

An Analysis of Internal Auditing as a Mechanism for Detecting and Preventing Supply Chain Management Fraud in the Public Sector

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Abstract: Amongst some of the challenges confronted in South Africa is wasteful expenditure in the public service, which has resulted in massive loss of public funds. The main problem is systemic lapses when it comes to internal processes. This is particularly seen in relation to the supply chain, where internal lapses are fully expressed. Public financial management policies such as the Municipal Finance Management Act (No. 56, 2003) and the Public Finance Management Act (No. 1, 1999) requires that public organisations to implement internal supply chain management controls which include an internal audit as a management control to evaluate the systems of supply chain management and processes. These policies aimed to ensure that processes are followed to minimize lapses and inconsistencies in supply chain management. Despite all of these measures, there has been a huge spike in terms of fraud and therefore the effectiveness of supply chain management needs to be re-evaluated. This paper argues that the major problem has to do with monitoring and evaluating the supply chain management process; and ensuring that processes are followed. The systems, policies and procedures for supply chain management are in place; however, the lapse appears to be in the monitoring thereof. The question, therefore, arises whether internal audit rules are clear, sound and implementable. This paper analyses the effectiveness of internal audits in preventing and detecting fraud in supply chain management. Fraud prevention and detection have been part of the internal audit function's responsibilities, and yet internal auditors do not have sufficient skills to understand the fraud risks as they are not expected to have the proficiency of an individual whose main responsibility is identifying and investigating fraud. The latter is possible if internal auditors could work together with but are not limited to Forensic Auditors; investigators; supply chain officers and risk officers.

Keywords: Wasteful expenditure, Supply chain management, Fraud prevention, Fraud detection, Public sector

1. Introduction

This paper builds on and contributes to work in the field of financial management in the public sector environment. Although a number of studies have examined the challenges associated with supply chain management (Lambert & Enz, 2017; Bizana, Naude & Ambe, 2015; Ambe & Badenhorst-Weiss, 2012; Hamisi, 2011; Peck, 2006), there has not been a strong focus on the major problem which is monitoring the supply chain management process and ensuring that processes are followed. The systems, policies and procedures are in place; however, the lapse appears to be in the monitoring thereof. As such, this study provides additional insights into monitoring the supply chain and that it should not only be the responsibility of the supply chain custodians but internal audit as well. When the supply chain is effectively monitored, not only will it result

in effective supply chain management, but also a reduction in unnecessary expenditure. Bringing in an internal audit can assist in the effectiveness of the supply chain management process. It is also important to assess the effectiveness of internal audits in fraud prevention and detection in supply chain management. Fraud prevention and detection have been part of the internal audit function's responsibilities, and yet internal auditors do not have sufficient skills to understand the fraud risks as they are not expected to have the proficiency of an individual whose main responsibility is identifying and investigating fraud (Mui, 2018). The latter is possible if internal auditors could work together with but are not limited to Forensic Auditors; investigators; supply chain officers and risk officers. Managing fraud is therefore crucial to effective supply chain management. Organisations should have the ability to maintain continuity even in instances where

they are impacted by supply chain fraud. However, research has shown that one in seven organisations do not fully recover from supply chain fraud (Patterson, Goodwin & McGarry, 2018).

The Municipal Finance Management Act (No. 56, 2003) prescribes that each and every municipality should have an internal supply chain management, including an internal audit as well. This is in line with the Public Finance Management Act (No. 1, 1999), which provides for the establishment of internal control mechanisms across the public service including the establishment of audit committees. The aim of the PFMA (No. 1, 1999) is to ensure that processes are followed to minimize lapses or/irregularities in supply chain management (Munzhedzi, 2016). The role of internal audit in fraud prevention and detection is not only crucial in the public sector, but in the private sector as well. Fraud impacts the economy as a whole, brings about huge financial losses and compromises economic and social institutions (Tamas, Petrascu & Toader, 2018). The objective of the study thus examines the role of internal audit as well as its effectiveness in detecting supply chain management fraud. It starts by first conceptualising internal auditing, evaluating its effectiveness thereof as well as its role in fraud detection and prevention.

