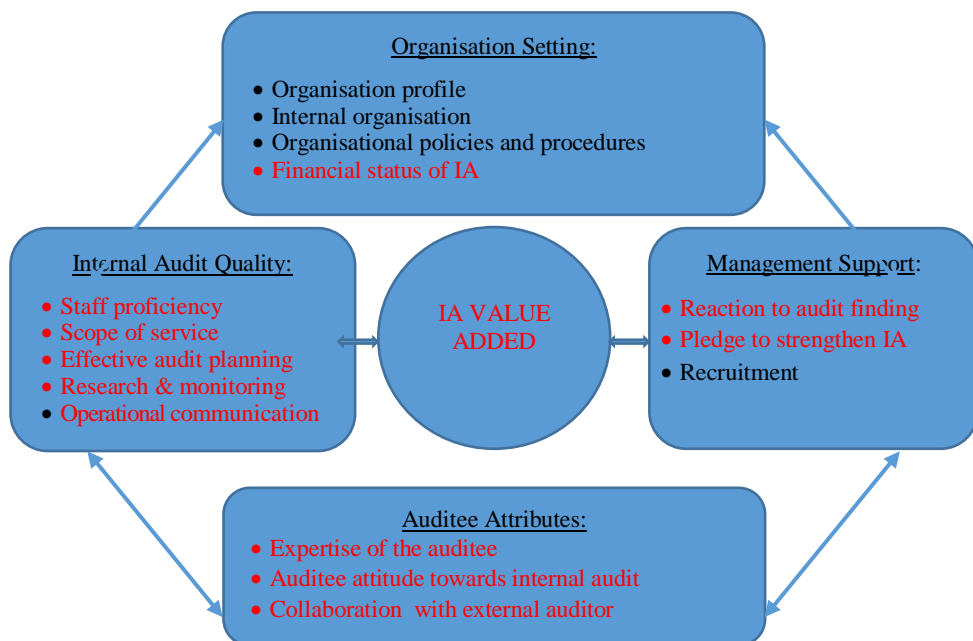
The conceptual framework "set the stage for the demonstration of the particular research questions that drive the investigation being reported based on the problem statement" (Ruser, 2018), and also according to the Institute of Internal Auditors, internal auditors are seen as "the first-line defence against fraud because of their knowledge and understanding of the business environment and the internal control structure of a manufacturing company". The internal auditors' responsibilities for preventing, detecting and reporting financial fraud are numerous and one of the crucial successes of IA is to root out fraud and prevent abuse

in the preparation of accurate financial statements. IA abilities to determine the top fraud risks in terms of likelihood and impact are vital to the firm anti-fraud programs (Bhaskar et al., 2019). Lamptey and Singh also supported the previous scholars that the anti-fraud program of the company relies heavily on internal audit activities or the IA department (Lamptey and Singh, 2018). On the other hand, professional standards place detailed responsibilities on IA for the detection of material misrepresentation in reports of corporate financial statements. However, the 2018 report of ACFE shows that internal audit and control weakness was responsible for nearly half of fraud in the organization (Association of Certified Fraud Examiners, 2018).

Some major factors that influence the IA efficiency can be categorized as simply put in the above diagram, if the policy makers and stakeholders can pay attention to these critical areas then the IA department can be repositioned to be more efficient to prevent and detect fraud and other financial irregularities.

Sequel to the demonstration above, the IIA's professional ethics committee has previously issued a review on the third statement on internal auditing standards (SIAS) titled: "deterrence, detection, investigating and reporting of fraud" (Hasan et al., 2020). This statement represents the most important SIAS because it expressly reports controversies about the questions of the extent of which IA are or ought to be responsible for the prevention and detection of fraud. These professional views were also highlighted in the framework in the IIA practice advisory 2130–1 on the role of the internal auditor in the ethical culture of an organization (Alias et al., 2019). The performance standard review cut across all types of audits including fraud and other financial and non-financial irregularities.

