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**EFFECT OF ANTI-FRAUD MECHANISMS ON MOTOR INSURANCE FRAUD
AND THE MODERATING EFFECT OF CORPORATE GOVERNANCE IN
NAIROBI COUNTY, KENYA**

MR. HEZRON MAOBE JOEL

ADMISSION NUMBER - 060794

**A Research Thesis Submitted in Partial Fulfilment of the Requirement for the Award of
Degree of Master of Commerce in Forensic Accounting at Strathmore University
Business School (SBS), Strathmore University, Nairobi, Kenya**

May, 2025



DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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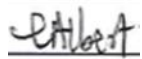


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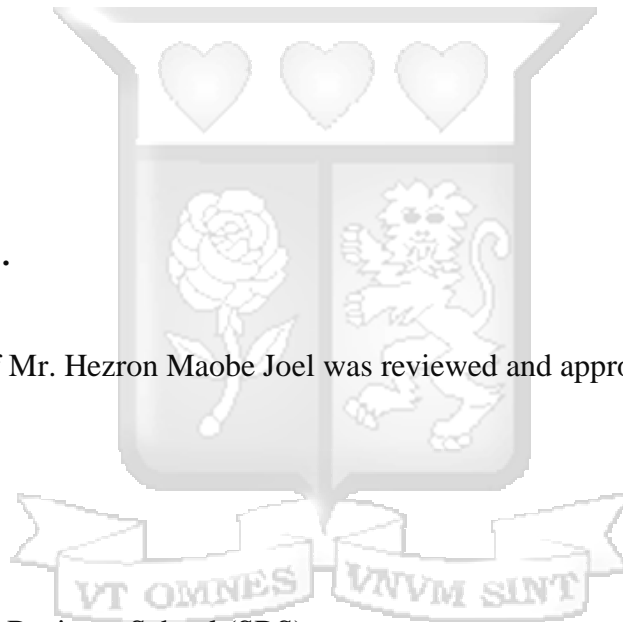
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22.05.2025.



ABSTRACT

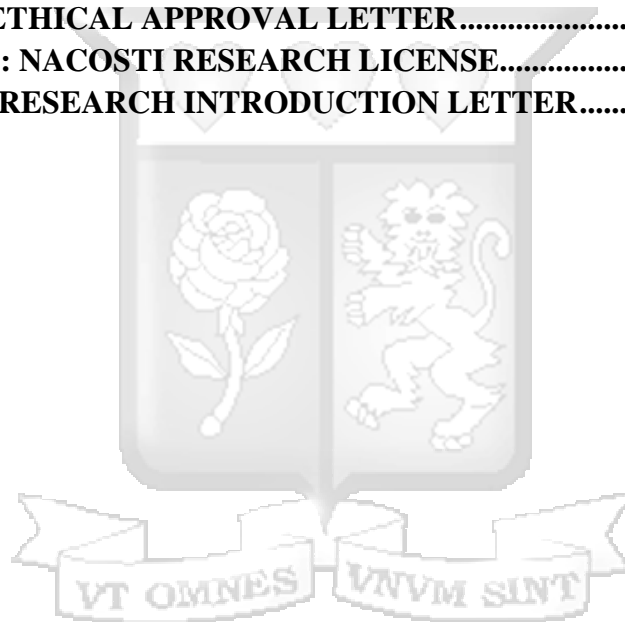
The study was motivated to establish the effect of anti-fraud mechanisms on the motor insurance fraud and the moderating effect of corporate governance in Kenya, Nairobi County. This was specifically addressed by ascertaining how the preventive and detective anti-fraud mechanisms impact the motor insurance fraud among the insurance firms located in Nairobi County, Kenya and the moderating effect of corporate governance. This study was underpinned by the Fraud Management Lifecycle and the Fraud Triangle theories. Descriptive correlational design involving the collection and analysis of primary data was used to show how motor insurance fraud among the insurance firms in Nairobi County is influenced by the preventive and detective anti-fraud mechanisms. The target population of the study was 35 insurance firms in Nairobi County licensed by IRA. The units of observation consisted of 5 claim assessors and 5 insurance underwriters in each given insurance firm. This summed up to 350 respondents and census methodology was employed to study all the given respondents. Structured questionnaires was used by the researcher to suitably obtain primary data that was in quantitative form from the respondents in order to address the study objectives. Descriptive and multiple linear regression tools were used to analysis. The regression results observed that the implementation of the most effective preventive and detective antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. The results also observed that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The management should invest in fraud training programmes to the employees and to the general public through one-one sessions, social media advertisements and through their websites. This will help deter fraudsters from falsifying claims such as editing digital insurance certificates or stage-managing accidents. The policy makers through the IRA and the Parliament of Kenya should create laws which will ensure that each motor insurance firm has an internal audit department, conduct fraud awareness training programmes at least 4 times every quarter of the year especially to the new employees and conduct serious background checks of both the employees and the insured motorists in order to discourage motor insurance fraud from being perpetuated. Moreover, the IRA should ensure that all the motor insurance service providers have registered with the IMIDS and frequently updates it with the relevant information claimants since it plays an important role in flagging down fraudulent claims before a fraud loss is experienced.

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ABBREVIATIONS AND ACRONYMS

ACFE	Association of Certified Fraud Examiners
IRA	Insurance Regulatory Authority
IMIDS	Integrated Motor Insurance Database System
PwC	Pricewater Housecoopers
USA	United States of America
NACOSTI	National Commission for Science, Technology & Innovation
NICB	National Insurance Crime Bureau
SPSS	Statistical Package for the Social Sciences



DEFINITION OF KEY TERMS

Corporate Governance	It is a body of policies, regulations, processes together with institutions that enforces organizations to operate in an ethical and transparent manner for the benefit of all the stakeholders of the given organization more especially the shareholders (Ellis, 2023).
Fraud	Is an action of illegally obtaining certain benefits through hiding facts or by providing misleading information (Gjakovski, Brkovski, Stefanovski & Sinani, 2022).
Detective Anti-Fraud Mechanisms	These are the mechanisms employed by individuals or organizations involving systems, tools and procedures to identify or dig out a fraudulent activity that is happening or a fraudulent activity that has happened in order to stop further fraud losses or to recover the losses suffered (Inscribe, 2023). It is actually a system that is concerned with the identification of concealed fraud cases (Amasiatu & Shah, 2015).
Preventive Anti-Fraud Mechanisms	Denotes the tools and systems to avoid fraud from happening and to seal off all areas susceptible to fraud occurrence (Inscribe, 2023).
Insurance Fraud	Is an action of illegally obtaining certain benefits through hiding facts or by providing misleading information (Gjakovski, Brkovski, Stefanovski & Sinani, 2022).
Motor Insurance Fraud	It denotes a situation whereby a person provides a misleading information about a motor vehicle event in order to receive undeserved insurance pay-out concerning that false motor vehicle event (Progressive Casualty Insurance Company, 2023).

DEDICATION

Jesus Christ through His Holy Spirit that has been working in me has played an important role in giving me the ideas, creativity, will-power, wisdom and discernment to develop this research proposal. I would not have been able to come up with this work through my own strength. This is the reason why I fully dedicate this work to Jesus Christ, my LORD and personal saviour, I give Him a sacrifice of gratitude and appreciation to Him forever and ever. He has been my greatest source of research knowledge, His amazing unconditional love upon my life amazes me up to date. It would be unjust if I won't appreciate the moral support through the positive encouragement that my family more especially my lovely wife Brenda and my brother have infused in me to develop this work. From my bottom of my heart, I dedicate this work to them.



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I thank Jesus Christ for blessing me with the discernment, knowledge, skills and investigative creativity to identify the research problem for this proposal, build up enough justification for it to be researched on and the appropriate methodologies that will be used to address the research problem. I also sincerely thank my supervisor for her deep guidance and corrective criticism to build up this proposal. I finally thank my wife and the rest of my family members for giving me unlimited moral support and conducive work environment to build up this proposal. Thank you very much, may our Lord Jesus Christ bless you all.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Businesses in the global setup usually undergo many challenges in their journey of sustainability and gaining market power (PwC, 2018). Still, fraud is one of the most outstanding challenges bedevilling them (PwC, 2018). Not only does it lead to unrecoverable financial losses, but it heartlessly damages the firms' brand name, weakens business relations, decreases team member morale and deteriorates the value of the companies' shares (Sadique et al., 2019). The severe impacts of corporate fraud have called for establishing firm control and monitoring systems that can effectively manage fraud (Sadique et al., 2019). Organizations lose up to 5% of revenue to fraud annually, with an average loss per case of \$ 1,783,000 (ACFE, 2022). Besides that, more than \$ 3.6 billion has been lost through fraud globally (ACFE, 2022). Studies (Inaya & Obasuyi, 2020; Manyo et al., 2023; Okoye et al., 2023) have confirmed that fraud significantly lowers the financial performance of organizations. Moreover, studies (Inaya et al., 2020; Okoye et al., 2023) have also confirmed that fraud erodes investor confidence and decreases the financial stability of the given firms to a point whereby they become unstable and collapse. Fraud can be defined as illegally obtaining certain benefits through hiding facts or providing misleading information (Gjakovski et al., 2022). Virtually all sectors worldwide have been victims of fraud, but the insurance industry stands out as one of the few sectors that have been dealt a deadly blow by fraud (Yusof & Razak, 2019). This is because the insurance industry is among those that contribute a large proportion of economic growth to any nation (Focarelli, 2017; Yusof & Razak, 2019). Insurance fraud involves someone providing false information about an event to get an insurance pay out (Progressive Company, 2023). Gjakovski et al. (2022) defined it as illegally obtaining certain benefits through hiding facts or providing misleading information.

Insurance fraud is as old as the insurance industry itself, and at least \$ 180 billion is stolen in all insurance lines per year (Otiso, 2021). It causes adverse losses and hinders effective insurance penetration (Angima & Omondi, 2016; Flynn, 2016). Insurance fraud is as old as the insurance industry and is more adverse than banking and telecommunication fraud, especially in East Africa (Otiso, 2021). Globally, in the context of the United Kingdom, it was observed that insurance fraud cases, including false application information, faking road accidents and exaggerated claims, increased by 6% from March 2022 to April 2023 (Ganguanco, 2023). Regrettably, the United Kingdom has suffered from at least 49,000 motor insurance fraud cases, resulting in a fraud loss of £577 million, showing how it is a frequently perpetuated form

of fraud in the country (Association of British Insurers, 2022). This type of fraud was also confirmed to be a severe case in Canada since \$ 6 million could have been lost if fraudulent cases had not been unravelled in 2021 in the motor insurance sector (Pangilinan, 2023). This menace is also a severe issue in China since it was established that a group of people in that country had been found to have faked at least 93 traffic accidents and, as a result, received \$ 97,800 in compensation that they were not meant to receive (Yingzi, 2023). Similarly, at least 300 motor insurance claims in Singapore were flagged as fake, with 13 being proved fraudulent in 2020 and 2021 (Peng, 2022). As a result, six people suspected of being involved in this sham activity were jailed after being found guilty (Peng, 2022). A man residing in Massachusetts, USA, was jailed for scheming to benefit from insurance claims due to damaging luxury cars purchased through dubious means (Hemenway, 2023). Interestingly, it was established that 10% to 20% of the motor insurance claims in Eastern and Central European countries were fraudulent (Benede et al., 2022). Besides that, in South Africa, at least R 7 billion was paid out to settle insurance claims, which turned out to be fraudulent (BusinessTech, 2020).

Most motor insurance claim pay-outs in Nigeria have been fraudulent due to weak fraud management practices (Shoyemi et al., 2022). Besides that, most of these fraud cases in the Nigerian motor insurance industry involve people taking advantage of motor accidents to get exaggerated pay-outs (Anaesoronye, 2022) like a case of customers demanding a whole new bumper to replace a bumper that has been slightly damaged which can simply be repaired in the garage (Anaesoronye, 2022). In Kenya, the Association of Kenya Insurers observed that approximately 40% of the insurance subscribers possess fake motor insurance policies, with the highest cases of this type of fraud being in Nairobi, Kitengela and Kisumu (Mwita, 2021). Based on their research evidence, Liu, Li and Yeh (2017) concurred that staged managed accidents ill-fully invented to milk money from insurers are the most common insurance fraud. Hard economic times have been cited as one of the critical drivers of motor insurance fraud (Salaton, 2019). Research scholars comprising Kiragu, Gikiri and Iminza (2015), together with Kamande, Kiragu and Musumba (2018), have come up with a strong argument that weak fraud risk management policies and practices stand out as the most significant catalyst of motor insurance fraud besides the lack of public awareness and leadership support.

Effective fraud risk management practices provide an excellent foundation for creating legal frameworks that steadily contain insurance fraud (Njuguna, 2019). This is why most firms in the insurance industry are investing in effective fraud risk management practices to minimize fraud (Chepkoech & Rotich, 2017). Since fraud is ever-evolving, organizations cannot depend on traditional fraud risk management practices, and based on the present technological

advancement, they are becoming weak (Otieno, 2018). This development provokes innovative strategies that will accurately manage fraud, as has been argued by Othman, Aris, Mardziyah, Zainan, and Amin (2015). This breeds a justifiable foundation for this study to unravel the effectual fraud management mechanisms capable of stopping or minimizing the motor insurance fraud problem in Kenya. According to Ijeoma and Aronu (2013) and Otieno (2018), identifying the most effective antifraud controls will seal off all loopholes that can manifest fraud opportunities and block the fraudsters from carrying out fraud. Thus, this will make them go elsewhere or work hard to meet ends.

1.1.1 Antifraud Mechanisms

When fraud is prevented in the first place, an environment is created that lessens opportunities for fraud to occur (Dimitrijevic et al., 2020). Fraud prevention is a proactive process involving the employment of tools and systems to prevent fraud and seal off all areas susceptible to fraud (Inscribe, 2023). Thus, fraud prevention practices are tools and measures instituted by a given organization to seal off fraud risk areas (Inscribe, 2023). These preventive antifraud mechanisms, as enlightened by Dimitrijevic et al. (2020), include performing background checks on your employees and customers, internal control systems, conducting continuous internal audits, team member education programme on fraud awareness, enforcing a code of conduct on your employees, ethical tone at the top and carrying continuous fraud risk assessment in all areas of the organization. Since weak fraud prevention inhibits fraud occurrence, fraud losses cannot be birthed, thus leading to improved organizational profitability (Agwor, 2017). There is empirical evidence from studies carried out by Myint (2019), Hussaini, Bakar and Yusuf (2018), Meiryani, Darmawan, Lusianah, Ikhsan and Setiadi (2021), together with Kiprono and Ng'ang'a (2018) that the sustainable profitability of companies irrespective of the sectors they operate in, is as a result of enforcing preventive antifraud mechanisms.

It is becoming a necessary issue for organizations to have an effective fraud prevention system that can help mitigate a potential fraud from occurring rather than detect a fraud that has already happened since recovering the losses or from those losses to the level of profitability could be challenging (Abdulrahman, 2019). One of the most fundamental techniques of fraud prevention is knowing your employees since establishing a good relationship with them can make them accessible to share any form of fraud risk that might be helpful to the organization, especially regarding those involving a partnership between a client and someone from the organization (Reeds, 2014; Abdulrahman, 2019). Another fundamental fraud prevention practice is fraud awareness (Yuniarti, 2017). Through training programmes, meetings, and frequent expert education, the top leadership should enlighten employees on the everyday trending fraud

activities related to their organizations (Tuanakotta, 2012; Yuniarti, 2017). This would give the team members an upper hand in determining if a specific organizational activity denotes a fraud attempt. This knowledge will deter them from doing this by just warning the fraudster or reporting them to the relevant authorities in the organization (Yuniarti, 2017). This can significantly hinder fraud, whether by an outside party or an inside party (Tuanakotta, 2012; Yuniarti, 2017). Besides that, fraud prevention practices involving proper implementation of internal control systems and effective fraud risk management systems omit fraud risk by closing up all weak areas that people can use to commit fraud (Natasya et al., 2017). Antifraud policies are another essential element of fraud prevention practices (Kanana, 2018).

Antifraud practices must be set to communicate what constitutes fraud, and the guidelines should discourage and warn stakeholders of the consequences of engaging in such unlawful acts (ACFE, 2016; Kanana, 2018). The policies should be implemented at all levels of the organizational structure, and the organizations should commit themselves to these to effectively deter fraud, 2016). Besides that, segregation of duties is also an essential aspect of fraud prevention practices (Nyakarimi et al., 2016). Segregation of duties frustrates successful fraud perpetration because a given team member acting as a fraudster would need the help of another staff member who also would require consent or approval from their supervisor or manager, thus risking the illegal activity being exposed (Capodanno, 2012). For instance, a claim document produced which is fraudulent cannot be approved by the same person but by a completely different person, senior in rank, who would quickly detest that fraudulent act (Capodanno, 2012; Nyakarimi et al., 2016).

Detective antifraud mechanisms play an instrumental role in combating fraudulent transactions in banking, medical, public and the general private sector and the insurance industry (Financial Crime Academy, 2023). These are the mechanisms employed by individuals or organizations involving systems, tools and procedures to identify or dig out a fraudulent activity that is happening or a fraudulent activity that has occurred to stop further fraud losses or recover the losses suffered (Inscribe, 2023). It is a system concerned with identifying concealed fraud cases (Amasiatu & Shah, 2015). There are numerous fraud detection practices which have been pointed out by fraud literature (ACFE, 2018; Otieno, 2018; Mangala & Kumari, 2017), namely, forensic accountants, continuous auditing, fraud hotlines, whistle-blowing systems, bank reconciliation, operational audits, discovery sampling, claims assessment, evaluation of insurance policies, data mining and IMIDS among others. Data mining as a fraud detection practice classifies data, for instance, all the insurance claims, into segments and looks for

interesting patterns in the figures, words, symbols or other details linked to fraud that could provide grounds for further investigation (Kanade, 2021).

Besides that, claims assessment through interviewing claimants concerning the details provided in those claims and conducting special investigations to confirm if the assertions made on those claims are factual is an effective fraud detection practice that unravels a fraud risk (Otieno, 2018). Continuous auditing and monitoring systems as a fraud detection practice can be implemented to assess and authenticate the effectiveness of an organization's controls by pointing out weak areas of fraud risk through a consistent auditing process, which can expose ongoing fraud activity (Kanade, 2021). Many insurance firms seek forensic accountants to estimate the fraud losses experienced or to identify the perpetrators behind a fraud activity for legal action to be taken against them (Driskell & Davis, 2022). They detect a possibility of fraud risk in a particular claim by conducting forensic investigations, finding and analysing evidence before presenting it in a court of law through the litigation process to successfully prosecute the perpetrators behind it (Brandon, 2019; Shea & Eldridge, n.d.; Driskell & Davis, 2020).

1.1.2 Corporate Governance

Corporate governance is one of the primary tools for effectively managing fraud, which decreases the possibility of internal control systems leading to dishonest financial reporting (Razali & Arshad, 2014). Corporate governance is essential in detecting and preventing fraud because it demands that organizations institute solid internal control systems for detecting and preventing fraud (Ellis, 2023). Corporate governance embodies mechanisms that protect the interests of the investors against the interests of the employees or other stakeholders of the firm who, based on their benefits, can erode the investors' wealth through fraud (Mousavi et al., 2022). It can also be understood as a system of regulations, processes, laws, policies and institutions that govern how a particular organization operates (Ellis, 2023). The audit committee and the board of directors are the core elements of corporate governance (Pham, 2022). The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded (Pham, 2022). They do this by overseeing fraud risk assessment systems and establishing business ethical programs and fraud policies to mitigate fraud from occurring, which can reduce shareholder wealth (Pham, 2022).

The board of directors conceived the audit committee to supervise the firm's risk assessment systems and develop and manage the internal audit processes and other corporate governance processes (Effendi, 2018). Skousen, Smith, and Wright (2015) observed that an audit committee that is powerful and has a greater autonomous capacity to monitor the activities of

a given organization would have a lower likelihood of fraud occurrence. According to these findings, Rohmatin, Apriyanto and Zuhroh (2021) observed that opportunities to consider executing fraudulent activities and rationalizing fraud to be justifiable can be eliminated or watered down by corporate governance practices. Interestingly, Kassem (2022) provided research evidence that weak or lack of corporate governance systems dilutes the effectiveness of preventive and detective antifraud mechanisms, thus creating room for fraud. Far from that, Sawsan et al. (2015) embarked on looking for the role played by corporate governance in fraud risk management. The findings observed that setting a "tone at the top" through employing a committed board of directors would create a transparent corporate environment that enhances integrity together with positive ethical conduct, which would consequently birth robust antifraud mechanisms that would curb fraud risk.

The research studies carried out by Skousen et al. (2015), Rohmatin et al. (2021), Kassem (2022) and Sawsan et al. (2015) did not provide evidence of the role of corporate governance in managing motor insurance fraud in Kenya by ensuring that the adequate antifraud controls are implemented. This gap was addressed by investigating if corporate governance moderates the relationship between the antifraud mechanisms and motor insurance fraud among the insurance firms in Nairobi County, Kenya.

1.1.3 Motor Insurance Fraud in Kenya

Motor insurance fraud denotes a situation whereby a person provides misleading information about a motor vehicle event to receive undeserved insurance pay-outs concerning that false motor vehicle event (Progressive Company, 2023). The IRA reported that motor insurance fraud malpractices such as fraudulent motor theft claims, false motor accident claims, conspiracy to defraud and stealing by agents inflated insurance premiums in Kenya by 25% (Capital et al., 2022). Most insurance firms in Kenya have lamented significant losses linked to fake claims (Capital et al., 2022). The severity of the fraudulent cases is that one in every five insurance claims always turns out to be dishonest (Capital et al., 2022). One of the typical schemes is disposing of a vehicle and lying that it has been stolen just for the claimant to either get a replacement vehicle or obtain an undeserved settlement payment (ClearTax, 2023). When in reality, the car could have been secretly sold off in another country, abandoned, pushed into a lake or river or internationally destroyed (ClearTax, 2023). The motor insurance fraud indicators can be grouped into four categories: the initial stage after the accident, the claiming stage, the damage inspection stage and the individual making a claim (NICB, 2020).

In the initial stage, the fraud indicators are that the damage claim is costly and extensive. Still, in reality, the damage was minor with no injuries, the accident occurred late at night, in very

remote areas with limited witnesses, and the witness accounts are perfectly similar with perfectly exact wording. Vandalism was done on all panels to get a whole repaint (NICB, 2020). Concerning the claiming stage, the contact address and the cell phone number of the car owner are different from the name insured, police reports were filed late, and there was a delay in reporting the damage or loss (NICB, 2020). Concerning the damage inspection stage, the damage to the vehicle does not align with the accident facts, and no other transportation vessel, business, or home was damaged (NICB, 2020). Finally, the individuals making the claims are abusive and are using threatening language; another indicator is that they cannot be easily traced via phone calls, and the documents that they provide appear to be altered (NICB, 2020). Motor insurance fraud has been the most prevalent form of fraud in the Kenyan insurance industry for the periods between 2018 and 2022 since it has recorded the highest frequency of fraud cases standing at 162 (IRA, 2023). Other forms of insurance fraud that trails behind are fraud committed by others standing at 138 cases, fraud committed by agents standing at 136 cases, fraud committed by insurance firms standing at 47 cases and medical insurance fraud standing at 37 cases (IRA, 2023).

Besides that, the rate of motor insurance fraud in Kenya has grown by 60.78% from 2018 when there were only 20 cases to 51 cases in 2022 (IRA, 2023). This shows how motor insurance fraud is a problem in Kenya. This is the reason why this study was motivated to establish how motor insurance fraud can be curbed by the antifraud measures in Nairobi County, Kenya since it is the most prevalent. Fraudulent accident claims is the most common and prevalent form of motor insurance fraud perpetuated by the fraudsters in Kenya, since it recorded a total of 91 cases by the end of 2022 from 2018 (IRA, 2023). The cases of fraudulent accident claims were only 9 in 2018 but they grew up by 74.3% in 2022, given that the fraudulent accident claims in 2022 were 35 (IRA, 2023). Fraudulent insurance claim is also another common form of motor insurance fraud being committed in Kenya, and as at 2021 it had recorded a total of 32 cases from the year 2018 (IRA, 2023). Interestingly, in 2022 it recorded nil cases, probably because the insurance firms have set up strong internal control systems to prevent insurers from making fake claims (IRA, 2023). There is also a new trend of motor insurance fraud but it is less common, it is known as double motor vehicle registration which registered the first 2 cases in 2021 subsequently growing to 7 cases by the end of 2022 (IRA, 2023). Issuance of double motor insurance certificate is also a new form of motor insurance fraud which registered its first case in 2021 but registered none in 2022 probably because the insurance firms do serious verification and reconciliation initiatives to prevent such kind of fraud from occurring (IRA,

2023). The latest statistical trends about the motor insurance fraud as at the end of the 4th quarter of 2023 have been presented in Table 1.1 below.

Table 1. 1: Motor Insurance Fraud Cases and other Forms of Insurance Fraud Cases as at the 4th Quarter of 2023

S/NO	Cases	2023 Q4
1.	Fraudulent Motor Accident/Electrocution (Injury) Claims	12
2.	Fraudulent Funeral/Death/Medical Claim	4
3.	Impersonating IRA Officials/Fraudulent Payments	2
4.	Theft/Stealing by Agents	9
5.	Issuance of Fake Motor Vehicle Insurance Certificate	10
6.	Obtaining money by false pretenses	2
7.	Double registration	4
8.	Fraudulent Last Expenses	1
9.	Theft by servant	2

Source: IRA (2024)

It can be noted that motor insurance fraud is still the most prevalent form of insurance fraud accounting for 22 out of the total 46 cases (IRA, 2024). The 22 cases include 12 which were fraudulent motor accident or electrocution claims and 10 which were the issuance of fake motor vehicle insurance certificates (IRA, 2024). Other forms of insurance fraud that trailed behind were theft by agents accounting for 9 cases followed by medical/death claims accounting for 4 cases and double registration accounting for 4 cases also (IRA, 2024).

Currently, most insurers are turning to data analytics to assist them in detecting and managing motor insurance fraud (Mwenda, 2022). For instance, most insurers have embraced the Integrated Motor Insurance Database System (IMIDS) as a shared platform to monitor claims made by the insured based on the data they provided in their system, such as the registration number of the vehicle etc., to detect and curb fraud (Ngugi, 2022). The good news is that at least 42 million Kenyan shillings were saved in 2018 since the digital system was launched in 2020 (Ngugi, 2022). This shows that employing the most updated antifraud controls plays a significant role in curbing fraud (Ngugi, 2022). For this reason, it was imperative to conduct research that would help unravel the most up-to-date preventive and detective antifraud mechanisms that could be very helpful in precisely managing insurance fraud in Kenya.

Thus, in general, this study contributed to the fraud literature by showing the importance of preventive and detective antifraud measures in curbing motor insurance fraud. Since most studies (Kiragu et al., 2015; Kamaliah et al., 2018; Ogola et al., 2016; Kamau, 2015; Bassey, 2018; Munika, 2019) only focused on how the antifraud measures can help alleviate bank fraud, corporate fraud in the public sector, the general insurance fraud, microfinance fraud and

corporate fraud in the regulatory agency sector. Additionally, this study contributed to the fraud literature by showing the importance of corporate governance such as the employment of board of directors in managing the effectiveness of the antifraud measures in order to motor insurance fraud to be mitigated.

1.2 Problem Statement

In Kenya, it has been established that by the last quarter of 2023, at least 46 insurance fraud cases were exposed (IRA, 2024). Regarding motor insurance fraud, the sector suffered from 10 cases of issuance of fake motor vehicle insurance certificates, though interestingly, in 2022, there were no such cases by the fourth quarter of that year (IRA, 2024). Moreover, the insurance companies in Kenya experienced 12 fraudulent motor accident claims, which had risen from 8 cases as of the last quarter of 2022 (IRA, 2024). Unfortunately, only four arrests were made, and the cases were taken to court; this meant that only four fraudulent cases were dealt with (IRA, 2024). In general, for the past five years before 2023, the motor insurance sector in Kenya recorded 162 out of 578 insurance fraud cases (IRA, 2024). This has led to reduced profitability performance by the motor insurance firms in Kenya (Were et al., 2023). This could be linked to the 67.1% loss ratio experienced for the last four years before 2022 (IRA, 2024). This is given that the motor insurance sector paid the highest claims, standing at 43.4%, just after the medical insurance sector spent 43.4% (IRA, 2024). This means that the partnerships formed by the insurance firms in Kenya to combat money laundering, claim fraud and fraud detection have not paid off (Nguyo & Anene, 2024).

Liu, Li and Yeh (2017) provided evidence that stage-managed accidents aimed at illegally obtaining insurance claims are the most common type of motor insurance fraud practised in Kenya. Attempts made by the government to generally manage insurance fraud by enacting the Insurance Act of 2019 have proved futile in discouraging motor insurance fraud from thriving in Kenya (Njuguna, 2019). According to studies pioneered by Otieno (2018), Kiragu et al. (2015) and Kamaliah et al. (2018), outdated and weak antifraud systems have acted as the most significant catalysts for the sustained increase and spread of motor insurance fraud in Kenya. Therefore, this study aimed to find out the antifraud mechanisms that are highly effective in curbing motor insurance fraud in Kenya. This is because there had been controversies based on the studies (Bierstaker et al., 2006; Hakami & Rahmat, 2019; Otieno, 2018; King'ori et al., 2019; Ogola et al., 2016; ACFE, 2018; Deloitte, 2018) reviewed about the effectiveness of the antifraud techniques in different sectors. This presented a knowledge void concerning the most effective anti-fraud mechanisms that can be precisely used to manage the motor insurance fraud in Kenya. Therefore, this study sought to fill the gap by determining the most perceived

effective preventive and detective mechanisms in the insurance sector and if they considerably mitigate motor insurance fraud in Kenya. Corporate governance helps identify and apply the most reliable antifraud controls to eliminate fraud (Razali & Arshad, 2014). Though scholarly works developed by ACFE (2010), Sawsan et al. (2015), Tuek and Klikovac (2012), In'airat (2015) and Cohen et al. (2002) have not provided evidence of its role in managing motor insurance fraud in Kenya by ensuring that the adequate antifraud controls are implemented. This gap was addressed by investigating if corporate governance moderates the relationship between the antifraud mechanisms and motor insurance fraud among the insurance firms in Nairobi County, Kenya.