2. Problem Statement

According to the World Bank (2017), the best way in which public sector organizations can mitigate fraud is through the maintenance of internal controls. Several literature reviews have highlighted internal audit role in preventing and detecting fraud in the public sector (Motubatse, 2015; World Bank, 2017; Petraşcu & Tieanu, 2014; Coram *et al.*, 2008). However, fraud and corruption remain more prevalent in the public sector of South Africa. This is mainly due to a lack of transparency in supply chain management, poor procurement processes, weaknesses in internal controls and a lack of decisive leadership to address the lack of accountability by ensuring disciplinary action against those who flouted basic processes (Kakwezi & Nyeko, 2019). Hence, the problem addressed by this study is the ineffective use of internal audit in supply chain management as a management control to identify and recommend improvements in supply chain management processes. Although internal audit has a role in improving the governance, internal controls and risk management in the South African public

sector (National Treasury, 2009), there has been no research that has empirically investigated how internal audit can prevent supply chain management fraud in the public sector. While the above problem has been identified, there still exists corruption in supply chain management even after considerable measures to prevent fraud and corruption have been taken into consideration. Therefore, this study will address the apparent gap in the South African literature on the role of internal audits in preventing supply chain management fraud.

3. Literature Review

3.1 Conceptualisation of Internal Auditing

Internal auditing has advanced in recent years and has obtained a very crucial role within organisations. With this development of internal auditing, the internal audit function has a wider responsibility towards the organisation itself and its stakeholders. By providing extended services of assurance and consulting to the organisation, particularly to the audit committee and top management, the internal audit function efficiently contributes to improved organisational governance (Jones, Baskerville, Sriram & Ramesh, 2017; Raiborn, Butler, Martin & Pizzini, 2017). Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (Institute of Internal Auditing, 2012; Turetken, Jethefer & Ozkan, 2020). However, recent studies argue that the services provided by internal audit may vary and stakeholders in the profession question whether internal audit is able to fulfil its allocated role at all (Heesakkers, van Noorden, Vermeij-de Vries & de Vos-Vermulm, 2019). Eulerich and Eulerich (2020) indicate in their research that the internal audit role and position can be quite complex when looking at the interests of stakeholders as there are sometimes different and unclear expectations on internal audits. The different internal audit stakeholders follow several specific objectives, which require specific activities of internal audit. For example, the audit committee requires a very high level of assurance and needs an internal audit function that strongly focuses on internal controls, risk management and governance processes. On the other hand, the Chief Executive

Officer (CEO) and Chief Financial Officer (CFO) might need an internal audit function that has added consulting or advisory activities which might directly affect the resources of internal audit. Based on the CEO or /CFO and the audit committee requirements, the strategy and activities of the internal audit function have to be aligned with organisational goals. Furthermore, based on the advisory activities of the internal audit function, additional value may be added by improving the processes and information to support decisions of management. However, there may be influencing aspects that can weaken the potential added value of internal audit, more so in the case of an unsuitable positioning within the organisation (Eulerich & Eulerich, 2020; Botha & Wilkinson, 2019). From the above analysis of the concept of internal audit, it is evident that internal audit is an instrument for measuring the efficient and effective functioning of management control, providing support to management in aligning the control mechanisms that assist in achieving goals and objectives of an organization as outlined by Postula, Irodenko and Dubel (2020).

3.2 Effectiveness of Internal Audit in Detecting Supply Chain Management Fraud

Organisations usually incur huge financial losses in cases where an employee has committed fraud. However, it may be very difficult to identify or detect fraud in instances where employees conspire with competitors or external parties. Generally, an organisation is at a high risk of fraud when three (3) aspects of the fraud triangle are present. The three (3) aspects are rationalization of fraud, opportunity to commit fraud as well pressure to commit fraud (Schuchter & Levi, 2016).

Organisations do not always have the resources which allow rapid fraud detection and as a result fraud risk in organisations is often considered immaterial and no preventative measures which could reduce the potential occurrence are taken. However, in recent years, there has been a growing interest in the implementation of an independent internal audit which is a basis for good management. Fraud is a serious problem globally as it usually implies huge financial losses. It is almost impossible to determine the magnitude of losses caused by fraud. This is because it is not known how much fraud is undetected. However, determining the magnitude of losses caused by fraud might assist in alerting management about the estimated

magnitude of losses incurred and thus decide to take action to effectively detect fraud and counteract it (Burzyńska & Jabłońska, 2018).

It is often more difficult and more complicated to manage fraud risk than managing any other type of threat. It requires the need to involve several employees as well as several organizational units. A crucial element of the fraud risk management strategy involves setting up the scope of work for individual units, for example, internal audit, company management and supervisory board. The aim of an internal audit is to support management in the decision-making process. This is done by providing management with regarding the areas or units under investigation (Winiaska, 2005; Burzyńska & Jabłońska, 2018).