Figure 2. Concept of "Fraud Tree"
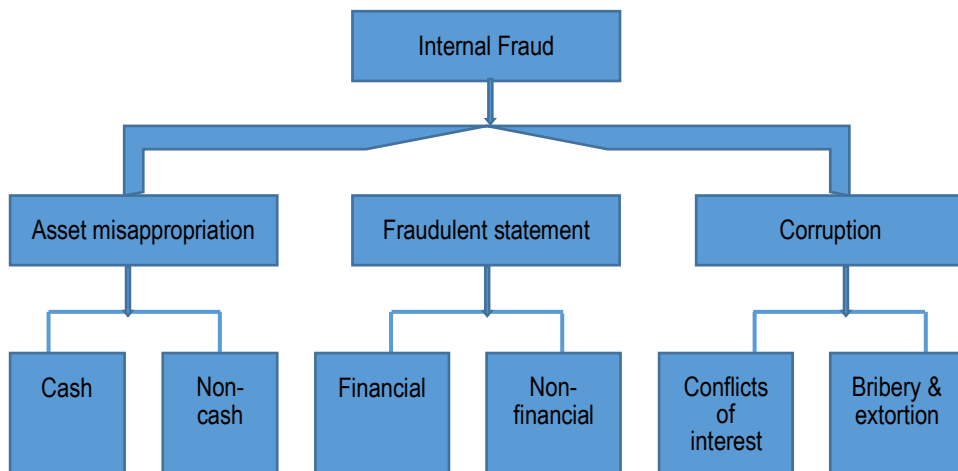
By virtue of responsibilities, IA is expected to devote significant efforts in the course of an audit to observe the scope and settings of each sub-branch empirically. Internal Auditors to prevent occurrence – as the saying goes "prevention is better than cure". IA must follow proper performance standards and procedures to prevent this menace. Thou, there have been many challenges to measuring the true extent of fraud, and compiling dependable statistics is not easy. However, the ACFE Report to the Nation 2018 estimated that organizations lose 9% of their total annual revenues to fraud and financial irregularities (Association of Certified Fraud Examiners, 2018). In South Africa, the loss is even greater due to fraud, financial irregularities and manipulations as a result of a lack of IA, programs and legislations to deter this threat.

In the table below there is a summary of literature review relevant in this field.

Table 1. Summary of the literature review, highlighting the limitations

Title/purpose	Authors	Methodology	Gap/ Limitations	Contributions
1. A theoretical discussion of internal audit effectiveness in Kuwaiti industrial SMEs	Al-Shbail. A .M Turki, T (2017)	Quantitative research design: Regression analytical techniques (structured questionnaire)	The research was mainly on the independence and scope of the internal auditor but did not see IA functions as a tool to prevent and detect fraud.	The study explains in detail the efficacy of the internal audit in small and medium Kuwaiti businesses. This study does not lay emphasis on IA as one answerable for the prevention and detection of fraud
2. An evaluation of internal auditor responsibility for fraud detection	DeZoort, T., Harrison, P. (2008)	Logistic regression analysis	The study centered on developed economies such as the USA and Canada, without major fraud cases for the last 5 years	This study compares internal auditor responsibilities with that of external auditors
3. The fraud tree and its investigation in the audit	Mackevičius, J. & Kkazlauskienė, L. (2009)	Quantitative research: Regression analytical techniques (structured questionnaire)	The study emphasizes the new dimension of fraud but does not see the IA as the first line of defense	The study exposes us to how the external auditor can identify fraud and investigate it. Excluded IA in carrying out the duty
4. Can sustainable corporate governance enhance internal audit functions? Evidence from Omani Public Listed Companies	Rehman (2021)	Descriptive cross sectional survey design (PLS-SEM-SPSS)	The study explains the influence of SCG on IA, however the need to use IA as a first line against fraud was not included in the study.	The study established the impacts of SCG on IA and relationship between the two variables

Title/purpose	Authors	Methodology	Gap/ Limitations	Contributions
5. Introduction of a corporate security risk management system.	Kalina I., Khurdei V., Shevchuk, V., Vlasiuk, T., Leonidov,I. (2021)	Traditional survey methodology (expert survey)	Thou, the study contributed an important aspect of audit functions but emphases on prevention and detection of fraud and other irregularities is not mention	The study suggests strong economic security for modern enterprises and the need to conduct annual examinations

Conclusively, apart from the fact that the above-highlighted studies were not conducted in the context of South African manufacturing SMEs, their main objectives were not to consider IA as a tool in the prevention and detection of fraud. Secondly, the identified gaps or limitations show clearly that there is a need to draw the attention of stakeholders and policy makers to see more reasons why IA functions and roles can be used as a first line of defense against fraud and other financial irregularities in the manufacturing SMEs in South Africa.