With regard to the contextual gap, the motor insurance fraud has been found to be a big problem in Kenya with specific reference to Nairobi County yet no particular set of antifraud measures have been identified that can effectively curb the menace (IRA, 2024). This is the reason as to why this study based on the literature reviewed sought to assess the effectiveness of the antifraud mechanisms identified in the literature so that if the findings established that they are effective then the policy makers can implement them to manage the motor insurance fraud. Moreover, the context of past fraud studies such as Ogola et al. (2016) focused on the banking sector with specific reference to bank fraud while this study was focused on the Kenyan motor insurance industry with regard to motor insurance fraud. The findings could not be generalizable since the most effective antifraud mechanisms employed in curbing banks fraud could turn out to be ineffective or irrelevant in the context of the motor insurance fraud. Besides that, Kamau (2015) focused its context on the general insurance industry but this study narrowed its focus on motor insurance industry with regard to motor insurance industry. Moreover, Kamau (2015) only focused on one antifraud mechanism which was forensic accounting but in the context of this study several antifraud mechanisms besides forensic accounting were studied. Far from that, Kamaliah et al. (2018) was focused on the Malaysian public sector with an interest of both asset misappropriation, corruption and financial statement fraud but this study focused on motor insurance fraud in Kenya. Moreover, Kamaliah et al. (2018) only focused on two preventive antifraud mechanisms and completely ignored the role of detective antifraud mechanisms thus its findings could not be generalized in the Kenyan motor insurance sector. Bassey (2018) focused on the microfinance fraud issue in Nigeria while Munika (2019) focused on the corporate fraud issue among the licensed regulatory agencies in Kenya but this study focused on motor insurance fraud. Moreover, the aforementioned studies only focused on forensic accounting and internal control systems whose findings could not be

generalized in the context of motor insurance fraud since there are other anti-fraud mechanisms that can affect it.

With regards to the conceptual gaps to be explored, most studies (Kiragu et al., 2015; Kamaliah et al., 2018; Ogola et al., 2016; Otieno, 2018; Kamau, 2015) have only focused on how the preventive and the detective antifraud measures can alleviate bank fraud, insurance fraud and public sector fraud, but none have focused on how they can manage the motor insurance fraud. So, this study comes in to fill the gap by establishing how the preventive and the detective antifraud measures can alleviate motor insurance fraud.

Methodologically, based on the studies (Kiragu et al., 2015; Kamaliah et al., 2018; Ogola et al., 2016; Otieno, 2018; Kamau, 2015; Kamaliah et al., 2018; Bierstaker et al., 2006; Hakami & Rahmat, 2019) reviewed, a descriptive correlational research design had not be employed to incorporate corporate governance as a moderator of the relationship between the antifraud measures and motor insurance fraud in Nairobi County. Therefore, this study employed multiple linear regression analysis not only to establish how the antifraud measures influences motor insurance fraud in Nairobi County, Kenya but also to establish how corporate governance can moderate the given relationship.

1.3 Objectives of the Study

The knowledge voids revealed that needed to be filled based on the literature and arguments prescribed in the problem statement were addressed by the objectives in the subsections that followed;

1.3.1 General Objective

To investigate the effect of antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya.

1.3.2 Specific Objectives

The identified general objective was addressed by the three of the following specific objectives;

- i. To investigate the effect of preventive antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya.
- ii. To investigate the effect of detective antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya.
- iii. To investigate the moderating effect of corporate governance on the relationship between the antifraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya.

1.4 Research Questions

The research questions prescribed below were used to address the study's objectives;

- i. How does preventive antifraud mechanisms affect motor insurance fraud among motor insurance firms in Nairobi County, Kenya?
- ii. How does detective antifraud mechanisms affect motor insurance fraud among the motor insurance firms in Nairobi County, Kenya?
- iii. How does corporate governance moderate the relationship between antifraud mechanisms and motor insurance fraud among the motor insurance firms in Nairobi County, Kenya?

1.5 Significance of the Study

The findings will benefit the practitioners, policy makers and regulators together with the researcher and the academia as discussed in the subsections that follows.

1.5.1 Practitioners

The management and the executive directors working at the motor insurance companies in Kenya will significantly profit from the findings of this study. It will help them understand and implement antifraud mechanisms that are tailored and up to date to manage the motor insurance fraud problem in Kenya. It will also help them know the antifraud mechanisms not vital in fighting motor insurance fraud so that they can do away with them and only focus on the most effective ones. The findings will also help insurance companies strengthen their corporate governance systems for the adequate supervision of their business operations and internal control systems so that fraud can be considerably trimmed down and the shareholders' wealth can be safeguarded.

1.5.2 Policy Makers and Regulators

The findings will also benefit the Insurance Regulatory Authority (IRA). This will help the policy body learn about the accurate and up-to-date antifraud mechanisms tailored to curb motor insurance fraud that will be included in future policy formulations.

1.5.3 Researchers and Academia

Future researchers interested in the fraud literature will profit from this study since it will help them identify the knowledge voids to be bridged and the relevant literature that will help them build up their studies.

1.6 Scope of the Study

The scope of the study was limited to establishing the effect of antifraud practices on motor insurance fraud in Kenya, Nairobi County. The antifraud practices that this study focused on, which were relevant to the motor insurance sector, were fraud preventive practices and fraud

detective practices. The moderating variable was limited to corporate governance. The scope of motor insurance fraud indicators was narrowed down to fraudulent motor theft claims, inflating insurance premiums, exaggerating car damages and false motor accidents. Concerning the study's population, the units of observation were claim assessors working as staff members in the motor insurance firms. They comprised of insurance underwriters working as staff members in the 35 insurance firms. So, the study population targeted for this study comprised of 5 claim assessors and 5 insurance underwriters from each given firm. This summed up to 350 respondents and census methodology was employed to study all the given respondents. The most fitting research instrument to collect the quantitative data from the given respondents were the structured questionnaire containing Likert scales with 7 points of perceived effectiveness and levels of agreement.

Descriptive analysis through the SPSS software, comprising mean, median, and deviation tools, was applied to the subject of the data obtained through analysis. Finally, the scope of the data analysis tool that was used to address the study objectives was narrowed down to the Multiple Linear Regression model. The period for the data collection and analysis process ranged between 1st November 2024 and 25th February 2025.

1.7 Chapter Summary

This chapter gave a background of the insurance fraud problem in the global context narrowing down to the local context. It also presented a scholarly discussion of the antifraud mechanisms and the corporate governance and how they are instrumental tools in managing fraud. The chapter then proceeded to present a clear picture of the motor insurance menace in Kenya and the gaps identified that are going to be bridged by the researcher. This was presented in the Problem Statement section. The Chapter then proceeded to outline the objectives the study was going to address, the research questions to be answered and the hypotheses to be tested. Finally, the Chapter closed by discussing the potential benefits of the study's research findings and the scope it narrowed down to.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This particular chapter initially presented the fraud theories conceived by popular research scholars, the main concepts behind these theories and how they informed the objectives or the variables of the study. The empirical review followed. The section presented the research projects obtained from various sources through a thorough desktop research inquiry. They showed the outcomes with regard to how fraud is affected by the antifraud mechanisms, together with a synthesis explaining the reason behind the findings. The second last section abridged both the theoretical and empirical content covered, and it also identified the knowledge voids that needed to be replenished by the study. The chapter ended with a conceptual framework that showed a diagrammatic relationship between the antifraud mechanisms, corporate governance and motor insurance fraud.

2.2 Theoretical Review

This section presented the fraud theories conceived by popular research scholars, the main concepts behind these theories and how they informed the objectives or the variables of the study. The first theory discussed in this section was the Fraud Management Lifecycle theory, which conceptualizes eight interconnected phases for dealing with fraud. The second theory discussed in this section was the fraud triangle theory, which conceptualizes three major objects or elements that breed fraud. The third theory was the Agency theory which underpins corporate governance as the moderating variable.

2.2.1 Fraud Management Lifecycle Theory

The ideology of the fraud management lifecycle theory was invented by Wilhelm (2004), who attempted to provide a holistic strategy for managing fraud. The theory came up with 8 phases that are interconnected with each other to deal with fraud (Ocansey, 2017). The phases comprise deterring fraud, preventing fraud from occurring, detecting an ongoing fraud or fraud that has already happened, mitigating fraud, comprehensively analyzing fraud, developing and implementing fraud policies, investigating fraud and finally prosecuting the fraudsters to prevent future fraud occurrence (Ocansey, 2017). Deterrence involves coming up with systems or policies that will successfully discourage a fraudulent action from being birthed (Wilhelm, 2004). Fraud prevention, being the next succeeding phase, involves mechanisms and tools modelled to check and seal off fraud risk areas and to block potential fraud actions from being actualized (Wilhelm, 2004). Fraud detection, which dwells in the third stage, involves systems, tools and procedures to identify or dig out a fraudulent activity that is happening or a fraudulent

activity that has occurred in order to stop further fraud losses or to recover the losses suffered (Inscribe, 2023). It is actually a system that is concerned with the identification of concealed fraud cases (Amasiatu & Shah, 2015). The fourth phase that follows is fraud mitigation, whereby the organization subjects itself to a process of curtailing the surge of fraud by sealing off the loopholes that stem it (Wilhelm, 2004; Otieno, 2018). The fifth stage involves fraud analysis through conducting investigative research inquiries to unravel fraud losses, the fraudsters behind them, and the best systems for curbing fraud or to pinpoint areas susceptible to fraud risk (Ocansey, 2017; Otieno, 2018).

Fraud policy is the sixth stage, and this particular phase requires organizations and government bodies to create laws, rules, and regulations to discourage fraud. It also prescribes the penalties for those who would dare to perpetrate fraud (Wilhelm, 2004). The second last phase is the fraud investigation, which actually involves the requisition of forensic auditors and investigators to examine fraud risk areas to identify what, why, how and when the fraud was committed. It also seeks to unravel the estimated fraud loss suffered and how it could be recovered if possible (Driskell & Davis, 2022). The investigation involves interviewing the suspected fraudsters and whistle blowers, physical examination of susceptible fraud areas and falsified information in order to get the truth (Otieno, 2018; Brandon, 2019; Kanade, 2021). Rahman (2014) showed that both the preventive antifraud control systems and the detective antifraud control systems, being the components of the fraud management lifecycle, must be used hand in hand in order to truly tame the fraud menace in the banking industry in Malaysia. A study carried out by Chepkoech and Rotich (2017) evidenced that for organizations that reach the last phase of the fraud risk management lifecycle, then it would mean that they have either successfully eradicated fraud or have not been successful in managing fraud.

When organizations go through all 8 phases of the cycle, it would mean that an ongoing fraud was brought to light, then measures were conceived to seal off the weak areas that birthed the fraud, and finally, it would mean that the real fraudsters were found, arrested and jailed (Chepkoech & Rotich, 2017). Far from that, it would also mean that a given entity failed to manage fraud since the preventive controls, detective controls, mitigation controls, and deterrence controls failed to stop the fraud from occurring in the first place before losses were incurred (Chepkoech & Rotich, 2017). The fraud management lifecycle theory underpinned the first and second objectives of the study. The first two phases, which include fraud deterrence and fraud prevention, were linked to the first objective of this study. The study sought to establish if the preventive antifraud controls can successfully curb motor insurance fraud. Besides that, the third phase of the cycle, which is the fraud detection system, was

actually the second objective of this study. This is because the study sought to establish if the detective antifraud controls could successfully curb motor insurance fraud in areas where fraud deterrence and fraud prevention mechanisms have failed.

One of the greatest weaknesses of the Fraud Management Lifecycle theory is that when someone reaches its last stage, then it won't be clear if fraud has been effectively mitigated or it has successfully happened thus incurring fraud losses (Chepkoech & Rotich, 2017). This is because when a firm gets to the last phase of the cycle then it would mean that it failed to manage or stop the fraud from successfully happening thus leading to fraud losses (Chepkoech & Rotich, 2017). Conversely, it can denote that fraud was successfully stopped since the fraud risk areas were identified, the perpetrators identified, arrested and jailed (Chepkoech & Rotich, 2017). Besides that, the financial resources stolen would have been recovered (Chepkoech & Rotich, 2017). Another shortcoming of the Fraud Management Lifecycle theory is that the phases cannot thrive in isolation, they must be interconnected in order for fraud to be successfully managed (Rahman, 2014). For instance, fraud detection systems cannot be effective when fraud analysis has not been conducted to identify areas susceptible to fraud (Rahman, 2014).

2.2.2 Fraud Triangle Theory

A scholar by the name of Doctor Donald Cressy, who specialized in criminal affairs in the USA, came up with three main reasons that push people to commit fraud, commonly known as the Fraud Triangle theory. Thus, he was its original inventor (Cressey, 1953). This was based on a spirited research campaign subjected to 250 jailed offenders to find out what drove them to steal money (Cressy, 1953). The research findings were able to pinpoint three core reasons that push people to commit fraud: the first one is pressure, which could either be internal or external; the second reason is opportunity, which gives a loophole for fraud to be committed; and finally, the third reason is rationalization (Cressey, 1953). Starting with pressure, it can be noted that when a person has a heavy burden of debt and has experienced many auction threats, then he or she will be forced to steal money to offset their debt obligations and have peace of mind (Meitrina, Suwena & Indrayani, 2019). In addition to that, a person who is addicted to gambling, alcohol, or sex or is a perennial spender will be used to look for illegal avenues to obtain more finances to fund their addictions (Meitrina et al., 2019). Personal greed to show off or to accumulate a lot of luxurious properties can also force or pressure someone to steal the firm's financial resources (Meitrina et al., 2019).

Finally, family pressure, such as paying school fees for children, paying medical bills for a parent or for a spouse that cannot be catered for by the financial capacity of a given team

member, can force them to steal money or defraud the company (Meitrina et al., 2019). Another key factor that motivates people to carry out fraudulent activities is the opportunity presented to them (Simbolon, Ahmad & Elviani, 2018). Opportunity can be any area of weakness that a given team member or customer can advantageously use to steal the firm's financial resources without being easily caught or traced back to them (Simbolon et al., 2018).

Opportunity manifests when the internal control systems in place are outdated, inadequate or are not effective in stopping or bringing to light a fraudulent activity (Meitrina et al., 2019). The final core reason that motivates one to attempt fraud is rationalization (Sujana, Yasa & Wahyuni, 2019). It denotes an object of justification that inspires a person to commit fraud on the basis that it is the right thing to do, overriding the principles of ethics (Sujana et al., 2019). For example, if workers are being exploited, then exploitation can be used as an object of justification to defraud the firm since it will be rationalized as a fair, revengeful game. Besides that, it can be a person rationalizing that the company will not lose much since it is making billions of monies per year. Figure 2.1, which this study has presented below, shows the diagrammatic embodiment of the Fraud Triangle Theory, highlighting its three core pillars.

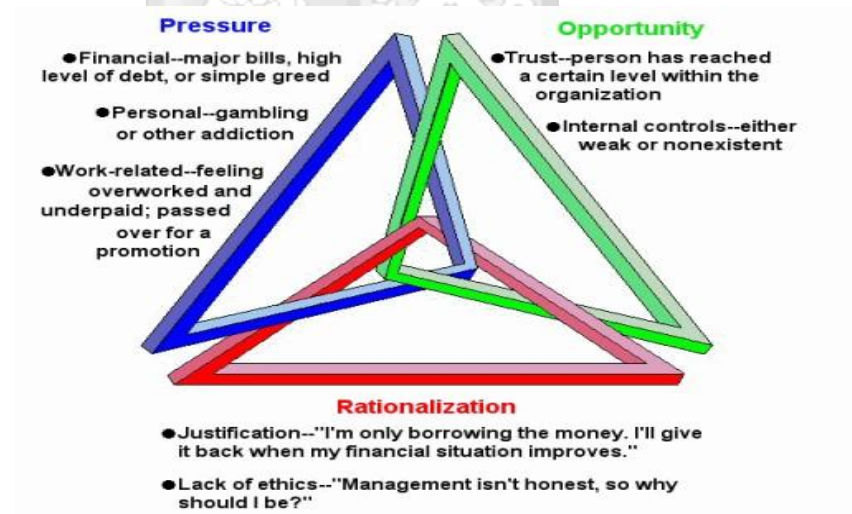


Figure 2. 1: The Fraud Triangle Theory

Source: Meitrina, Suwena and Indrayani (2019)

Research inquiries have been carried out by people such as Bierstaker, Brody and Pacini (2006) in America, Deloitte (2018) in India, Hakami and Rahmat (2019) in Saudi Arabia and Fadayo (2018) in Nigeria to inquire about the roles played by the three pillars of the fraud triangle. For example, Deloitte (2018), an audit firm that had committed itself to examining corporate fraud in India, was able to find that paying little attention to ethical values makes one rationalize fraud as good for personal interest, and this leads to people in the corporate world to commit fraud especially when opportunities are birthed from weak control systems. Another study,

which was conducted by Hakami and Rahmat (2019), observed that when employees are motivated by their organizations through recognition for a job well done and implementing programs that assist with their welfare, it will ultimately reduce the pressure that could force them to steal the firm's resources.

In addition to that, the study also noted that ethical training, which creates awareness that fraud is wrong, establishing a code of ethics that provides penalties for people who would dare participate in fraudulent activities, and whistleblowing would discourage the employees from rationalizing fraud to be good. Finally, conducting surprise audits without any formal notification, activating fraud hotlines, conducting operational audits and auditing financial statements forensically with the help of external auditors would fill all the gaps that can be used as a source of opportunity for employees to commit fraud. A study that had earlier on been conducted by Bierstaker et al. (2006) on private companies in America noted that by 2006 most of the firms hardly requisitioned the services of forensic accountants, daily continuous auditing, data mining with IT, discovery sampling together with digital analysis. This, unfortunately, created loopholes that were used by smart fraudsters as sources of opportunities to perpetrate fraud.

Finally, Fadayo (2018), who pioneered a study in the banking sector in Nigeria, observed that E-banking fraud was prevalent due to the existence of weak password protections, absence of fraud risk management frameworks, outdated and inadequate detective control mechanisms together with weak prosecution processes. Consequently, these factors provided a leeway for people to commit fraud and walk away freely easily. The Fraud Triangle Theory was linked to the purpose of this study, which had a particular focus on rationalization and opportunity. With regard to the first specific objective, this study sought to establish if preventive antifraud mechanisms such as team member training on fraud awareness, regulation enforcement and ethical tone at the top would discourage people from rationalizing insurance fraud as good, thus curbing the motor insurance fraud among the insurance firms located in Nairobi County, Kenya. With regard to the second specific objective, this study sought to establish if detective antifraud mechanisms such as the usage of effective forensic accounting, daily continuous auditing, claims assessment, Integrated Motor Insurance Database System and bank reconciliation can seal off the opportunities used by fraudsters to perpetrate motor insurance fraud in Nairobi County, Kenya.

The Fraud Triangle theory has been criticized due to two main reasons. Wolfe and Herman (2004) argued that fraud cannot be successful even if someone has been pressurized and has already rationalized to commit fraud in areas with opportunities unless he or she has the skills

and capability/job position to do so. Besides that, Olukuyode (2016) argued that personal ethics greatly determines if a person can commit fraud or not, since a person due to his or her personal ethics can decide not to commit fraud because it is immoral even if he is pressurized or people have rationalized it as a good act or there is an opportunity to commit fraud.

2.2.3 Agency Theory

The research scholars who initially came up with the idea of the Agency theory were Jensen and Meckling (1976). The theory conceptualizes an agency relationship that is centred on the interests that exists between 2 parties and the challenges that are likely to transpire between those 2 given parties (Rahmatika, Kartikasari, Indriasih, Sari, & Mulia 2019). The theory postulates that there is always a contract relationship between two parties in a firm (Rahmatika et al., 2019). The first party is the “principal” who owns a business and requires another party to manage his/her business for the principal’s wealth maximization (Rahmatika et al., 2019). The principal based on the agency theory is the shareholder (Rahmatika et al., 2019). The second party is the agent who enters into a contract with the principal to manage his/her business in order to realize profits and create sustainable wealth for the principal (Rahmatika et al., 2019). In return, the agent is awarded compensation for the job well done (Rahmatika et al., 2019). The agent in the corporate sector is either the CEO, the executive director or the manager who runs the daily business activities of the firm (Rahmatika et al., 2019). Figure 2.1 in the next page portrays the principal-agent relationship as hypothesized by the Agency theory.

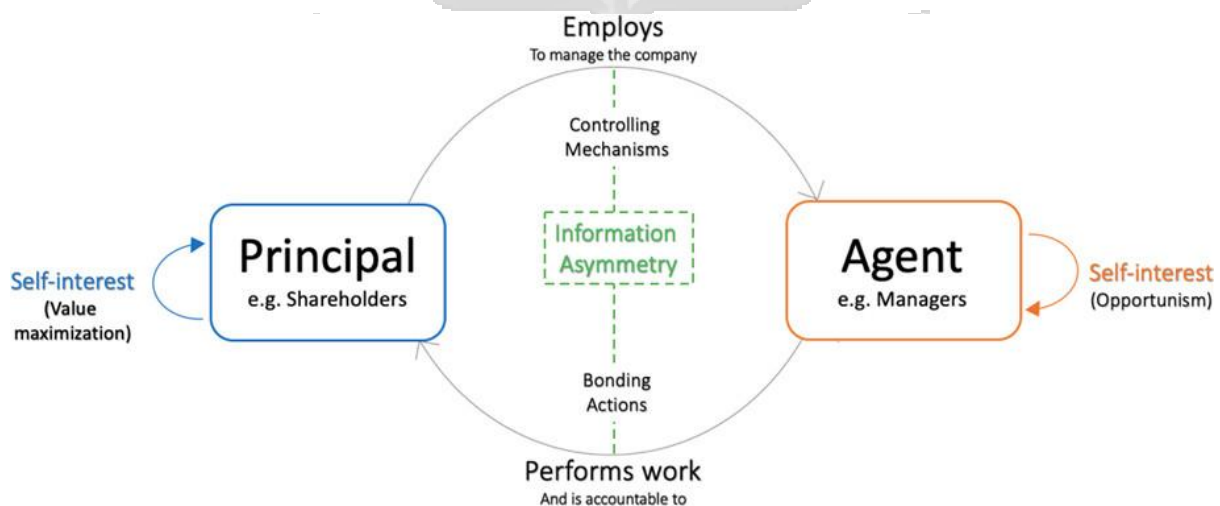


Figure 2. 2: The Agency Theory

Source: Abdelnour (2023)

The interest of the shareholders (principals) is profitability and growth of their shares in the firms that they instituted but on the other hand, the interest of the managers (agents) is to increase the compensation that they get from the firm (i.e. increased yearly bonuses) (Yuniasih,

Muliati, Putra & Dewi, 2020). The varying corporate interests can motivate the agents to maximize their welfare at the cost of the interest of the principals thus encouraging fraudulent financial reporting (Yuniasih et al., 2020). This triggers an agency cost that precipitates the principals (shareholders) to procure the services of the non-executive directors, external auditors and the audit committee to monitor the managerial activities to ensure that they solely work to maximize shareholders' wealth without having the thought to steal the corporate resources and falsify financial reports to please the shareholders that everything is good (Yuniasih et al., 2020). This is because the shareholders (principals) are devoid of the daily occurrences (information asymmetry) in the firm such as weak internal control systems and financial difficulties which only a third party (non-executive directors) can provide which the management (agents) cannot provide since they aim to safeguard their own personal interests (Yuniasih et al., 2020).

Motor insurance fraud has cost significant losses globally for instance most insurance firms in the United Kingdom incurred a total loss of £577 million while in Canada, most of the insurance firms incurred a total loss of \$ 6 million (Association of British Insurers, 2022; Pangilinan, 2023). This has been detrimental for the shareholders in the motor insurance sector, thus calling for the third party, the board of directors to institute corporate governance initiatives and seeing to it that the managers implement them so as to curb motor insurance fraud. The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded (Pham, 2022). They do this by overseeing fraud risk assessment systems and establishing business ethical programs and fraud policies to mitigate fraud from occurring, which can reduce shareholder wealth (Pham, 2022).

The board conceives the audit committee of directors to supervise the firm's risk assessment systems and develop and manage the internal audit processes, together with the firm's other corporate governance processes (Effendi, 2018). Skousen, Smith, and Wright (2015) observed that an audit committee that is powerful and has a greater autonomous capacity to monitor the activities of a given organization would have a lower likelihood of fraud occurrence. Nodding with these findings, Rohmatin, Apriyanto and Zuhroh (2021) observed that opportunities for people to consider executing fraudulent activities and rationalizing fraud to be justifiable can be eliminated or watered down by corporate governance practices. Thus, the Agency theory hypothesizes that corporate governance would considerably moderates the negative relationship between anti-fraud mechanisms and motor insurance fraud. Therefore, the theory underpinned the third specific objective of this study since it sought to confirm if indeed corporate governance moderates the effect of both preventive and detective anti-fraud

mechanisms on motor insurance fraud among the insurance firms located in Nairobi County, Kenya.

2.3 Empirical Review

The research studies pioneered by scholars who had an interest in the relationship between antifraud practices and fraud have been thoroughly discussed in this section.

2.3.1 Preventive Antifraud Mechanisms and Fraud Mitigation

Studies pioneered by people such as Bierstaker et al. (2006) in America, Othman et al. (2015) in Malaysia, Otieno (2018) in Kenya, Micheni (2016), Mangala and Kumari (2017), Omar and Abu Bakar (2012), Hakami and Rahmat (2019) in Saudi Arabia, Efiang, Inyang and Joshua (2016) in Nigeria, Rahman and Anwar (2014) in Indonesia together with Agathee and Ramen (2017) sought to establish the preventive antifraud mechanisms with the highest and lowest ratings or perceived effectiveness. In the Malaysian public sector, the research inquiry, which was spearheaded by Othman et al. (2015), concluded that rotating the staff members across the department, deploying a strong independent audit committee and instituting a fraud reporting policy were perceived to be very effective in blocking fraud. Far from that, Otieno (2018), unlike Othman et al. (2015), sought to find out the antifraud mechanisms which had the highest perceived effectiveness rating in the context of the motor insurance sector in Kenya. The results led to the conclusion that conducting serious due diligence on the firm's clients and carrying out serious reference checks on the employees were ranked as the perceived effective mechanisms for preventing insurance fraud in Kenya. A study carried out by Hakami and Rahmat (2019) in Saudi Arabia concurred that operationalization of a code of conduct, training employees on matters of ethics, spot checking, positively recognizing team members' efforts and surprise audits effectively deter fraud.

Unlike studies pioneered by Otieno (2018) in Kenya, Othman, Aris, Mardziyah, Zainan and Amin (2015) in Malaysia, together with Hakami and Rahmat (2019) in Saudi Arabia, which were purely perception studies, King'ori, Kiragu and Kamau (2019) embarked on a descriptive survey investigation to show how antifraud controls can influence the fraud occurrence in the Kenyan banking sector. The study resorted to using questionnaires, which were actually structured in order for the question items to be codified for statistical analysis. The study chose to collect that from 57 managers working in large commercial banks in addition to selecting 12 managers rendering their services in medium-sized banks in Kenya. To check if and how fraud occurrence could have been affected by preventive antifraud mechanisms, the Ordinary Logistic regression model was entrusted for the analysis. The results confirmed that verifying signatures, cross-examining bank documents, training staff members, carrying out integrity

checks, and implementing job rotation policies reduce bank fraud cases in Kenya considerably. One of the most fundamental techniques of fraud prevention is knowing your employees since establishing a good relationship with them can make them free to share any form of fraud risk that might be helpful to the organization, especially in regard to those involving a partnership between a client and someone from the organization (Reeds, 2014; Abdulrahman, 2019).

Kamaliah, Marjuni, Mohamed, Mohd-Sanusi and Anugerah (2018), another causal research inquiry, embarked to establish if fraud incidents such as payroll fraud, theft, misappropriating assets, financial statement fraud and bribery can be curbed by internal control systems and the institution of the organizational integrity plan. The study, just like King'ori et al. (2019), resorted to the use of questionnaires that were actually structured in order for the question items to be codified for statistical analysis. Unlike King'ori et al. (2019), the study required a multiple linear regression model through SPSS for analysis. However, the multicollinearity test was examined using the Pearson correlation model, whereby it was noticed that no strong relationship existed between the independent variables. The results confirmed that properly effective internal control systems, together with the implementation of organizational integrity plans by Malaysian public organizations, water down fraud incidents. The findings matched with Peltier-Rivest and Lanoue (2011), who alluded that internal control systems that are properly instituted and consistently strengthened cut down the risk of employees from being involved in schemes to defraud the organization. Internal control systems and effective fraud risk management systems omit fraud risk by closing up all weak areas, which people can take advantage of to commit fraud (Natasya et al., 2017).

Far from the research inquiries carried out by King'ori et al. (2019) and Kamaliah et al. (2018), which were based on regional contexts, ACFE (2018) carried out global research on how preventive antifraud mechanisms can either reduce or escalate occupational fraud. The survey, just like King'ori et al. (2019), together with Hakami and Rahmat (2019), noticed that fraud knowledge through training programmes and code of conduct plays an essential role in reducing fraud by 41% and 56% globally. The top leadership, through training programmes, meetings, and frequent expert education, should enlighten employees on the common trending fraud activities related to their organizations (Tuanakotta, 2012; Yuniarti, 2017). This would give the team members an upper hand in determining if a certain organizational activity denotes a fraud attempt. This knowledge will deter them from doing this by just warning the fraudster or reporting them to the relevant authorities in the organization (Yuniarti, 2017).