Internal audit is an alternative channel of communication which is external to the fraud risk management supervision system. If an organisation has a fraud unit, then the internal audit functions become independent from any pressure from management or the supervisory board. Internal auditors thus embark on numerous activities and various methods to detect fraud. To ensure they are effective in this area, they need to obtain appropriate knowledge in the fraud aspect, investigative methods and applicable legal provisions. There are various programs globally which provide training and certification to fraud detection specialists. If the responsibility of an internal audit is to detect fraud, it can carry out its activities by use of internal personnel, outsourcing or a combination (Mui, 2018; Haron & Khalid, 2018).

According to Mashele and Chuchu (2018:127), the lack of compliance to regulations can have major effects on the supply chain such as manufacturing shutdowns; failure to meet customer demands; poor quality products and service; damage to brand and reputational loss; and loss of market share. Therefore, any irregular practices on the supply chain can easily distract management from business focus as well as negatively affect the productivity of the organisation. It is thus important for organisations to understand the vulnerability of the supply chain to fraud and take proper actions to deter and detect fraudulent activities in the supply chain.

3.3 Effectiveness of Internal Audit in Preventing Supply Chain Management Fraud

Generally, the risk is inevitable in every activity in the organization. Every organizational activity

has some sort of uncertainty that is similar to risk including fraud (Karyon, 2013). Fraud comprises irregularities and illegal acts and is committed for a particular purpose such as deceiving other parties. Karyon (2013) further states that the perpetrators of fraud may be from within and from outside the organization. Fraud thus takes advantage of opportunities that may appear to be dishonest and harms other parties. Handoyo and Bayunitri (2021) explain that fraud prevention eradicates opportunities to commit fraud by establishing and implementing fraud risk management, internal control and honest corporate governance. Improving the effectiveness of internal audit is also a way to minimize fraud in the organization as internal audit helps the organization to accomplish its goals by taking a systematic and disciplined approach to assess and improve risk management, control, and governance processes (Institute of Internal Auditing, 2012).

Fraud risk needs the internal auditor to develop fraud prevention measures. Weak internal controls open the way to fraudulent activities. One of the most activities in fraud prevention is to establish an internal control system in every movement of the organization. A good internal control system ensures that the activities of the organization are effective and efficient (Handoyo & Bayunitri, 2021; Tugiman, 2014). An important step in safeguarding and detecting fraud is a comprehensive internal control system that is implemented thoroughly and regularly monitors the activities of the organization. This implementation can at least reduce management conspiracy with regard to fraud. Thus Priantara (2013) explains that fraud may be prevented by the following methods:

- *Building a good structure of internal control:* The task of management to control the organization's operations becomes progressively heavy as the organization grows or develops. A good internal control structure will thus help ensure that organizational goals are achieved, fraud prevention can be carried out effectively and efficiently as well as securing the organization's assets.
- *Effective control activities:* This can be affected by conducting employee performance reviews, providing accurate and complete information, safeguarding the organization assets and lastly ensuring segregation of duties to avoid duplication of work and authority.
- *Improving the organizational culture:* This can be achieved by implementing the principles of good corporate governance to encourage employees to work efficiently.
- *An effective internal audit function:* Although an internal audit cannot guarantee that fraud will not occur, it is important to use the proficiency of the internal auditors' position carefully so that fraud detection is expected and are able to provide recommendations to prevent fraud.

One of the most effective ways to prevent and mitigate fraud is to improve internal audits. Internal audit assists the organization in implementing significant internal controls by evaluating the level of efficiency and effectiveness thereof and encouraging continuous improvement. Internal auditors are thus the most appropriate custodians to assist in improving the effectiveness of internal controls, risk management and good corporate governance. The responsibility of reducing fraud lies with internal audits. This responsibility is performed by testing the adequacy and effectiveness of the internal control system as well as identifying risks. Management in any organization is thus primarily accountable for risk management, while internal auditors are responsible for assisting in the development of the risk management process. (Nawawi & Salin, 2018; Chowdhury & Shil, 2019; Thabit, 2019).

4. Research Methodology

A research methodology is a manner in which problems are systematically resolved. It is basically the science of studying how research is done scientifically. Furthermore, the research methodology indicates several steps assumed by a researcher in studying the research problem (Kothari, 2004). This study applied a quantitative approach and data was collected from the Gauteng Provincial Treasury with 28 responses as the study is still in progress. The outline of the research methodology is as follows:

4.1 Population and Sample

The sample size in this study was selected using stratified sampling. Shantikumar (2018) states that in stratified sampling, the population is first divided into subgroups (or strata) that all share a similar characteristic. It is used when we might reasonably expect the measurement of interest to vary between the different subgroups, and we want

to ensure representation from all the subgroups. The population includes internal auditors in the Gauteng Provincial Treasury. There are 114 internal auditors in employment at the Gauteng Provincial Treasury and the study targeted all of them for the role they play in Supply Chain Management (SCM). Preliminary results are based on 28 responses.