4. Methodology and data

This study adopted quantitative research techniques because of its logical and systematic nature. The purpose of this study was to ensure that the independent variables were not manipulated, leaving the dependent variables entirely unmanipulated. This study utilized a questionnaire to draw information on the basic roles and functions of IA in manufacturing companies. The questionnaire measured the respondents' vast knowledge of IA's roles and functions as well as required the respondents to make available information on their socio-demographics. An experimental study was conducted amongst a separate group of respondents before finalizing the questionnaire. These results are a true reflection of the phenomenon.

4.1 Population and sampling

The study was conducted majorly on both Kwazulu-Natal and Gauteng internal auditors (IA). Responses were received from IA and account officers working in a SME manufacturing company in these two provinces. The respondents were further categorized as internal auditors and account/finance officers of the manufacturing company in South Africa, but both are working as IA.

The justification for choosing SMEs in these two provinces consists in the fact that these provinces form an economic hub of the country, where there is the highest number of manufacturing SME companies that engage the service of internal auditors (IA) and account officers.

The study makes use of judgmental sampling techniques, and a total sample of 89 questionnaires was considered valid for the study, while 18 questionnaires were invalidated for reasons such as non-completion of questions and omission of consent on the accompanying informed consent page.

4.2 Survey Questionnaire

The finalized questionnaire comprises 27 questions in two categories: socio-demographic questions (8) and internal audit questions (risk-based questions) (19). The first category comprised questions such as gender, age, year of experience, current job functions, professional qualification, and educational qualification.

The second category of the questionnaire tested general internal audit functions via a set of basic and advanced questions. This comprised 19 closed-ended questions on a lark scale mode which tested the IA's knowledge in areas of prevention and detection, and their knowledge of internal control programs and techniques. The questions in this section were adapted from existing published literature.

4.3 Data Analysis

The data for this study were collected from February 2019 to October 2021. Following the collation of the data, SPSS version 26 software was used to clean and integrate the data. After that, all necessary analyses were conducted using SPSS 26. Using appropriate statistics tools, the collected data was analyzed to check and evaluate the perceived 'functionality' and the 'effectiveness' of the influence of IA departments in preventing and detecting financial irregularities within the sample.

For this study, descriptive statistics were used to examine the distribution of variables, while inferential statistics were used to examine the relationship and probability between the dependent and independent variables. To determine the actual 'Functionality' of the IA departments, respondents who scored a mean (M) score of ≥ 30 were created to perceive the functionality of the IA departments towards fraud prevention in manufacturing firms in South Africa to be 'Functional'. The 'Functionality' scores were disaggregated further into 'Functional' (≥ 75%) and 'Not functional' (≤ 74%). Similarly, to evaluate the effectiveness of IA programs and policies against frauds in the firms, respondents who scored a mean (M) score of ≥ 35 were found to perceive the IA programs and policies against frauds in the firms to be 'Effective'. The 'Effectiveness' scores were disaggregated further into 'Effective' (≥ 65%) and 'Not effective' (≤ 64%). This assisted in exploring the topics of interest in this study. Thus, a correlation was used to define the differences between the independent variables (socio demographic variables) and the aggregate IA influence scores towards detecting financial irregularities in South Africa. The statistical implication was tested at $p = <0.05$ significance level.

5. Research results and comments

5.1 Descriptive analysis

Respondents' profile

The descriptive statistics indicate that more than half of the study sample identified themselves as Internal Audit Officers (n=45; 50.6%); (n=53; 59.6%) reported having a degree as their highest level of qualification, while only (n=9; 10.1%) reported that they have a professional qualification, which was identified as CA. Furthermore, with a mean (M) score of 5.70 years and a standard deviation (SD) of 2.465 years, the descriptive analysis on years of working experience indicates that (n=41; 46.1%) and (n=34; 38.2%) had a working experience of 3-5 years and 6-9 years, respectively.