Munika (2019) was interested in seeing if fraud occurrence could be curbed by antifraud preventive mechanisms such as risk aggregation, risk governance, and risk management

processes in the context of 25 regulatory agencies licensed to operate in Kenya. Unlike King'ori et al. (2019), ACFE (2018) and Kamaliah et al. (2018), the methodology relied on semi-structured questionnaires. Besides that, the Logistic regression model, instead of the Multiple and Ordinary Logistic Regression tools, was used for analysis. The study generally noted that preventive risk management practices considerably discourage financial statement fraud from being perpetuated by the regulatory agencies in Kenya. Conversely, a study pioneered by Holtfreter (2008) observed that background checks could not considerably prevent fraud losses. This is because employees can only develop smart skills to perpetuate fraud after being employed and studying how the internal control system of the organization works (Albrecht, 2003).

Studies pioneered by King'ori et al. (2019) in the context of commercial banks in Kenya, ACFE (2018) on the global scale, Otieno (2018) in the motor insurance sector, Kamaliah et al. (2018) in the context of the Malaysian public sector, Othman et al. (2015) found that effective preventive antifraud practices diminish fraud, though little attention was paid on how they can manage motor insurance fraud in the context of insurance firms in Kenya. The same gap was noted in the studies that had been conducted by Bierstaker et al. (2006) in America and Holtfreter (2008). Therefore, this study came in to fill the gap by seeking to find out the most perceived effective preventive mechanisms in the insurance sector and if they considerably mitigate motor insurance fraud in Kenya.

2.3.2 Detective Antifraud Mechanisms and Fraud Mitigation

Bassey (2018) committed an inquiry to establish how fraud among microfinance banks in Nigeria can be influenced by forensic accounting, with the area of focus being Cross River State. The researcher requisitioned a survey research design to address the purpose of the study. The data that was supposed to be subjected to the analysis process was collected from secondary sources and primary sources. The researcher subjected the data collected through the Ordinary Least Square regression analysis. The results birthed negative regression coefficients, meaning that forensic accounting considerably waters down fraud among microfinance banks. Forensic accountants detect a possibility of fraud risk in a particular claim by conducting forensic investigations, finding and analysing evidence before presenting it in a court of law through the litigation process in order to successfully prosecute the perpetrators behind it (Brandon, 2019; Shea & Eldridge, n.d.; Driskell & Davis, 2020). In addition, forensic accountants go ahead and stop future fraudulent activities from manifesting since potential fraudsters will not risk being caught by the forensic activities and end up being prosecuted (Haron et al., 2014; Kamau, 2015). Forensic accountants have been engraved with specialized

knowledge of general accounting, auditing, internal controls together with taxation management and how they can be smartly used to unravel white collar criminals (Grippio & Ibex, 2003).

Gathu (2018) pioneered a study to determine how net incurred medical claims characterized by fraud can be impacted by the detective antifraud mechanisms among the medical insurance provider companies licensed to operate in Kenya. This was in sharp contrast to Bassey (2018), who focused on the microfinance banking sector in Nigeria. The researcher requisitioned questionnaires to obtain data pertaining to the detective antifraud mechanisms. Data concerning the net incurred claims was collected from secondary sources under the possession of the Insurance Regularity Authority. The correlation, together with the regression tools through the SPSS model, were used for analysis, and the results confirmed that the net incurred claims would be considerably reduced by the intense use of detective antifraud mechanisms.

In contrast to the studies carried out by Gathu (2018) and Bassey (2018), Kaunda (2021) investigated how fraud mitigation can be realized through forensic litigation support in the context of the Kenyan commercial banking industry. A descriptive research design characterized by a pure survey methodology was requisitioned to address the objects of the study. An amalgamation of 41 commercial banks that were actively operating by 2019 was subjected to study. The study resorted to the use of questionnaires that were actually structured in order for the question items to be codified for statistical analysis. The regression results voiced a positive relationship between forensic litigation support and fraud mitigation.

Perception studies carried out by Otieno (2018), Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami, Nusa and Timur (2016) found that apart from using forensic accountants, data mining, continuous auditing of the firm's operations, thorough claim reviews, institution of fraud hotlines and reconciliation of corporate documents effectively unravels fraudulent activities. On top of that, ACFE (2018), together with Deloitte (2018), added that surprise audits, whistleblowing systems and active data monitoring systems actively unravel and stop future fraud occurrences.

Far from that, a causal research inquiry carried out by Ogola, A'ol and Linge (2016) was able to realize that commercial banks in Kenya can be able to cut down on their fraud losses by requisitioning the services of internal fraud investigators, instituting fraud reporting systems and installing fraud-guard systems. On the flip side, Lee (2017) noted that high accruals, fraudulently overstated sales and stock levels can be reduced through the practical deployment of the Dodd-Frank Whistleblower program that was conceived in 2011. This is evidenced by the fact that whistle-blowers are assured of protection against any harm that could be

engineered against them by the fraudsters, and assuring them of compensation packages for whistleblowing will motivate them to pinpoint the fraudsters and mend the areas affected by fraud. An earlier study that had been pioneered by Holtfreter (2008) based on a global survey confirmed that fraud losses could be considerably decreased through instituting anonymous hotlines for reporting any hidden ongoing fraud activities, conducting daily internal audits and spearheading transparent comprehensive external audit programmes.

Studies that had been pioneered by Lee (2017) in USA, Gathu (2018) in the context of the medical insurance firms, Bassey (2018) in the microfinance banking sector in Nigeria, Mangala and Kumari (2017) in India, Kaunda (2021) together with Ogola, K'Aol and Linge (2016) in the Kenyan banking sector and Holtfreter (2008) based on a global survey did not concentrate on how detective antifraud mechanisms can manage motor insurance fraud in Kenya. This provided this study an ideal opportunity to fill the gap by investigating the presence of the most effective detective antifraud mechanisms in the insurance sector and if they could considerably mitigate motor insurance fraud in Kenya.

2.3.3 Moderating effect of Corporate Governance On the relationship between Antifraud Mechanisms and insurance Fraud

Sawsan et al. (2015) embarked on looking for the role played by corporate governance in fraud risk management. The findings observed that setting a "tone at the top" through employing a committed board of directors would create a transparent corporate environment that enhances integrity together with positive ethical conduct, which would consequently birth robust antifraud mechanisms that would curb fraud risk. An autonomous board with rich professional experience would be on their toes to conceive up-to-date fraud management systems to match up the technologically devised schemes used by fraudsters to steal financial resources from the given firm. The audit committee, together with the board of directors, are the core elements of corporate governance (Pham, 2022). The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded (Pham, 2022). They do this by overseeing fraud risk assessment systems and establishing business ethical programs and fraud policies to mitigate fraud from occurring, which can reduce shareholder wealth (Pham, 2022).

The board conceives the audit committee of directors to supervise the firm's risk assessment systems and develop and manage the internal audit processes, together with the firm's other corporate governance processes (Effendi, 2018). Skousen, Smith, and Wright (2015) observed that an audit committee that is powerful and has a greater autonomous capacity to monitor the activities of a given organization would have a lower likelihood of fraud occurrence. Nodding

with these findings, Rohmatin, Apriyanto and Zuhroh (2021) observed that opportunities for people to consider executing fraudulent activities and rationalizing fraud to be justifiable can be eliminated or watered down by corporate governance practices. Interestingly, Kassem (2022) provided research evidence that weak or lack of corporate governance systems dilutes the effectiveness of preventive and detective antifraud mechanisms, thus creating room for fraud.

Corporate governance helps a lot in identifying and applying the most reliable antifraud controls that can truly eliminate fraud (Razali & Arshad, 2014). Though scholarly works developed by Sawsan et al. (2015), Rohmatin et al. (2021) and Kassem (2022) have not provided evidence of its role in managing motor insurance fraud in Kenya by ensuring that effective antifraud controls are implemented. This gap was addressed by investigating if corporate governance had a moderating impact on the relationship between the antifraud mechanisms and motor insurance fraud among the insurance firms located in Nairobi County, Kenya.

2.4 Summary of Literature Review and Research Gaps

This chapter, being the second major part of this proposal, presented the fraud theories conceived by popular research scholars, the main concepts behind these theories and how they informed the objectives or the variables of the study. The first theory discussed was the Fraud Management Lifecycle theory, which conceptualizes eight interconnected phases for dealing with fraud. The final theory discussed was the fraud triangle theory, which conceptualizes three major objects or elements that breed fraud. The chapter then proceeded to discuss the research studies pioneered by scholars who had an interest in the relationship between antifraud practices and fraud. Studies pioneered by King'ori et al. (2019) in the context of commercial banks in Kenya, ACFE (2018) on the global scale, Otieno (2018) in the motor insurance sector, Kamaliah et al. (2018) in the context of the Malaysian public sector, Othman et al. (2015) have found that effective preventive antifraud practices diminish fraud, little attention has been paid on how they can manage motor insurance fraud in the context of insurance firms in Kenya. The same gap was noted in the studies that had been conducted by Bierstaker et al. (2006) in America and Holtfreter (2008).

Therefore, this study came in to fill the gap by seeking to find out the most perceived effective preventive mechanisms in the insurance sector and if they considerably mitigate motor insurance fraud in Kenya. Far from that, studies that had been pioneered by Lee (2017) in USA, Gathu (2018) in the context of the medical insurance firms, Bassey (2018) in the microfinance banking sector in Nigeria, Mangala and Kumari (2017) in India, Kaunda (2021) together with

Ogola, K'Aol and Linge (2016) in the Kenyan banking sector and Holtfreter (2008) based on a global survey did not concentrate on how detective antifraud mechanisms can manage motor insurance fraud in Kenya. This provided this study an ideal opportunity to fill the gap by investigating the presence of the most effective detective antifraud mechanisms in the insurance sector and if they could considerably mitigate motor insurance fraud in Kenya.

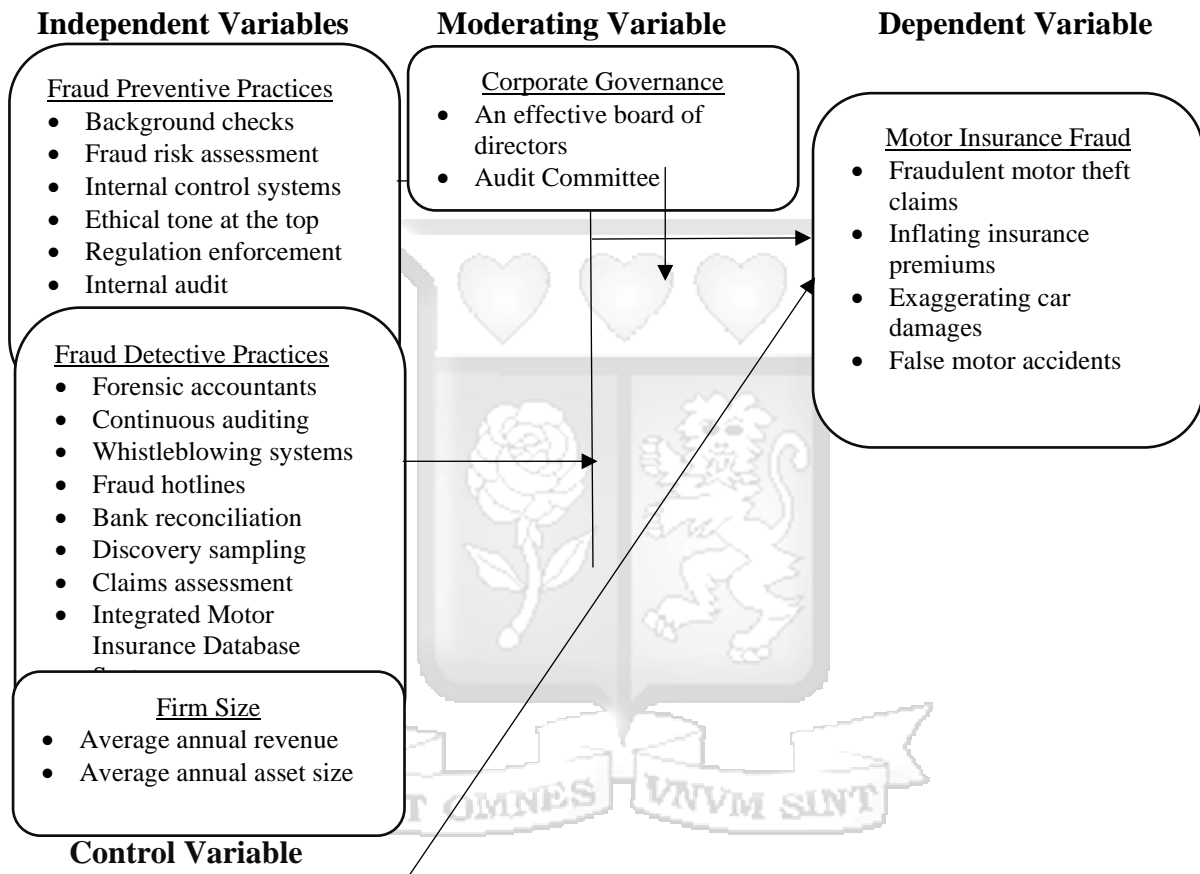
Corporate governance helps a lot in identifying and applying the most reliable antifraud controls that can truly eliminate fraud (Razali & Arshad, 2014). Though scholarly works developed by Sawsan et al. (2015), Rohmatin et al. (2021) and Kassem (2022) have not provided evidence of its role in managing motor insurance fraud in Kenya by ensuring that effective antifraud controls are implemented. This gap was addressed by investigating if corporate governance had a moderating impact on the relationship between the antifraud mechanisms and motor insurance fraud among the insurance firms located in Nairobi County, Kenya.

With regard to the contextual gap, the motor insurance fraud has been found to be a big problem in Kenya with specific reference to Nairobi County yet no particular set of antifraud measures have been identified that can effectively curb the menace (IRA, 2024). This is the reason as to why this study based on the literature it has reviewed so far assessed the effectiveness of the antifraud mechanisms identified in the literature so that if the findings established that they are effective then the policy makers can implement them to manage the motor insurance fraud. With regards to the conceptual gaps to be explored, most studies (Kiragu et al., 2015; Kamaliah et al., 2018; Ogola et al., 2016; Otieno, 2018; Kamau, 2015; Kamaliah et al., 2018) have only focused on how the preventive and the detective antifraud measures can alleviate bank fraud, insurance fraud and public sector fraud, but none have focused on how they could manage the motor insurance fraud. So, this study came in to fill the gap by establishing how the preventive and the detective antifraud measures could alleviate motor insurance fraud.

Methodologically, based on the studies (Kiragu et al., 2015; Kamaliah et al., 2018; Ogola et al., 2016; Otieno, 2018; Kamau, 2015; Kamaliah et al., 2018; Bierstaker et al., 2006; Hakami & Rahmat, 2019) reviewed, a descriptive correlational research design had not been employed to incorporate corporate governance as a moderator of the relationship between the antifraud measures and motor insurance fraud in Nairobi County. Therefore, this study employed multiple linear regression analysis not only to establish how the antifraud measures influence motor insurance fraud in Nairobi County, Kenya but also to establish how corporate governance could moderate the given relationship.

2.5 The Conceptual Framework

The conceptual framework that has been captured in Figure 2.2 showed us how motor insurance fraud in Kenya as the dependent variable is influenced by preventive antifraud mechanisms and detective antifraud mechanisms as the predictor variables. It also showed the moderating role played by corporate governance on the given relationship between motor insurance fraud and the antifraud mechanisms. Finally, it presents firm size as a control variable that affects motor insurance fraud.



Source: Researcher (2024)

Figure 2. 3: The Conceptual Framework

Firm size is one of the most essential determinants of motor insurance fraud in Kenya besides the antifraud mechanisms and corporate governance (Owuor, 2023). The bigger the insurance firm the greater the level of its profitability, thus making it vulnerable for the fraudsters to defraud it (Owuor, 2023). Thus, the greater the firm size of a given insurance firm, the higher the number of motor insurance cases (Owuor, 2023).

2.6 Summary of Literature Reviewed

Table 2.1 provided below summarizes the studies reviewed.

Table 2. 1: Summary of Literature Reviewed

Authors	Location	Theories	Methodology	Measurement of Independent Variables	Measurement of the Dependent Variable	Findings
Othman, Mardziyah, Zainan and Amin (2015)	Malaysia in the context of the public sector	Not mentioned	Descriptive research design was used involving the use of structured questionnaires. Data analysis involving mean scores, standard deviation and ranking method was used.	This was a perception study with no clear independent. It was limited to showing the perceived effectiveness of the antifraud measures.	This was a perception study with no clear dependent variable. It was limited to showing the perceived effectiveness of the antifraud measures.	The findings observed that that rotating the staff members across the department, deploying a strong independent audit committee and instituting a fraud reporting policy were perceived to be very effective in blocking fraud.
Otieno (2018)	Motor insurance sector, Nairobi County, Kenya	Fraud Management Life Cycle theory and the Fraud Triangle theory	The research design requisitioned was the descriptive research design that involved using structured questionnaires to collect data from motor valuers, employees and insurance brokers.	The independent variable assessed was organizational factors that consisted of the audit committee, financial stability and the managerial attention on fraud risk management. A 5-point Likert scale was employed to measure it.	The dependent variable was the fraud detection and prevention techniques. A 5-point Likert scale was employed to measure it.	The study noted that due diligence of customers, claims assessment, IMIDS and evaluation of insurances policies and claims were perceived to be effective anti-insurance fraud measures. It also noted that lack of fraud policy and a committed audit committee influenced the less usage of the perceived effective antifraud measures.
Gathu (2018)	Kenyan insurance sector	Collective Risk theory, Fraud Management Lifecycle theory	Sequential procedures of the mixed methods design was adopted by inducing and deducing the research outcomes of one method with another. The study used questionnaires to collect data informing the independent variable being the detective antifraud mechanisms while secondary data from annual reports was used to collect data pertaining the dependent variable which	The independent variable assessed that is relevant to this study was the detective antifraud mechanisms. It was operationalized a 5-point Likert scale of agreement.	The dependent variable was the net incurred claims operationalized as the loss ratio acting as a proxy of medical insurance fraud.	The results confirmed that the net incurred claims would be considerably reduced by the intense use of detective antifraud mechanisms. The detective antifraud mechanisms were forensic investigative review, shared databases of fraud cases, claims vetting of paper claims and hospital visits by staff.

			was the net incurred claims.			
Kassem (2022)	The study was not limited to any place or sector since it was based on a review analysis of secondary sources.	Agency theory	The methodology was based on a detailed review of literature concerning corporate governance, detective antifraud measures, preventive measures and fraud.	The independent variable was corporate governance. Though there was no clear conceptual framework showing precisely what the independent and dependent variables are.	The dependent variable was fraud.	The study observed that weak or lack of corporate governance systems dilutes the effectiveness of preventive and detective antifraud mechanisms, thus creating room for fraud.
Kamaliah, Marjuni, Mohamed, Mohd-Sanusi and Anugerah (2018)	Malaysia in the context of public firms	Not mentioned	Structured questionnaires were requisitioned to collect data from 233 parastatals and ministerial bodies. Multiple linear regression model through SPSS for analysis.	The independent variables comprised of internal control systems and organizational integrity plans which were the preventive mechanisms.	The dependent variable was the fraud incidents (i.e. theft, bribery, procurement fraud, misappropriation of assets, financial statement fraud and payroll fraud).	The results confirmed that properly effective internal control systems, together with the implementation of organizational integrity plans by Malaysian public organizations, water down fraud incidents.
Holtfreter (2008)	The whole globe	Not mentioned	The study employed the exploratory research design that involved the collection and analysis of panel data.	The independent variables were detective anti-fraud mechanisms comprising of anonymous hotlines, internal audits and comprehensive external audit programmes.	The dependent variable was assessed as fraud losses.	The study confirmed that fraud losses could be considerably decreased through instituting anonymous hotlines for reporting any hidden ongoing fraud activities, conducting daily internal audits and spearheading transparent comprehensive external audit programmes.
Bassey (2018)	Cross River State Nigeria with the unit of analysis being the microfinance bank.	Fraud Triangle theory, Fraud Diamond theory, Fraud Scale theory	The researcher requisitioned a survey research design to address the purpose of the study. The data that was supposed to be subjected to the analysis process was collected from secondary sources and primary sources. The researcher subjected the data collected through the Ordinary Least	The independent variable was only one anti-fraud detective measure which was forensic accounting.	The dependent variable was fraud in the microfinance banking system.	The results birthed negative regression coefficients, meaning that forensic accounting considerably waters down fraud among microfinance banks.

			Square regression analysis.			
King'ori, Kiragu and Kamau (2019)	Nairobi, Kenya and the unit of analysis was the large and medium sized commercial banks.	Fraud Triangle theory	The study employed a descriptive design. The study resorted to using questionnaires, which were actually structured in order for the question items to be codified for statistical analysis. The study chose to collect that from 57 managers working in large commercial banks in addition to selecting 12 managers rendering their services in medium-sized banks in Kenya. To check if and how fraud occurrence could have been affected by preventive antifraud mechanisms, the Ordinary Logistic regression model was entrusted for the analysis.	The independent variable was the preventive anti-fraud measures which comprised of signature verification, cross-examination of bank documents, training staff members, carrying out integrity checks, and implementing job rotation policies. It was quantified by a 5-point Likert scale of level of agreement.	The dependent variable was bank fraud. It was quantified by a 5-point Likert scale of level of agreement.	The results confirmed that verifying signatures, cross-examining bank documents, training staff members, carrying out integrity checks, and implementing job rotation policies reduce bank fraud cases in Kenya considerably.
Munika (2019)	Kenya with the unit of analysis being 25 licensed regulatory agencies	Agency theory, Fraud Triangle theory and Stakeholder theory	The study used the explanatory research design involving semi-structured questionnaires to obtain quantitative data from 125 employees and logistic regression model was used for analysis.	The independent variables comprised of risk management process, risk governance, risk aggregation and the Mwongozo Code of governance. A 5-point Likert scale of agreement was used to quantify them.	The dependent variable was fraud occurrence. A 5-point Likert scale of agreement was used to quantify it.	The study generally noted that preventive risk management practices comprising of risk management process, risk governance and risk aggregation considerably discourage financial statement fraud from being perpetuated by the regulatory agencies in Kenya.

Source: Researcher (2024)

Since the gaps could not be identified with regard to each individual study, it was observed from the studies carried out by Othman et al. (2015), Otieno (2018), Gathu (2018), Kassem

(2022), Kamaliah et al. (2018), Holtfreter (2008), Bassey (2018), King'ori et al. (2019) and Munika (2019), that there exists a void on the most effective antifraud techniques that can used to curb motor insurance fraud among the insurance firms in Nairobi, Kenya. Besides, there existed limited literature providing knowledge on the role of corporate governance on the relationship between the antifraud mechanisms and the motor insurance fraud in Kenya. Thus, this study bridged this void by establishing the effect of antifraud mechanisms on motor insurance fraud and the moderating effect of corporate governance in Kenya Nairobi County.

2.7 Operationalization of Variables

The variables of this given study were operationalized as follows given in Table 2.2 below.

Table 2. 2: Operationalization of the Study Variables

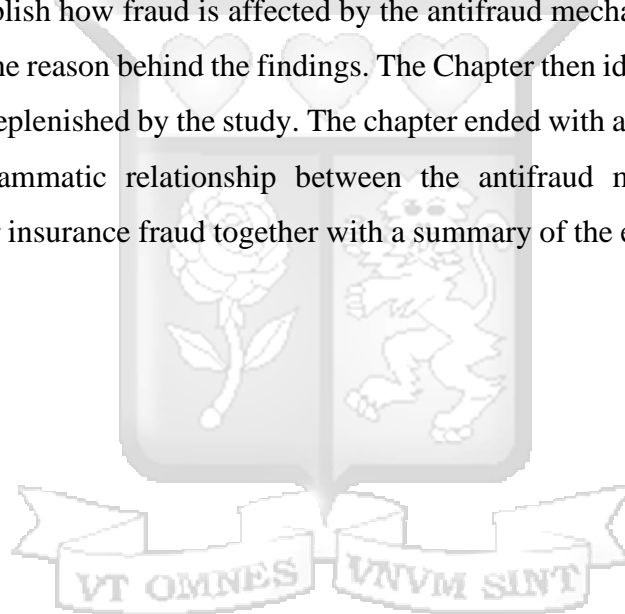
Variable	Type of Variable	Operational Constructs	Measurement	Supporting Literature	Supporting Theory
Fraud Preventive Practices	Independent Variable	<ul style="list-style-type: none"> Background checks Fraud risk assessment Internal control systems Ethical tone at the top Regulation enforcement Internal audit Team member training on fraud awareness 	A 7 point Likert scale of perceived level of effectiveness will be used ("It is Completely Ineffective" – 1, "It is Ineffective" – 2, "It is Somewhat Ineffective" – 3, "I am Not Sure if is Effective or Ineffective" – 4, "It is Somewhat Effective" – 5, "It is Effective" – 6, "It is Completely Effective -7").	Bierstaker et al. (2006); Holtfreter (2008); Kamaliah et al. (2018); Othman et al. (2015); Otieno (2018); ACFE (2018); King'ori (2019)	Fraud Management Lifecycle Theory and the Fraud Triangle Theory
Fraud Detective Practices	Independent Variable	<ul style="list-style-type: none"> Forensic accountants Continuous auditing Whistleblowing systems Fraud hotlines Bank reconciliation Discovery sampling Claims assessment Integrated Motor Insurance Database System Evaluation of claims 	7 point Likert scale of perceived level of effectiveness ("It is Completely Ineffective" – 1, "It is Ineffective" – 2, "It is Somewhat Ineffective" – 3, "I am Not Sure if is Effective or Ineffective" – 4, "It is Somewhat Effective" – 5, "It is Effective" – 6, "It is Completely Effective -7").	Lee (2017); Gathu (2018); Bassey (2018); Mangala and Kumari (2017); Kaunda (2021); Ogola, K'Aol and Linge (2016); Holtfreter (2008); Kamau (2015); Deloitte (2018)	Fraud Management Lifecycle Theory and the Fraud Triangle Theory
Corporate Practices	Moderating Variable	<ul style="list-style-type: none"> An effective board of directors Audit Committee 	A 7 point Likert scale of level of agreement will be used ("I Completely Agree" – 1, "It Disagree" – 2, "I Somewhat Disagree" – 3, "I am Not Sure" – 4, "I Somewhat Agree" – 5, "I Agree" – 6, "I Completely Agree -7").	Sawsan et al. (2015); Pham (2022); Effendi (2018); Skousen et al. (2015); Rohmatin et al. (2021); Kassem (2022)	The Agency Theory
Motor Insurance Fraud	Dependent Variable	<ul style="list-style-type: none"> Fraudulent motor theft claims Inflating insurance premiums Exaggerating car damages False motor accidents 	7 point Likert scale of perceived level of effectiveness ("It is Completely Ineffective" – 1, "It is Ineffective" – 2, "It is Somewhat Ineffective" – 3, "I am Not Sure if is Effective or	Kamau (2015); Capital et al. (2022); ClearTax (2023); Otieno (2018); NICB (2020); Mwenda (2022); IRA (2024); Liu et al. (2017)	Fraud Management Lifecycle Theory and the Fraud Triangle Theory

			Ineffective” – 4, “It is Somewhat Effective” – 5, “It is Effective” – 6, “It is Completely Effective -7”).		
Firm Size	Control Variable	<ul style="list-style-type: none"> Average annual revenue and average annual asset size 	A 7-point Categorical scale	Owuor (2023)	Fraud Management Lifecycle Theory and the Fraud Triangle Theory

Source: Researcher (2024)

2.7 Chapter Summary

This particular chapter initially began by discussing the fraud theories conceived by popular research scholars, the main concepts behind these theories and how they informed the objectives or the variables of the study. The empirical review followed by reviewing studies that attempted to establish how fraud is affected by the antifraud mechanisms, together with a synthesis explaining the reason behind the findings. The Chapter then identified the knowledge voids that need to be replenished by the study. The chapter ended with a conceptual framework that showed a diagrammatic relationship between the antifraud mechanisms, corporate governance and motor insurance fraud together with a summary of the empirical literature in a tabular form.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter involved the identification and the justification of the methodological designs and statistical tools that this study used to address its objectives. The chapter was organized as follows, the first section after this introduction discussed the research philosophy that inspired this study and the second section pointed out the suitable research design that this study decided to settle on in order to address its objectives in the most accurate manner. The third section discussed the target population that this study focused on and the units of observation that it studied. The fourth section discussed the research instrument that the study used to collect data for each particular variable from the respondents in the motor insurance sector in Nairobi County, Kenya. The fifth section discussed how the study went about to test the research quality of the selected research instrument. The sixth section discussed the data collection procedure and the seventh section the data analysis techniques and tools the study employed to address its objectives. The eighth sections discussed the diagnostic tests the study performed to confirm if the data obtained from the field was suitable for regression analysis. The chapter closed with the ethical considerations the study complied with.

3.2 Research Philosophy

Research philosophy is an idea that guides how a particular phenomenon of interest should be obtained, analyzed, and utilized (Bajpai, 2011). Four major research philosophies guide studies in various disciplines, including positivism, pragmatism, interpretivism, and realism research philosophies (Saunders et al., 2012). The research philosophy that is relevant to this study is the positivist paradigm. Positivism involves working with the social reality that can be observed to produce law-like generalizations (Saunders et al., 2009). This type of philosophy is rooted in showing how the outcome variable is affected by a predictor variable or several of them through the employment of statistical tools (Chirkov & Anderson, 2018). The reality is external and sovereign from the researcher's views or the researched elements, and the data obtained has to be quantitative and measurable (Saunders et al., 2009). Subsequently, the philosophy was employed in this study since the study sought to establish how motor insurance fraud could be causally affected by the antifraud mechanism together with corporate governance by applying statistical tools to analyse the numerical data obtained from the questionnaires.