4.2 Research Paradigm

According to Kaboub (2008:343), there are two major types of research paradigms, the positivist and the non-positivist. Kaboub (2008:343) further states that within the positivist paradigm, real events can be observed and explained logically through analysis. Furthermore, Alessandrini (2012) explains that the positivist favours quantitative data, while the non-positivist favours qualitative data. This study focuses on the positivist paradigm. The reason for using this paradigm is that real events with regard to supply chain management will be observed and explained logically through analysis in a way in which internal audit can be used as a tool for fraud prevention within the supply chain.

4.3 Data Collection

Data collection is a process of gathering information from all the relevant sources to find answers to the research problem, test the hypothesis and evaluate the outcomes. The questionnaire method has been widely acknowledged as a capable tool for evaluating the perceptions of respondents on a particular subject (Dudovskiy, 2018). The questionnaire comprised closed-ended questions. This study collected data from a quantitative perspective where data was collected consistently from each participant identified in the study.

4.3.1 The Validity and Reliability of the Data Collection Method

The validity and reliability of an instrument refer to consistency from one measurement to the next and validity to the accurate measurement of the concepts. An instrument is reliable if it supplies consistent results. There are different types of questionnaires and for the purposes of this study, a group-administered questionnaire will be used. Wilkinson and Birmingham (2003) emphasize that the group-administered questionnaire is one of the most effective instruments for data collection from a group of respondents who can naturally be brought together for the purpose.

4.4 Data Analysis Technique

Data in this study was analysed by following a quantitative research method to quantify the cause and effects that presents the role of internal audit in fraud prevention within the supply chain management in the Gauteng Provincial Treasury. Data was analysed using the 2022 version of Statistical Package for the Social Sciences (SPSS). Thus, the researcher analysed survey data based on the sound principle of research questions and interpret the data in line with the research approaches and design.

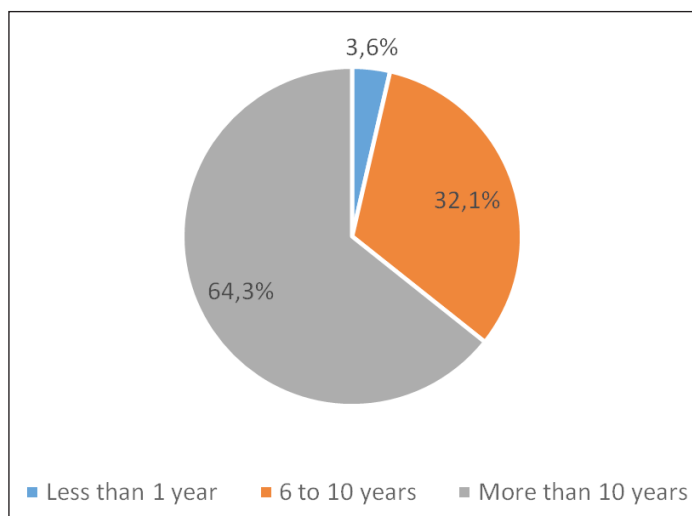
5. Results and Discussions

The main objective of this research is to analyse the effectiveness of internal audits in fraud prevention and detection in supply chain management. Data reported in this study are preliminary findings of the ongoing research. The findings are presented from the results of the research questions of the study as follows:

In Figure 1, it can be realised that the majority of the people who completed the questionnaire are more experienced in the internal audit field, with over 10 years of experience. This means that they have a better understanding of the role of internal audits and its effectiveness. Badara and Saidin (2013) in their study indicate that experience is a crucial aspect to consider because auditors' experience influences their professionalism, and this therefore has a critical impact on their efficiency and effectiveness. Further research indicated that when auditors have more experience, they are more knowledgeable about errors, and their knowledge is more accurate on errors. It also suggests that the knowledge advantage is a result of the ability to provide better explanations for audit findings (Gaballa & Ning, 2011). However, other researchers argue that although experience is a good predictor of knowledge, not all forms of knowledge are obtained equally by persons with a given amount of experience. Similarly not all people with the same experience in a particular field are likely to have the same problem-solving capabilities, but rather depend on tasks or activities. This is because different types of knowledge are obtained through different experiences and training (Lehmann & Norman, 2006).