5.2 Assessing the functionality of IA in fraud prevention and detection

Table 2 explained the results of the descriptive analysis that measures the functionality of IA towards fraud prevention in manufacturing firms in South Africa – with mean (M) scores ranging between 3.03 to 4.58 and standard deviations (SD) oscillating between 0.511 to 1.140. In it, the results indicate that on competency and having qualified IA staff within the sampled firms, most of the participants (70.8%) agreed that their organizations have competent and qualified IA staff, and about 14.6% of the participants disagreed. On roles and functions, the results also revealed that most of the participants (69.7%) agreed that IA roles and functions are important in manufacturing companies in South Africa. On whether IA should influence the decision of management on fraud and other financial irregularities, the descriptive result of the study indicates that most of the participants (59.6%) strongly agreed and about 32.6% agreed that IA departments should influence the decision of management on fraud and other financial irregularities. On whether the roles and functions of IA can prevent fraud and other financial irregularities, most of the participants (62.9%) strongly agreed, and about (31.5%) agreed that the roles and functions of IA departments in their firms can prevent fraud and other financial irregularities. The positive response rate is very high, though in the qualitative study of M. Syam, I. Ghozali, A. Adam and E. Merawati (2021), they argued that to prevent facts of fraud, it is suggested to conduct annual examinations, this suggests that effective functions of IA can prevent and detect fraud. Similarly, the results indicate that most participants (65.2%) strongly agreed, and about 28.1% agreed that the roles and functions of IA departments in their firms could detect fraud and other financial irregularities. This strongly aligned with the qualitative study of Amarasingha and Gamage (2021) that showed that effective IA functions have a positive and substantial effect on the financial performance of the company.

The results on whether IA departments achieved their yearly goals or met their targets in a financial year or for the last five years indicate that most of the participants strongly agreed (55.1%) that their IA departments achieved their yearly goals. The results on whether the firms' management interrupts the process of IA or overrides the IA roles and

functions revealed that about 41.6% of the participants agreed and 23.6% strongly agreed that their firms' management interferes with the process of IA or overrides their roles and functions. On whether the firms' management decisions supported IA department budget in the last five years/ in a financial year indicates that about 34.8% agreed that it does support the IA budgets, while 33.7% are indecisive about it and 31.5% disagreed that the firms' management decisions support IA department budget. This result further expresses the concerns of previous researchers (Sridharam and Hadley, 2018), which showed that the failure of IA can also be traced to composition of board, and firm cultures have negative impact on IA effectiveness. With a total mean (M) score of 32.34 and a standard deviation (SD) of 2.46, the descriptive computation of this study revealed that most of the participants (n=74; 83.1%) perceived the functionality of the IA departments towards fraud prevention in manufacturing firms in South Africa to be 'Functional', while (n=15; 16.9%) of the participants perceived it as 'Not functional'.

Table 2. Perceived Functionality of IA
in Fraud Prevention and detection

Functionality of IA toward fraud prevention	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	M	SD
To what extent do you agree that the IA department has competent and qualified IA staff in your company?	2 (2.2%)	13 (14.6%)	6 (6.7%)	63 (70.8%)	5 (5.6%)	3.63	.884
To what extent do you agree that IA roles and functions are important in any serious manufacturing company in South Africa?	0 (0.0%)	0 (0.0%)	4 (4.5%)	62 (69.7%)	23 (25.8%)	4.21	.511
To what extent do you agree that the IA department should influence the decision of management on fraud and other financial irregularities?	0 (0.0%)	0 (0.0%)	7 (7.9%)	29 (32.6%)	53 (59.6%)	4.52	.642
To what extent do you agree that IA roles and functions can prevent fraud and other financial irregularities?	0 (0.0%)	0 (0.0%)	5 (5.6%)	28 (31.5%)	56 (62.9%)	4.57	.601
To what extent do you agree that IA roles and functions can detect fraud and other financial irregularities?	0 (0.0%)	0 (0.0%)	6 (6.7%)	25 (28.1%)	58 (65.2%)	4.58	.618
How well can you agree that IA departments achieve their yearly goals or meet their target in a financial year or for the last five years?	0 (0.0%)	12 (13.5%)	18 (20.2%)	10 (11.2%)	49 (55.1%)	4.08	1.140
Do you agree that the company management interrupts the process of IA OR overrides the IA roles and functions in your company?	1 (1.1%)	13 (14.6%)	17 (19.1%)	37 (41.6%)	21 (23.6%)	3.72	1.022
To what extent do you agree management corporate decisions support the IA department budget in the last five years in a financial year?	0 (0.0%)	28 (31.5%)	30 (33.7%)	31 (34.8%)	0 (0.0%)	3.03	.818