3.3. Research Design

The research design that inspired this study with regard to accurately addressing its research purpose was the descriptive correlational research design. This type of research design always seeks to determine the association between two or several variables based on the present state of affairs of the variables being studied (McBurney & White, 2009). The design employs quantitative methods such as using a survey methodology through questionnaires to collect data that can be transformed into figures for statistical analysis in order to show the relationship between the variables (Bhandari, 2021). The researcher has no power of manipulating the independent variables, he or she can only observe and report how the independent variables are affecting the outcome variable (Bhandari, 2021).

The descriptive correlational research design was used to establish how motor insurance fraud can be affected by the antifraud mechanism and corporate governance through the application of statistical tools to analyse the numerical data obtained from the questionnaires.

3.4 Target Population

Thirty-five insurance companies offering motor insurance services operating in Nairobi County were studied (Insurance Regulatory Authority, 2024). These include all the insurance firms offering motor private, motor commercial and personal motor accident insurance services in Kenya authorised by the Commissioner of Insurance in compliance with Section 184 of the Insurance Act to operate from 3rd January 2024 (Insurance Regulatory Authority, 2024). The list of all of these motor insurance firms is provided by the Insurance Regulatory Authority based on its uploaded report titled “*Registered Insurers 2024*” (Insurance Regulatory Authority, 2024). The report was the population frame of the study (Insurance Regulatory Authority, 2024). The rationale for targeting the 35 firms was based on firms that only provide motor insurance services (Insurance Regulatory Authority, 2024). The list of the aforementioned insurance firms can be found at;

https://ira.go.ke/index.php?option=com_phocadownload&view=file&id=575&Itemid=1264

(Insurance Regulatory Authority, 2024). The units of observation were claiming assessors working as staff members in the firms above. They comprised of insurance underwriters working as staff members in the 35 insurance firms. So the study population targeted for this study comprised of 5 claim assessors and 5 insurance underwriters from each given firm. This summed up to 350 respondents and census methodology was employed to study all the given respondents.

3.5 Research Instrument

Structured questionnaires were used by the researcher to suitably obtain primary data that was in quantitative form from the respondents in order to address the study objectives. Similar research studies that had been earlier carried out by Otieno (2018), King'ori et al. (2019), Gathu (2018), Ogola et al. (2016), Kaunda (2021) together with Othman et al. (2015) used this particular type of research tool to collect data in a quantitative form for easier statistical analysis in order to address the study objectives. The questionnaire as shown in Appendix One was developed in 5 parts. The first part, was the demographic section (Section A), which was concerned with obtaining data relating to the gender of the respondent, the present job position of the respondent, the educational qualification of the respondent and the professional experience of the given respondent. These aspects were on a categorical scale except for gender, and the present job position of the respondent which were on a dichotomous scale. The second part developed was Section B which involved 7 preventive antifraud mechanisms whose perceived levels of effectiveness were assessed. A Likert scale, which had seven ranks of perceived effectiveness, was used. The third part developed was Section C which involved 8 detective antifraud mechanisms whose perceived level of effectiveness had to be assessed. A Likert scale, which had seven ranks of perceived effectiveness, was used. The next part was Section D containing 4 question items assessing corporate governance, and a Likert scale possessing seven ranks of agreement was used to collect quantitative data from the respondents. Finally, the last part of the questionnaire developed was Section E containing 7 question items linked to motor insurance fraud. Similarly, a Likert scale with seven ranks of agreement was used to collect quantitative data concerning those seven elements of motor insurance fraud in Nairobi County, Kenya.

The researcher resorted for a 7-point Likert scale since it endeavoured to give an accurate measure of a respondent's perception about a certain question item when compared to a 5-point Likert scale (Finstad, 2010).

3.6 Research Quality

The researcher carried out a pilot test that sought to check if the questionnaire was valid and reliable for the main data collection exercise. A total of 28 employees were targeted to participate in the pilot test. However, they were not allowed to participate in the main data collection exercise in order to avoid any bias. The findings obtained were subjected to the relevant statistical tools to assess the validity of the questionnaire. The same was applicable when examining the level of reliability of the questionnaire. The pilot test was carried out between 4th November 2024 and 8th November 2024. The numerical data was entered into the

MS Excel Spreadsheet before being transported into the SPSS Software for reliability and validity tests analyses.

3.6.1 Reliability Test

The Cronbach's Alpha model was employed to establish if the research instrument is reliable in terms of the internal consistency of the question items. Items on scales displaying figures above 0.7 were deemed to be internally consistent (Kershaw & Nicholson, 2011; Kukutia et al., 2019). Therefore, the questionnaire was considered reliable based on the given rule of thumb. The reliability test was carried out after the completion of the pilot study and the findings were presented in Table 3.1 below. The first variable which was preventive anti-fraud mechanisms posted a Cronbach's Alpha value of $0.962 > 0.7$. This meant that all the 7 question items representing preventive anti-fraud mechanisms were internally consistent thus indicating that the questionnaire with regard to the given variable was reliable.

Table 3. 1: Reliability Test Results

Variable	Cronbach's Alpha	No. of Items
Preventive Anti-fraud Mechanisms	0.962	7
Detective Anti-fraud Mechanisms	0.969	8
Corporate Governance	0.945	4
Motor Insurance Fraud	0.957	7

Source: Researcher (2025)

The second variable, which was detective anti-fraud mechanisms posted a Cronbach's Alpha value of $0.969 > 0.7$. This meant that all the 8 question items representing detective anti-fraud mechanisms were internally consistent thus indicating that the questionnaire with regard to the given variable was reliable. The third variable, which was corporate governance posted a Cronbach's Alpha value of $0.945 > 0.7$. This meant that all the 4 question items representing corporate governance were internally consistent thus indicating that the questionnaire with regard to the given variable was reliable. Finally, the fourth variable which was motor insurance fraud posted a Cronbach's Alpha value of $0.957 > 0.7$. This meant that all the 7 question items representing motor insurance fraud were internally consistent thus indicating that the questionnaire with regard to the given variable was reliable.

3.6.2 Validity Test

In order to establish if the items in the Likert scale truly measure the constructs intended to be measured, principal component analysis was conducted (Frederick, 2013). The factor analysis model helps to condense a large amount of data into a few factors/variables (VOXCO, 2023). The model assists in extracting the maximum variance from a certain variable and then grouped into a common score for further analysis (Statistics Solutions, 2023). A question item with a

factor loading that is at least 0.7 means that it has actually extracted sufficient variance from that variable (Rahn, 2012; Knekta et al., 2019). This means that the particular question item truly represents the concept of that variable it was intended to represent; thus, it is grouped as a component of that particular variable/factor. This justifies the researcher's retention of the questionnaire items in the survey tool, which managed to abide by the stipulated rule of thumb for descriptive and regression analysis. Moreover, it justifies for the researcher to compress the given question items into one particular variable through the usage of averages in order for regression analysis to be made possible. Any question item posting a factor loading less than 0.7 should be dropped since it would affect the construct validity of the given variable, the reason being that the question item does not truly relate to that given variable (Rahn, 2012; Knekta et al., 2019). Prior factor analysis, the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity was carried out on the datasets of the four variables of the study to establish if the given data sets were fit and sufficient for factor analysis to be carried out on them. The findings were presented in Table 3.2 below.

Table 3. 2: The KMO and Bartlett's Test Results

		KMO and Bartlett's Test Results			
		Preventive Anti-fraud Mechanisms	Detective Anti-fraud Mechanisms	Corporate Governance	Motor Insurance Fraud
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.902	0.881	0.812	0.900
Bartlett's Test of Sphericity	Approx. Chi-Square	215.882	288.213	108.697	197.553
	df	21	28	6	21
	Sig.	0.000	0.000	0.000	0.000

Source Researcher (2025)

For a given dataset to be considered fit and undoubtedly suitable for factor analysis, it has to post a KMO value that is ≥ 0.5 (Williams, Onsman, & Brown, 2010). Moreover, the Bartlett's test of Sphericity of the given dataset should conceive a Chi-Square value that is statistically significant (p -value < 0.05) (Williams et al., 2010). As presented in Table 3.2 in the previous page, the KMO figure of preventive anti-fraud mechanisms was $0.902 > 0.5$ and its Bartlett's test of Sphericity conceived a Chi-Square value of 215.882 that was statistically significant (p -value = $0.000 < 0.05$). The findings meant that the dataset of preventive anti-fraud mechanisms was fit and sufficient for factor analysis. Besides that, the KMO figure of detective anti-fraud mechanisms were $0.881 > 0.5$ and its Bartlett's test of Sphericity conceived a Chi-Square value of 288.213 that was statistically significant (p -value = $0.000 < 0.05$). The findings meant that the dataset of detective anti-fraud mechanisms was fit and sufficient for factor analysis.

It was also revealed that the KMO figure of corporate governance was $0.812 > 0.5$ and its Bartlett's test of Sphericity conceived a Chi-Square value of 108.697 that was statistically

significant (p -value = 0.000 < 0.05). The findings meant that the dataset of corporate governance was fit and sufficient for factor analysis. Finally, the findings discovered that the KMO figure of motor insurance fraud was 0.900 > 0.5 and its Bartlett's test of Sphericity conceived a Chi-Square value of 197.553 that was statistically significant (p -value = 0.000 < 0.05). The findings meant that the dataset of motor insurance fraud was fit and sufficient for factor analysis. Factor analysis through the principal component analysis was conducted on the dataset of preventive anti-fraud mechanisms and the findings presented in Table 3.3 below.

Table 3. 3: Factor Analysis Results of Preventive Anti-Fraud Mechanisms

Component Matrix^a		Component
No.	Question Item	1 (Preventive Anti-Fraud Mechanisms)
1.	Background checks of the employees and clients.	0.859
2.	Fraud risk assessment of all insurance claims.	0.955
3.	The instituted internal control systems.	0.945
4.	Ethical tone at the top.	0.886
5.	Regulation enforcement by the firm and IRA.	0.899
6.	The internal audit of the firm.	0.868
7.	Training programmes of motor insurance fraud awareness on the staff members.	0.928

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: Researcher (2025)

The findings observed that all the seven question items that were supposed to denote the preventive anti-fraud mechanisms posted factor loadings that were greater than 0.7. This meant that all the seven question items actually extracted sufficient variance from the given variable thus confirming to us that they were truly preventive anti-fraud mechanisms. Consequently, all the seven question items were retained for both descriptive and regression analyses since they proved to be the real constructs of preventive anti-fraud mechanisms. Therefore, the construct validity of the questionnaire with regard to the preventive anti-fraud mechanisms was excellent. Far from that, the factor analysis results of the detective anti-fraud mechanism were presented in Table 3.4 below. The findings observed that all the eight question items that were supposed to denote the detective anti-fraud mechanisms posted factor loadings that were greater than 0.7.

Table 3. 4: Factor Analysis Results of Detective Anti-Fraud Mechanisms

Component Matrix^a		Component
No.	Question Item	1 (Detective Anti-Fraud Mechanisms)
1.	Hiring forensic accountants to perform forensic audit of the claims.	0.848

2.	Continuous auditing that is secretive.	0.955
3.	Employment of both formal and informal whistleblowing systems.	0.938
4.	Activation of fraud hotlines.	0.878
5.	Bank reconciliation.	0.887
6.	Discovery sampling of all the claims based on a historical period.	0.879
7.	Thorough claims assessment.	0.944
8.	Frequent usage of the Integrated Motor Insurance Database System to track any suspicious claim.	0.942

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: Researcher (2025)

This meant that all the eight question items actually extracted sufficient variance from the given variable thus confirming to us that they were truly detective anti-fraud mechanisms. Consequently, all the eight question items were retained for both descriptive and regression analyses since they proved to be the real constructs of detective anti-fraud mechanisms. Therefore, the construct validity of the questionnaire with regard to the detective anti-fraud mechanisms was excellent. Far from that, the factor analysis results of corporate governance were presented in Table 3.5 in the next page.

Table 3. 5: Factor Analysis Results of Corporate Governance
Component Matrix^a

No.	Question Item	Component 1 (Detective Anti-Fraud Mechanisms)
1.	There is a higher proportion of non-executive to executive directors who freely work to see that the fraud management risk systems are properly being implemented to curb fraud.	0.874
2.	There exists a strong audit committee that always revises and updates the firms internal control systems for effectively detecting and preventing fraud.	0.949
3.	The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded.	0.961
4.	The board of directors always are keen to employ qualified and uncompromised personal in the audit committee for effective supervision of the firm's risk assessment systems and the management of the internal audit processes.	0.924

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: Researcher (2025)

The findings observed that all the four question items that were supposed to denote corporate governance posted factor loadings that were greater than 0.7. This meant that all the four question items actually extracted sufficient variance from the given variable thus confirming to us that they truly represented corporate governance. Consequently, all the four question items were retained for both descriptive and regression analyses since they proved to be the real constructs of corporate governance. Therefore, the construct validity of the questionnaire with regard to corporate governance was excellent. Finally, the factor analysis results of motor insurance fraud were presented in Table 3.6 in the next page. The findings observed that all the seven question items that were supposed to denote motor insurance fraud posted factor loadings that were greater than 0.7. This meant that all the seven question items actually extracted sufficient variance from the given variable thus confirming to us that they truly represented motor insurance fraud. Consequently, all the seven question items were retained for both descriptive and regression analyses since they proved to be the real constructs of motor insurance fraud. Therefore, the construct validity of the questionnaire with regard to motor insurance fraud was excellent.

Table 3. 6: Factor Analysis Results of Motor Insurance Fraud

Component Matrix^a		Component
No.	Question Item	1 (Preventive Anti-Fraud Mechanisms)
1.	Fraudulent motor theft claims are common through the partnership of the claimant and employee.	0.838
2.	There have been serious cases of the inflation of the insurance premiums.	0.942
3.	Most car damages are usually exaggerated.	0.937
4.	There have a significant number of staged-manged accidents in Nairobi, Kenya.	0.876
5.	The issuance of fake motor vehicle insurance certificates has been a norm in Kenya.	0.892
6.	There have been a number of discrepancies between the accident facts and the real damage caused on the ground.	0.856
7.	There have been cases whereby the claimant presents very few witnesses who have perfect accounts with similar wordings of what happened during the accident.	0.923

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: Researcher (2025)

3.7 Data Collection Procedure

After the researcher had successfully defended his research proposal and was given the go-ahead by the panel members and the supervisor to collect data, he applied for the NACOSTI research permit that aided him in collecting data. Questionnaires were distributed to the respondents at their respective offices at one point in time by the researcher, through his research assistants. The researcher offered the respondents a time deadline of one week and two days for the questionnaires to be duly filled before retrieving them.

3.8 Data Analysis Techniques

Descriptive analyses involving mean scores and standard deviations were employed to describe the level of perceived effectiveness of the antifraud practices and the corporate governance initiatives implemented by the motor insurance firms. They were also used to describe the perceived severity level of motor insurance fraud in Kenya. Additionally, they were used to describe the present status of the demographic attributes of the motor insurance employees. The multiple Linear Regression model was used to show how fraud preventive practices and fraud detective practices influence motor insurance fraud and the moderating effect of corporate governance. Averages were used as a composite measure to conceive both the independent and dependent variables from the data that was retrieved. SPSS version 30.0.0 was used as an appropriate software for the statistical analysis. The findings were presented in tables. The study conceived and proposed the following regression equation;

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \dots \dots \dots \text{Equation 1}$$

Whereby;

α = the level of motor insurance fraud when all the antifraud mechanisms and firm size are held constant

X_1 and X_2 = independent variables representing preventive antifraud mechanisms and detective antifraud mechanisms, respectively

X_3 = control variable representing firm size

β_1 and β_2 = represents the regression coefficients of preventive antifraud mechanisms and detective antifraud mechanisms predicting the level of motor insurance fraud

β_3 = represents the regression coefficient of firm size predicting the level of motor insurance fraud

Y = dependent variable denoting motor insurance fraud

ϵ = error term

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 * C + \epsilon \dots \dots \dots \text{Equation 2}$$

Whereby;

α = the level of motor insurance fraud when the preventive antifraud mechanisms and corporate governance are held constant

X_1 = independent variable representing preventive antifraud mechanisms

β_1 = regression coefficient denoting the level to which preventive antifraud fraud mechanisms influence motor insurance fraud

X_2 = covariate variable representing corporate governance

β_2 = regression coefficient denoting the level to which corporate governance influence motor insurance fraud

β_3 = regression coefficient denoting the level to which preventive antifraud fraud mechanisms influence motor insurance fraud when there is a unit rise in corporate governance

$X_1 * C$ = interaction between preventive antifraud mechanisms and corporate governance

Y = dependent variable denoting motor insurance fraud

ϵ = error term

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 * C + \epsilon \dots \dots \dots \text{Equation 3}$$

Whereby;

α = the level of motor insurance fraud when the detective antifraud mechanisms and corporate governance are held constant

X_1 = independent variable representing detective antifraud mechanisms

β_1 = regression coefficient denoting the level to which detective antifraud fraud mechanisms influence motor insurance fraud

X_2 = covariate variable representing corporate governance

β_2 = regression coefficient denoting the level to which corporate governance influence motor insurance fraud

β_3 = regression coefficient denoting the level to which detective antifraud fraud mechanisms influence motor insurance fraud when there is a unit rise in corporate governance

$X_1 * C$ = interaction between detective antifraud mechanisms and corporate governance

Y = dependent variable denoting motor insurance fraud

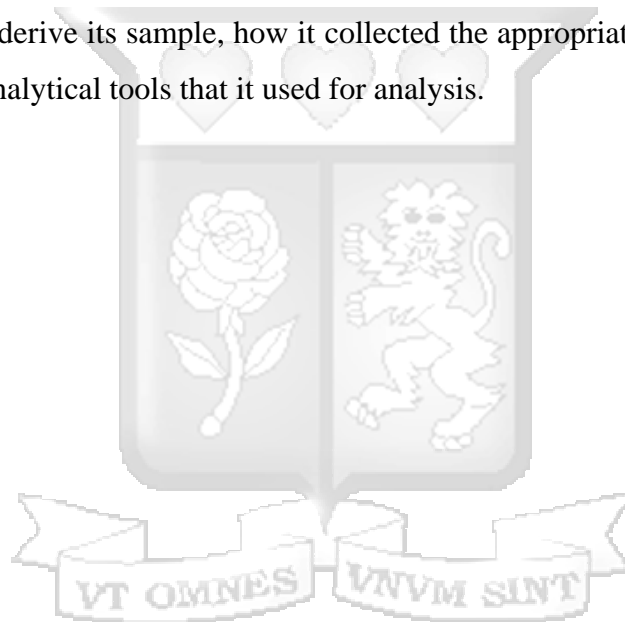
ϵ = error term

3.9 Ethical Considerations

The credibility of the research was proved by using the NACOSTI research permit as a way of depicting the level of trustworthiness of the research process. The researcher sought approval from the Strathmore Ethics and Review Committee before the main data collection process in compliance with the ethical policy requirements. The data collected from the field was treated with utmost confidentiality since the identity of the respondents were in an anonymous form, and the results were statistically generalized to make inferences. No form of psychological harm was instituted against the respondents who chose not to partake in the study; their choice was respected.

3.10 Chapter Summary

This Chapter presented the methodological designs and statistical tools that this study used to address its objectives derive its sample, how it collected the appropriate data for analysis and the appropriate data analytical tools that it used for analysis.



CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the response rate that this study managed to achieve and if it was sufficient for inferences to be made from it. It also presents the demographic aspects of the motor insurance respondents based on the current affairs in Kenya. The chapter then discusses the descriptive results concerning the perceived effectiveness of preventive antifraud mechanisms employed by the motor insurance firms in Nairobi County, Kenya. It also discusses the level of corporate governance initiatives implemented and the severity of the motor insurance fraud in the Kenyan insurance industry. The Chapter closes by presenting and discussing the regression results that showed how anti-fraud mechanisms influenced motor insurance fraud and the moderating effect of corporate governance in Nairobi County, Kenya.

4.2 Response Rate

The final tally of the questionnaires collected was 300. This represented a response rate of 85.71%. Fincham (2008) posited that a response rate of 60% is ideal in order for the given inferences to be acceptable and be used for research report development and research journal publication. Besides that, a response rate of $\geq 80\%$ is considered as satisfactory and desirable (Fincham, 2008). Therefore, our response rate was more than enough and remarkable for inferences to be made which would accurately address the phenomena being studied and policy development. The study managed to achieve a high response rate since the identity of the respondents were kept anonymous and they had been assured that their responses won't be shared to a third party (Bhattacharjee, 2012). Moreover, the survey questions were short, understandable and straight to the point thus, eliciting a high response rate (Bhattacharjee, 2012). Besides that, an advance notification of the purpose of the study through the NACOSTI research permit made the respondents to trust the research process and this made them to be very cooperative (Bhattacharjee, 2012).

The study accrued a non-response rate of 16.67% which was tolerable. This is because it comprised of 28 respondents who had earlier on partook in the pilot test and were not included in the main data collection exercise for the purpose of avoiding familiarity bias. It also comprised of an additional 22 respondents who refused to partake in the study since they were busy with their personal engagements.

4.3 Demographic Results

The demographic results of the motor insurance respondents working the motor insurance companies in Nairobi County, Kenya has been presented in Table 4.1 below. The results pertained the gender of the respondent, the job position of the respondent at the motor insurance

firm, the work experience that the respondent has been able to accumulate and the educational qualification of the respondent.

Table 4. 1: Demographic Results of the Motor Insurance Respondents

Demographic Statistics		Frequency	Percentage (%)
Gender	Male	167	55.7
	Female	133	44.3
Job Position	Claim Assessor	150	50.0
	Insurance Underwriter	150	50.0
Work Experience	Not more than 5 years	21	7.0
	5 to 7 years	42	14.0
	7 to 15 years	138	46.0
	15 to 25 years	71	23.7
	More than 25 years	28	9.3
Educational Qualification	Diploma Holder	17	5.7
	Graduate Holder	72	24.0
	Higher Diploma Holder	160	53.3
	Master Holder	34	11.3
	Doctorate Holder	17	5.7

Source: Researcher (2025)

The findings presented in Table 4.1 observed that even though the males are many in the motor insurance sector, accounting for 55.7% of the total responses, the females have managed to obtain a sizeable chunk of the employment opportunities in the motor insurance sector, accounting for 44.3% of the total responses. This portrays how the Kenyan motor insurance sector has been keen on gender inclusivity and bridging the gender gap amongst its employees and the management team (Ole Sialo, 2022; Kariuki, 2023). This meant that the responses obtained were not gender biased. Thus, they could be relied on to address the variables and the objectives of the study. The findings concerning the job position of the respondents observed that 50% were claim assessors and 50% were insurance underwriters. This meant that in each motor insurance firm, at least one claim assessor and one insurance underwriter were studied. So the responses obtained were perfectly balanced based on the two occupations in attempting to show us how the antifraud mechanisms affect the motor insurance fraud among motor insurance firms in Nairobi County, Kenya and the moderating effect of corporate governance. With respect to work experience, it was noted that most of the employees had 7 to 15 years of work experience in the Kenya motor insurance industry accounting for 46.0% of the total responses. This was followed by 23.7% who had 15 to 25 years of work experience in the Kenyan motor insurance industry. Only 7.0% of the respondents had less than 5 years of work experience in the Kenyan motor insurance industry. The vast experience of the respondents enhanced the findings of this study since the responses were based on practical knowledge and a deep understanding of real-world issues concerning anti-fraud mechanisms, corporate

governance and motor insurance fraud in the Kenya motor insurance industry (Parsell, Kuskoff & Constantine, 2024). The educational qualification results noted that most of the respondents were Higher Diploma holders, accounting for 53.3% of the total responses. This was followed by 24.0% who accounted for the Graduate holders. A few of the respondents were Master holders, accounting for 11.3% of the total responses while 5.7% were Diploma holders and another 5.7% were Doctorate holders. Thus, the responses seeking to address the variables and the objectives of the study came from competent and skilful employees who had both the academic and professional knowledge concerning motor insurance fraud, antifraud mechanisms and corporate governance (Rebecca, 2024).

4.4 Descriptive Results

The descriptive results concerning the perceived effectiveness of both preventive and detective anti-fraud mechanisms, corporate governance and the level of motor insurance fraud in the Kenyan motor insurance sector have been presented and discussed in the subsections that follows, namely; subsections 4.4.1, 4.4.2, 4.4.3 and 4.4.4 respectively.

4.4.1 Preventive Anti-Fraud Mechanisms

The descriptive results concerning the perceived effectiveness of preventive anti-fraud mechanisms have been presented in Table 4.2 in the next page. The findings observed that instituted internal controls systems in the motor insurance industry were perceived to effective antifraud measures. This is because the given preventive anti-fraud mechanism posted a mean of 6.190 and a standard deviation of 0.965. The findings also observed that the internal audit of the firm was perceived to be effective in preventing motor insurance fraud from occurring. This is because the given preventive anti-fraud mechanism posted a mean of 6.187 and a standard deviation figure of 1.040. The findings also observed that the training programmes of motor insurance fraud awareness on the staff members was perceived to be effective in preventing motor insurance fraud in Kenya. This was justified by a mean of 6.163 and a standard deviation value of 1.198.

Table 4. 2: Perceived Effectiveness of Preventive Anti-Fraud Mechanisms

No.	Preventive Anti-Fraud Mechanism	Mean	Standard Deviation
1.	The instituted internal control systems.	6.190	0.965
2.	The internal audit of the firm.	6.187	1.040
3.	Training programmes of motor insurance fraud awareness on the staff members.	6.163	1.198
4.	Ethical tone at the top.	6.143	0.948
5.	Fraud risk assessment of all insurance claims.	5.977	0.973
6.	Regulation enforcement by the firm and IRA.	5.887	1.211

7.	Background checks of the employees and clients.	5.843	1.648
Overall Score		6.056	1.140

Source: Researcher (2025)

Most of the respondents also perceived the ethical tone at the top to be effective in preventing motor insurance fraud from occurring. This was supported by a mean of 6.143 and a standard deviation figure of 0.948. The research findings also noted that fraud risk assessment of all insurance claims was perceived to be effective. This is because the given anti-fraud mechanism posted a mean of 5.977 and a standard deviation value of 0.973. The descriptive results also noted that regulation enforcement by the firm and IRA was perceived to be effective in preventing motor insurance fraud from occurring. This was supported by a mean of 5.887 and a standard deviation value of 1.211. Finally, the findings noted background checks of the employees and clients were perceived to be effective in preventing motor insurance fraud. This is because the given preventive antifraud mechanism posted a mean of 5.843 and a standard deviation value of 1.648.

4.4.2 Detective Anti-Fraud Mechanisms

The descriptive results concerning the perceived effectiveness of detective anti-fraud mechanisms have been presented in Table 4.3 in the next page. The research findings observed that hiring forensic accountants to perform forensic audit of the claims was perceived to be effective in unravelling motor insurance fraud in the Kenya insurance sector. This was supported by a mean of 6.430 and a standard deviation of 1.368.

Table 4. 3: Perceived Effectiveness of Detective Anti-Fraud Mechanisms

No.	Detective Anti-Fraud Mechanism	Mean	Standard Deviation
1.	Hiring forensic accountants to perform forensic audit of the claims.	6.430	1.368
2.	Employment of both formal and informal whistleblowing systems.	6.200	1.371
3.	Activation of fraud hotlines.	6.157	1.078
4.	Bank reconciliation.	5.853	1.426
5.	Discovery sampling of all the claims based on a historical period.	5.823	1.282
6.	Continuous auditing that is secretive.	5.717	1.247
7.	Frequent usage of the Integrated Motor Insurance Database System to track any suspicious claim.	5.550	1.741
8.	Thorough claims assessment.	5.417	1.606
Overall Score		5.893	1.390

Source: Researcher (2025)

The findings also observed that the employment of both formal and informal whistleblowing systems were perceived to be effective in detecting motor insurance fraud in Nairobi County, Kenya. This is because the given detective anti-fraud mechanism posted a mean of 6.200 and a standard deviation figure of 1.371. The findings also observed that activation of fraud hotlines was perceived to be effective in detecting motor insurance fraud. This was supported by a mean of 6.157 and a standard deviation value of 1.078. Bank reconciliation was also perceived to be effective in detecting motor insurance fraud. This was supported by a mean of 5.853 and a standard deviation of 1.426. The findings also observed that discovery sampling of the claims based on a historical period was perceived to be effective in detecting motor insurance fraud. This was supported by a mean of 5.823 and a standard deviation of 1.282. The research findings observed that continuous auditing that is secretive was perceived to be effective in detecting motor insurance fraud. This was supported by a mean of 5.717 and a standard deviation of 1.247. It's imperative to note that the findings observed that frequent usage of the Integrated Motor Insurance Database System (IMIDS) for tracking suspicious claims was perceived to be effective in detecting motor insurance fraud. This was supported by a mean of 5.550 and a standard deviation of 1.741. Finally, the findings observed that thorough claims assessment was perceived to be an effective detective anti-fraud mechanism. This was supported by a mean of 5.417 and a standard deviation value of 1.606.

4.4.3 Corporate Governance

The descriptive results concerning corporate governance have been presented in Table 4.4 in the next page. The findings observed that the motor insurance firms in Kenya a higher proportion of non-executive to executive directors who freely work to see that the fraud management risk systems are properly being implemented to curb fraud. This was supported by a mean of 6.430 and a standard deviation of 1.368. The descriptive results also noted that the board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded. This statement was supported by a mean of 6.200 and a standard deviation value of 1.371.