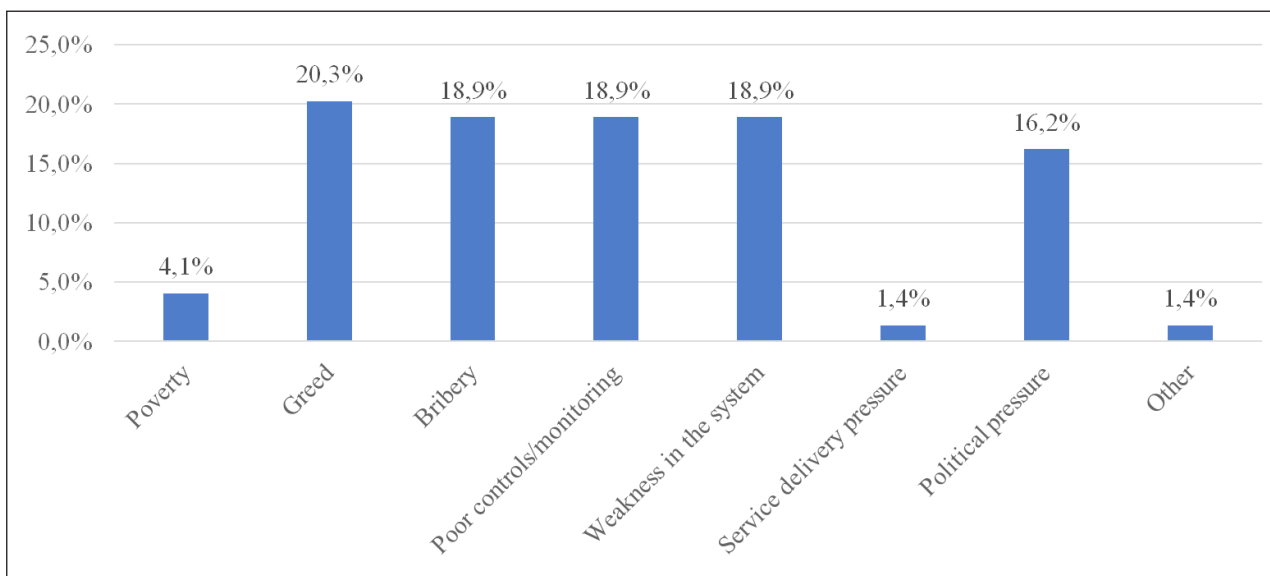
In Figure 2, the main contributing factors to fraud risk in supply chain management as indicated in the

Figure 1: Years of Experience in the Public Sector



Source: Authors

Figure 2: Factors Contributing to Fraud Risk in Supply Chain Management



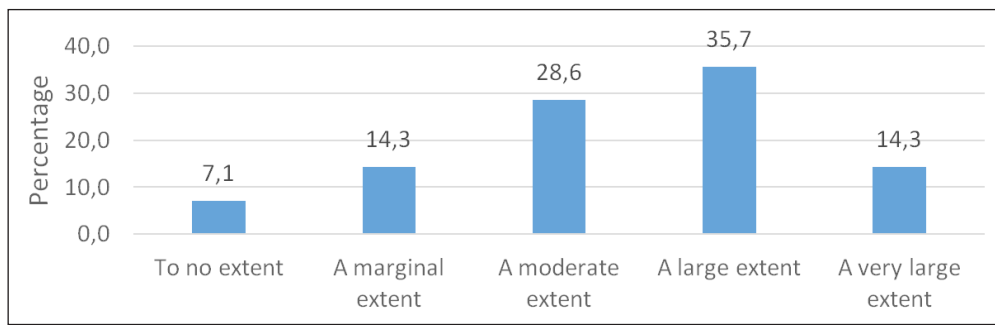
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figure are as follows: Greed (20.3%), bribery (18.9%), poor controls/ monitoring (18.9%), weakness in the system (18.9%) these three are the highest contributors to fraud risk in the supply chain management. Bribery and greed are human conditions that may be pre-existent in human beings and could possibly be a result of poor controls/monitoring. This means that bribery and greed happen due to poor controls in place or monitoring thereof. Poor controls also lead to weaknesses in the system. Therefore, understanding the opportunity to commit fraud

enables auditors to identify which fraud schemes an individual can commit, how fraud risks occur when the controls do not function as expected by management. Pressure in this analysis is political and service delivery pressure and the opportunity to commit fraud thus refer to the weakness in the system where an individual has the power or ability to exploit and commit fraud (Varma & Khan, 2016).