5.3 Assessing the effectiveness of organizational IA programs and policies against fraud

Table 3 shows the outcomes of the descriptive analysis that evaluates the effectiveness of IA programs and policies against fraud in the firms – with mean (M) scores ranging between 2.26 to 3.90 and standard deviations (SD) ranging between 0.603 to 0.940. On the effectiveness and efficiency of the whistle-blower policy in their firms, about 42.7% of the participants mentioned that it is good, while 40.4% reported it as poor, and 16.9% reported it as very poor. The results on IA influence on corporate strategies and internal control programs in firms were reported as good by 40.4% of the participants, while 47.2% reported it as poor and 12.4% reported it as very poor. On the influence and performance of IA departments in firms, about 46.1% of the participants reported it as good and 31.5% of the participants reported it as very good. Similarly, on the thoroughness of the IA departments in firms, about 37.1% of the participants reported it as good, and about 46.1% reported it as very good. The results on IA staff understanding the basic roles and functions of IA departments in the firms were reported as very good by 48.3% of the participants, and 28.3% reported it as 'good'. The results on whether company policies and strategic planning assist IA department to strengthen the internal control programs in the firms indicate that most participants (61.8%) perceived it as being poor. This is an indicator that the role of fraud prevention and detection has not been the key function of IA as this expresses the concern of Sanchez-Aguayoet al. (2021), that fraud detection has traditionally been performed by external auditors, who mainly engaged manual techniques.

On accounting standards and policies in the firms, the results show that most of the participants (58.4%) perceived the IA departments' compliance with accounting standards and policies as being 'good', while 32.6% perceived it as being 'poor'. The results further revealed that the external auditors response to IA report and findings in the firms was perceived by most participants (51.7%) as being 'good' and about 33.7% perceived it as being 'very good'. The results also revealed that the IA staff believes that the internal controls program can mitigate fraud and other financial irregularities by about 22.5% (good) and 41.6% (very good) of the participants. On whistleblower policies, about 47.2% (good) of IA staff believes a strong whistleblower policy can prevent and detect fraud and other financial irregularities in the firms, while 31.5% (poor) of IA staff did not believe that a strong whistleblower policy can prevent and detect fraud and other financial irregularities in the firms. With a total mean (M) score of 33.03 and a standard deviation (SD) of 3.40, the descriptive analysis indicates that most of the participants (n=57; 64.0%) perceived the effectiveness of the IA programs and policies against frauds in the firms to be 'Not Effective', while (n=32; 36.0%) of the participants perceived it as 'Effective'.

**Table 3. Perceived effectiveness of organizational IA programs
and policies towards fraud prevention**

Effectiveness of IA programs & policies against fraud	Very poor	Poor	Good	Very good	Excellent	M	SD
Are you aware of any whistleblower policy in your company, if yes, is it effective and efficient?	15 (16.9%)	36 (40.4%)	38 (42.7%)	0 (0.0%)	0 (0.0%)	2.26	.731
What is the influence of the IA department in developing corporate strategies and internal control programs in your company?	11 (12.4%)	42 (47.2%)	36 (40.4%)	0 (0.0%)	0 (0.0%)	2.28	.674
How can you rate the influence and performance of the IA department in your company?	2 (2.2%)	18 (20.2%)	41 (46.1%)	28 (31.5%)	0 (0.0%)	3.07	.780
How well can you describe the thoroughness of the IA department in your company?	0 (0.0%)	15 (16.9%)	33 (37.1%)	41 (46.1%)	0 (0.0%)	3.29	.742
To what extent can you say the IA staff understands the basic roles and functions of the IA department in your company?	0 (0.0%)	11 (12.4%)	25 (28.3%)	43 (48.3%)	10 (11.2%)	3.58	.850
To what extent the company policies and strategic planning assist IA department to strengthen the internal control programs in your company?	0 (0.0%)	55 (61.8%)	12 (13.5%)	22 (24.7%)	0 (0.0%)	2.63	.858
How thoroughly can you say the IA department complies with accounting standards and policies in your company?	0 (0.0%)	29 (32.6%)	52 (58.4%)	8 (9.0%)	0 (0.0%)	2.76	.603
How cordial do you work with external auditors and other regulatory agencies in your company?	0 (0.0%)	28 (31.5%)	44 (49.4%)	17 (19.1%)	0 (0.0%)	2.88	.704
How well the external auditors respond to IA reports and findings in your company?	0 (0.0%)	13 (14.6%)	46 (51.7%)	30 (33.7%)	0 (0.0%)	3.19	.672
To what extent the IA staff believes that the internal controls program can mitigate against fraud and other financial irregularities?	0 (0.0%)	28 (31.5%)	20 (22.5%)	37 (41.6%)	4 (4.5%)	3.19	.940
To what extent the IA staff believes a strong whistleblower policy can prevent and detect fraud and other financial irregularities in your company?	0 (0.0%)	28 (31.5%)	42 (47.2%)	19 (21.3%)	0 (0.0%)	3.90	.724