Table 4. 4: Descriptive Results of Corporate Governance

No.	Statement	Mean	Standard Deviation
1.	There is a higher proportion of non-executive to executive directors who freely work to see that the fraud management risk systems are properly being implemented to curb fraud.	6.430	1.368
2.	The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded.	6.200	1.371

3.	The board of directors always are keen to employ qualified and uncompromised personal in the audit committee for effective supervision of the firm's risk assessment systems and the management of the internal audit processes.	6.157	1.078
4.	There exists a strong audit committee that always revises and updates the firms internal control systems for effectively detecting and preventing fraud.	5.717	1.247
Overall Score		6.126	1.266

Source: Researcher (2025)

The descriptive results also observed that the board of directors always are keen to employ qualified and uncompromised personal in the audit committee for effective supervision of the firm's risk assessment systems and the management of the internal audit processes. This was supported by a mean of 6.157 and a standard deviation figure of 1.078. Finally, the descriptive results also observed that there exists a strong audit committee that always revises and updates the firms internal control systems for effectively detecting and preventing fraud. This was supported by a mean of 5.717 and a standard deviation value of 1.247.

4.4.4 Motor Insurance Fraud

Descriptive results concerning motor insurance fraud in Nairobi County, Kenya have been presented in Table 4.5 below.

Table 4. 5: Descriptive Results of the level of Motor Insurance Fraud in Nairobi County, Kenya

No.	Motor Insurance	Mean	Standard Deviation
1.	There have been cases whereby the claimant presents very few witnesses who have perfect accounts with similar wordings of what happened during the accident.	3.410	1.994
2.	The issuance of fake motor vehicle insurance certificates has been a norm in Kenya.	3.160	2.082
3.	There have been a number of discrepancies between the accident facts and the real damage caused on the ground.	3.130	2.008
4.	There have been serious cases of the inflation of the insurance premiums.	3.080	1.640
5.	Most car damages are usually exaggerated.	3.080	1.902
6.	There have a significant number of staged-managed accidents in Nairobi, Kenya.	3.017	1.848
7.	Fraudulent motor theft claims are common through the partnership of the claimant and employee.	2.843	1.765
Overall Score		3.103	1.891

Source: Researcher (2025)

The descriptive results observed that the respondents somewhat disagreed that there have been cases whereby the claimant presents very few witnesses who have perfect accounts with similar wordings of what happened during the accident. This meant that though the given motor

insurance case has not been serious in Nairobi County, Kenya, it has occurred in some instances. This was supported by a mean of 3.410 and a standard deviation of 1.994.

The descriptive findings noted that the respondents somewhat disagreed that the issuance of fake motor vehicle insurance certificates has been a norm in Kenya. This meant that the issuance of fake motor vehicle insurance certificates is being perpetuated but not to a serious point of where it has become a norm. This was supported by a mean of 3.160 and a standard deviation value of 2.082. The findings also observed that cases where there have been a number of discrepancies between the accident facts and the real damage caused on the ground are minimal. This was supported by a mean of 3.130 and a standard deviation of 2.008. The descriptive results noted that the respondents somewhat disagreed that there have been serious cases of the inflation of the insurance premiums.

This was supported by a mean of 3.080 and a standard deviation of 1.640. The descriptive results also noted that the respondents somewhat disagreed that most car damages are usually exaggerated. This was justified by a mean of 3.080 and a standard deviation of 1.902. This was supported by a mean of 3.017 and a standard deviation of 1.848. Finally, the descriptive results observed that the respondents somewhat disagreed that fraudulent motor theft claims are common through the partnership of the claimant and employee. This was supported by a mean of 2.843 and a standard deviation of 1.765.

4.5 Correlation Analysis Results

The correlation results showing the relationship between the anti-fraud mechanisms, firm size and motor insurance fraud together with the relationship between corporate governance and motor insurance fraud have been presented in Table 4.6 below.

Table 4. 6: Pearson Correlation Analysis Results

		Correlations				
		Preventive Anti-Fraud Mechanisms	Detective Anti-Fraud Mechanisms	Corporate Governance	Firm Size	Motor Insurance Fraud
Preventive Anti-Fraud Mechanisms	Pearson Correlation	1	0.539**	0.620**	0.500**	-0.565**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	300	300	300	300	300
Detective Anti-Fraud Mechanisms	Pearson Correlation	0.539**	1	0.939**	0.933**	-0.550**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	300	300	300	300	300
Corporate Governance	Pearson Correlation	0.620**	0.939**	1	0.953**	-0.584**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	300	300	300	300	300
Firm Size	Pearson Correlation	0.500**	0.933**	0.953**	1	-0.517**

	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000
	N	300	300	300	300	300
Motor Insurance Fraud	Pearson Correlation	-0.565**	-0.550**	-0.584**	-0.517**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	300	300	300	300	300

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

Source: Researcher (2025)

The findings observed that preventive anti-fraud mechanisms had a moderate negative significant relationship with motor insurance fraud ($r = -0.565$; p -value = $0.000 < 0.01$). This meant that an increase of the usage of the internal control systems, the institution of the internal audit, conducting training programmes, ethical tone at the top and fraud risk assessment of all insurance claims was linked to the subsequent decrease of motor insurance fraud in Nairobi County Kenya. Besides that, the correlation results noted that detective anti-fraud mechanisms had a moderate negative significant relationship with motor insurance fraud ($r = -0.550$; p -value = $0.000 < 0.01$). This meant that hiring forensic accountants, employing whistleblowing systems, the activation of fraud hotlines, bank reconciliation, discovery sampling, continuous auditing and using IMIDS to detect fraud risk areas were linked to the subsequent decrease of motor insurance fraud in Nairobi County, Kenya ($r = -0.517$; p -value = $0.000 < 0.01$). Besides that, the correlation results noted that firm size had a negative significant relationship with motor insurance fraud. The negative significant relationship could be due to the fact that the big motor insurance firms invest a lot of their financial resources in strengthening their internal control systems, implementing the latest IT anti-fraud technology, continuous auditing, corporate governance initiatives and forensic accountants to mitigate motor insurance fraud (Wanjiru, 2020).

Finally, the correlation results observed that corporate governance had a moderate negative significant relationship with motor insurance fraud ($r = -0.584$; p -value = $0.000 < 0.01$). The findings noted that the implementation of corporate governance initiatives consisting of an independent board of directors that monitors the firm activities on behalf of the shareholders and an audit committee that monitors and strengthens the internal control systems were linked to the subsequent reduction of motor insurance fraud in Nairobi County, Kenya.

4.6 Regression Diagnostic Tests

Diagnostic tests were carried out to enable us to know if the data obtained from the questionnaires were fit for multiple linear regression analysis to be carried out on it. These tests included the linearity test to assess if the linearity assumption was complied with, the normality test to confirm if the data was normally distributed, the Durbin Watson and Collinearity tests

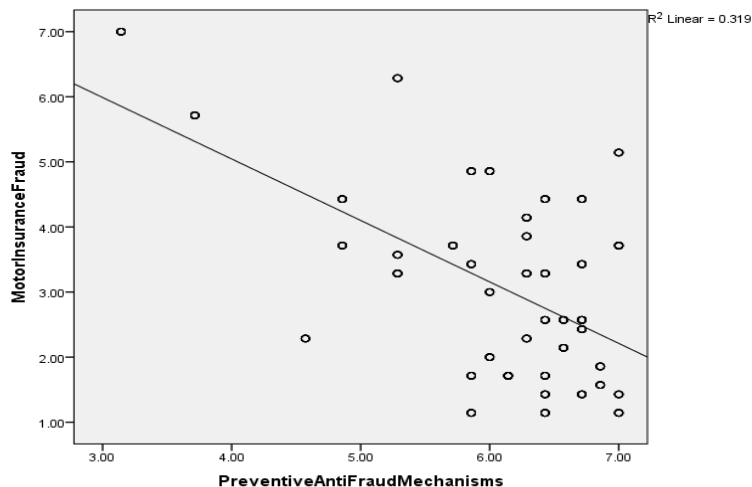
to establish if the error terms and the independent variables were truly sovereign from each other and the Levene's test of homogeneity of variances to assess if there was presence of homoscedasticity in the dataset so that the data can be subjected through regression analysis. Each test was discussed in the sub sections that followed.

4.6.1 Linearity Test

The first test is to check if the linearity assumption has been violated or not. This is done by conducting a linearity test. Linearity test is important since it reveals if there is an accurate relationship (either +ve or -ve) between the independent and the dependent variables so that the regression results can be relied on (Zhang, Cheng & Liu, 2011). In essence, the datasets of both the given independent and the dependent variables should closely align with the regression line (Zhang et al., 2011). An absence of this test or a presence of a non-linear relationship will provide misleading regression results that could portray variables that are not in any way linked to each other or are far parallel away from each other (Zhang et al., 2011). In case the linearity test fails, then it means that multiple linear regression or Pearson correlation analyses cannot be carried out. Though Spearman's rank correlation analysis, as a remedy, can be performed as an alternative technique only that the data must be ordinal. This is because Spearman's rank correlation model is a non-parametric tool which can be used to establish the strength of the relationship between two variables and the direction of that given relationship (Eden, Li & Shepherd, 2021). Another remedy for a failed linearity test is checking for and fixing the existing outliers. Outliers that are existing in the data due to mis-recorded can negatively affect the model assumption. The removal of outliers alters the fitted model and thus the linearity assumption can be fulfilled.

Besides that, a non-linear transformation of the given independent variable can be an alternative remedy to a failed linearity test (Nathan, 2022). This can be achieved by conducting squares roots or logarithms on the values of the given independent variable (Nathan, 2022). This will change the relationship to be linear (Nathan, 2022). Additionally, the predictor variable can be dropped and a new one added (Nathan, 2022). The scatter plots were used to assess the linearity assumption on the study's datasets (Laerd Statistics, 2018). The most important element in the scatter plot is to confirm if there is a linear relationship whether in a positive or a negative fashion between a given independent variable and the dependent variable in order to attest that the datasets are fit for multiple linear regression analysis (Laerd Statistics, 2018). The scatterplot showing the relationship between preventive antifraud mechanisms and motor insurance fraud has been presented in Figure 4.1 in the next page.

Figure 4. 1: Relationship between Preventive Anti-Fraud Mechanisms and Motor Insurance Fraud

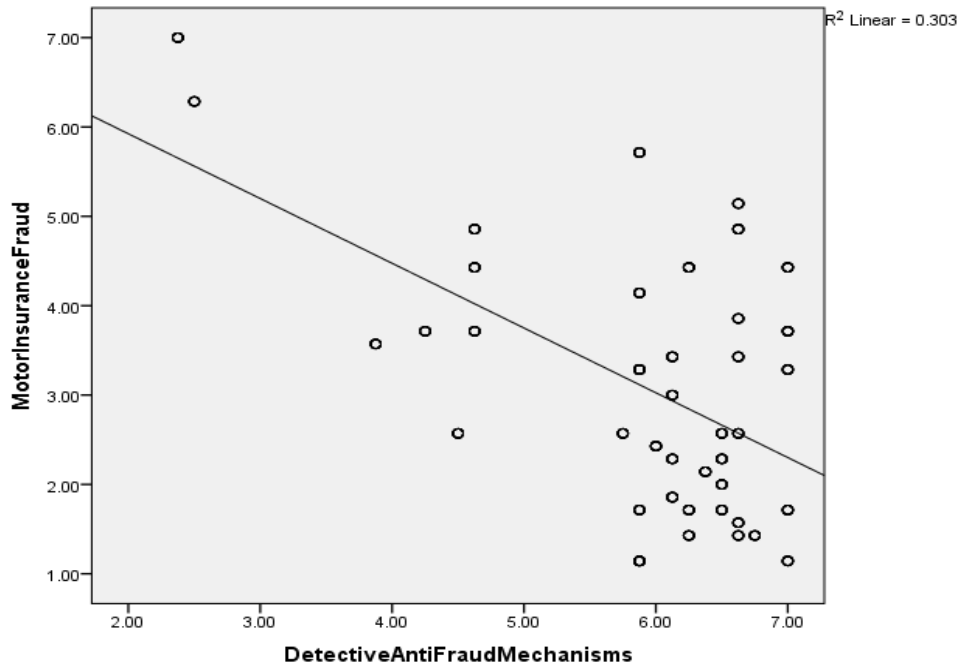


Source: Researcher (2025)

It can be noted from Figure 4.1 presented above that the datasets of preventive antifraud mechanisms as the first independent variable and motor insurance fraud as the dependent variable were sloping downwards in a negative fashion. Moreover, the datasets of the two given variables were highly concentrated along the regression line at the bottom end of the right side of the scatterplot. This showed that there existed a strong negative relationship between the preventive anti-fraud mechanisms and motor insurance fraud. This meant that the linearity assumption had not been violated thus providing this study a leeway to subject the datasets of both preventive anti-fraud mechanisms and motor insurance fraud through regression analysis. A scatterplot analysis was also used to establish if a linear relationship existed between detective anti-fraud mechanisms and motor insurance fraud. The findings were presented in Figure 4.2 in the next page.

The findings observed that the datasets of detective antifraud mechanisms as the second independent variable and motor insurance fraud as the dependent variable were sloping downwards in a negative fashion. Moreover, the datasets of the two given variables were highly concentrated along the regression line at the bottom end of the right side of the scatterplot. This showed that there existed a strong negative relationship between the detective anti-fraud mechanisms and motor insurance fraud. This meant that the linearity assumption had not been violated thus providing this study a leeway to subject the datasets of both detective anti-fraud mechanisms and motor insurance fraud through regression analysis.

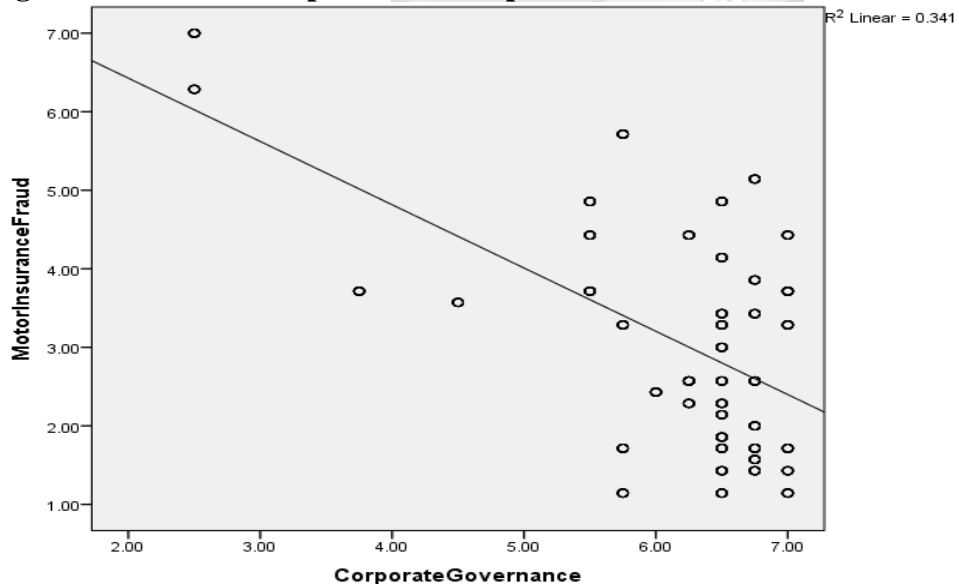
Figure 4. 2: Relationship between Detective Anti-Fraud Mechanisms and Motor Insurance Fraud



Source: Researcher (2025)

Finally, the scatterplot analysis was also used to establish if a linear relationship existed between corporate governance and motor insurance fraud. The findings were presented in Figure 4.3 below.

Figure 4. 3: Relationship between Corporate Governance and Motor Insurance Fraud



Source: Researcher (2025)

It can be noted from Figure 4.3 in the previous page that the datasets of corporate governance as the moderating variable and motor insurance fraud as the dependent variable were sloping downwards in a negative fashion. Moreover, the datasets of the two given variables were highly

concentrated along the regression line at the bottom end on the right side of the scatterplot. This showed that there existed a strong negative relationship between corporate governance and motor insurance fraud. This meant that the linearity assumption had not been violated thus providing this study a leeway to subject the datasets of both corporate governance and motor insurance fraud through regression analysis.

4.6.2 Normality Test

Normality test is the second diagnostic test that is carried out to establish if a given data set is normally distributed or not. It is used to evaluate if the normality assumption has been complied with or not (Nyongesa, 2018). This particular test is important since it helps to detect the skewness of a given dataset or if it is light-tailed or heavy-tailed in relation to a normal distribution (Nyongesa, 2018). The data has to be normally distributed so that parametric tests such as multiple linear regression analysis can be confidently conducted. Shapiro Wilk test is used for this particular diagnostic examination (Malato, 2023). It is based on a null hypothesis that a given sample is normally distributed (Malato, 2023). Thus, if the p -value of the Shapiro Wilk test is > 0.05 then we accept the null hypothesis that the sample is normally distributed but if it posts a p -value < 0.05 then we reject the null hypothesis and say that the sample was not conceived from a normal distribution (Malato, 2023). This study, used the Shapiro Wilk test model to conduct the normality test. When a normality test fails, there are possible remedies that can be employed to address the problem, the first one is actually to do the square root or log of the dataset, the second remedy is to use non-parametric tests such as the Spearman's rank correlation analysis (Banerjee, 2020).

Finally, one can increase the sample size of the population since the greater the sample size, the lesser the sensitivity of the p -values of the test. Thus, this can be able to make the dataset to appear normally distributed (Banerjee, 2020). The normality test results of the four variables of this study were presented in Table 4.7 in the next page. The findings observed that the dataset of preventive anti-fraud mechanisms was normally distributed. This is because its Shapiro Wilk test posted a figure that was not statistically significant (p -value = 0.074 $>$ 0.05). It was also observed that the dataset of detective anti-fraud mechanisms was also normally distributed since its Shapiro Wilk test posted a figure that was not statistically significant (p -value = 0.316 $>$ 0.05). Thus, the datasets of the two given variables were fit for regression analysis.

Table 4. 7: The Normality Test Results

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Preventive Anti-Fraud Mechanisms	0.159	300	0.138	0.922	300	0.074
Detective Anti-Fraud Mechanisms	0.168	300	0.200	0.915	300	0.316

Corporate Governance	0.160	300	0.172	0.957	300	0.466
Motor Insurance Fraud	0.162	300	0.155	0.956	300	0.443

a. Lilliefors Significance Correction

Source: Researcher (2025)

The research findings also noted that the dataset of corporate governance was also normally distributed since its Shapiro Wilk test posted a figure that was not statistically significant (p -value = $0.466 > 0.05$). Thus, the dataset of corporate governance was fit for regression analysis. Finally, it was also noted that the dataset of motor insurance fraud was normally distributed. This is because its Shapiro Wilk test posted a figure that was not statistically significant (p -value = $0.443 > 0.05$). Thus, the dataset of motor insurance fraud was fit for regression analysis.

4.6.3 Levene's Test of Homogeneity of Variances

Another important test that has to be conducted prior multiple linear regression analysis is the homoscedasticity examination (Gastwirth, Gel & Miao, 2009). This study will carry out this particular diagnostic test. Homoscedasticity has to be present in the dataset for it to produce strong regression findings that cannot be distorted (Gastwirth et al., 2009). The presence of homoscedasticity alludes that the variance of errors between the independent variables and the outcome variable is similar across all the levels of a given independent variable (Gastwirth et al., 2009). For homoscedasticity to be deemed present in a given dataset, the test results have to post a Levene coefficient that is statistically insignificant (p -value > 0.05). A problem might arise when there is lack of homoscedasticity in a data set. To deal with this problem, the following remedies are proposed; the first one is to use a non-parametric model for analysis such as the Spearman's rank correlation model instead of the multiple linear regression model. The second remedy, is to modify the regression equation by either dropping some variables or alternatively adding new variables. The findings of the Levene's test of homogeneity of variances have been presented in Table 4.8 in the next page.

The dataset of preventive anti-fraud mechanisms posted a Levene's value of 1.9 that was not statistically significant (p -value = $0.106 > 0.05$). This confirmed to us that homoscedasticity was present thus the dataset stood a chance of producing strong regression results that could not be distorted.

Table 4. 8: Levene's Test of Homogeneity of Variances

Test of Homogeneity of Variances			
Variable	Levene Statistic	df	Sig.
Preventive Anti-Fraud Mechanisms	1.9	300	0.10600
Detective Anti-Fraud Mechanisms	2.888	300	0.09200
Corporate Governance	2.401	300	0.11500
Motor Insurance Fraud	1.777	500	0.07

Source: Researcher (2024)

Therefore, the dataset of preventive anti-fraud mechanisms was retained for regression analysis since it had passed the homoscedasticity examination. The dataset of detective anti-fraud mechanisms posted a Levene's value of 2.888 that was not statistically significant ($p\text{-value} = 0.092 > 0.05$). This confirmed to us that homoscedasticity was present thus the dataset stood a chance of producing strong regression results that could not be distorted. Therefore, the dataset of detective anti-fraud mechanisms was retained for regression analysis since it had passed the homoscedasticity examination. Besides that, the dataset of corporate governance posted a Levene's value of 2.401 that was not statistically significant ($p\text{-value} = 0.115 > 0.05$). This confirmed to us that homoscedasticity was present thus the dataset stood a chance of producing strong regression results that could not be distorted. Therefore, the dataset of corporate governance was retained for regression analysis since it had passed the homoscedasticity examination. Finally, the dataset of motor insurance fraud posted a Levene's value of 1.777 that was not statistically significant ($p\text{-value} = 0.07 > 0.05$). This confirmed to us that homoscedasticity was present thus the dataset stood a chance of producing strong regression results that could not be distorted. Therefore, the dataset of motor insurance fraud was retained for regression analysis since it had passed the homoscedasticity examination.

4.6.4 The Independence Tests

Collinearity diagnostic test was also performed to establish if the independent variables were indeed sovereign from each other to indicate absence of multicollinearity. The test is important since, the existence of multicollinearity would mean that the predictor variables are depending on each other, and if this is the case then their influence on the outcome variable will be put into question thus this will make the regression model to be unreliable. For multicollinearity to be considered absence, the collinearity diagnostic results must post tolerance values that are less than 0.1 and the VIF values that are > 1 but < 5 (Ringle, Wende & Becker, 2015). The possible remedies for multicollinearity can be correcting the values in the raw data just in case there is presence of outliers, besides that, the redundant variables can either be eliminated or combined with the other redundant variables to become one (Newson, 2024). Finally, one can increase the study's sample size which will considerably diminish the impact of Multicollinearity (Rutecki, 2022). The collinearity diagnostic results were presented in Table 4.9 below.

Table 4. 9: Collinearity Diagnostic Results

Model	Coefficients ^a	
	Tolerance	VIF

1	(Constant)		
	Preventive Anti-Fraud Mechanisms	0.670	1.493
	Detective Anti-Fraud Mechanisms	0.692	1.445
	Corporate Governance	0.956	1.046

a. Dependent Variable: Motor Insurance Fraud

Source: Researcher (2025)

The findings with regard to preventive anti-fraud mechanisms observed that the given variable posted a tolerance value of 0.670 that was more than 0.1 and a VIF figure of 1.493 that was more than 1 but less than 5. This meant that the given variable was completely sovereign and did not depend on other predictor variables such as the detective anti-fraud mechanisms and corporate governance. Thus, the influence of preventive anti-fraud mechanisms on the outcome variable was not put into question hence making regression analysis applicable on the data set of the given predictor variable. The findings with regard to detective anti-fraud mechanisms observed that the given variable posted a tolerance value of 0.692 that was more than 0.1 and a VIF figure of 1.445 that was more than 1 but less than 5. This meant that the given variable was completely sovereign and did not depend on other predictor variables such as the preventive anti-fraud mechanisms and corporate governance. Thus, the influence of detective anti-fraud mechanisms on the outcome variable was not put into question hence making regression analysis applicable on the data set of the given predictor variable.

Finally, the findings with regard to corporate governance observed that the given variable posted a tolerance value of 0.956 that was more than 0.1 and a VIF figure of 1.046 that was more than 1 but less than 5. This meant that the given variable was completely sovereign and did not depend on other predictor variables such as the preventive anti-fraud mechanisms and the detective anti-fraud mechanisms. Thus, the influence of corporate governance on the outcome variable was not put into question hence making regression analysis applicable on the data set of the given predictor variable.

4.7 Multiple Linear Regression Results

To investigate the effects of both preventive and detective antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya, multiple linear regression analysis through the SPSS software was conducted. The findings for discussion were presented in Tables 4.10, 4.11 and 4.12 respectively. Table 4.10 below presenting the model summary results showed that 63.6% (R-Value = 0.636^a) of the entire dataset was explained by the regression model. This revealed to us how strong and accurate our regression model was; thus, inferences could be made from it concerning the variables that were studied. The findings also observed that 40.4% of the variance caused in motor insurance fraud was

explained by both preventive and detective anti-fraud mechanisms together with firm size. This is because the regression model posted an R-Square value of 0.404.

Table 4. 10: Model Summary Results

Model Summary				
Model	R	R Square	Adjusted R Square	Standard. Error of the Estimate
1	0.636 ^a	0.404	0.400	1.13159
2	0.636 ^b	0.404	0.398	1.13332

a. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Preventive Anti-Fraud Mechanisms
b. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Preventive Anti-Fraud Mechanisms, Firm Size

Source: Researcher (2025)

Finally, the standard error of the estimate of the regression model was 1.13332. This meant that the regression model had a low standard error since the data of the study variables were very close to the regression line and were moving along it in a linear fashion. Thus, further confirming to us that our regression model was perfect. The Analysis of Variance results were presented in Table 4.11 below. The findings posted an F-Statistic of 66.921 which was considerably significant ($p\text{-value} = 0.000^c < 0.05$). The findings meant that the 40.4% of the variance caused in motor insurance fraud was significantly ($p\text{-value} = 0.000^c < 0.05$) explained by both preventive and detective anti-fraud mechanisms together with firm size.

Table 4. 11: Analysis of Variance Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	257.746	2	128.873	100.644	0.000 ^b
	Residual	380.304	297	1.280		
	Total	638.051	299			
2	Regression	257.864	3	85.955	66.921	0.000 ^c
	Residual	380.187	296	1.284		
	Total	638.051	299			

a. Dependent Variable: Motor Insurance Fraud
b. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Preventive Anti-Fraud Mechanisms
c. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Preventive Anti-Fraud Mechanisms, Firm Size

Source: Researcher (2025)

The regression coefficient results that showed how each of the anti-fraud mechanism influenced motor insurance fraud in Nairobi County, Kenya were presented in Table 4.12 below.

Table 4. 12: Regression Coefficient Results

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	9.618	0.474		20.272	0.000

Preventive Anti-Fraud Mechanisms	-0.632	0.089	-0.378	-7.100	0.000
Detective Anti-Fraud Mechanisms	-0.456	0.070	-0.347	-6.513	0.000
2 (Constant)	9.631	0.477		20.184	0.000
Preventive Anti-Fraud Mechanisms	-0.632	0.089	-0.378	-7.092	0.000
Detective Anti-Fraud Mechanisms	-0.410	0.169	-0.311	-2.427	0.016
Firm Size	-0.048	0.158	-0.038	0-.303	0.762

a. Dependent Variable: Motor Insurance Fraud

Source: Researcher (2025)

The findings led us to conceive the following regression equation;

$$Y = 9.631 - 0.632X_1 - 0.410X_2 - 0.048X_3$$

Whereby;

Y = Motor insurance fraud

X₁ = Preventive anti-fraud mechanisms

X₂ = Detective anti-fraud mechanisms

X₃ = Firm size

The regression model posted a constant value of 9.631 which was statistically significant (p -value = $0.000 < 0.05$). This meant that in absence of both the preventive and detective anti-fraud mechanisms when all other factors are held constant then the level of motor insurance fraud will significantly shoot up to 963.1%. This confirms to us that lack of implementation of the most effective antifraud techniques leads to increased fraudulent cases and losses (Were et al., 2023). This is why most firms in the insurance industry are investing in effective fraud risk management practices to minimize fraud (Chepkoech & Rotich, 2017). With reference to firm size as a control variable noted that its unit increase will lead to the insignificant reduction of motor insurance fraud by 0.048 units (p -value = $0.762 > 0.05$). The findings disagreed with the argument made by Owuor (2023) that the bigger the motor insurance firm the higher the possibility of being defrauded since they possess a lot of financial resources that fraudsters desire to get. The negative t relationship, though insignificant, could be due to the fact that the big motor insurance firms invest a lot of their financial resources in strengthening their internal control systems, implementing the latest IT anti-fraud technology, continuous auditing, corporate governance initiatives and forensic accountants to mitigate motor insurance fraud (Wanjiru, 2020).

The regression coefficient results for both preventive and detective anti-fraud mechanisms have been discussed in the subsections 4.7.1 and 4.7.2 respectively in line with the first and second specific objectives of the study.

4.7.1 Effect of Preventive Antifraud Mechanisms on Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The first specific objective of the study was to investigate the effect of preventive antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The regression coefficient of the preventive antifraud mechanisms was used to address the given objective. The regression coefficient posted a value of -0.632. This meant that a unit increase of preventive anti-fraud mechanisms leads to a significant decrease of motor insurance fraud by 0.632 units ($B = -0.632$; $p\text{-value} = 0.000 < 0.05$). Thus, the implementation of the most effective preventive antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. From the findings we can deduce that instituting strong updated internal control systems, having a strong internal audit, conducting fraud awareness programs, ethical tone at the top, fraud risk assessments and conducting serious background checks reduces motor insurance fraud in Nairobi County, Kenya.