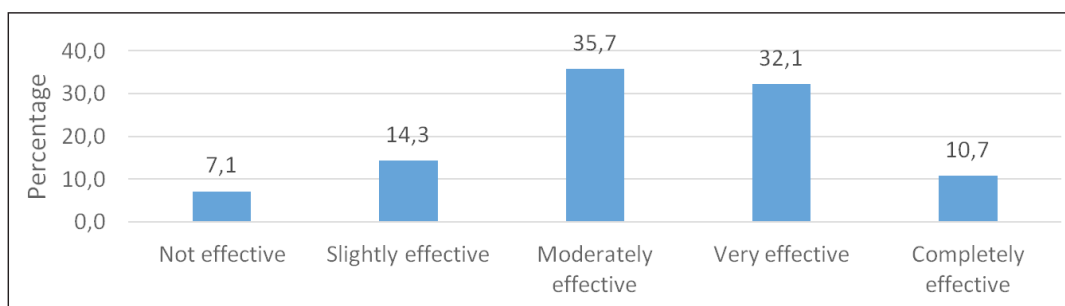
Figure 3 and Figure 4 respond to the questions of, to what extent does the Internal Audit function have

Figure 3: Capacity of Internal Audit to Identify Fraud in Supply Chain Management



Source: Authors

Figure 4: Effectiveness of Internal Audit in Identifying Fraud in Supply Chain Management



Source: Authors

the capability to identify fraud in supply chain management; and is internal audit effective in identifying fraud in supply chain management? According to the analysis, the internal audit function has the capability to identify fraud in supply chain management to a large extent (35.7%). Furthermore, the study indicated that internal audit is moderately effective in identifying fraud in supply chain management (35.1%). This percentage is higher than the ineffectiveness thereof at (7.1%).

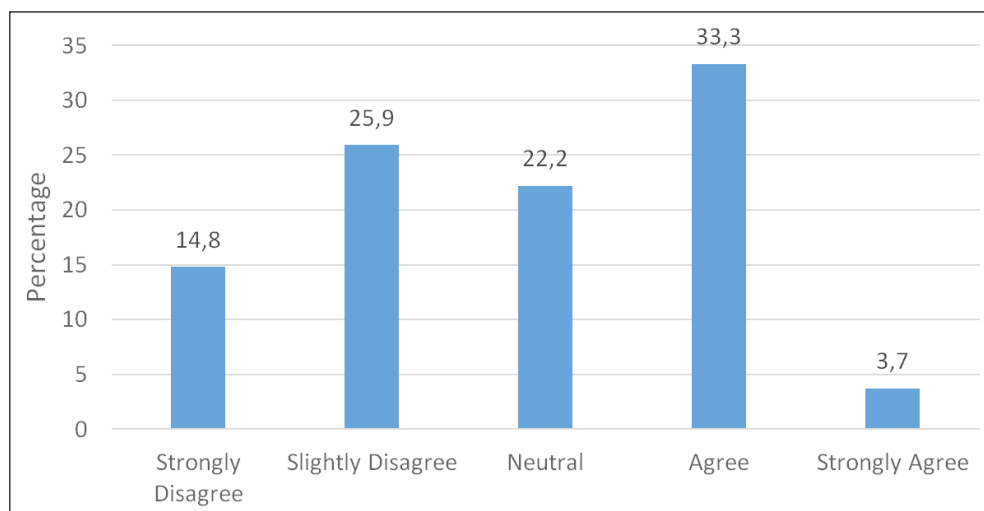
To ensure that the internal function is effective in this area, they need to obtain relevant knowledge in the fraud aspect, investigative techniques and relevant legal provisions. As stated above, there are various programs globally which provide training and certification to fraud detection specialists. If the responsibility of an internal audit is to detect fraud, it can carry out its activities by use of internal personnel, outsourcing or a combination (Mui, 2018; Haron & Khalid, 2018). The purpose of an internal audit is also to support management in the decision-making processes by providing information on the functioning of the areas under investigation (Burzyńska & Jabłońska, 2018).

In Figure 5, the study indicates that internal audit is effective in preventing fraud in supply chain management (33.3%). This percentage is higher than the ineffectiveness thereof at (14.8% strongly disagree). Handoyo and Bayunitri (2021) explain that fraud prevention eradicates opportunities to commit fraud by establishing and implementing fraud risk management, internal control and honest corporate governance. Improving the effectiveness of internal audit is also a way to minimize fraud in the organisation as internal audit helps the organisation to accomplish its goals by taking a systematic and disciplined approach to assess and improve risk management, control, and governance processes (Institute of Internal Auditing, 2012).