5.4 Inferential Analysis

Correlation analysis

This section assesses the relationship between the sociodemographic characteristics and the 'functionality' and the 'effectiveness' of the influence of IA departments in preventing and detecting financial irregularities within the sample. In other words, it was sought to determine if there is a significant relationship between the different sociodemographic features and the perceived 'functionality' and the 'effectiveness' of IA departments in preventing and detecting financial irregularities in the firms. See Table 4 below for a detailed representation of the results.

With a p-value set at <0.05, the correlation analysis for this study showed that there is strong significant relationship between respondents' 'capacity' and whether they perceived the IA functionality to be 'Functional', where (R= -0.617; p-value = <0.000). Similarly, the significant relationship between respondents' 'capacity' and whether they perceived the IA functionality to be 'Functional' was also determined by spearman correlation, with a p-value of <0.000. The results in Table 4 also indicate that there is a significant relationship between respondents' Capacity and respondents' perceptions on the effectiveness of the IA programs and policies against frauds in the firms; where (R= -0.633; p-value = <0.000).

The results further revealed that there is a robust statistical significance between respondents' level of education and their perception of the functionality of the IA departments towards fraud prevention in manufacturing firms, with (R= 0.528; p-value = <0.000). Likewise, the significant relationship between employee's highest education level and their perception of the functionality of the IA departments towards fraud prevention in manufacturing firms was also determined by spearman correlation, with a p-value of <0.000. The results in Table 4 also revealed that there is a statistical significance between respondents' highest level of education and respondents' and their perceptions on the effectiveness of the IA programs and policies against frauds in the firms; where (R= 0.570; p-value = <0.000).

On respondents' professional qualifications, the correlation analysis indicates that there is a strong statistical significance between respondents' perceptions of the functionality of the IA departments towards fraud prevention in manufacturing firms and respondents' professional qualifications. This is suggesting that respondents' professional qualifications have a significant impact on how they perceive the functionality of the IA departments towards fraud prevention in manufacturing firms. The correlation analysis further revealed that there is also a strong statistical relationship between respondents' professional qualifications and their perceptions on the effectiveness of the IA programs and policies against frauds in the firms.

Regarding the years of working experience, the results show that there is no statistical relationship between years of working experience and their perception about the functionality of the IA departments towards fraud prevention in manufacturing firms. Similarly, the results also indicate that there is no statistical significance between years of working experience and their perceptions on the effectiveness of the IA programs and policies against fraud in the firms.