4.7.2 Effect of Detective Antifraud Mechanisms on Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The second specific objective of the study was to investigate the effect of detective antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The regression coefficient of the detective antifraud mechanisms was used to address the given objective. The regression coefficient posted a value of -0.456. This meant that a unit increase of detective anti-fraud mechanisms leads to a significant decrease of motor insurance fraud by 0.456 units ($B = -0.410$; $p\text{-value} = 0.016 < 0.05$). Thus, the implementation of the most effective detective antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. From the findings, we can deduce that requisitioning professional forensic accountants, employing both formal and informal whistleblowing systems, activation of fraud hotlines, bank reconciliation, discovery sampling, continuous auditing, usage of IMIDS and thorough claims assessment reduces motor insurance fraud in the Kenyan motor insurance sector.

4.7.3 Moderating Effect of Corporate Governance on the Relationship between the Antifraud Mechanisms and Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The final specific objective was to investigate the moderating effect of corporate governance on the relationship between the antifraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. To address this objective, Multiple Linear Regression analysis was used to show how corporate governance moderates the relationship between preventive anti-fraud mechanisms and motor insurance fraud. The findings were

posted in Table 4.13 in the next page. Multiple Linear Regression analysis was also used to show how corporate governance moderates the relationship between detective anti-fraud mechanisms and motor insurance fraud. The findings were presented in Table 4.14. The regression results displaying the moderating effect of corporate governance on the relationship between the preventive antifraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya, led us to develop the following regression equation;

$$Y = 7.937 - 0.448X_1 - 0.292X_2 - 0.182X_1 * C$$

Whereby;

- X_1 = independent variable representing preventive antifraud mechanism
- X_2 = covariate variable representing corporate governance
- $X_1 * C$ = interaction between preventive antifraud mechanisms and corporate governance

Table 4. 13: Regression Results showing the Moderating Effect of Corporate Governance on the Relationship between the Preventive Antifraud Mechanisms and Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

Model Summary						
Model	R	R Square	Adjusted R Square	Standard. Error of the Estimate		
1	0.565 ^a	0.319	0.317	1.20768		
2	0.586 ^b	0.343	0.339	1.18773		
a. Predictors: (Constant), Preventive Anti-Fraud Mechanisms						
b. Predictors: (Constant), Preventive Anti-Fraud Mechanisms, Corporate Governance, Interaction between Corporate Governance and Preventive Anti-Fraud Mechanisms						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	203.421	1	203.421	139.474	.000 ^b
	Residual	434.630	298	1.458		
	Total	638.051	299			
2	Regression	219.075	3	109.538	77.648	.000 ^c
	Residual	418.976	296	1.411		
	Total	638.051	299			
a. Dependent Variable: Motor Insurance Fraud						
b. Predictors: (Constant), Preventive Anti-Fraud Mechanisms						
c. Predictors: (Constant), Preventive Anti-Fraud Mechanisms, Corporate Governance, Interaction between Corporate Governance and Preventive Ant-Fraud Mechanisms						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.822	0.489		18.031	0.000
	Preventive Anti-Fraud Mechanisms	-0.944	0.080	-0.565	-11.810	0.000
	Corporate Governance	-0.409	0.109	-0.300	-2.420	0.017
2	(Constant)	7.937	0.550		14.443	0.000
	Preventive Anti-Fraud Mechanisms	-0.448	0.169	-0.268	-2.654	0.008
	Corporate Governance	-0.292	0.155	-0.181	-1.991	0.021
	Interaction between Corporate Governance and Preventive Anti-Fraud Mechanisms	-0.182	0.055	-0.336	-3.331	0.001
a. Dependent Variable: Motor Insurance Fraud						

Source: Researcher (2025)

The regression results observed that a unit rise of corporate governance subsequently led to preventive anti-fraud mechanisms significantly lowering motor insurance fraud by 0.182 units ($B = -0.182$; p -value = $0.001 < 0.05$). Therefore, it can be deduced that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The regression results displaying the moderating effect of corporate governance on the relationship between the detective antifraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya, have been presented in Table 4.14 below.

Table 4. 14: Regression Results showing the Moderating Effect of Corporate Governance on the Relationship between the Detective Antifraud Mechanisms and Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

Model Summary						
Model	R	R Square	Adjusted R Square	Standard. Error of the Estimate		
1	0.550 ^a	0.303	0.300	1.22181		
2	0.551 ^b	0.303	0.299	1.22338		
a. Predictors: (Constant), Detective Anti-Fraud Mechanisms						
b. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Corporate Governance, Interaction between Corporate Governance and Detective Anti-Fraud Mechanisms						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	193.188	1	193.188	129.411	0.000 ^b
	Residual	444.862	298	1.493		
	Total	638.051	299			
2	Regression	193.545	2	96.773	64.659	0.000 ^c
	Residual	444.505	297	1.497		
	Total	638.051	299			
a. Dependent Variable: Motor Insurance Fraud						
b. Predictors: (Constant), Detective Anti-Fraud Mechanisms						
c. Predictors: (Constant), Detective Anti-Fraud Mechanisms, Corporate Governance, Interaction between Corporate Governance and Detective Anti-Fraud Mechanisms						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.373	0.382		19.304	0.000
	Detective Anti-Fraud Mechanisms	-0.725	0.064	-0.550	-11.376	0.000
	Corporate Governance	-0.426	0.091	-0.347	-6.500	0.002
2	(Constant)	7.543	0.518		14.575	0.000
	Detective Anti-Fraud Mechanisms	-0.839	0.243	-0.637	-3.455	0.001
	Corporate Governance	-0.411	0.991	-0.777	-6.590	0.003
	Interaction between Corporate Governance and Detective Anti-Fraud Mechanisms	0.044	0.090	0.090	0.488	0.626
a. Dependent Variable: Motor Insurance Fraud						

Source: Researcher (2025)

The regression results led us to conceive the following regression model;

$$Y = 7.543 - 0.839X_1 - 0.411X_2 - 0.044X_1 * X_2$$

Whereby;

X_1 = independent variable representing detective antifraud mechanism

X_2 = covariate variable representing corporate governance

$X_1 * C$ = interaction between detective antifraud mechanisms and corporate governance

The findings interestingly observed that corporate governance does not moderate the relationship between detective antifraud mechanism and motor insurance fraud ($B = 0.044$; p -value = $0.626 > 0.05$).

4.8 Chapter Summary

This chapter presented the response rate that this study managed to achieve and if it was sufficient for inferences to be made from it. It also presented the demographic aspects of the motor insurance respondents based on the current affairs in Kenya. The chapter then discussed the descriptive results concerning the perceived effectiveness of preventive antifraud mechanisms employed by the motor insurance firms in Nairobi County, Kenya. It also discussed the level of corporate governance initiatives implemented and the severity of the motor insurance fraud in the Kenyan insurance industry. The Chapter closed by presenting and discussing both the correlation and regression results that showed how anti-fraud mechanisms influenced motor insurance fraud and the moderating effect of corporate governance in Nairobi County, Kenya. Both the correlation and regression results observed that the implementation of the most effective preventive antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. The results also observed that the implementation of the most effective detective antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. Finally, the results observed that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya.

CHAPTER FIVE

SUMMARY OF DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the discussion of the findings concerning the effect of antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya and the moderating effect of corporate governance. It also points out key conclusions the study observed with regard to each specific objective. The chapter closes with the recommendations proposed to the stakeholders of this study and the suggestions for future research.

5.2 Summary of Results

The discussion of findings has been summarized in the subsections that follows.

5.2.1 Effect of Preventive Antifraud Mechanisms on Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The first specific objective of the study was to investigate the effect of preventive antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The study resorted for both descriptive analyses involving mean scores, correlation analysis and multiple linear regression analysis to address the given objective. The descriptive results observed that internal control systems, the internal audit of the firm, fraud awareness training programmes, ethical tone at the top, fraud risk assessment of all insurance claims, regulation enforcement by the firm and IRA together with background checks of the employees and clients were perceived to be effective in preventing motor insurance fraud. The findings collaborated with the observations made by Kamaliah et al. (2018) that internal control systems are highly effective in preventing fraud incidents from occurring in the Malaysian public sector. The findings also concurred with Peltier-Rivest and Lanoue (2011) together with Natasya et al. (2017) who observed that properly instituted internal control systems cut down the risk of employees and customers from identifying the loopholes they can use to defraud an organization. This explains why motor insurance firms have invested in risk management programmes to identify possible failures that can occur in their internal control systems so that measures can be put in place to eliminate the given failures which can be used by the fraudsters as an opportunity to perpetuate motor insurance fraud (Britam Holdings PLC, 2023; Jubilee Life Insurance, 2024; CIC Insurance Group PLC, 2024).

The internal audit staff was also perceived to be effective in preventing fraud since they have the professional knowledge and skills to identify motor insurance fraud cases such as misrepresentation of information and inflated claims that are to be flagged down before fraud losses occur (IRA, 2013; Okumu, 2017). The descriptive findings also concurred with the

observations made by Akomea-Frimpong et al. (2016) in the Ghanaian insurance industry and with the observations made by Hakami and Rahmat (2019) in Saudi Arabia that fraud training programmes equip employees with the necessary knowledge to not only shy away from committing fraud but to report such cases to the relevant authorities before fraud losses occur. Through training programmes, meetings, and frequent expert education, the top leadership enlightens employees on the everyday trending motor insurance fraud activities (Tuanakotta, 2012; Yuniarti, 2017). This gives the staff members an upper hand in determining if a specific motor insurance activity is a fraud attempt (Yuniarti, 2017). This knowledge deters them from being coerced to commit fraud and warning the fraudster or reporting them to the relevant authorities in the organization (Yuniarti, 2017).

The findings also agreed with Onesti and Palumbo (2023) who observed that tone at the top improves the principles of transparency and accountability among the top leaders thus making the employees to follow suit and this effectively prevents corporate fraud. Tone at the top strengthens the internal control system of a given organization and encourages whistleblowing since the organization will be focused on fostering a culture of integrity and eliminating fraud risk (ACFE Pacific Northwest Chapter, 2024). Besides that, the findings concurred with the research outcomes of Mwangi (2020), Otieno (2018) and ACFE (2018) who observed that fraud risk assessments were perceived to be effective in preventing fraud among the listed companies in Kenya, in the Kenyan motor insurance sector and globally. Fraud risk assessment that involves the usage of claims graph features in machine learning is very proficient in isolating fraudulent claims from the genuine claims that are to be flagged off before the motor insurance company finds itself paying off fraudulent claims (Vorobyev, 2024).

Both the correlation and the regression results observed that the implementation of the most effective preventive antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. From the findings we deduced that instituting strong updated internal control systems, having a strong internal audit, conducting fraud awareness programs, ethical tone at the top, fraud risk assessments and conducting serious background checks reduces motor insurance fraud in Nairobi County, Kenya.

The findings concurred with the ideology of the fraud management lifecycle theory that proper implementation of the first 2 phases of the anti-fraud lifecycle involving both fraud deterrence and fraud prevention will discourage or stop a person from committing fraud.

Since the systems set up by the given organization will make it hard for a person to think of even committing fraud (Chepkoech & Rotich, 2017; Ocansey, 2017; Otieno, 2018). Besides that, in line with the Fraud Triangle theory, the findings noted that ethical tone at the top, fraud

awareness training programs and regulation enforcement would discourage people from rationalizing motor insurance fraud as a good thing (Deloitte, 2018; Sujana et al., 2019; ACFE, 2024). Thus, making the employees and the insured motorists to shy away from committing such acts and reporting people who are committing such fraudulent acts to the relevant authorities (Deloitte, 2018; Sujana et al., 2019; ACFE, 2024). The regression results of this study were consistent with the observations made by studies carried out by King'ori et al. (2019) in the Kenyan banking sector, Kamaliah et al. (2018) in Saudi Arabia, ACFE (2018) in the global context and Munika (2019) in the Kenyan regulatory sector that training of staff members, internal control system, ethical tone at the top and fraud risk assessments considerably prevents fraud from occurring. The findings also concurred with Peltier-Rivest and Lanoue (2011) together with Natasya et al. (2017) who observed that properly instituted internal control systems cut down the risk of employees and customers from identifying the loopholes they can use to defraud an organization.

This explains why motor insurance firms have invested in risk management programmes to identify possible failures that can occur in their internal control systems so that measures can be put in place to eliminate the given failures which can be used by the fraudsters as an opportunity to perpetuate motor insurance fraud (Britam Holdings PLC, 2023; Jubilee Life Insurance, 2024; CIC Insurance Group PLC, 2024). The findings also concurred with ACFE (2024) who observed that the internal audit department is effective in preventing corporate fraud. The internal audit department is among the top parties alerted when fraud is perpetuated, thus they learn from such incidences and develop systems that would discourage fraud from being perpetuated in that given area in the future (ACFE, 2024). The internal audit staff have the professional knowledge and skills to identify motor insurance fraud cases such as misrepresentation of information and inflated claims that are to be flagged down before fraud losses occur (IRA, 2013; Okumu, 2017). The findings also concurred with the observations made by Akomea-Frimpong et al. (2016) in the Ghanaian insurance industry and with the observations made by Hakami and Rahmat (2019) in Saudi Arabia that fraud training programmes equips employees with the necessary knowledge to not only shy away from committing fraud but to report such cases to the relevant authorities before fraud losses occur. Through training programmes, meetings, and frequent expert education, the top leadership enlightens employees on the everyday trending motor insurance fraud activities (Tuanakotta, 2012; Yuniarti, 2017). This gives the staff members an upper hand in determining if a specific motor insurance activity is a fraud attempt (Yuniarti, 2017). This knowledge deters them from being coerced to commit fraud and warning the fraudster or reporting them to the relevant

authorities in the organization (Yuniarti, 2017). This significantly hinder fraud from successfully occurring, whether by an outside party or an inside party (Tuanakotta, 2012; Yuniarti, 2017). The findings also agreed with Onesti and Palumbo (2023) who observed that tone at the top improves the principles of transparency and accountability among the top leaders thus making the employees to follow suit and this effectively prevents corporate fraud. Tone at the top strengthens the internal control system of a given organization and encourages whistleblowing since the organization will be focused on fostering a culture of integrity and eliminating fraud risk (ACFE Pacific Northwest Chapter, 2024).

Besides that, the regression findings of this study concurred with the research outcomes of Mwangi (2020) and Otieno (2018) who observed that fraud risk assessments were perceived to be effective in preventing fraud among the listed companies in Kenya, in the Kenyan motor insurance sector and globally. Fraud risk assessment that involves the usage of claims graph features in machine learning is very proficient in isolating fraudulent claims from the genuine claims that are to be flagged off before the motor insurance company finds itself paying off fraudulent claims (Vorobyev, 2024).

5.2.2 Effect of Detective Antifraud Mechanisms on Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The second specific objective of the study was to investigate the effect of detective antifraud mechanisms on motor insurance fraud among motor insurance firms in Nairobi County, Kenya. The study resorted for both descriptive analyses involving mean scores, correlation analysis and multiple linear regression analysis to address the given objective. The descriptive results observed that requisitioning the services of forensic accountants, employment of both formal and informal whistleblowing systems, activation of fraud hotlines, bank reconciliation, discovery sampling, continuous auditing, frequent usage of the IMIDS and thorough claims assessment were perceived to be effective in detecting motor insurance fraud.

The research findings concurred with the observations made by Bassey (2018), Kaunda (2021) and Othman et al. (2015) who noted that forensic accounting is effective in unravelling fraudulent activities and the perpetrators responsible for the fraud losses in the microfinance sector in Nigeria, the banking industry in Kenya and in the Malaysian public sector. Forensic accountants have been engrained with specialized knowledge of general accounting, auditing, internal controls together with taxation management and how they can be smartly used to unravel white collar criminals (Grippio & Ibex, 2003). Forensic accountants detect a possibility of fraud risk in a particular claim by conducting forensic investigations, finding and analysing evidence before presenting it in a court of law through the litigation process in order to

successfully prosecute the perpetrators behind it (Brandon, 2019; Shea & Eldridge, n.d.; Driskell & Davis, 2020). Forensic accountants use data analytics tools to detect repetitive claims for the same damages and abnormal frequency of claims in a given area signalling motor insurance fraud (Vere, 2025). They also cross-check all the claims and their supporting documents for authenticity then they interview the claimants whose claims are not authentic and analyses their transactional records and social media activity that can establish a pattern linked to motor insurance fraud (Musyoka, 2023; Vere, 2025).

The descriptive findings also concurred with the observations made by ACFE (2018) and Deloitte (2018) who noted that whistle blowing systems are effective in exposing corporate fraud and stopping its future occurrence in the global context. The findings also agreed with the observations made by Lee (2017) in USA which noted that the Dodd-Frank Whistleblower Program which was developed to guarantee protection and good compensation packages to the whistle blowers led to the unravelling of fraudulent cases and the perpetrators behind it. Whistleblowing is perceived to be effective in the Kenyan insurance sector since the Whistle blower Protection Bill 2023 was developed by the Parliament of Kenya to offer protection and reward systems to people exposing corruption and white-collar crimes to the government authorities and thus it has encouraged frequent disclosures of corporate crimes that could have grown cold (Onyango, 2024).

The descriptive results concurred with the perception studies carried out by Otieno (2018), Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami, Nusa and Timur (2016) who also observed that the institution of fraud hotlines effectively unravels fraudulent activities. Far from that the descriptive results concurred with the observations made by Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami, Nusa and Timur (2016) who observed that the reconciliation of corporate documents effectively unravels fraudulent activities. Bank reconciliation involving the comparison of the firm's cash balances in its books of accounts against the balances in the bank statement of the given firm, helps to detect duplicate payments on the same invoice and unauthorized transactions stemming from payments to ghost claimants (Dhir & Petrick, 2025).

The descriptive findings also concurred with Zamzami et al. (2016), Deloitte (2018), Mangala and Kumari (2017) together with ACFE (2018) who observed that discovery sampling is effective in detecting fraud. The random selection of claims by an auditor after determining the sample size of the claims from its given population helps to easily identify a fraudulent claim/s that needs to be investigated (Lopo & Hartomo, 2023; Superfast CPA, 2025). It is a very effective detection technique in cases whereby the expected fraud rate is very low (Lopo &

Hartomo, 2023; Superfast CPA, 2025). Furthermore, the descriptive results were congruent with the research outcomes of Mwangi (2020), Otieno (2018), Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami et al. (2016) who observed that continuous auditing of the firm's operations effectively unravels fraudulent activities. Continuous auditing as a fraud detection practice can be implemented to assess and authenticate the effectiveness of an organization's controls by pointing out weak areas of fraud risk through a consistent auditing process, which can expose ongoing fraud activity (Kanade, 2021).

The descriptive results were also in agreement with a study carried out by Otieno (2018) who noted that IMIDS was effective in exposing motor insurance fraud. The IMIDS confirms if the information provided by the customers are authentic thus flagging down claims with fake information (Ngunjiri, 2017). It also verifies the claims history of a given insured motorists with regards to if he or she had ever been involved in motor insurance fraud (Ngunjiri, 2017). Besides that, the IMIDS also receives alerts on fraud risk areas in the claims registered in the system and anonymous messages alerting the insurer of an ongoing fraud (Ngunjiri, 2017). IMIDS is a proficient data mining tool that classifies all the insurance claims, into segments and looks for interesting patterns in the figures, words, symbols or other details linked to fraud that could provide grounds for further investigation (Kanade, 2021).

Both the correlation and the regression results observed that the implementation of the most effective detective antifraud mechanisms significantly reduces motor insurance fraud among the motor insurance firms in Nairobi County, Kenya. From the findings we can deduce that requisitioning professional forensic accountants, employing both formal and informal whistleblowing systems, activation of fraud hotlines, bank reconciliation, discovery sampling, continuous auditing, usage of IMIDS and thorough claims assessment reduces motor insurance fraud in the Kenyan motor insurance sector. The findings in line with the fraud management lifecycle theory noted that fraud detection systems being the third phase of the cycle successfully curbs motor insurance fraud where fraud deterrence and prevention mechanisms have failed by unravelling claims that are fraudulent before fraud losses occurs. Besides that, the findings in line with Fraud Triangle Theory, observed that detective antifraud mechanisms such as the usage of effective forensic accounting, daily continuous auditing, claims assessment, IMIDS and bank reconciliation can seal off the opportunities used by fraudsters to perpetrate motor insurance fraud in Nairobi County, Kenya.

The research findings concurred with the observations made by Bassey (2018), Kaunda (2021) and Othman et al. (2015) who noted that forensic accounting is effective in unravelling fraudulent activities and the perpetrators responsible for the fraud losses in the microfinance

sector in Nigeria, the banking industry in Kenya and in the Malaysian public sector. Forensic accountants use data analytics tools to detect repetitive claims for the same damages and abnormal frequency of claims in a given area signalling motor insurance fraud (Vere, 2025). They also cross-check all the claims and their supporting documents for authenticity then they interview the claimants whose claims are not authentic and analyses their transactional records and social media activity that can establish a pattern linked to motor insurance fraud (Musyoka, 2023; Vere, 2025). The research findings also concurred with the observations made by ACFE (2018) and Deloitte (2018) who noted that whistle blowing systems are effective in exposing corporate fraud and stopping its future occurrence in the global context. The findings also agreed with the observations made by Lee (2017) in USA which noted that the Dodd-Frank Whistleblower Program which was developed to guarantee protection and good compensation packages to the whistle blowers led to the unravelling of fraudulent cases and the perpetrators behind it. Whistleblowing is perceived to be effective in the Kenyan insurance sector since the Whistle blower Protection Bill 2023 was developed by the Parliament of Kenya to offer protection and reward systems to people exposing corruption and white-collar crimes to the government authorities and thus it has encouraged frequent disclosures of corporate crimes that could have grown cold (Onyango, 2024).

The findings concurred with the perception studies carried out by Otieno (2018), Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami et al. (2016) who also observed that the institution of fraud hotlines effectively unravels fraudulent activities and curbs fraud losses. Besides that, the regression results were congruent with the observations made by Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami et al. (2016) who observed that the reconciliation of corporate documents effectively unravels fraudulent activities and curbs fraud losses. Bank reconciliation involving the comparison of the firm's cash balances in its books of accounts against the balances in the bank statement of the given firm, helps to detect duplicate payments on the same invoice and unauthorized transactions stemming from payments to ghost claimants (Dhir & Petrick, 2025).

The regression findings also concurred with Zamzami et al. (2016), Deloitte (2018), Mangala and Kumari (2017) together with ACFE (2018) who observed that discovery sampling is effective in detecting fraud and curbing fraud losses. The random selection of claims by an auditor after determining the sample size of the claims from its given population helps to easily identify a fraudulent claim/s that needs to be investigated (Lopo & Hartomo, 2023; Superfast CPA, 2025). It is a very effective detection technique in cases whereby the expected fraud rate is very low (Lopo & Hartomo, 2023; Superfast CPA, 2025). The regression results were also

congruent with the research outcomes of Mwangi (2020), Otieno (2018), Othman et al. (2015), Mangala and Kumari (2017) together with Zamzami et al. (2016) who observed that continuous auditing of the firm's operations effectively unravels fraudulent activities. Continuous auditing as a fraud detection practice can be implemented to assess and authenticate the effectiveness of an organization's controls by pointing out weak areas of fraud risk through a consistent auditing process, which can expose ongoing fraud activity (Kanade, 2021). The regression results also agreed with the research outcomes of Otieno (2018) who noted that IMIDS was effective in exposing motor insurance fraud and curbing fraud losses. The IMIDS confirms if the information provided by the customers are authentic thus flagging down claims with fake information (Ngunjiri, 2017). It also verifies the claims history of a given insured motorists with regards to if he or she had ever been involved in motor insurance fraud (Ngunjiri, 2017). IMIDS is a proficient data mining tool that classifies all the insurance claims, into segments and looks for interesting patterns in the figures, words, symbols or other details linked to fraud that could provide grounds for further investigation (Kanade, 2021).

5.2.3 Moderating Effect of Corporate Governance on the Relationship between the Antifraud Mechanisms and Motor Insurance Fraud among Motor Insurance Firms in Nairobi County, Kenya

The final objective of the study was to investigate the moderating effect of corporate governance on the relationship between the antifraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. Multiple linear regression analysis was requisitioned by the study to address the given objective. The findings observed that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. Thus, the findings concur with the theoretical proposition of the Agency theory that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud. The board conceives the audit committee of directors to supervise the firm's risk assessment systems and develop and manage the internal audit processes, together with monitoring the effectiveness of anti-fraud mechanisms thus leading to the reduction of motor insurance fraud and protection of shareholders' wealth (Effendi, 2018). The findings agreed with Sawsan et al. (2015) who observed that corporate governance involving an autonomous board with rich professional experience would be on their toes to conceive up-to-date fraud management systems that matches up with the technologically devised schemes used by fraudsters to steal financial resources from the given firm thus curbing fraud. The board of directors oversees fraud risk

assessment systems and establishes business ethical programs together with fraud policies to mitigate fraud from occurring, which can reduce shareholder wealth (Pham, 2022).

Corporate governance involving an audit committee that frequently monitors the affairs of a company through holding many meetings gets clear awareness of the problems that the internal control system is suffering from which needs to be addressed so that the level of fraud risk can be minimized (Atieno, 2017). The audit committee supports the management in developing systems for carrying out proper customer due diligence that identifies suspicious customers and developing policies that empowers whistle blowers to report an ongoing fraud case (McKenzie, 2019). However, the findings interestingly observed that corporate governance does not moderate the relationship between detective antifraud mechanism and motor insurance fraud. This is because corporate governance is usually focused on preventing fraud from occurring in the first place through strengthening internal control systems, establishing business ethical programs and overseeing the implementation of fraud risk assessment systems (Sawsan et al., 2015).

5.3 Conclusions

In line with the first specific objective, we conclude that instituting strong updated internal control systems, having a strong internal audit, conducting fraud awareness programs, ethical tone at the top, fraud risk assessments and conducting serious background checks reduces motor insurance fraud in Nairobi County, Kenya. This explains why motor insurance firms have invested in risk management programmes to identify possible failures that can occur in their internal control systems so that measures can be put in place to eliminate the given failures which can be used by the fraudsters as an opportunity to perpetuate motor insurance fraud (Britam Holdings PLC, 2023; Jubilee Life Insurance, 2024; CIC Insurance Group PLC, 2024). We can also confirm that the internal audit department is essential for preventing motor insurance fraud since the internal audit staff have the professional knowledge and skills to identify motor insurance fraud cases such as misrepresentation of information and inflated claims that are to be flagged down before fraud losses occur (IRA, 2013; Okumu, 2017). Besides that, we can conclude that through training programmes, meetings, and frequent expert education, the top leadership enlightens employees on the everyday trending motor insurance fraud activities (Tuanakotta, 2012; Yuniarti, 2017). This gives the staff members an upper hand in determining if a specific motor insurance activity is a fraud attempt (Yuniarti, 2017). This knowledge deters them from being coerced to commit fraud and warning the fraudster or reporting them to the relevant authorities in the organization (Yuniarti, 2017).

The findings confirm the theoretical proposition of the fraud management lifecycle theory that proper implementation of the first 2 phases of the anti-fraud lifecycle involving both fraud deterrence and fraud prevention will discourage or stop a person from committing fraud. The findings also confirm the theoretical proposition of the Fraud Triangle theory that ethical tone at the top, fraud awareness training programs and regulation enforcement would discourage people from rationalizing motor insurance fraud as a good thing

In line with the second specific objective, we conclude that requisitioning professional forensic accountants, employing both formal and informal whistleblowing systems, activation of fraud hotlines, bank reconciliation, discovery sampling, continuous auditing, usage of IMIDS and thorough claims assessment effectively detects and reduces motor insurance fraud in the Kenyan motor insurance sector. Forensic accountants cross-check all the claims and their supporting documents for authenticity then they interview the claimants whose claims are not authentic and analyses their transactional records and social media activity that can establish a pattern linked to motor insurance fraud (Musyoka, 2023; Vere, 2025). We can also conclude that whistleblowing has been perceived to be effective in the Kenyan insurance sector since the Whistle blower Protection Bill 2023 was developed by the Parliament of Kenya to offer protection and reward systems to people exposing corruption and white-collar crimes to the government authorities and thus it has encouraged frequent disclosures of corporate crimes that could have grown cold (Onyango, 2024).

The findings confirm the theoretical proposition of the fraud management lifecycle theory that fraud detection systems being the third phase of the cycle successfully curbs motor insurance fraud where fraud deterrence and prevention mechanisms have failed by unravelling claims that are fraudulent before fraud losses occurs. Besides that, the findings confirm the theoretical proposition of the Fraud Triangle Theory that detective antifraud mechanisms such as the usage of effective forensic accounting, daily continuous auditing, claims assessment, IMIDS and bank reconciliation can seal off the opportunities used by fraudsters to perpetrate motor insurance fraud in Nairobi County, Kenya.

In line with the third specific objective, we conclude that corporate governance considerably moderates the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud among motor insurance firms in Nairobi County, Kenya. Corporate governance involving an audit committee that frequently monitors the affairs of a company through holding many meetings gets clear awareness of the problems that the internal control system is suffering from which needs to be addressed so that the level of fraud risk can be minimized (Atieno, 2017). The audit committee supports the management in developing systems for carrying out

proper customer due diligence that identifies suspicious customers and developing policies that empowers whistle blowers to report an ongoing fraud case (McKenzie, 2019).

5.4 Recommendations

5.4.1 Practice

The management should invest in fraud training programmes to the employees and to the general public through one-one sessions, social media advertisements and through their websites. This will help deter fraudsters from falsifying claims such as editing digital insurance certificates or stage-managing accidents. The management should also invest in IMIDS since it is a proficient data mining tool that classifies all the insurance claims, into segments and looks for interesting patterns in the figures, words, symbols or other details linked to fraud that could provide grounds for further investigation. Moreover, the management should work hand in hand with the audit committee to frequently monitor the affairs of the company through holding many meetings in order to be aware of the problems that the internal control system is suffering from which needs to be addressed so that the level of fraud risk can be minimized.