6. Conclusion and Recommendations

This study argued at the beginning of this article that it contributes to work in the field of financial management in the public sector environment. The findings that the study reveals have presented that the organisations should follow the prescribed framework that provides a uniform execution and practice of SCM in the local government and public

Figure 5: Effectiveness of Internal Audit in Preventing Fraud in Supply Chain Management



Source: Authors

sector environment in order to minimize the risks in the SCM. While this study does not offer a conclusive answer to the question of preventing fraud and corruption, it does provide best practices in organisations to establish uniform controls and procedures for ensuring compliance, reduction of errors and maintaining consistency in the application of regulations. The research raises important questions about whether internal audits alone can minimize fraud in organisations as well as whether the monitoring of supply chain management can yield an effective supply chain management process.

As a result of conducting this research, the study proposes that SCM practitioners should be consistent on regulatory issues; work consistently with internal audits to identify indicators of fraud as well as prevent fraud. The internal audit's role is not to investigate fraud, but to evaluate risks and provide reasonable assurance that the organisation has taken adequate measures with regard to internal controls and that risks are mitigated and reduced.

References

- Al-Akra, M., Abdel-Qader, W. & Billah, M. 2016. Internal Auditing in the Middle East and North Africa: A literature Review. *Journal of International Accounting, Auditing and Taxation*, 26(1):13-27.
- Alessandrini, M. 2012. Non-Positivist Approaches to Research in the Third Sector: Empowered Policy Making. In *Annual Meeting of the ISTR 10th International Conference, Università Degli Studi Di Siena, Siena, Italy*.
- Ambe, I.M. & Badenhorst-Weiss, J.A. 2012. Supply chain management challenges in the South African public sector I. *African Journal of Business Management*, 6(44):11003-11014.
- Ameyaw, C., Mensah, S. & Osei-Tutu, E. 2012. Public procurement in Ghana: The implementation challenges to the public procurement law 2003 (Act 663). *International Journal of Construction Supply Chain Management*, 2(2):55-65.
- Badara, M.A.S. & Saidin, S.Z. 2013. The relationship between audit experience and internal audit effectiveness in the public sector organizations. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(3):329-339.
- Botha, L.M. & Wilkinson, N. 2019. A framework for the evaluation of the perceived value added by internal auditing. *Meditari Accountancy Research*.
- Braam, G. & Peeters, R. 2018. Corporate sustainability performance and assurance on sustainability reports: Diffusion of accounting practices in the realm of sustainable development. *Corporate Social Responsibility and Environmental Management*, 25(2):164-181.
- Burzyńska, D. & Jabłońska, M. 2018. The role of internal audit as a tool for detecting fraud. *Economic and Environmental Studies (E&ES)*, 18(2):483-497.
- Chowdhury, A. & Shil, N.C. 2019. Influence of new public management philosophy on risk management, fraud and corruption control and internal audit: Evidence from an Australian public sector organization. *Accounting and Management Information Systems*, 18(4):486-508.
- Dudovskiy, J. 2018. The Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by-Step Assistance. Available at: <https://research-methodology.net/research-methods/data-collection/>. Accessed 5 April 2019.
- Eulerich, A.K. & Eulerich, M. 2020. What is the value of internal auditing? – A literature review on qualitative and quantitative