Table 4. The correlation between demographics factors and the perceived 'functionality' and the 'effectiveness' of IA departments in preventing/detecting financial irregularities (n=89)

Factors	IA Functionality						IA Effectiveness					
	Pearson's R	95% CI		Spearman	95% CI		Pearson's R	95% CI		Spearman	95% CI	
		lower	Upper		Lower	upper		lower	upper		lower	upper
Respondents' Capacity	-.617***	.000	.033	-.672***	.000	.033	-.633***	.000	.033	-.746***	.000	.033
Highest Educational Level	.528***	.000	.033	.498***	.000	.033	.570***	.000	.033	.594***	.000	.033
Professional Qualification	-.276***	.000	.033	-.313***	.000	.033	-.367***	.000	.033	-.377***	.000	.033
Years of work experience	-.033	.663	.842	-.012	.808	.945	-.201	.008	.104	-.182	.023	.135
Note: *p<0.05; **p<0.01; ***p>0.001												

5.5 Regression Analysis

Table 5 shows the results of the models regressing the impact of respondents' sociodemographic factors on the perceived 'functionality' and the 'effectiveness' of IA departments in preventing and detecting financial irregularities in the firms. As such, model 1 and 2 measures the impact of the sociodemographic characteristics on the 'functionality' and the 'effectiveness' of the influence of IA departments in preventing and detecting financial irregularities within the sample.

Regressing for 'IA Functionality' on sociodemographic characteristics in model 1, it shows that there is a strong relationship between respondents' 'Capacity' and their perception of the functionality of the IA departments towards fraud prevention in manufacturing firms. With a p-values of <0.009, the results show that there is a linear relationship between the capacity of a respondent and their perceived perception about the functionality of the IA departments towards fraud prevention in manufacturing firms. The negative correlation coefficients in model 1 for respondents' 'Capacity', suggest that on average the values of each dependent variable (Functionality) are lower for respondents with lower capacity than their counterparts. This is suggesting that respondents with lower capacity are less likely to perceive the functionality of the IA departments towards fraud prevention in manufacturing to be 'functional'. However, the results on respondents' education, professional qualification, and years of working experience indicates that there is no linear relationship with the dependent variable (Functionality).

Moreover, while controlling for other variables, the results in model 2 show that there is a significant association between respondents' education, professional qualification, and their perceptions on the effectiveness of the IA programs and policies against frauds in the firms. Therefore, the negative correlations indicated in model 2 between the dependent variables and (professional qualifications) suggest that on average the values of each of the dependent variables is lower for respondents with no professional qualification in comparison to their counterparts.

Table 5. Results of the regression analysis that measures the impact of sociodemographic factors on 'functionality' and the 'effectiveness' of IA departments in preventing and detecting financial irregularities (n=89)

FACTORS	MODEL 1 IA Functionality		MODEL 2 IA Effectiveness	
	Coefficient	*Robust S.E.*	*Coefficient*	*Robust S.E.*
Capacity	-1.786**	0.671	0.910	.830
Education	0.936	0.890	5.629***	1.100
Professional Qualification	1.850	2.019	-8.242***	2.495
Years of working Experience	-0.001	0.080	-0.116	.099
Constant	33.867***	2.460	23.923***	3.040
F Statistics, df	*19.035, (4)*		*28.999, (4)*	
R-Square	*0.475*		*0.580*	
Note: *$p<0.05$; **$p<0.01$; ***$p>0.001$				

6. Recommendations

1. The results and the correlation analysis above have shown that it is expedient for every SME manufacturing company in South Africa to recruit qualified and competent IA personnel to form part of management that will formulate and implement programs that will prevent and detect fraud and other financial irregularities.

2. The results also demonstrate that the government, regulators, policymakers and professional bodies should enact laws and policies that will make it mandatory for every small and medium manufacturing firm in the SA to have a functional and effective IA department. There should be an increase in the budget for the IA department to enable IA functions optimally, so as to achieve their yearly goals and objectives.

3. In assessing the effectiveness of the company's IA programs and policies against fraud, there is a need to improve or upgrade the whistleblower system and designs of SMEs manufacturing in South Africa. Policymakers, government and professional bodies should ensure that effective whistleblower programs should be designed to prevent fraud and financial irregularities. In addition, the results above show 40.4% on IA programs and policies on corporate strategies, this is below average, in other words, management should be more inclusive and engage more with the IA department in corporate strategies and decisions

4. It is evident in this study that the participants indicated a strong statistical significance of 61.8% of the manufacturing company policies and strategies in assisting the IA department is very poor. Therefore the policymakers, government and regulators should ensure that the management formulates policies that will strengthen the internal control mechanism and other programs that will strengthen the functionality of IA department.