5.4.2 Policy

The policy makers through the IRA and the Parliament of Kenya should create laws which will ensure that each motor insurance firm has an internal audit department, conduct fraud awareness training programmes at least 4 times every quarter of the year especially to the new employees and conduct serious background checks of both the employees and the insured motorists in order to discourage motor insurance fraud from being perpetuated. Moreover, the IRA should ensure that all the motor insurance service providers have registered with the IMIDS and frequently updates it with the relevant information claimants since it plays an important role in flagging down fraudulent claims before a fraud loss is experienced.

5.4.3 Theoretical Contribution

This study contributes to the fraud literature by identifying the most effective preventive and detective anti-fraud mechanisms that can minimize motor insurance fraud in Nairobi County, Kenya. It also contributes to the fraud literature by establishing that corporate governance can only significantly moderate the negative relationship between preventive anti-fraud mechanisms and motor insurance fraud. Thus, it points out that corporate governance is effective in putting measures and constantly monitoring fraud risk areas to prevent fraudulent actions from taking place in the first place.

5.5 Limitations of the Findings and Recommendations for Further Study

The study was limited to both the preventive and detective techniques, future studies can seek to establish how fraud analysis and prosecution affects motor insurance fraud since it is an area that has been overlooked by most fraud studies. Besides that, this study was limited to

structured questionnaires, future studies can explore qualitative techniques such as the use of semi-structured interview guides in order to get an in-depth view of the perceived effectiveness of anti-fraud techniques and motor insurance fraud.

Future researchers interested in the fraud literature will profit from this study since it will help them identify the knowledge voids to be bridged and the relevant literature that will help them build up their studies.



REFERENCES

- Abdelnour, J. (2023). *The Agency theory*. SAGE Publication, Inc.
<https://sk.sagepub.com/foundations/the-agency-theory>
- Abdullahi, R., Mansor, N., & Nuhu, M. S. (2015). Fraud triangle theory and fraud diamond theory: understanding the convergent and divergent for future research. *European Journal of Business & Management*, 7 (28), 30-37.
<http://dx.doi.org/10.6007/IJARAFMS/v5-i4/1823>
- Abdulrahman, S. (2019). Forensic accounting and fraud prevention in Nigerian public sector: a conceptual paper. *International Journal of Accounting & Finance Review*, 4 (2), 13-21.
<https://doi.org/10.46281/ijafr.v4i2.389>
- Albrecht, S. W., Howe, K. R., & Romney, M. B. (1984). *Detering fraud: the internal auditor's perspective*. Institute of Internal Auditors Research Foundation.
- Association of Certified Fraud Examiners. (2010) *Occupational fraud & abuse*.
<https://doi/10.1002/9781118929773>.
- ACFE (2012). *Report to the nations on occupational fraud and abuse*. https://www.acfe.com/uploadedFiles/ACFE_Website/Content/rtnn/2012-report-to-nations.pdf.
- ACFE (2016). *Report to the nation on occupational fraud & abuse: global fraud study*— Association of Certified Fraud Examiners.
- ACFE. (2016). *Financial transactions and fraud schemes: asset misappropriation - cash receipts*. Association of Certified Examiners.
https://www.acfe.com/uploadedFiles/ACFE_Website/Content/review/examreview/11-Fin-Cash-Intel-Prop-Consumer.pdf.
- ACFE. (2018). *Report to the Nations 2018: a global study on occupational fraud and abuse*. Association of Certified Fraud Examiners. <https://s3-us-west-2.amazonaws.com/acfepublic/2018-report-to-the-nations.pdf>
- ACFE (2020). *Pam Meyer Wows Them*. <https://www.acfe.com/article.aspx?id=4294973279>
- ACFE (2022). *Occupational fraud 2022: a report to the nations*. Association of Certified Fraud Examiners. <https://www.acfe.com/-/media/files/acfe/pdfs/rtnn/2022/2022-report-to-the-nations.pdf>
- ACFE (2024). *Occupational fraud 2024: a report to the nations*. Austin: Association of Certified Fraud Examiners. <https://www.acfe.com/-/media/files/acfe/pdfs/rtnn/2024/2024-report-to-the-nations.pdf>
- ACFE Pacific Northwest Chapter (2024). *The importance of tone at the top in fraud prevention*. Bellevue: ACFE Pacific Northwest Chapter.
<https://pnwacfe.org/Blog/13432841#:~:text=When%20leaders%20prioritize%20ethical%20behavior%20and%20demonstrate%20a%20commitment%20to,to%20do%20the%20right%20thing>.
- Agathee, U. S., & Ramen, M. (2017). Usage and perceptions of fraud detection and preventive methods: evidence from Mauritius. *Accounting & Taxation*, 9 (1), 87-96.
<https://ssrn.com/abstract=3025067>
- Agwor, T. C. (2017). Fraud prevention and business performance in quoted manufacturing companies in Nigeria. *European Journal of Accounting, Auditing & Finance Research*, 5 (9), 71-80. <https://www.eajournals.org/wp-content/uploads/Fraud-Prevention-and-Business-Performance-in-Quoted-Manufacturing-Companies-in-Nigeria.pdf>
- Akomea-Frimpong, I., Andoh, C., & Ofusu-Hene, E. D. (2016). Causes, effects and deterrence of insurance fraud: Evidence from Ghana. *Journal of Financial Crime*, 23 (4), 678-699.
<https://doi.org/10.1108/JFC-11-2015-0062>
- Amasiatu, C. V. & Shah, M. H. (2015). *E-tailing: strategies to reduce first-party fraud*. CCR Magazine. www.ccrmagazine.co.uk

- Anaesoronye, M. (2022). Insurers say spurious claims are on the rise as the economy bites. *Business Daily*. <https://businessday.ng/insurance/article/insurers-say-spurious-claims-on-the-rise-as-economy-bites/>
- Andreou, E., Evangelos, C., Lionis, A. C., Varvogli, L., Gnardellis, C., Chrousos, G. P., & Darviri, C. (2011). Perceived stress scale: Reliability and validity study in Greece. *International Journal of Environmental Research & Public Health*, 8, 3287-3298. <https://doi.org/10.3390/ijerph8083287>
- Angina, C. B. & Omondi, M. A. (2016). Nature of fraud and its effects in the medical insurance sector in Kenya. *DBA Management Review*, 6 (2), 33-44. <http://journals.uonbi.ac.ke/damr/article/view/1489/1198>
- Anichebe, A. S., Agbomah, P. J. & Agbagbara, E. O. (2019). Determinants of financial statement fraud likelihood in listed firms. *Journal of Accounting & Financial Management*, 5 (2), 1-9. <https://www.iiardjournals.org/get/JAFM/VOL.%205%20NO.%202%202019/Determinants%20of%20financial.pdf>
- Apuke, O. D. (2017). Quantitative research methods: a synopsis approach. *Arabian Journal of Business & Management Review (Kuwait Chapter)*, 6 (10), 40-47. <http://dx.doi.org/10.12816/0040336>
- Association of British Insurers (2022, August 25). *Own goals, cruise con, DIY vandalism – fall in insurance fraud is good news for honest customers, but there is no room to go easy on the cheats, says the ABI*. <https://www.abi.org.uk/news/news-articles/2022/08/own-goals-cruise-con-diy-vandalism---fall-in-insurance-fraud-good-news-for-honest-customers-but-no-room-to-go-easy-on-the-cheats-says-the-abi/>
- AKI (2021, May 3). *AKI circular no 50 fake edited motor insurance certificates*. Association of Kenya Insurers. https://www.akinsure.com/content/uploads/documents/AKI_Circular_No_50_-_Fake_edited_motor_insurance_certificates.pdf
- Atieno, L. V. (2017). *Effect of audit committee characteristics on fraud detection in State Ministries in Kenya* [Master of Science in Finance & Economics thesis, KCA University]. <http://41.89.49.13:8080/xmlui/bitstream/handle/123456789/1259/Atieno-Effect%20Of%20Audit%20Committee%20Characteristics%20On%20Fraud%20Detection%20In%20State%20Ministries%20In%20Kenya.pdf?sequence=1&isAllowed=y>
- Bajpai, N. (2011). *Business research methods*. Pearson Education India.
- Banerjee, A. (2020, August). *How to work with a data that has failed Normality test*. ResearchGate. <https://www.researchgate.net/post/How-to-work-with-a-data-that-has-failed-Normality-test#:~:text=If%20your%20data%20has%20failed,specific%20distribution%20for%20the%20population.>
- Barnett, M. D. & Moore, J. M. (2017). The construct validity of the first coital affective reaction scale and virginity beliefs scale. *Personality & Individual Differences*, 109 (2017), 102-110. <https://doi.org/10.1016/j.paid.2016.12.043>
- Basse, B. E. (2018). Effect of forensic accounting on the management of fraud in the Microfinance institution in Cross River State. *IOSR Journal of Economics & Finance*, 9 (4), 79-89.
- Benede, K. B., Ciumas, C. & Nagy, B. Z. (2022). Automobile insurance fraud detection in the age of big data-a systematic and comprehensive literature review. *Journal of Financial Regulation & Compliance*, 30 (4), 503-523. <https://doi.org/10.1108/JFRC-11-2021-0102>
- Bhandari, P. (2021, July 7). *Correlational research: when and how to use*. Scribbr.
- Bhattacharjee, A. (2012). *Social science research: principles, methods and practices (2nd Ed.)*. University of South Florida.

- https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1002&context=oa_textbooks
- Bierstaker, J. L., Brody, R. G. & Pacini, C. (2006). Accountants' perceptions regarding fraud detection and prevention methods. *Managerial Auditing Journal*, 21 (5), 520-535. <http://dx.doi.org/10.1108/02686900610667283>
- Brager, K. (2017, November 2nd). *Reviewing bank reconciliations to prevent and detect fraud*. <http://lrzconsulting.com/reviewing-bank-reconciliations-to-prevent-and-detect-fraud/>
- Brandon, G. (2019, February 5). *17 Forensic accounting industry statistics and trends*. Brandon Gaille. <https://brandongaille.com/17-forensic-accounting-industry-statistics-and-trends/>
- Britam Holdings PLC (2023). *Britam Holdings PLC integrated report & audited financial statements*. Nairobi: Britam Holdings PLC. <https://www.britam.com/images/FormsAndDownloads/Britam-2023-Integrated-Annual-Report-New.pdf>
- Business Daily (2019, July 23). Uchumi blames employees and fake suppliers for the collapse. *Business Daily*. <https://www.businessdailyafrica.com/news/539546-5206888-4ssyy8z/index.html>.
- BusinessTech (2020, October 11). *Insurance fraud in South Africa – what your insurer sees*. <https://businesstech.co.za/news/business/435281/insurance-fraud-in-south-africa-what-your-insurer-sees/>
- Capital Digital Media (2022, June 1). *Fraudulent insurance claims hurting the economy, IRA warns*.
- Capital Markets Authority. (2018, May 4). *National Bank of Kenya (NBK) enforcement action*. Capital Markets Authority. <https://www.cma.or.ke/index.php/news-and-publications/press-center/428-nbkenforcement-action>.
- Capodanno, D. (2012). *Focus on financial controls – Intercontrols are vital to eliminating fraud*. Eisneramper. <http://www.eisneramper.com>
- Chepkoech, F., & Rotich, G. (2017). Effect of risk management process on insurance fraud in Kenya. *International Journal of Social Sciences & Information Technology*, 3 (3), 1934-1951. <https://www.ijssit.com/main/wp-content/uploads/2017/05/Effect-Of-Risk-Management-Process-On-Motor-Insurance-Fraud-In-Kenya.pdf>
- Cherono, S. & Kakah, M. (2017, June 28th). Former Chase Bank boss Zafrullah Khan charged with Sh. 1.7 billion fraud. *Business Daily*. <https://www.businessdailyafrica.com/corporate/companies/Former-Chase-Bank-chairman-Zafrullah-Khan-arrested/4003102-3990862-pwag1e/index.html>.
- Chirkov, V. & Anderson, J. (2018). Statistical positivism versus critical scientific realism. A comparison of two paradigms for motivation research. Part I. A philosophical and empirical analysis of statistical positivism. *Theory & Psychology*, 28 (6), 712-736. <https://psycnet.apa.org/doi/10.1177/0959354318804670>
- CIC Insurance Group PLC (2024). *Annual report and financial statements for the year ended 31st December 2024*. Nairobi: CIC Insurance Group PLC. <https://www.cicinsurancegroup.com/wp-content/uploads/2025/04/CIC-Group-Annual-Report-2024-.pdf>
- ClearTax (2023, June 13). *Insurance fraud*. <https://cleartax.in/g/terms/insurance-fraud>
- Cochran, W. G. (1977). *Sampling techniques (3rd Ed.)*. New York: John Wiley & Sons.
- Cohen, L., Manion, L. & Morrison, K. (2007). *Research methods in education (6th Ed.)*. New York: Routledge Falmer.
- Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing*, 17 (6), 411-2.

- CPA Canada. (2015, June 12). *The ten worst corporate accounting scandals of all time*. CPA Canada Corporation Website. <https://www.cpacanada.ca/en/members-area/profession-news/2015/june/the-10-worst-corporate-accounting-scandals>.
- Cressey, D. R. (1953). *Other people's money*. Montclair, NJ: Patterson Smith.
- CRI Group (2025). *Background screening; first line of protection*. CRI Group. <https://crigroup.com/background-screening-1st-line-of-protection/>
- Cytonn Investments. (2018, March 13). *Corporate governance in Kenya, and Cytonn weekly report #10*. Cytonn Investments. <https://www.cytonn.com/research/update-March-13-2018>.
- Deloitte. (2014). *Fraud risk management-providing insight into fraud prevention, detection and response*. Deloitte.
- Deloitte. (2018). *India corporate fraud perception survey 2018*. India: Deloitte. <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/finance/in-fraud-fraud-survey-shorter-version-noexp.pdf>
- Dhir, R. & Petrick, B. (2025, April 3). *What is bank reconciliation statement, and how is it done?* Investopedia. <https://www.investopedia.com/terms/b/bankreconciliation.asp#:~:text=Bank%20reconciliation%20statements%20are%20used,and%20prevent%20fraud%20and%20losses>.
- Dimitrijevic, D., Karapavlovic, N. & Milutinovic, S. (2020). Fraud prevention measures in Serbian small and medium-sized enterprises: existence and effectiveness. *Ekonomika Preduzeća*, 68 (56), 369-382. <https://doi.org/10.5937/EKOPRE.2006369D>
- Doody, O. & Bailey, M. E. (2016). Setting a research question, aim and objective. *Nurse Researcher*, 23 (4), 19-23. <https://doi.org/10.7748/nr.23.4.19.s5>
- Dorminey, J. W., Fleming, A. S., Kranacher, M. J. & Riley Jr, R. A. (2010). Beyond the fraud triangle. *The CPA Journal*, 80 (7), 17-23. <https://www.econbiz.de/Record/crimes-beyond-the-fraud-triangle-enhancing-deterrence-of-economic-dorminey-jack/10008440365>
- Driskell, D. & Davis, P. S. (2022, October 12). *The role of forensic accountants in measuring and detecting fraud in team member loss claims*. Association of Certified Fraud Examiners. <https://www.acfe.com/fraud-resources/fraud-examiner-archives/fraud-examiner-article?s=the-role-of-forensic-accountants>
- Eden, S. K., Li, C. & Shepherd, B. E. (2021). Non-parametric estimation of Spearman's rank correlation with bivariate survival data. *Biometric*, 78 (2), 421-434.
- Effendi, A. (2018). *The power of good corporate governance*. Teori dan Implementasi (2nd Ed.).
- Efiong, E. J., Inyang, I. O., & Joshua, U. (2016). Effectiveness of the mechanisms of fraud prevention and detection in Nigeria. *Advances in Social Sciences Research Journal*, 3 (3), 206-217. <http://dx.doi.org/10.14738/assrj.33.1894>
- Ekaterina, M. (2013). *Fraud prevention and detection methods in Russian small-scale enterprises: perceptions of managers and accountants regarding their effectiveness* [Unpublished thesis, University of Tampere].
- Ellis, J. (2023). *How can corporate governance prevent fraud and corruption?* Corporate Governance Institute. <https://www.thecorporategovernanceinstitute.com/insights/guides/how-corporate-governance-can-prevent-fraud-and-corruption/>
- Ethridge, D. E. (2004). *Research methodology in applied economics*. John Wiley & Sons.
- Fadayo, O. M. (2018). *An examination of e-banking fraud prevention and detection in Nigerian Banks*. Leicester, United Kingdom: De Montfort University.
- Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics: and sex, drugs and rock 'n' roll (4th Ed.)*. SAGE.

- Financial Crime Academy (2023). *Fraud detection methods*. Financial Crime Academy LLC. <https://www.financialcrimeacademy.org/fraud-detection-methods/>
- Finstad, K. (2010). Response interpolation and scale sensitivity: evidence against 5-point scales. *Journal of User Experience*, 5 (3), 104-110.
- Fligstein, N. & Roehrkasse, A.F. (2016). The causes of fraud in the financial crisis of 2007 to 2009: evidence from the mortgage-backed securities industry. *American Sociological Review*, 81 (4), 617-643. <http://dx.doi.org/10.1177/0003122416645594>
- Flynn, K. (2016). Financial fraud in the private health insurance sector in Australia: perspectives from industry. *Journal of Financial Crime*, 23 (1), 143-158. <http://dx.doi.org/10.1108/JFC-06-2014-0032>
- Focarelli, D. (2017). Why insurance regulation is crucial for long-term investment and economic growth. *LUISS School of European Political Economy*, 1.
- Fox, W. & Bayat, M. S. (2008). *A guide to managing research*. Juta & Company Ltd Publications.
- Frederick, H. L. (2013). An introduction to multivariate analysis. *International Encyclopaedia of the Social & Behavioural Sciences*, 1-20. <http://www.emercatoria.edu.co/PAGINAS/VOLUMEN7/PDF02/global.pdf>.
- Ganguanco, T. (2023, June 20). *Opportunistic insurance fraud cases are up 61%*. Insurance Business. <https://www.insurancebusinessmag.com/uk/news/claims/opportunistic-insurance-fraud-cases-up-61-44984.2.aspx>
- Gastwirth, L. J., Gel, R. Y., & Miao, W. (2009). The impact of Levene's Test of equality of variances on statistical theory & practice. *Statistical Science*, 24 (3), 343-360. <http://dx.doi.org/10.1214/09-STS301>
- Gathu, T. G. (2018). *Effects of fraud risk management practices on net incurred medical claims in Kenyan insurance industry* [Master thesis, Strathmore University]. <http://suplus.strathmore.edu/handle/11071/6115>
- Gjakovski, I., Brkovski, D., Stefanovski, P. & Sinani, F. (2022). Standardization of the investigation process and prevention from cases of insurance fraud in traffic accidents attachment: procedure for process realization. *Journal of Applied Sciences*, 8 (15-16), 152-160. <https://eprints.unite.edu.mk/1108/1/JAS%20SUT%2015-16%20Final-151-160.pdf>
- Gordon, N. (2002). A question of response rate-council of science editors. *Science Editor*, 25 (1), 25-26.
- Grippio, F. J. & Ibox, T. (2003). Introduction to forensic accounting. *National Public Accounting*, 4, 4-8.
- Hakami, T. A. & Rahmat, M. M. (2019). Fraud prevention strategies: the perceptions of Saudi Arabian banks employees. *Asian Journal of Accounting & Governance*, 11, 1-15. <http://dx.doi.org/10.17576/AJAG-2018-11-07>
- Haron, R., Mohamed, N., Jomitin, B. & Omar, N. (2014). Forensic accounting and its prospect in the Malaysian public sector. *4th International Conference on Management*. http://www.internationalconference.com.my/proceeding/icm2014_proceeding/4thICM2014/020_116_4thICM2014_Proceeding_p229.pdf.
- Hassink, H., de Vries, M. & Bollen, L. (2007). A content analysis of whistle-blowing policies of leading European companies. *Journal of Business Ethics*, 75: 25-44. <http://dx.doi.org/10.1007/s10551-006-9236-9>
- Hemenway, C. (2023). Massachusetts man sentenced in Luxury car insurance fraud scheme. *Insurance Journal*. <https://www.insurancejournal.com/news/east/2023/05/03/719179.htm>

- Hussaini, U., Bakar, A. A. & Yusuf, M. O. (2018). The effect of fraud risk management, risk culture and performance of banking sector: a conceptual framework. *International Journal of Multidisciplinary Research & Development*, 6 (1), 71-80.
- Holtfreter, K. (2008). Determinants of Fraud Losses in Non-Profit Organizations. *Non-Profit Management & Leadership*, 19 (1), 45-63. <http://dx.doi.org/10.1002/nml.204>
- Hotten (2015). Volkswagen: The scandal explained. *BBC News*. <https://www.bbc.com/news/business-34324772>
- Inaya, L. S. & Obasuyi, P. E. (2020). Assessment of the effect of fraud on the financial performance of Nigerian banks. *Journal of Academic Research in Economics*, 12 (2), 290-311.
- IRA (2013). *Guideline on risk management and internal controls: February 2013*. Nairobi: Insurance Regulatory Authority. https://www.ira.go.ke/assets/file/Guideline_on_Risk_Management_and_Internal_Controls.pdf#:~:text=The%20guideline%20aims%20to%20ensure%20that%20insurance,systems%20of%20risk%20management%20and%20internal%20controls.&text=10.1%20The%20insurer%20shall%20be%20required%20to,includin%20its%20risk%20management%20and%20internal%20controls.
- IRA (2023, September). *Insurance industry annual report 2022*. Insurance Regulatory Authority.
- IRA (2024, February). *Insurance industry report for the period January – December 2023: fourth quarter release*. Insurance Regulatory Authority.
- Insurance Regulatory Authority (2024). *Registered insurers 2024*. Insurance Regulatory Authority. https://ira.go.ke/index.php?option=com_phocadownload&view=file&id=575&Itemid=1264
- IRA (2025). *IRA history*. Nairobi: Insurance Regulatory Authority. <https://www.ira.go.ke/about-ira-kenya/#:~:text=The%20functions%20of%20the%20Authority,and%20reinsurance%20business%20in%20Kenya>
- Igweonyia, O.V. (2016). Forensic accounting is a panacea for alleviating fraudulent practices in Nigerian public sector organizations (a case study of selected ministries in Enugu State). *International Journal of Management & Applied Science*, 2 (9), 183 – 188.
- Ijeoma, N. & Aronu, C. O. (2013). The impact of fraud management on organizational survival in Nigeria. *American Journal of Economics*, 3 (6), 268-272.
- Irshaidat, R. (2019). Interpretivism vs. positivism in political marketing research. *Journal of Political Marketing*, 0:1-35. <http://dx.doi.org/10.1080/15377857.2019.1624286>
- Inscribe (2023). *Fraud detection: an ultimate guide for protecting & preventing fraud*. <https://www.inscribe.ai/frauddetection>
- Institute for Digital Research & Education (2020). *Ordinal logistic regression: SPSS output data analysis results*. <https://statsidre.ucla.edu/spss/dae/ordinal-logistic-regression/>
- International Risk Management Institute (2020). *Importance of strong fraud policy*. <https://www.irmi.com/articles/expert-commentary/importance-of-a-strong-fraud-policy>
- Israel, G. D. (1992). *Determining sample size*. University of Florida Cooperative Extension Service Institute of Food and Agriculture Sciences, EDIS.
- Jefferys, A. (2018, June 25). *Distinguishing between descriptive & causal studies*. Sciencing. <https://sciencing.com/distinguishing-between-descriptive-causal-studies-12752444.html>
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3 (4), 305-360.

- Joy-Wanjiru (2023, June 9). *Tips on making a successful insurance claim in Kenya*. CIC Group. <https://ke.cicinsurancegroup.com/tips-on-making-a-successful-insurance-claim-in-kenya/>
- Jubilee Life Insurance (2024). *Annual report 2024*. Nairobi: Jubilee Life Insurance. <https://www.jubileelife.com/wp-content/uploads/2025/03/JLI-Annual-Report-2024.pdf>
- Kamaliah, K., Marjuni, N.-S., Mohamed, N., Mohd-Sanusi, Z. & Anugerah, R. (2018). Effectiveness of monitoring mechanisms and mitigation of fraud incidents in the public sector. *Administratie si Management Public*, 2018 (30), 82-95. <http://dx.doi.org/10.24818/amp/2018.30-06>
- Kamande, R. W., Kiragu, D. N. & Musumba, G. (2018). Internal controls, staff red flags and computerized financial frauds among commercial banks in Kenya. *International Journal of Economics, Commerce & Management*, 6 (5), 95-111. <https://doi.org/10.5281/zenodo.10795845>
- Kamau, J. N. (2015). *The effect of forensic accounting services on fraud prevention in the insurance companies in Kenya* [Unpublished Master thesis, University of Nairobi].
- Kanana, K. B. (2018). *Effect of fraud risk management on the financial performance of Non-Governmental Organizations in Nairobi County* [Master of Business Administration thesis, University of Nairobi].
- Kanade, V. (2021, June 16). *What is fraud detection? Definition, types, applications and best practices*. Spice Works. <https://www.spiceworks.coms/it-security/vulnerability-management/articles/what-is-fraud-detection>
- Kariuki, S. N. (2023). Board gender diversity, efficiency and risk-taking behavior: empirical evidence from insurance firms in Kenya. *Cogent Business & Management*, 10 (2226426), 1-22. <https://doi.org/10.1080/23311975.2023.2226426>
- Kassem, R. (2022). Elucidating corporate governance's impact and role in countering fraud. *Corporate Governance*, 22 (7), 1523-1546. <https://doi.org/10.1108/CG-08-2021-0279>
- Kaunda, F. O. (2021). *Effect of forensic accounting practices on fraud mitigation among commercial banks in Kenya* [Master thesis, KCA University].
- Kenya Gazette Supplement. (2016). *Bribery Act 2016*. Government Printer.
- Kenya Law Report. (2012). *The proceeds of crime and anti-money laundering amendment act 2009 (Revised Edition 2012)*. Kenya Law Report.
- Kenya Law Report. (2016). *Ethics and Anti-corruption Commission Act No. 22 of 2011 revised edition 2016*—the National Council for Law Reporting with the Authority of the Attorney-General.
- King'ori, J. W., Kiragu, D. & Kamau, R. (2019). Fraud risk prevention strategies and fraud occurrence in large & medium-sized commercial banks in Kenya. *International Journal of Economics, Commerce & Management*, 7 (6), 516-531.
- Kingsley, K. M. (2015). Fraud and corruption practices in public sector: the Cameroon experience. *Research Journal & Accounting*, 6 (4), 203-209. <https://ssrn.com/abstract=2594546>
- Kiprono, G. J. & Ng'ang'a, P. (2018). Fraud management practices and financial performance of Kenya Ports Authority. *International Academic Journal of Economics & Finance*, 3 (2), 241-264.
- Kiragu D. N., Gikiri W. L. & Iminza N. W. (2015). Bank size and occupational fraud risk: empirical evidence from commercial banks in Kenya. *European Journal of Business Management*, 2 (1), 189-203.
- Knekta, E., Runyon, C. & Eddy, S. (2019). One size doesn't fit all: use factor analysis to gather valid evidence when using surveys in your research. *CBE: Life Sciences Education*, 18 (rm1), 1-17. <https://doi.org/10.11871cbe.18-04-0064>

- Kombo, K. D. & Tromp, L. A. D. (2006). *Proposal and thesis writing: an introduction*. Nairobi: Paulines Publishers.
- Kothari, C. R. (2004) *Research methodology: methods and techniques* (2nd Ed.). New Delhi: New Age International Publishers.
- Kultanen, E. (2017). *Prevention and detection of fraud in a Ugandan university organization* [Unpublished thesis].
- Kummer, T.-F., Singh, K., & Best, P. (2015). The effectiveness of fraud detection instruments in Not-for-Profit Organizations. *Managerial Auditing Journal*, 30 (415), 435-455. <http://dx.doi.org/10.1108/MAJ-08-2014-1083>
- Laerd Statistics (2018). *A simple scatterplot using SPSS statistics*. Lund Research Ltd. <https://statistics.laerd.com/spss-tutorials/scatterplot-using-spss-statistics.php>
- Laufer, D. (2011). Small entrepreneurs: a focus on fraud risk and prevention. *American Journal of Economics & Business Administration*, 3 (2), 401-404. <https://doi.org/10.3844/ajebasp.2011.401.404>
- Lee, H. (2017). *Do corporate whistle-blower laws deter accounting fraud?* <https://www.clsbluesky.law.columbia.edu/2017/11/17/do-corporate-whistleblower-laws-deter-accounting-fraud>
- Li, C. S., Liu, C. C. & Yeh, J. H. (2017). The incentive effects of increasing per-claim deductible contracts in automobile insurance. *Journal of Risk and Insurance*, 74 (2), 441-459.
- Lopo, J. A. & Hartomo, K. D. (2023). Evaluating sampling techniques for healthcare insurance fraud detection in imbalanced dataset. *Jurnal Ilmiah Teknik Electro Komputer dan Informatika (JITEKI)*, 9 (2), 223-238. <http://dx.doi.org/10.26555/jiteki.v9i2.25929>
- Malato, G. (2023, May 3). *An introduction to the Shapiro Wilk test for Normality*. Built in. <https://builtin.com/data-science/shapiro-wilk-test#:~:text=Shapiro%2DWil%20Test%20Explained&text=It%20evaluates%20data%20from%20a,normality%20of%20a%20data%20set>.
- Mangala, D. & Kumari, P. (2017). Auditors' perceptions of the effectiveness of fraud prevention and detection methods. *Indian Journal of Corporate Governance*, 10 (2), 118-142. <http://dx.doi.org/10.1177/0974686217738683>
- Manyo, T. S., Walter, M. H., Basse, O. E., Wonah, O. G., Owang, B. A., Ekpo, N. S. & Chike, E. C. (2023). Effect of fraud on commercial banks' performance in Nigeria. *Frontiers in Management Science*, 2 (2), 69-78. <http://dx.doi.org/10.56397/FMS.2023.04.08>
- McBurney, D. & White, T. (2009). *Research methods*. Cengage Learning.
- McKenzie, B. (2019, January 25). *Fraud risk management for insurance industry*. Lexology. <https://www.lexology.com/library/detail.aspx?g=5d28f275-ea3f-4b20-bcfa-0b8deb3ab32a>
- Meitrina, M. A., Suwena, K. R. & Indrayani, L. (2019). The influence of Fraud Triangle and Theory of Planned Behavior on students' academic fraud in Bali. *Advances in Economics, Business & Management Research*, 69, 136-141.
- Meiryani, M., Darmawan, M. A., Lusianah, L., Ikhsan, R. B. & Setiadi, N. J. (2021). The effect of fraud detection and prevention on financial performance study on Trading Company. *ICIBE '21: Proceedings of the 7th International Conference on Industrial & Business Engineering*. <https://doi.org/10.1145/3494583.3494634>
- Micheni, S. N. (2016). *Effectiveness of internal control on detection and prevention of fraud on Commercial banks listed in Nairobi Securities Exchange* [Unpublished Master thesis, University of Nairobi].
- Mousavi, M., Zimon, G. S., Salehi, M. & Stepnicka, N. (2022). The effect of corporate governance structure on fraud and money laundering. *Risk*, 10 (9), 176. <https://doi.org/10.3390/risks.10090176>

- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: quantitative & qualitative approaches*. Nairobi: African Centre for Technology Studies.
- Muslimat, A. & Hamid, K. T. (2012). The role of internal audit unit in fraud Prevention in government-owned hospitals in Nigeria. *Journal of Business & Management*, 2 (5), 39-44. <http://dx.doi.org/10.9790/487X-0253944>
- Musyoka, J. T. (2023). *Effect of forensic accounting practices on claim settlement efficiency in health insurance sector in Kenya* [Master thesis, KCA University]. <https://repository.kcau.ac.ke/bitstream/handle/123456789/1352/Musyoka-Effect%20Of%20Forensic%20Accounting%20Practices%20On%20Claim%20Settlement%20Efficiency%20In%20Health%20Insurance%20Sector%20In%20Kenya.pdf?sequence=1>
- Mwangi, S. W. (2020). *Moderating effect of firm size on the relationship between fraud risk management and fraud occurrence in Kenya listed companies* [Master of Commerce thesis, Strathmore University].
- Mwita, M. (2021, May 25). State cracks down on fake motor insurance policies. *The Star*. <https://www.the-star.co.ke/business/kenya/2021-05-25-state-cracks-down-on-fake-motor-insurance>
- Myint, Z. W. (2019). *Effect of fraud risk management practices on performance of CB bank in Myanmar* [Executive Master of Banking & Finance thesis, Yangon University].
- Natasya, T. N., Herman, K. & dan Robert, L. (2017). Pengaruh komitmen organisasi dan pengendalian internal terhadap resiko terjadinya ke curangan (fraud). *Jurnal Riset Akuntansi Going Concern*, 12 (2), 847-856.
- Nathan, O. (2022, September 6). *What to do when multiple regression linearity assumption isn't met*. ResearchGate. [https://www.researchgate.net/post/What to do when multiple regression linearity assumption isn't met#:~:text=Apply%20a%20nonlinear%20transformation%20to,predict%20or%20variable%20from%20the%20model](https://www.researchgate.net/post/What%20to%20do%20when%20multiple%20regression%20linearity%20assumption%20isn't%20met#:~:text=Apply%20a%20nonlinear%20transformation%20to,predict%20or%20variable%20from%20the%20model).
- Nelson, S. P. (2012). Post fraud: an empirical study of firms in Malaysia. *International Journal of Management & Business Studies*, 2 (3), 59-65.
- Newson (2024). *Remedies for assumption violation and Multicollinearity*. https://web.pdx.edu/~newsomj/mvclass/ho_remedies.pdf
- Ngunjiri, J. (2017, November 20). Motor insurance fraud portal to go live January. *Business Daily*. <https://www.businessdailyafrica.com/bd/markets/market-news/motor-insurance-fraud-portal-to-go-live-january-2178104>
- NICB (2020, October 23). *Indicators of vehicle PD fraud: individuals & professionals involved/circumstances & docs – detection – the first line of defence part 1 of 2*. National Insurance Crime Bureau. [https://www.harfordmutual.com/wp-content/uploads/2022/11/Vehicle PD Fraud 1 of 2.pdf](https://www.harfordmutual.com/wp-content/uploads/2022/11/Vehicle%20PD%20Fraud%201%20of%202.pdf)
- Njuguna, W. (2019). *Motor insurance fraud in Kenya: an analysis of the effectiveness of the legal and institutional framework in curbing insurance fraud* [Master of Laws thesis, University of Nairobi].
- Nnamdi (1991). *Research methodology in behavioural sciences*. Longman Nigeria Ltd.
- Nyakarimi, S. N., Shano, M. & Rukangu, S. (2016). Use of control activities in fraud control in financial institutions. *International Journal of Economics, Commerce & Management*, 4 (8), 589-602.
- Nyongesa, S. A. K. (2018). *The influence of relationship marketing, social performance management and firm-IT characteristics on customer retention by microfinance institutions in Kenya* [PhD thesis, Strathmore University].

- Ocansey, E. O. (2017). Forensic accounting and the combating of economic and financial crimes in Ghana. *European Scientific Journal*, 13 (31), 379-393. <http://dx.doi.org/10.19044/esj.2017.v13n31p379>
- Ogola, J. O., K'Aol, G. & Linge, T. (2016). The effect of corporate governance on the occurrence of fraud in commercial banks in Kenya. *The International Journal of Business Management*, 4 (7), 135-152.
- Okoye, N. J., Okonkwo, V. I., Okaro, C. S. O., Bankole, O. M. & Otekinrin, A. O. (2023). Effect of fraud and corruption on capital market performance in Nigeria. *Journal of Economics, Management & Trade*, 29 (1), 40-53. <https://doi.org/10.9734/jemt/2023/v29i11073>
- Okumu, J. M. (2017). *Risk mitigation strategies and performance of insurance industry in Kenya: a case of motor insurance companies* [Master of Business Administration thesis, Kenyatta University]. <https://ir-library.ku.ac.ke/server/api/core/bitstreams/26fcffc1-c7f3-448b-82c1-31530e446fee/content>
- Ole Sialo, M. (2022). *Board gender diversity and financial performance of insurance companies in Kenya (a case of listed insurance companies in Kenya)* [Master thesis, University of Nairobi]. [https://erepository.uonbi.ac.ke/bitstream/handle/11295/163392/Mumut Board%20Gender%20Diversity%20and%20Financial%20Performance%20of%20Insurance%20Companies%20in%20Kenya%20%28a%20Case%20of%20Listed%20Insurance%20Companies%20in%20Kenya.pdf?sequence=1&isAllowed=y](https://erepository.uonbi.ac.ke/bitstream/handle/11295/163392/Mumut%20Gender%20Diversity%20and%20Financial%20Performance%20of%20Insurance%20Companies%20in%20Kenya%20%28a%20Case%20of%20Listed%20Insurance%20Companies%20in%20Kenya.pdf?sequence=1&isAllowed=y)
- Olukayode, A. S. (2016). Personal ethics and fraudster motivation: the missing link in Fraud Triangle and Fraud Diamond theories. *International Journal of Academic Research in Business & Social Sciences*, 6 (2), 159-165.
- Omar, N. & Abu Bakar, K. M. (2012). Fraud prevention mechanisms of Malaysian government-linked companies: an assessment of existence and effectiveness. *Journal of Modern Accounting & Auditing*, 8 (1), 15-31.
- Onesti, G. & Palumbo, R. (2023). Tone at the top for sustainable corporate governance to prevent fraud. *Sustainability*, 15 (3). <https://doi.org/10.3390/su15032198>
- Onodi, B. E., Okafor, T. G. & Onyali, C. I. (2015). The impact of forensic investigative methods on corporate fraud deterrence in banks in Nigeria. *European Journal of Accounting, Auditing & Finance*, 3 (4), 69 – 85.
- Onyango, G. (2024, September 25). *Kenya's whistle blowers are key to fighting corruption: how a new law could protect them*. The Conversation. <https://theconversation.com/kenyas-whistleblowers-are-key-to-fighting-corruption-how-a-new-law-could-protect-them-239647>
- Ortiz, A. (2018). *Strategies to reduce occupational fraud in small restaurants* [Unpublished Doctoral thesis, Walden University].
- Othman, R., Aris, N. A., Mardziah, A., Zainan, N. & Amin, N. M. (2015). Fraud detection and prevention methods in the Malaysian Public Sector: accountants' and internal auditors' perceptions. *Procedia Economics & Finance*, 28, 59-67. [http://dx.doi.org/10.1016/S2212-5671\(15\)01082-5](http://dx.doi.org/10.1016/S2212-5671(15)01082-5)
- Otieno, J. O. (2018). *Insurance stakeholders' perceptions on effectiveness and usage of fraud detection and prevention techniques in the motor insurance sector* [Master of Commerce thesis, Strathmore University]. <https://su-plus.strathmore.edu/handle/11071/6120>
- Otieno, O. D. (2016). *The power of financial ratios in detecting fraudulent financial reporting at the Nairobi Securities Exchange* [Master's thesis, University of Nairobi].

- Otiso, H. N. (2021). The effects of fraud on the performance of insurance industry: a critical review of the literature. *International Journal in Management & Social Science*, 9 (2), 60-76.
- Owuor, M. A. (2023). *Assessment of the fraud detection technologies used by Kenyan insurance firms in detecting and preventing fraudulent insurance claims* [Master Degree thesis, Strathmore University]. <http://hdl.handle.net/11071/15391>
- Pangilinan, M. (2023, March 14). Revealed – SGI's top insurance fraud cases of 2022. *Insurance Business*. <https://www.insurancebusinessmag.com/ca/news/breaking-news/revealed--sgis-top-insurance-fraud-cases-of-2022-439408.aspx>
- Parsell, C., Kuskoff, E. & Constantine, S. (2024). What is the scope and contribution of lived experience in social work? A scoping review. *The British Journal of Social Work*, 54 (8), 3429-3448. <https://doi.org/10.1093/bjsw/bcae106>
- Peng, F. Y. & Hanwei, L. (2022, December 20). A look at the shady business of road touting and the cost to victims. *Channel News Asia*. <https://www.channelnewsasia.com/singapore/businesses-prepare-rise-demand-masks-and-air-purifiers-singapore-braces-haze-season-3582431>
- Pham, S. (2022, January 5). *Importance of corporate governance for fraud prevention*. Polonious Systems. <https://www.polonious-systems.com/corporate-governance-fraud-prevention/>
- Pratiwi, E. T., Abdullah, R. & Abdullah, L. D. (2019). Whistle-blowing systems are an initial effort to prevent and detect fraud. *Advances in Economics, Business & Management Research*, 73, 22-26. <http://dx.doi.org/10.2991/aicar-18.2019.6>
- Progressive Casualty Insurance Company (2023). *What is car insurance fraud?* Progressive Casualty Insurance Company. <https://www.progressive.com/answers/car-insurance-fraud/#:~:text=Car%20insurance%20fraud%20is%20when,serious%20as%20faking%20an%20accident.>
- PwC. (2014). *Global Economic Crime Survey 2014*. PricewaterhouseCoopers International Limited. <http://www.pwc.com/gx/en/services/advisory/consulting/forensics/economiccrime-survey.html>.
- PwC (2018). *Global economic crime and fraud survey: Pulling fraud out of the shadows*. PricewaterhouseCoopers.
- PwC. (2018). *Global economic crime and fraud survey: US Perspectives*. PricewaterhouseCoopers.
- PwC. (2020). *Fraud and economic crime-opportunity in the face of adversity: PwC Kenya economic crime and fraud survey*. PricewaterhouseCoopers. <https://www.pwc.com/ke/en/assets/pdf/gecs-report-2020.pdf>
- PwC. (2020). *Fighting fraud: a never-ending battle (PwC's global economic crime and fraud survey)*. Price Water House and Coopers & Lybrand. <https://www.pwc.com/gx/en/forensics/gecs-2020/pdf/global-economic-crime-and-fraud-survey-2020.pdf>
- Rahmatika, D. N., Kartikasari, M. D., Indriasih, D., Sari, I. A. & Mulia, A. (2019). Detection of fraudulent financial statement: can perspective of fraud diamond theory be applied to property, real estate and building construction companies in Indonesia. *EJBMR, European Journal of Business & Management Research*, 4 (6), 1-9.
- Rahman, R. A. & Anwar, I. S. (2014). Effectiveness of fraud prevention and detection techniques in Malaysian Islamic Banks. *Procedia-Social & Behavioral Sciences*, 145 (2014), 97-102. <https://doi.org/10.1016/j.sbspro.2014.06.015>

- Rahn, M. (2012). *Factor analysis: a short introduction, part 3 – the difference between confirmatory and exploratory factor analysis*. The Analysis Factor. <https://www.theanalysisfactor.com/confirmatory-and-exploratory-factor-analysis>
- Razali, W. A. A. W. M. & Arshad, R. (2014). Disclosure of corporate governance structure and the likelihood of fraudulent financial reporting. *Procedia Social & Behavioral Sciences*, 145, 243-253. <http://dx.doi.org/10.1016/j.sbspro.2014.06.032>
- Rebecca, W. (2024). An assessment of the impact of educational qualifications on employee job performance among Ghanaian University administrative staff. *International Journal of Management & Entrepreneurship Research*, 6 (3), 988-1002. <http://dx.doi.org/10.51594/ijmer.v6i3.978>
- Reeds, S. (2014, July 5). *Six strategies for fraud prevention in your business*. CG Team. <http://www.cgteam.com/blog/six-strategies-for-fraud-prevention-in-your-business>
- Ringle, C. M., Wende, S. & Becker, J-M. (2015). *SmartPLS 3*. Bönningstedt: SmartPLS.
- Rohmatin, B. L., Apriyanto, G. & Zuhroh, D. (2021). The role of good corporate governance to fraud prevention: an analysis based on the fraud pentagon. *Jurnal Keuangan dan Perbankan*, 25 (2), 280-294. <http://dx.doi.org/10.26905/jkdp.v25i2.5554>
- Rutecki, M. (2022). *Multicollinearity – detection and remedies*. Kaggle. <https://www.kaggle.com/code/marcinrutecki/multicollinearity-detection-and-remedies>
- Sadique, R. B. M., Ismail, A. M., Roudaki, J., Alias, N. & Clark, M. B. (2019). Corporate governance attributes in fraud deterrence. *International Journal of Financial Research*, 10 (3 Special Issue), 51-62. <http://dx.doi.org/10.5430/ijfr.v10n3p51>
- Shea, A. & Eldridge, J. (n.d.). *Insurance claims & fraud investigations: where forensic accountants bring value*. J. S. Held. <https://www.jsheld.com/insights/articles/insurance-claims-fraud-investigations-where-forensic-accountants-bring-value#:~:text=Once%20fraud%20has%20been%20detected,litigation%20support%20as%20expert%20witnesses>.
- Salaton, M. S. (2019). Drivers of motor vehicle insurance fraud risk: empirical evidence from insurance companies in Kenya. *International Journal of Economics, Commerce & Management*, 7 (2), 290-310.
- Saunders, M., Lewis, P. & Thornhill, A. (2009). *Research methods for business students*. Pearson.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research methods for business students (6th Ed.)*. Pearson Education Limited.
- Simbolon, R., Ahmad, N., & Elviani, S. (2018). Are the model of Fraud Triangle elements sufficient enough to prevent fraud? Evidence in North Sumatra Province. *Advances in Social Science, Education & Humanities Research*, 208, 356-359.
- Shoyemi, O. S., Brito, M. & Dawson, I. (2022). An assessment of experts' risk perceptions of motor insurance fraud in Nigeria. *Society for Risk Analysis 2022 Annual Meeting: Global Risks at the Tipping Point, Tampa, Florida, United States 04-08 Dec 2022*.
- Skousen, C. J., Smith, K. R. & Wright, C. J. (2015). Detecting and predicting financial statement fraud: the effectiveness of the fraud triangle and SAS No. 99 in corporate governance and firm performance. *International Journal of Quality & Reliability Management*, 13. <http://dx.doi.org/10.2139/ssrn.1295494>
- Statistics Solutions (2023). *Factor analysis*. <https://www.statisticssolutions.com/free-resources/directory-of-statistical-analyses/factor-analysis>
- Sujana, E., Yasa, N. P., & Wahyuni, M. A. (2018). Testing of Fraud Diamond Theory based on local wisdom on fraud behavior. *Advances in Economics, Business & Management Research*, 69, 12-15.
- Superfast CPA (2025). *What is discovery sampling?* <https://www.superfastcpa.com/what-is-discovery-sampling/>

- Symsudin, I., Utomo, S. T. & Praswati, A. N. (2017). Corporate governance in detecting lack of Financial Report. *Jurnal Dinamika Manajemen*, 8 (2), 167-176. <http://dx.doi.org/10.15294/jdm.v8i2.12757>
- Tuanakotta, T. M. (2012). *Akuntansi forensic dan audit investigative*. Jakarta: Lembaga Penerbit FE UI.
- United Nations. (2016). *Fraud prevention, detection and response in United Nations System Organizations*. United Nations.
- Vere, K. (2025, March 21). Unmasking identity of insurance claims through forensic accounting. *Business Weekly*. <https://www.businessweekly.co.zw/unmasking-identity-of-insurance-claims-through-forensic-accounting/>
- Vorobyev, I. (2024). Fraud risk assessment in car insurance using claims graph features in machine learning. *Expert Systems with Applications*, 251 (1), 124109. <https://doi.org/10.1016/j.eswa.2024.124109>
- VOXCO (2023). *Factor analysis*. <https://www.voxco.com/blog/factor-analysis>
- Waigumo, G. L. (2012). *Effect of fraud risk management practices of fraud risk management practices on fraud risk in Commercial Banks in Kenya* [Unpublished Master's thesis, University of Nairobi].
- Wang'ombe, J. W. (2017). *Impacts of internal control systems on the detection and prevention of frauds in county governments: a case of Kiambu county government* [Unpublished Master thesis, University of Africa].
- Wanjiru, M. S. (2020). *Effect of fraud risk management and firm size on the level of fraud occurrence on listed companies in Kenya* [Master of Commerce thesis, Strathmore University].
- Wilhelm, W. K. (2004). The fraud management lifecycle theory: a holistic approach to fraud management. *Journal of Economic Crime Management*, 2 (2), 2-38.
- Williams, B., Onsmann, A. & Brown, T. (2010). Exploratory factor analysis: a five-step guide for novices. *Journal of Emergency Primary Health Care*, 8 (3), 1-13.
- Wolfe, D. & Hermanson, D. R. (2004). The Fraud Diamond: considering four elements of fraud. *The CPA Journal*, 74 (12), 38-42.
- Yingzi, T. (2023). Chongqing police uncover car insurance scams that involve staged accidents. *China Daily*. <https://www.chinadaily.com.cn/a/202305/16/ws6462e84ba310b6054fad3207.html>
- Yuniarti, R. D. (2017). The effect of internal control and anti-fraud awareness on fraud prevention (a survey on inter-governmental organizations). *Journal of Economics, Business & Accounting Ventura*, 20 (1), 113-124. <http://dx.doi.org/10.14414/jebav.v20i1.751>
- Yuniasih, N. W., Muliati, N. K., Putra, C. G. B. & Dewi, I. A. M. S. (2020). *The effect of pressure to financial statement fraud (study of manufacturing companies listed on the Indonesia Stock Exchange)* [Research Report, Hindu Indonesia University].
- Yusof, N. H. M. & Razak, A. Z. A. A. (2019). The influence of trust and confidence of claim successfulness on individual attitude in committing motor insurance fraud. *International Journal of Academic Research Business & Social Sciences*, 9 (9). <http://dx.doi.org/10.6007/IJARBS/v9-i9/6466>
- Zamzami, F., Nusa, N. D., & Timur, R. P. (2016). The effectiveness of fraud prevention and detection methods at universities in Indonesia. *International Journal of Economics & Financial Issues*, 6 (S3), 66-69.
- Zhang, H. H., Cheng, G. & Liu, Y. (2011). Linear or non-linear? Automatic structure discovery for partially linear models. *Journal of American Statistical Association*, 106 (495), 1099-1112.

Zikmund, W.G., Babin, B.J., Carr, J.C. & Griffin, M. (2010). *Business research methods*. Cengage Learning.

Zikmund, W. G., Babin, B. J., Carr, J. C. & Griffin, M. (2012). *Business research methods (9th Ed.)*. South-Western: Cengage Learning.



APPENDICES

APPENDIX ONE: QUESTIONNAIRE

This questionnaire seeks to collect information from you the respondent in order to establish the effect of antifraud mechanisms on motor insurance fraud and the moderating effect of corporate governance in Kenya Nairobi County. Therefore, your responses will help the researcher a great deal in not only fulfilling the aforementioned objective but in complying with the University's requirements to graduate with a Master degree. Your identity will not be disclosed therefore you will not be required to write your name or that of the organization in this questionnaire.

(Please tick inside the blank section _____ or in the box provided)

SECTION A: DEMOGRAPHIC PROFILE

1. What is your gender orientation? I am a Male I am a Female
2. What is latest your job position that you have been designated in the motor insurance sector? I am a Claim Assessor I am an Insurance Underwriter
3. For how long have you worked in the motor insurance industry?
Not more than 5 years
5 to 7 years
7 to 15 years
15 to 25 years
More than 25 years
4. What is your highest educational qualification?
I am a Diploma holder
I am a Graduate holder
I am a Higher Diploma holder
I am a Master holder
I am Doctorate holder
5. Annual Average Revenue: Less than 200 million 200-400 million
400-500 million 500-700 million
700-900 million 900-1000 million
More than 1000 million
6. Annual Average Asset Size: Less than 200 million 200-400 million
400-500 million 500-700 million
700-900 million 900-1000 million
More than 1000 million

SECTION B: PREVENTIVE ANTIFRAUD MECHANISMS

Please indicate which preventive antifraud mechanisms you perceive to be effective or less effective in managing motor insurance fraud by ticking (√) in the right column. (Note that the rating scale is; “It is Completely Ineffective” – 1, “It is Ineffective” – 2, “It is Somewhat Ineffective” – 3, “I am Not Sure if is Effective or Ineffective” – 4, “It is Somewhat Effective” – 5, “It is Effective” – 6, “It is Completely Effective -7”).

No.	Antifraud Mechanism	1	2	3	4	5	6	7
1.	Background checks of the employees and clients.							
2.	Fraud risk assessment of all insurance claims.							
3.	The instituted internal control systems.							
4.	Ethical tone at the top.							
5.	Regulation enforcement by the firm and IRA.							
6.	The internal audit of the firm.							
7.	Training programmes of motor insurance fraud awareness on the staff members.							

SECTION C: DETECTIVE ANTIFRAUD MECHANISMS

Please indicate which detective antifraud mechanisms you perceive to be effective or less effective in managing motor insurance fraud by ticking (√) in the right column. (Note that the rating scale is; “It is Completely Ineffective” – 1, “It is Ineffective” – 2, “It is Somewhat Ineffective” – 3, “I am Not Sure if is Effective or Ineffective” – 4, “It is Somewhat Effective” – 5, “It is Effective” – 6, “It is Completely Effective -7”).

No.	Antifraud Mechanism	1	2	3	4	5	6	7
1.	Hiring forensic accountants to perform forensic audit of the claims.							
2.	Continuous auditing that is secretive.							
3.	Employment of both formal and informal whistleblowing systems.							
4.	Activation of fraud hotlines.							
5.	Bank reconciliation.							
6.	Discovery sampling of all the claims based on a historical period.							

7.	Thorough claims assessment.							
8.	Frequent usage of the Integrated Motor Insurance Database System to track any suspicious claim.							

SECTION D: CORPORATE GOVERNANCE

Please indicate which corporate governance initiatives that are currently being practiced in your firm ticking (√) in the right column. (Note that the rating scale is; “I Completely Disagree” – 1, “I Disagree” – 2, “I Somewhat Disagree” – 3, “I am Not Sure” – 4, “I Somewhat Agree” – 5, “I Agree” – 6, “I Completely Agree -7”).

No.	Corporate Governance Initiative	1	2	3	4	5	6	7
1.	There is a higher proportion of non-executive to executive directors who freely work to see that the fraud management risk systems are properly being implemented to curb fraud.							
2.	There exists a strong audit committee that always revises and updates the firms internal control systems for effectively detecting and preventing fraud.							
3.	The board of directors monitors the company's activities on behalf of the shareholders so that their investments can be safeguarded.							
4.	The board of directors always are keen to employ qualified and uncompromised personal in the audit committee for effective supervision of the firm's risk assessment systems and the management of the internal audit processes.							

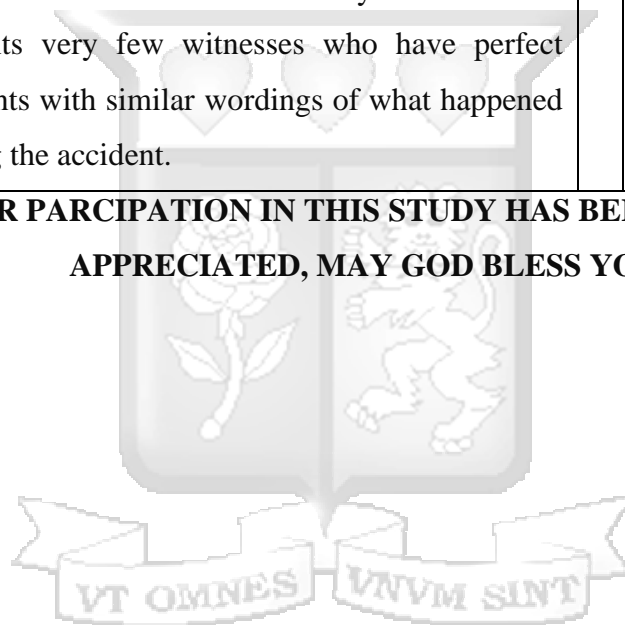
SECTION E: MOTOR INSURANCE FRAUD

Please indicate the motor insurance fraud cases that is prevalent in the insurance sector by ticking (√) in the right column. (Note that the rating scale is; “I Completely Agree” – 1, “I Disagree” – 2, “I Somewhat Disagree” – 3, “I am Not Sure” – 4, “I Somewhat Agree” – 5, “I Agree” – 6, “I Completely Agree -7”).

No.	Motor Insurance Fraud	1	2	3	4	5	6	7
1.	Fraudulent motor theft claims are common through the partnership of the claimant and employee.							

2.	There have been serious cases of the inflation of the insurance premiums.						
3.	Most car damages are usually exaggerated.						
4.	There have a significant number of staged-manged accidents in Nairobi, Kenya.						
5.	The issuance of fake motor vehicle insurance certificates has been a norm in Kenya.						
6.	There have been a number of discrepancies between the accident facts and the real damage caused on the ground.						
7.	There have been cases whereby the claimant presents very few witnesses who have perfect accounts with similar wordings of what happened during the accident.						

**YOUR PARCIPATION IN THIS STUDY HAS BEEN HIGHLY
APPRECIATED, MAY GOD BLESS YOU**



APPENDIX TWO: ETHICAL APPROVAL LETTER



13th November 2024

Mr Joel Hezron,
hezron.joelmaobe@strathmore.edu

Dear Mr Joel,

RE: Effect of Anti-Fraud Mechanisms on Motor Insurance Fraud and the Moderating Effect of Corporate Governance in Nairobi County, Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2443/24**. The approval period is from **13th November 2024 to 12th November 2025**.

This approval is subject to compliance with the following requirements:


- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.


Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC


APPENDIX THREE: NACOSTI RESEARCH LICENSE


REPUBLIC OF KENYA


NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **826556** Date of Issue: **26/November/2024**


RESEARCH LICENSE




This is to Certify that Mr.. Hezron MAOBE Joel of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECT OF ANTI-FRAUD MECHANISMS ON MOTOR INSURANCE FRAUD AND THE MODERATING EFFECT OF CORPORATE GOVERNANCE IN NAIROBI COUNTY, KENYA for the period ending : 26/November/2025.

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Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way:
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
 - v. Adversely affect the environment
 - vi. Adversely affect the rights of communities
 - vii. Endanger public safety and national cohesion
 - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
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8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

APPENDIX FOUR: RESEARCH INTRODUCTION LETTER

C/O Sangale Rd, Madaraka Estate,
P.O Box 59657 00200, Nairobi, Kenya.
Cell: +254 703 414/6/7, Twitter: @SBSKenya
Email: info@sbs.ac.ke or visit www.sbs.strathmore.edu



18th November 2024

To Whom It May Concern,

RE: FACILITATION OF RESEARCH – JOEL, HEZRON MAOBE

This is to introduce Joel, Hezron Maobe who is a Master of Commerce (MCOM) Student at Strathmore University Business School, admission number MCOM/60794. As part of our MCOM Programme, Joel is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MCOM course. To this effect, Hezron would like to request appropriate data from your organization.

Hezron is undertaking a research paper on “**EFFECT OF ANTI-FRAUD MECHANISMS ON MOTOR INSURANCE FRAUD AND THE MODERATING EFFECT OF CORPORATE GOVERNANCE IN NAIROBI COUNTY, KENYA.**” The information obtained shall be treated confidentially and shall be used for academic purposes only.

Our MCOM Programme seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Njoki Kiagiri".

Njoki Kiagiri
Manager – Graduate Programmes
Strathmore University Business School.