- perspectives. *A Literature Review on Qualitative and Quantitative Perspectives* (April 22, 2020). *Maandblad Voor Accountancy en Bedrijfseconomie*, 94(2020):83-92.
- Ganesan, Y., Hwa, Y., Jaaffar, A. & Hashim, F. 2017. Corporate governance and sustainability reporting practices: The moderating role of internal audit function. *Global Business and Management Research*, 9(4):159-179.
- Hamisi, S. 2011. Challenges and opportunities of Tanzanian SMEs in adapting supply chain management. *African Journal of Business Management*, 5(4):1266-1276.
- Handoyo, B.R.M. & Bayunitri, B.I. 2021. The influence of internal audit and internal control toward fraud prevention. *International Journal of Financial, Accounting and Management*, 3(1):45-64.
- Haron, H.B.H. & Khalid, A.A. 2018. The role of shariah supervisory board on internal Shariah audit effectiveness: Evidence from Bahrain. *Academy of Accounting and Financial Studies Journal*.
- Heesakkers, E., van Noorden, J.T., Vermeij-de Vries, M. & de Vos-Vermulm, M. 2019. Internal audit ambition model. The Institute of Internal Auditors Netherlands. Available at: <https://www.iaa.nl/SiteFiles/Doc/IA%20AM%20Application%20Guide%2020181004.pdf>.
- Institute of Chartered Accountants in England and Wales. 2020. *Institute of Chartered Accountants in England and Wales*, London: ICAEW Audit and Assurance Faculty.
- Institute of Internal Auditors (IIA). 2012. The role of auditing in public sector governance. 2nd edition ed. Altamonte Springs: Institute of Internal Auditors.
- Jones, K., Baskerville, R., Sriram, R. & Ramesh, B. 2017. The impact of legislation on the internal audit function. *Journal of Accounting & Organizational Change*.
- Kaboub, F. 2008. *Positivist Paradigm*. In: Leong, F. (eds.). *Encyclopaedia of Counselling*, Vol. 2. Thousand Oaks, Sage Publications.
- Kabuye, F., Nkundabanyanga, S., Opiso, J. & Nakabuye, Z. 2017. Internal audit organisational status, competencies, activities and fraud management in the financial services sector. *Managerial Auditing Journal*, 32(9):924-944.
- Kagermann, H., Kinney, W., Küting, K., Weber, C.P. & Boecker, C. 2013. *Internal Audit Handbook: Management with the SAP®-audit Roadmap*. Springer-Verlag.
- Karyono. 2013. *Forensic Fraud*. Yogyakarta: CV. Andi.
- Katz, N. 2010. Protect Against Procurement Fraud. *Inside Supply Management*, 21(3):16.
- Kothari, C. 2004. *Research Methodology Methods and Techniques*. New Delhi. Second ed. New Delhi: New Age International (P) Limited.
- Lambert, D.M. & Enz, M.G. 2017. Issues in supply chain management: Progress and potential. *Industrial Marketing Management*, 62(2017):1-16.
- Maroun, W. 2019. Does external assurance contribute to higher quality integrated reports? *Journal of Accounting and Public Policy*, 38(4):106670.
- Mashele, F. & Chuchu, T. 2018. An Empirical Investigation into the Relationship Between Sustainability and Supply Chain Compliance Within the South African Public and the Private Sector. *Journal of Business and Retail Management Research*, 12(2).
- Matthee, C.A. 2005. *The potential of internal audit to enhance public supply chain management outcomes*. (Doctoral dissertation, Stellenbosch: University of Stellenbosch).
- Monczka, R.M., Handfield, R.B., Giunipero, L.C. & Patterson, J.L. 2015. *Purchasing and Supply Chain Management*. Cengage Learning.
- Mui, G.Y. 2018. Defining auditor expertise in fraud detection. *Journal of Forensic and Investigative Accounting*, 10(2):168-186.
- Munzhedzi, P.H. 2016. South African public sector procurement and corruption: Inseparable twins? *Journal of Transport and Supply Chain Management*, 10(1):1-8.
- Mupini, S. 2018. *An Analysis on The Effectiveness of Internal Audit in Fraud Detection. Case Study of Sincere Security*, Bindura: Bindura University of Science Education.
- Nawawi, A. & Salin, A.S.A.P. 2018. Internal control and employees' occupational fraud on expenditure claims. *Journal of Financial Crime*.
- Patterson, J.L., Goodwin, K.N. & McGarry, J.L. 2018. Understanding and Mitigating Supply Chain Fraud. *Journal of Marketing Development & Competitiveness*, 12(1).
- Postula, M., Irodenko, O. & Dubel, P. 2020. Internal audit as a tool to improve the efficiency of public service. *European Research Studies*, 23(3):699-715.
- Raiborn, C., Butler, J., Martin, K. & Pizzini, M. 2017. The internal audit function: A prerequisite for Good Governance. *Journal of Corporate Accounting & Finance*, 28(2):10-21.
- Schuchter, A. & Levi, M. 2016. The fraud triangle revisited. *Security Journal*, 29(2):107-121.
- Shantikumar, S. 2018. Methods of sampling from a population. Available at: <https://www.healthknowledge.org.uk/public-health-textbook/research-methods/1a-epidemiology/methods-of-sampling-population>. Accessed 7 June 2019.
- Tamaş, A., Petraşcu, D. & Toader, M.I. 2018. Importance of Internal Audit Missions for Private Companies in Fraud Prevention and Detection. *Finance: Challenges of the Future*, 18(20).
- Thabit, T. 2019. April. Determining the effectiveness of internal controls in enterprise risk management based on COSO recommendations. In *International Conference on Accounting, Business Economics and Politics*.
- Tugiman, H. 2014. *Standard Professional Audit Internal*. Yogyakarta: Kanisius.
- Turetken, O., Jethefer, S. & Ozkan, B. 2020. Internal audit effectiveness: Operationalization and influencing factors. *Managerial Auditing Journal*, 35(2):238-271.
- Varma, D.T. & Khan, D.A. 2016. Greed an attribute of fraudster. *AIMS International Journal of Management*, 10(2):83-99.