7. Conclusion and Summary

The study results and findings have demonstrated the extent to which the functionality and effectiveness of the IA department can assist in the prevention and detection of fraud and other financial irregularities. The study participants were tested on 'functionality' and 'non-functionality' and also 'effectiveness' and 'non-effectiveness' was discussed extensively.

It has therefore been validated through the use of correlation analysis that for SME manufacturing companies in South Africa to have clean audits, IA functionality and effectiveness is the hallmark of getting things done. Similarly, the study has shown that more resources should be committed to IA departments that will assist them to deliver on their core audits roles to support management in achieving its goals and objectives.

Conspicuously, to further act more as the "ear and eyes of the management", more technology and programs that will strengthen the internal control systems must be deplored by the management to prevent and detect fraud and other financial irregularities in the South African SMEs manufacturing companies. However, the results of this study may not be generalized as it is limited to manufacturing SMEs in South Africa, and due to the peculiar nature of the sample. It means that further research can be conducted in listed manufacturing companies in the country. In addition, researchers could use mixed methods or qualitative techniques in collecting data for future studies.

Annexes

Appendix 1: Questionnaires 2021

Section 1: Questions dealing with the identification of the respondent's background, education and training.

1. In what capacity are you responding to these questionnaires?
    1.1 Chief internal audit executives.
    1.2 Head of Internal Audit. (4)
    1.3 Senior Internal audit Officers
    1.4 Internal Audit Officers (1)
    1.5 Account officers. (2)
    1.6 Finance officers (3)
2.
3. What is your highest educational qualification?
4.
5. Matric [   ] Diploma [1] Degree [2] Master's degree [3] others specify [4]

6.
7. What is your professional qualification?
8.
9. CA [1] CIA [2] CIMA [3] CPA/CFA [4] Others [5] None 6 [6]
10.
11.
12. How many years of internal auditing or other work experience do you have.
13.
14. [   ] Year / Years.
15. To whom do you report administratively or functionally?

[   ]

16. What do you think contribute to high financial scandal and fraud in South Africa

[   ]

17. What is your understanding on the roles and responsibility of internal audit in prevention and detection of fraud in your organization?

[   ]

Section 2: Questions on Likert Scale Points on roles of internal auditing functions and fraud.

List of questions. The role of internal auditing in prevention and detection of fraud in South Africa (A case study of manufacturing companies). Functionality of IA in fraud prevention	Strongly disagree. 1.	Disagree 2.	Neither agree nor disagree 3.	Agree 4.	Strongly agree 5.
1. To what extent do you agree that the IA department has competent and qualified IA staff in your company?					
2. To what extent do you agree that IA roles and functions are important in any serious manufacturing company in South Africa?					
3. To what extent do you agree that the IA department should influence the decision of management on fraud and other financial irregularities?					
4. To what extent do you agree that IA roles and functions can prevent fraud and other financial irregularities?					
5. To what extent do you agree that IA roles and functions can detect fraud and other financial irregularities?					
6. How well can you agree that IA departments achieve their yearly goals or meet their target in a financial year or for the last five years?					

Organizational AI program & policy effectiveness Against fraud	Very Poor 1.	Poor 2.	Good 3.	Very good 4.	Excellent 5.
7. Are you aware of any whistle-blower policy in your company, if yes, is it effective and efficient?					
8. What is the influence of the IA department in developing corporate strategies and internal control programs in your company?					
9. How can you rate the influence and performance of the IA department in your company?					
10. How well can you describe the thoroughness of the IA department in your company?					
11. To what extent can you say the IA staff understands the basic roles and functions of the IA department in your company?					
12. Do you agree that the company management interrupts the process of IA OR overrides the IA roles and functions in your company?					

13. To what extent the company policies and strategic planning assist IA department to strengthen the internal control programs in your company?					
14. How thoroughly can you say the IA department complies with accounting standards and policies in your company?					
15. How cordial do you work with external auditors and other regulatory agencies in your company?					
16. How well the external auditors respond to IA reports and findings in your company?					
17. To what extent do you agree management corporate decisions support the IA department budget in the last five years / in a financial year?					
18. To what extent the IA staff believes that the internal controls program can mitigate against fraud and other financial irregularities?					
19. To what extent the IA staff believes a strong whistle blower policy can prevent and detect fraud and other financial irregularities in your company?					

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